

Section 5-7

Prestile Stream & Tributaries (Central Aroostook SWCD)

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

Overview

The Central Aroostook Soil and Water Conservation District and Storm Watchers volunteers began monitoring the Prestile Stream and tributaries in 2010. Prestile Stream originates from Christina Reservoir - a 303 acre manmade impoundment in Fort Fairfield. From Christina Reservoir, Prestile Stream flows south through Easton, Presque Isle, Westfield and Mars Hill where it is an old silted-in reservoir. The stream to Mars Hill is considered to be the upper watershed. From the Mars Hill dam, it flows through the towns of Blaine and Bridgewater, into New Brunswick and eventually the St. John River. Significant tributaries include Getchell Brook, Elliot Brook, Williams Brook, Clark Brook, Allen Brook, Frost Brook, Pretty Brook, Rideout Brook, Rocky Brook, Three Brooks, and Whitney Brook. The total watershed area is approximately 208 square miles. Land use in the watershed consists primarily of forest, agriculture (primarily potato cropland) and low-density residential development. With the short growing season, much of the cropland is left open from October to early May.¹ The statutory water class of Prestile Stream from the headwaters to the Mars Hill dam is Class A. From the Mars Hill dam to the Canadian border, it is assigned Class B.

The DEP “2010 Integrated Water Quality Monitoring and Assessment Report” lists segments of the river in 2 categories:

- Category 4-A: Rivers and Streams with Impaired Use other than mercury, TMDL completed.
 - Upper Prestile Stream (Causes of impairment are aquatic life (macroinvertebrates), seasonal low dissolved oxygen, and nutrient/eutrophication-biological indicators.)
- Category 5-D: Rivers and Streams Impaired by Legacy Pollutants. The cause of impairment is legacy DDT
 - Prestile Stream and minor tributaries above the dam in Mars Hill
 - Prestile Stream and tributaries entering below the dam in Mars Hill

An EPA approved TMDL was completed in May 2010. In addition to monitoring and completion of the TMDL, several other studies and surveys have been completed. A watershed survey of Allen and Frost Brooks was completed in 2005, and a survey of Christina Reservoir watershed was completed in 2009 by Central Aroostook SWCD. The Central Aroostook SWCD plans to continue surveying sub-watersheds throughout the Prestile Stream watershed. The “Upper Prestile Stream Watershed-Based Management Plan” was done in 2009.¹

The purpose of monitoring Prestile Stream and tributaries was to document erosion problems and the associated increases in turbidity, and to prioritize sub-watershed surveys and conservation work. Erosion

¹ Upper Prestile Stream Watershed-Based Management Plan, Prepared by FB Environmental, January 2009.

problems were documented by sampling significant storm events throughout the year for turbidity and total suspended solids and then relating these measurements to estimates of stream stage. Sampling was designed to provide spatial information about the watershed by having volunteers monitor throughout the watershed during or after given storms.

Methods

Central Aroostook SWCD and volunteers sampled Prestile Stream and tributaries at eighteen sites. The sites included five sites on the main stem and thirteen sites on eleven tributaries. Not all sites were sampled for each storm event. All of the sites are VRMP approved sites. Table 5-7-1 provides a list of the sites and Figure 5-7-1 is a map of sampling stations.

Table 5-7-1: Sampling sites on Prestile Stream.

VRMP Site ID	Organization Site Code	Sample Location	Class
Allen Brook-JPRAB06-VRMP	Site 15	Egypt Road-Westfield	A
Clark Brook-JPRCL05-VRMP	Site 16	Egypt Road-Presque Isle	A
Elliot Brook-JPREL11-VRMP	Site 3	Center Road-Easton	A
Frost Brook-JPRFB06-VRMP	Site 14	Egypt Road-Westfield	A
Getchell Brook-JPRGL18-VRMP	Site 4	West Ridge Rd-Easton	A
Prestile Stream-JPR62-VRMP	Site 2	Christina Lake outlet-Easton	A
Prestile Stream-JPR124-VRMP	Site 5	Burleigh Rd.-Westfield	A
Prestile Stream-JPR39-VRMP	Site 7	Pierce Rd-Blaine	B
Prestile Stream-JPR43-VRMP	Site 1	Richardson Road-Easton	A
Prestile Stream-JPR00-VRMP	Site 10	E Blaine Rd-Bridgewater	B
Pretty Brook-JPRYG05-VRMP	Site 13	Route 1- Mars Hill	A
Rocky Brook-JPRRB06-VRMP	Site 6	Boyton Rd-Mars Hill	B
Three Brooks-JPRTB52-VRMP	Site 8	Old Houlton Rd-Blaine	B
Whitney Brook-JPRWH02-VRMP	Site 11	Line Road-Bridgewater	B
Whitney Brook-JPRWH34-VRMP	Site 12	Route 1-Bridgewater	B
Williams Brook-JPRWB03-VRMP	Site 17-Lower	Egypt Rd-Presque Isle	A
Williams Brook-JPRWB19-VRMP	Site 18-Upper	Phair Jct-Presque Isle	A
Young Brook-JPRYB00-VRMP	Site 9	Young Brook-Bridgewater	B

Monitoring was conducted for four sample events – one in the summer and three in the fall. The Project Manager (Kassie Watson-CASWCD) was responsible for tracking storm events and determining when to sample. The idea was to target larger storms, those anticipated to produce approximately 1” of rain in a 24 hour period. At each site, the monitors obtained water samples using an extension pole, ARI sampler or DEP “bacteria sampler” for turbidity analysis. Samples for total suspended sediments (TSS) were also collected 1 time at three sites. An estimate of stage was made by measuring from some mark or point on the bridge to the water. This provided an estimate of stage conditions (low, medium or high and storm vs. baseflow). The turbidity samples were analyzed by Central Aroostook SWCD staff using a LaMotte 2020e turbidity meter. TSS samples were sent to the State of Maine HETL Lab for analysis.

2012 Prestile Stream Sampling Sites, Main Stem Prestile Storm Watchers

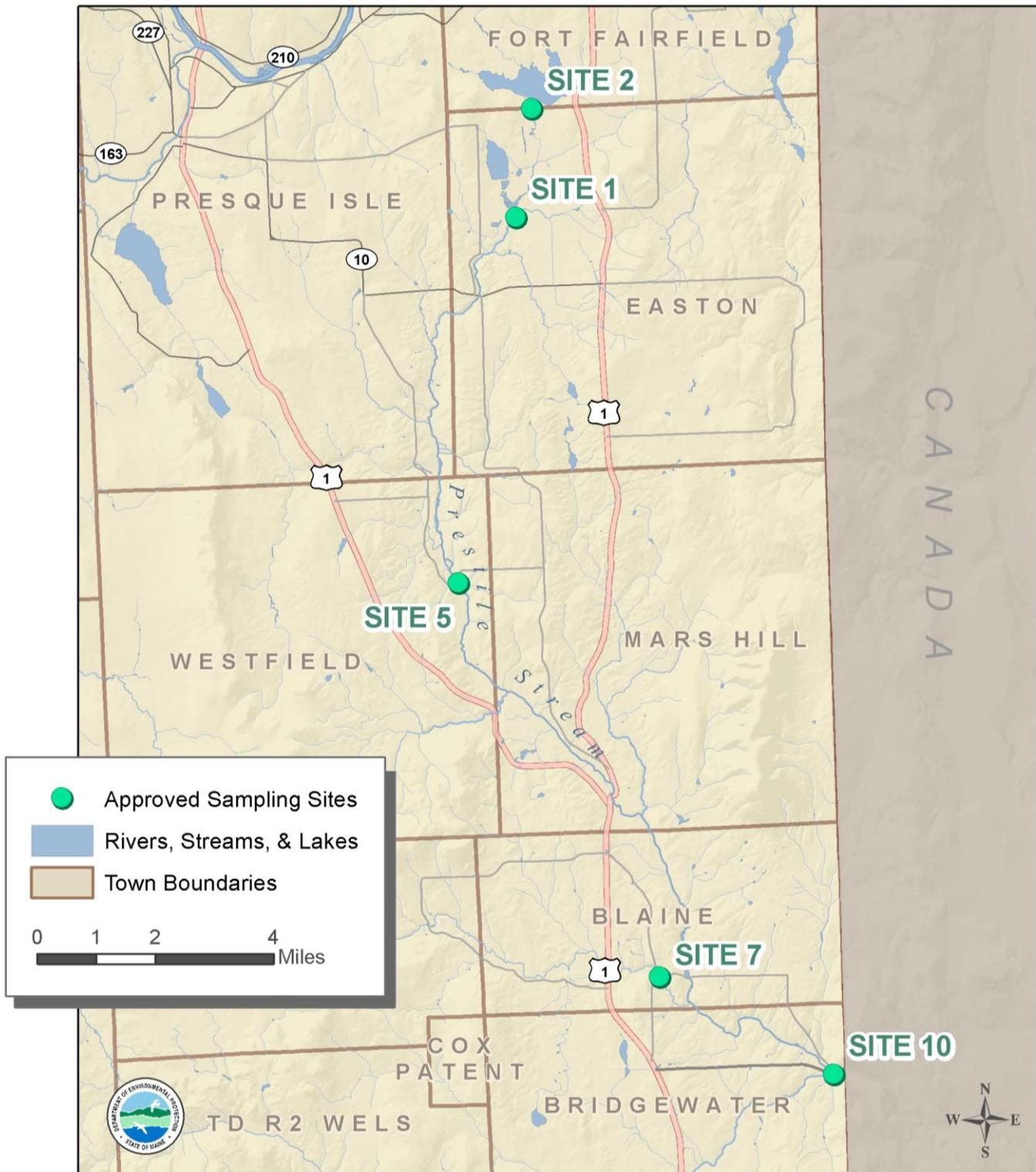


Figure 5-7-1: Map of Approved Sampling sites on the main stem of Prestile Stream.

2012 Prestile Stream Sampling Sites, Upper Watershed Tributaries Prestile Storm Watchers

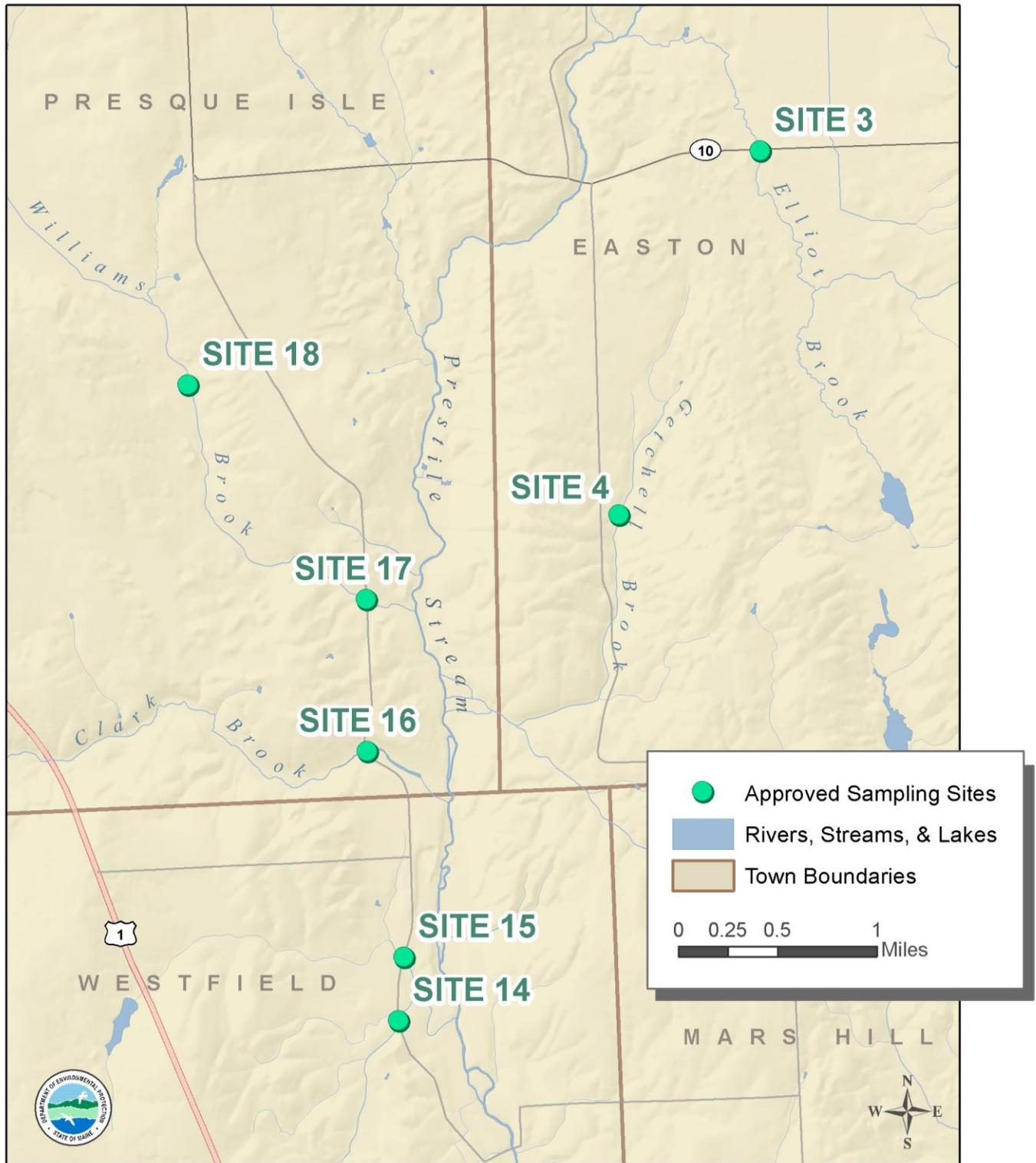


Figure 5-7-2: Map of Approved Sampling sites on the upper watershed tributaries of Prestile Stream.

2012 Prestile Stream Sampling Sites, Lower Watershed Tributaries Prestile Storm Watchers

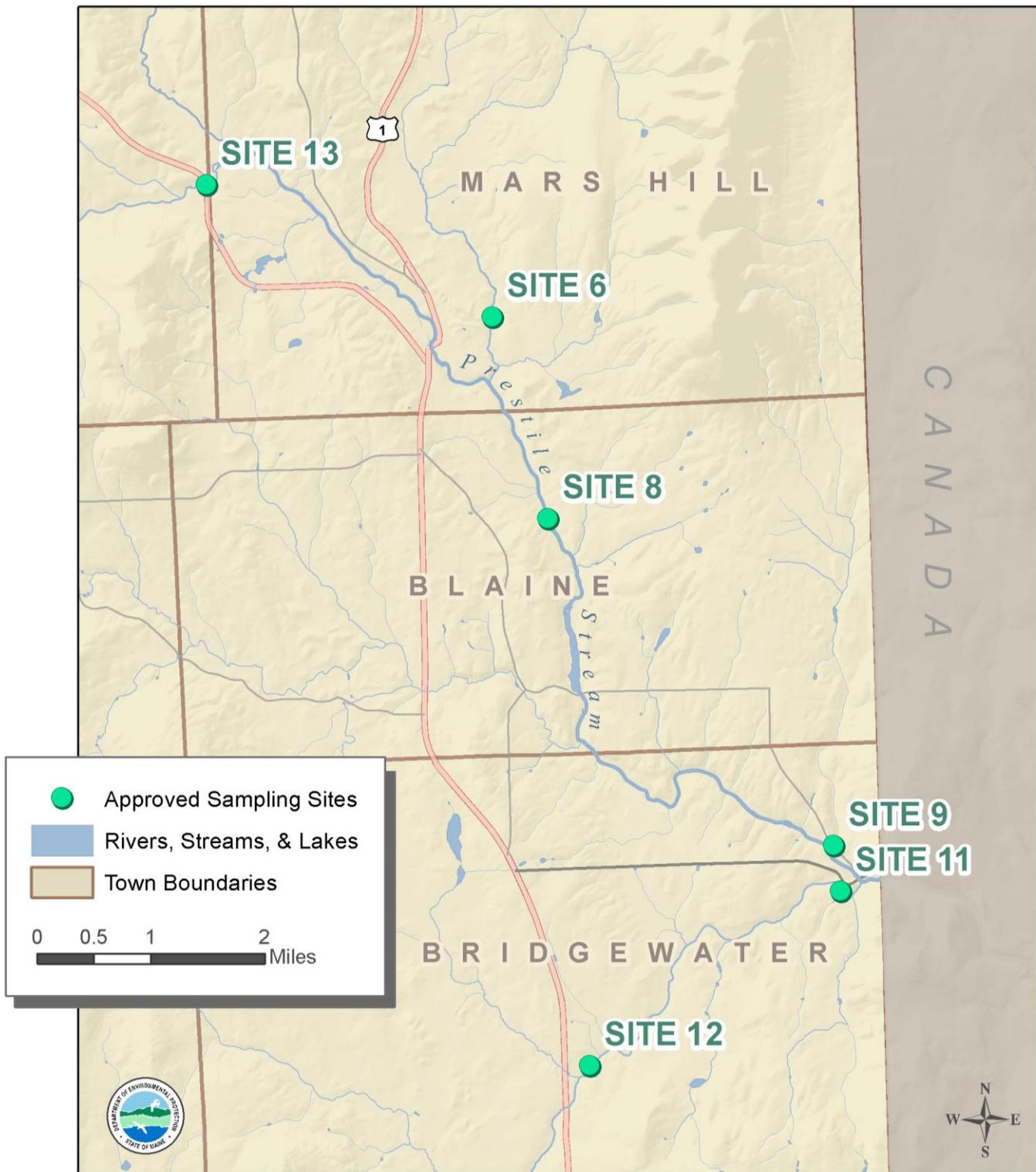


Figure 5-7-3: Map of Approved Sampling sites on the lower watershed tributaries of Prestile Stream.

Results

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

Precipitation

The 2012 field season was hot, with a dry summer. While 2012 had a lot of variation in precipitation, the year was an overall normal water year. Spring was somewhat dry, but with large surge in late March due to unseasonably warm weather and sudden melting of snow and ice. Significant amounts of rain fell on April 22-14, and more rain on May 10th. Summer started out dry, but was moderated with a wave of successive storms on June 22, 25-26 and the 29th, resulting in extensive flooding. The rest of the summer was dry with below normal stream flow. Wet weather resumed on September 19th and it stayed wet with normal to high flows in the fall.

Figure 5-7-2 provides a graph of rainfall and sampling dates for the monitoring period. Blue bars indicate sample dates while black bars indicate rain events and amount in inches. Rainfall data was obtained from Weather Underground (<http://www.wunderground.com>). Weather station choice was based on proximity and station with most complete records. If there was an airport station close by, this was chosen. This information provides an overview of rainfall events and can be useful in interpreting monitoring results for some parameters.

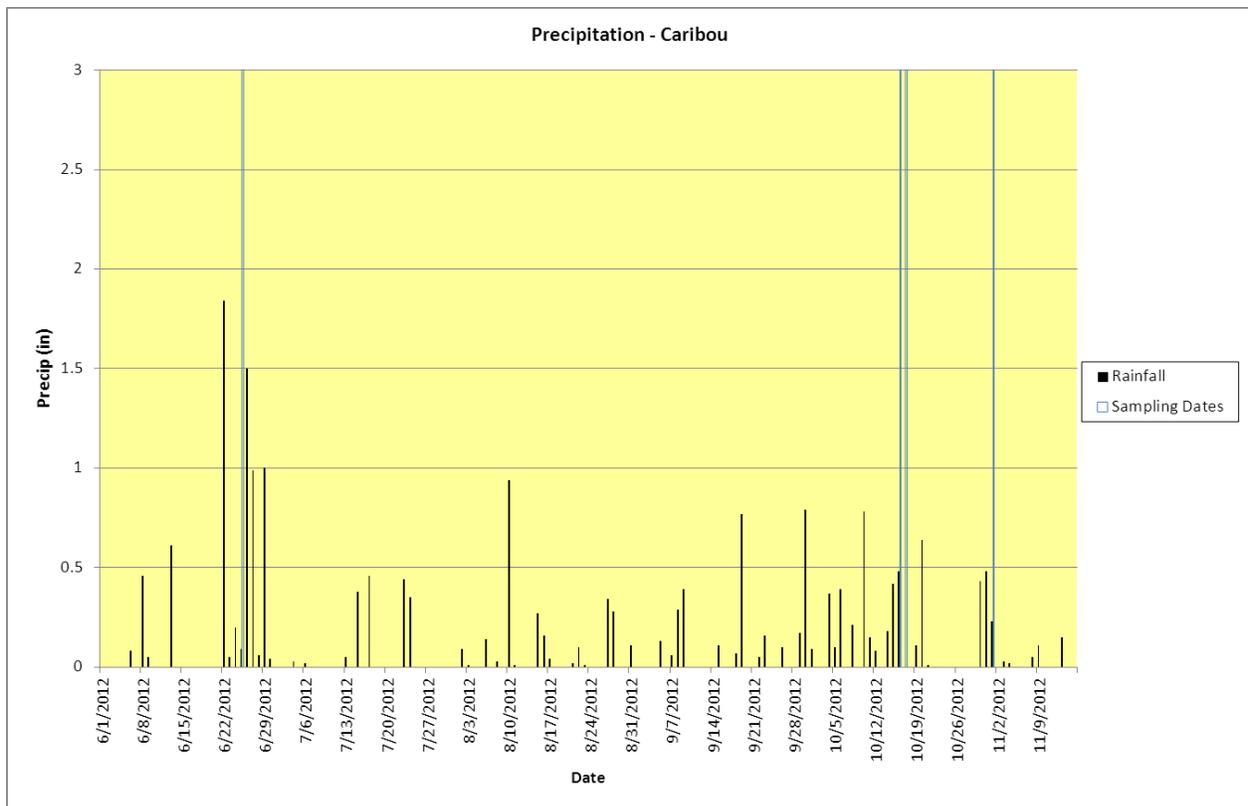


Figure 5-7-4: Precipitation measured at Caribou

Turbidity

Measuring turbidity was a problem in 2012 because of the overall dry summer weather. Turbidity was measured during four sampling events at eighteen sampling sites. A total of forty four samples were taken. The sampling events were on 6/24/2012, 10/15/2012, 10/16/2012 and 10/31/2012. Turbidity is a measure of the clarity of the water. It is a relatively easy and inexpensive measurement to make. In the lab, it is measured using a turbidity meter which measures the optical property of the sample due to suspended sediments. Maine has no statutory criteria for turbidity, but streams are supposed to support native wildlife, including native fishes. The impacts of turbidity are measured by a combination of intensity (measured in NTU) and duration (hours, days or weeks). Negative impacts on aquatic organisms are expected when the intensity is greater than 10 NTU and the conditions last for weeks, or if the intensity is higher than about 100 NTU for many hours at a time. Table 2 provides a summary of turbidity for each site including minimum, maximum and average values.

Table 5-7-2: Turbidity (NTU) Summary

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
Allen Brook-Site 15	Y	2	8	58	33
Clark Brook-Site 16	Y	2	5	6	6
Elliott Brook-Site 3	Y	3	1	3	1
Frost Brook-Site 14	Y	2	5	87	46
Getchell Brook-Site 4	Y	1	100	100	100
Prestile Stream-Site 1	Y	3	3	4	4
Prestile Stream-Site 2	Y	3	8	10	9
Prestile Stream-Site 5	Y	1	95	95	95
Prestile Stream-Site 7	Y	3	1	75	28
Prestile Stream-Site 10	Y	2	6	41	28
Pretty Brook-Site 13	Y	1	22	22	22
Rocky Brook-Site 6	Y	3	0	51	18
Three Brooks-Site 8	Y	3	1	15	7
Williams Brook-Site 17	Y	2	1	36	19
Williams Brook-Site 18	Y	2	2	12	7
Young Brook-Site 9	Y	2	7	59	33
Whitney Brook-Site 11	Y	2	5	33	19
Whitney Brook-Site 12	Y	2	5	12	8

The first sampling event was in the summer on June 24, 2012. Turbidity at all the sites ranged from 3-100 NTU. Flow conditions were reported as storm flow at high to medium flood stage. Overall turbidity was generally moderate to high. The highest values were in the middle of Prestile Stream (reading 95 NTU at site 5, the Burleigh Rd in Westfield and 75 NTU at site 7, at the Pierce Rd in Blaine) and in Getchell, Rocky, Young, Frost and Allen Brooks (ranging 51-100 NTU). Prestile Stream at site 10 in Bridgewater was relatively moderate at 37 NTU, having been diluted by Three Brooks (15 NTU) and possibly benefitting from being below the dam at Robinsons in Blaine. The middle of the watershed and Young Brook were also the most turbid sites in 2011 (see Central Aroostook SWCD report 2010-2011).

The second sampling event was in the fall (10/15/2012). There were only 5 samples taken and turbidity at all the sites was very low (ranged from 1-2 NTU), essentially like tap water in spite of 0.42 inches of rain. Flow conditions were reported at most of the sites as baseflow- medium or high stage. Water level was high due to rains over the previous 4 out of 5 days.

The third sampling event was in the fall (10/16/2012). There were only 3 samples taken and turbidity was again low (1-10 NTU). Flows were medium, having already fallen some from the previous day's rain.

The fourth sampling event was in the winter (10/31/2012). Turbidity was sampled at 11 sites and was relatively mild, ranging from 1 NTU-9 NTU. Flow conditions were reported as stormflow and were medium to high stage.

Last year, the summer event had the lowest values and winter events the highest. This year, it was just the opposite. However, the worst conditions in the last three years were in early summer (June) or late summer and fall (September or October). Field cover in Aroostook County is generally good in the summer, while fields are typically bare in the spring and fall. In June, the fields are planted but crops are getting established and overall cover can still be sparse. Bare fields are possibly the most important source of turbidity. During the first thaws of late winter and early spring, salt sand washing off roads has been observed to cause turbidity events in local streams. Non-vegetated or eroding roadside ditches are also important sources of waterborne sediment.

Total Suspended Solids (TSS)

Total Suspended Solids was measured 1 time at three of the sampling sites. TSS is a measure of the weight of suspended particles and is analyzed by filtering water samples and weighing the filtrate. Table 5-7-3 provides the TSS values. ND is non-detect, essentially a value too low to measure.

Table 5-7-3: Total Suspended Solids (MG/L)

Site	Approved Site	# of Samples	Minimum Value	Maximum Value	Average Value
Prestile Stream-Site 10	Y	1	13	13	13
Allen Brook-Site 15	Y	1	33	33	33
Williams Brook-Site 17	Y	1	ND	ND	ND

Not much can be concluded about the TSS values because there were limited samples. Small particles such as clay generally have the greatest impact on turbidity, while large particles such as sand often have a big impact on total suspended solids (a measure of the weight of the suspended particles). Organic particles are often an important source of turbidity, but are often less important for TSS (they are less dense than mineral materials). So far, no significant relationship has been found between turbidity in NTU and TSS. The poor correlation is probably due to different sources and different types of suspended particles and their different weights and optical properties. For instance, road salt sand can be an important source of turbidity in the late winter or spring. Plankton in reservoirs can be an important source of summer time turbidity for outlet streams. Bare agricultural fields in the fall or winter can be important in NPS pollution for late season rain storms.

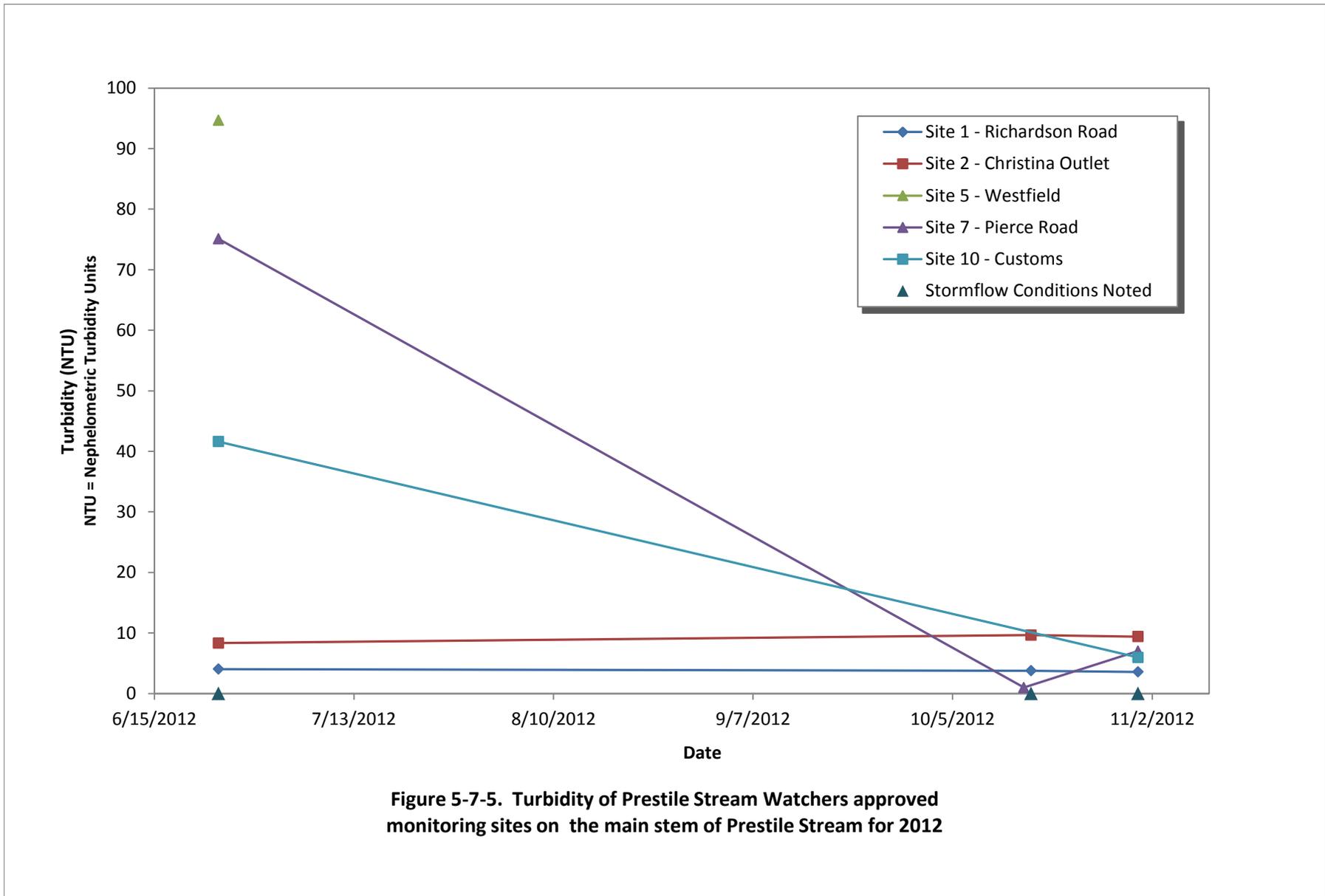
Discussion and Recommendations

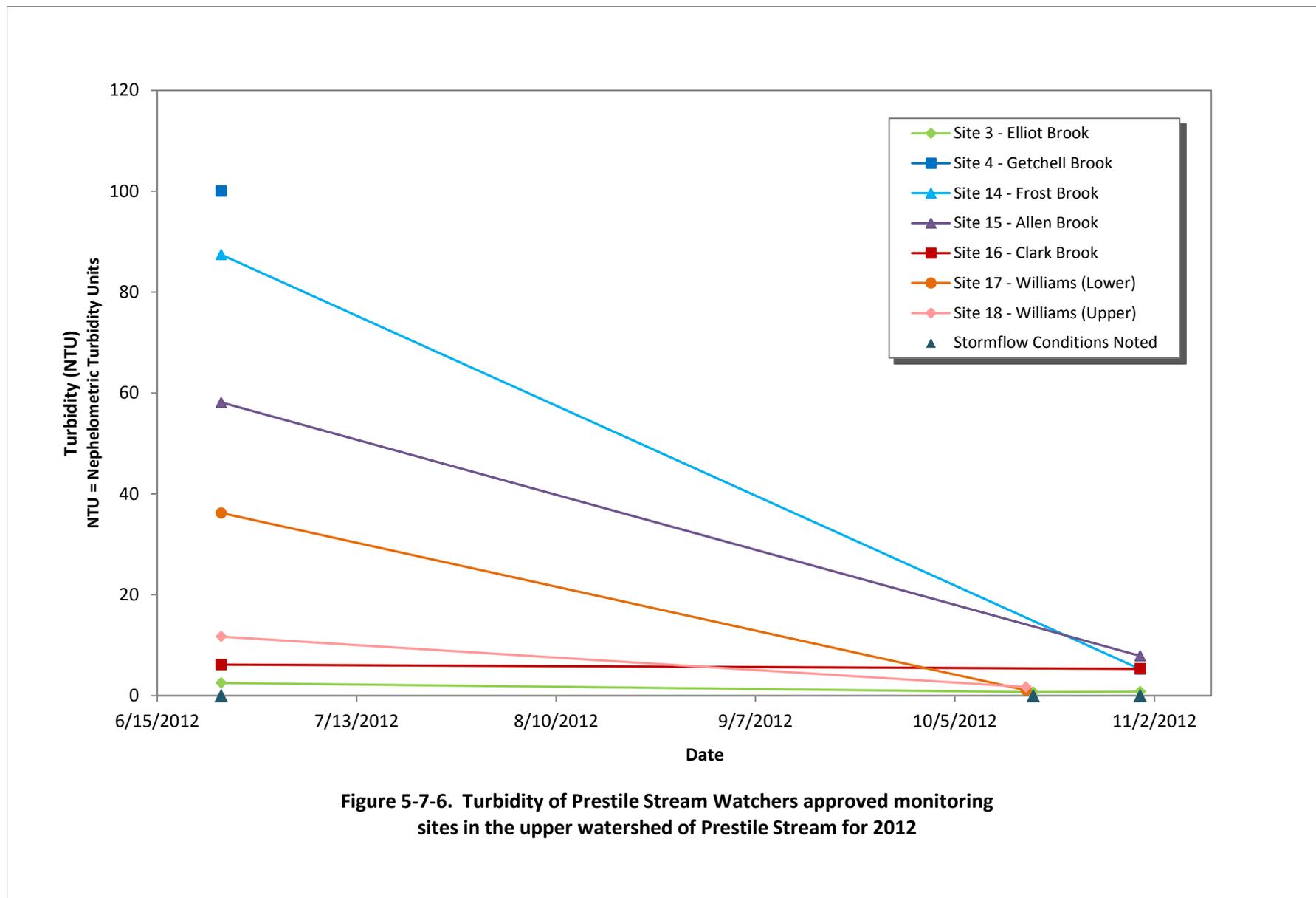
There are numerous sources of pollution and other stresses to the Prestile Stream and tributaries' sites monitored by the Central Aroostook SWCD and Storm Watch volunteers that could potentially have an impact on water quality. Some of those sources of pollution and stress may include:

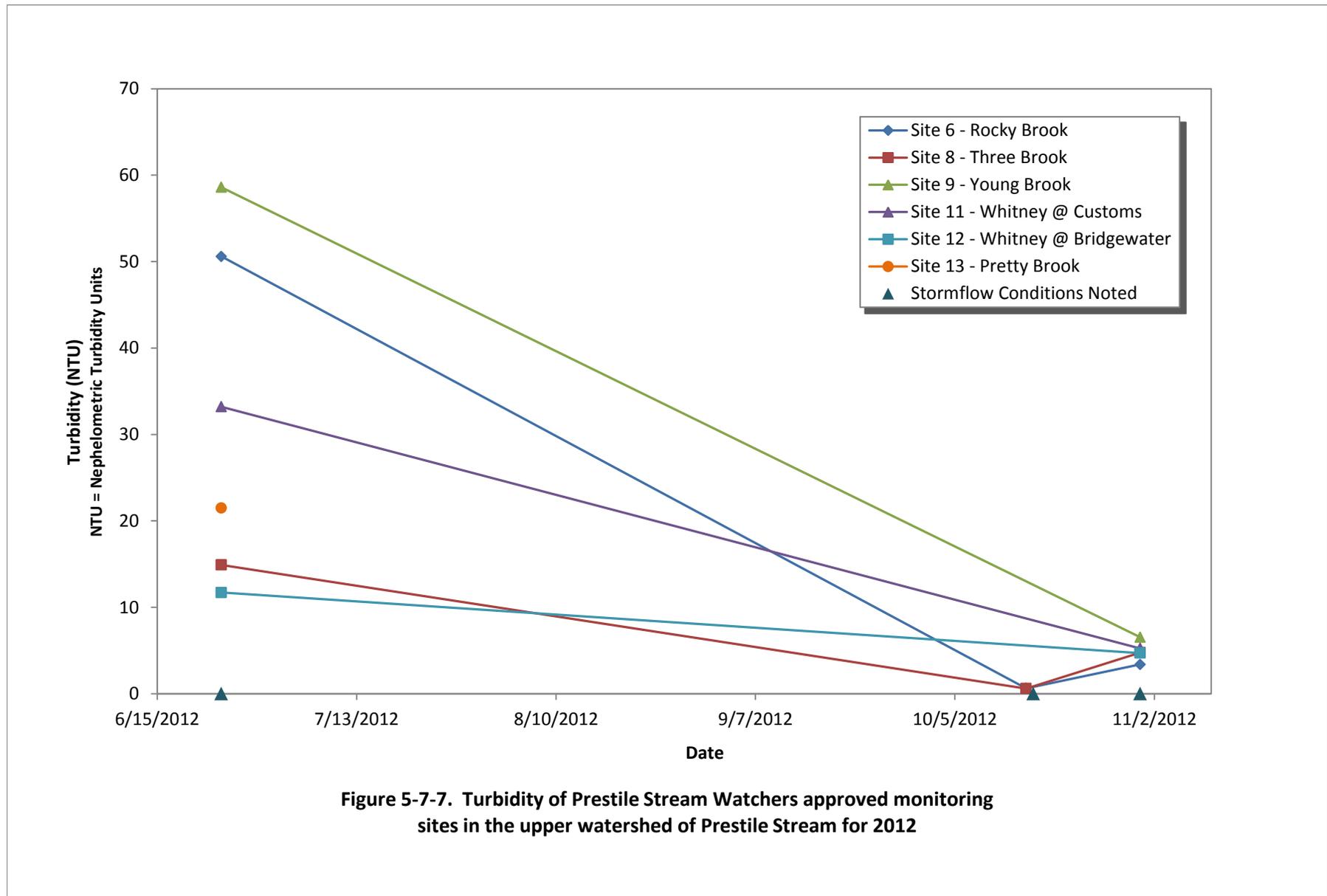
- Nonpoint source pollution (e.g., eroded soil, fertilizers, pesticides, heavy metals, petroleum residues, road salt, sewage systems, wildlife and pet feces) and polluted stormwater originating from urban impervious surfaces (e.g., streets, parking lots, driveways, rooftops) (even though urban development 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:

- Continue storm event monitoring at all stations to further characterize erosion effects in the watershed.
- Collect total suspended sediment samples at as many sites as possible so that a regression equation of turbidity and TSS can be further developed. Samples must be evaluated for both turbidity and TSS.







Appendix A-1. 2012 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; "Turb" = turbidity; "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)	Enterococci (MPN/100ML)
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Prestile Stream, Prestile Storm Watchers - Approved Sites:

SITE 1	PRESTILE STREAM - JPR43 - VRMP	6/24/2012	5:00 PM	N								4.03			
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/16/2012	9:30 AM	N								3.77			
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/16/2012	9:30 AM	D								3.36			
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/31/2012	7:30 AM	N								3.58			
SITE 2	PRESTILE STREAM - JPR62 - VRMP	6/24/2012	5:00 PM	N								8.33			
SITE 2	PRESTILE STREAM - JPR62 - VRMP	10/16/2012	9:30 AM	N								9.65			
SITE 2	PRESTILE STREAM - JPR62 - VRMP	10/31/2012	7:30 AM	N								9.4			
SITE 3	ELLIOT BROOK - JPRESB11 - VRMP	6/24/2012	5:00 PM	N								2.51			
SITE 3	ELLIOT BROOK - JPRESB11 - VRMP	10/16/2012	9:30 AM	N								0.7			
SITE 3	ELLIOT BROOK - JPRESB11 - VRMP	10/31/2012	7:30 AM	N								0.78			
SITE 4	GETCHELL BROOK - JPRGL18 - VRMP	6/24/2012	4:25 PM	N								100			
SITE 5	PRESTILE STREAM - JPR124 - VRMP	6/24/2012	4:48 PM	N								94.7			
SITE 6	ROCKY BROOK - JPRRB06 - VRMP	6/24/2012	5:26 PM	N								50.6			
SITE 6	ROCKY BROOK - JPRRB06 - VRMP	10/15/2012	5:30 PM	N								0.62			
SITE 6	ROCKY BROOK - JPRRB06 - VRMP	10/31/2012	5:00 PM	N								3.39			
SITE 7	PRESTILE STREAM - JPR39 - VRMP	6/24/2012	5:56 PM	N								75.1			
SITE 7	PRESTILE STREAM - JPR39 - VRMP	10/15/2012	5:50 PM	N								0.99			
SITE 7	PRESTILE STREAM - JPR39 - VRMP	10/31/2012	5:26 PM	N								7.02			
SITE 8	THREE BROOKS - JPRTB52 - VRMP	6/24/2012	6:11 PM	N								14.9			
SITE 8	THREE BROOKS - JPRTB52 - VRMP	10/15/2012	6:00 PM	N								0.6			
SITE 8	THREE BROOKS - JPRTB52 - VRMP	10/31/2012	5:34 PM	N								4.76			
SITE 9	YOUNG BROOK - JPRYB00 - VRMP	6/24/2012	7:26 PM	N								58.6			
SITE 9	YOUNG BROOK - JPRYB00 - VRMP	10/31/2012	5:00 PM	N								6.54			
SITE 10	PRESTILE STREAM - JPR00 - VRMP	6/24/2012	7:07 PM	N								37.2			
SITE 10	PRESTILE STREAM - JPR00 - VRMP	6/24/2012	7:44 PM	N								41.6			
SITE 10	PRESTILE STREAM - JPR00 - VRMP	10/31/2012		N									13		
SITE 10	PRESTILE STREAM - JPR00 - VRMP	10/31/2012	5:15 PM	N								5.96			
SITE 11	WHITNEY BROOK - JPRWH02 - VRMP	6/24/2012	6:49 PM	N								33.2			
SITE 11	WHITNEY BROOK - JPRWH02 - VRMP	10/31/2012	5:30 PM	N								5.25			
SITE 12	WHITNEY BROOK - JPRWH34 - VRMP	6/24/2012	6:36 PM	N								11.7			
SITE 12	WHITNEY BROOK - JPRWH34 - VRMP	10/31/2012	5:50 PM	N								4.71			
SITE 13	PRETTY BROOK - JPRYG05 - VRMP	6/24/2012	5:10 PM	N								21.5			

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)	Enterococci (MPN/100ML)
SITE 14	FROST BROOK - JPRFB06 - VRMP	6/24/2012	10:00 AM	N								87.4			
SITE 14	FROST BROOK - JPRFB06 - VRMP	10/31/2012	3:14 PM	N								5.24			
SITE 15	ALLEN BROOK - JPRAB06 - VRMP	6/24/2012	10:05 AM	N								58.1			
SITE 15	ALLEN BROOK - JPRAB06 - VRMP	10/31/2012		N									33		
SITE 15	ALLEN BROOK - JPRAB06 - VRMP	10/31/2012	3:18 PM	N								7.88			
SITE 16	CLARK BROOK - JPRCL05 - VRMP	6/24/2012	10:19 AM	N								6.13			
SITE 16	CLARK BROOK - JPRCL05 - VRMP	10/31/2012	3:23 PM	N								5.32			
SITE 17	WILLIAMS BROOK - JPRWB03 - VRMP	6/24/2012	3:26 PM	N								36.2			
SITE 17	WILLIAMS BROOK - JPRWB03 - VRMP	10/15/2012		N									U<2		
SITE 17	WILLIAMS BROOK - JPRWB03 - VRMP	10/15/2012	5:15 PM	N								1.07			
SITE 18	WILLIAMS BROOK - JPRWB19 - VRMP	6/24/2012	2:55 PM	N								11.7			
SITE 18	WILLIAMS BROOK - JPRWB19 - VRMP	10/15/2012	5:03 PM	N								1.69			

Appendix A-2. 2012 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; "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
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Prestile Stream, Prestile Storm Watchers Approved Sites:

SITE 1	PRESTILE STREAM - JPR43 - VRMP	6/24/2012	5:00 PM	N	STORM FLOW	HIGH	18.33	CULVERT	LIGHT RAIN		HEAVY RAIN			MED STAINED	WADEABLE/MID-DEPTH
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/16/2012	9:30 AM	N	STORM FLOW	MED		CULVERT			FOGGY, HEAVY RAIN, LIGHT RAIN			MED STAINED	NON-WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/16/2012	9:30 AM	D				CULVERT							NON-WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 1	PRESTILE STREAM - JPR43 - VRMP	10/31/2012	7:30 AM	N	STORM FLOW	MED		CULVERT	CLOUDY		LIGHT RAIN	RUN		MED STAINED	NON-WADEABLE/MID-DEPTH
SITE 2	PRESTILE STREAM - JPR62 - VRMP	6/24/2012	5:00 PM	N	STORM FLOW	HIGH	18.33	CULVERT	LIGHT RAIN		HEAVY RAIN			MED STAINED	WADEABLE/MID-DEPTH
SITE 2	PRESTILE STREAM - JPR62 - VRMP	10/16/2012	9:30 AM	N	STORM FLOW	MED		CULVERT			FOGGY, HEAVY RAIN, LIGHT RAIN			MED STAINED	NON-WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 2	PRESTILE STREAM - JPR62 - VRMP	10/31/2012	7:30 AM	N	STORM FLOW	HIGH		CULVERT	CLOUDY		LIGHT RAIN	RUN		TURBID	NON-WADEABLE/MID-DEPTH
SITE 3	ELLIOT BROOK - JPREB11 - VRMP	6/24/2012	5:00 PM	N	STORM FLOW	HIGH	18.33	CULVERT	LIGHT RAIN		HEAVY RAIN			CLEAR	WADEABLE/MID-DEPTH
SITE 3	ELLIOT BROOK - JPREB11 - VRMP	10/16/2012	9:30 AM	N	STORM FLOW	MED		CULVERT			FOGGY, HEAVY RAIN, LIGHT RAIN			MED STAINED	TOOK SAMPLE AT OUTLET OF CULVERT. NON-WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 3	ELLIOT BROOK - JPREB11 - VRMP	10/31/2012	7:30 AM	N	STORM FLOW	HIGH		CULVERT	CLOUDY		LIGHT RAIN				BEAVERS AT INLET-TOOK SAMPLE AT OUTLET OF CULVERT. NON-WADEABLE/MID-DEPTH
SITE 4	GETCHELL BROOK - JPRGL18 - VRMP	6/24/2012	4:25 PM	N	STORM FLOW	HIGH	15	CULVERT	HEAVY RAIN, PARTLY CLOUDY	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RUN		TURBID	2" - 8" RAIN WATERSHED WIDE NON-WADEABLE/3 FT BELOW SURFACE
SITE 5	PRESTILE STREAM - JPR124 - VRMP	6/24/2012	4:48 PM	N	STORM FLOW	HIGH	15	BANK	HEAVY RAIN, PARTLY CLOUDY	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RUN		TURBID	2" - 8" RAIN WATERSHED WIDE NON-WADEABLE/3 FT BELOW SURFACE
SITE 6	ROCKY BROOK - JPRRB06 - VRMP	6/24/2012	5:26 PM	N	STORM FLOW	HIGH	15	BANK	HEAVY RAIN, MOSTLY CLOUDY		HEAVY RAIN, MOSTLY CLOUDY, PARTLY CLOUDY, SHOWERS	RIFFLE		TURBID	2" - 8" RAIN WATERSHED WIDE NON-WADEABLE/MID-DEPTH
SITE 6	ROCKY BROOK - JPRRB06 - VRMP	10/15/2012	5:30 PM	N	STORM FLOW	HIGH	11.67	WADING	LIGHT RAIN, MOSTLY CLOUDY	CALM	FOGGY, HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY	RUN		CLEAR	1" OF RAIN WATERSHED WIDE. WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.

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
SITE 6	ROCKY BROOK - JPRR06 - VRMP	10/31/2012	5:00 PM	N	STORM FLOW	HIGH	10	WADING	LIGHT RAIN, MOSTLY CLOUDY	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		CLEAR	END OF HURRICAN SANDY WADEABLE/MID-DEPTH
SITE 7	PRESTILE STREAM - JPR39 - VRMP	6/24/2012	5:56 PM	N	STORM FLOW	MED	15	BRIDGE	HEAVY RAIN, MOSTLY CLOUDY		HEAVY RAIN, MOSTLY CLOUDY, PARTLY CLOUDY, SHOWERS	RUN		TURBID	2" - 8" RAIN WATERSHED WIDE NON-WADEABLE/3 FT BELOW SURFACE
SITE 7	PRESTILE STREAM - JPR39 - VRMP	10/15/2012	5:50 PM	N	STORM FLOW	HIGH	11.67	WADING	LIGHT RAIN, MOSTLY CLOUDY	CALM	FOGGY, HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY	RUN		CLEAR	1" OF RAIN WATERSHED WIDE. WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 7	PRESTILE STREAM - JPR39 - VRMP	10/31/2012	5:26 PM	N	STORM FLOW	MED	10	BRIDGE	LIGHT RAIN, MOSTLY CLOUDY	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		CLEAR	END OF HURRICAN SANDY NON-WADEABLE/MID-DEPTH
SITE 8	THREE BROOKS - JPRTB52 - VRMP	6/24/2012	6:11 PM	N	STORM FLOW	MED	15	BRIDGE	HEAVY RAIN, PARTLY CLOUDY		HEAVY RAIN, MOSTLY CLOUDY, PARTLY CLOUDY, SHOWERS	RUN		TURBID	2" - 8" RAIN WATERSHED WIDE NON-WADEABLE/3 FT BELOW SURFACE
SITE 8	THREE BROOKS - JPRTB52 - VRMP	10/15/2012	6:00 PM	N	STORM FLOW	HIGH	11.67	WADING	LIGHT RAIN, PARTLY CLOUDY	CALM	FOGGY, HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY	RUN		CLEAR	1" OF RAIN WATERSHED WIDE. BEAVER DAM ON SOUTHSIDE OF BRIDGE AND THEY ARE BUILDING ON NORTH SIDE AS WELL. WADEABLE/1.5 FT BELOW SURFACE DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 8	THREE BROOKS - JPRTB52 - VRMP	10/31/2012	5:34 PM	N	STORM FLOW	HIGH	10	BRIDGE	LIGHT RAIN, MOSTLY CLOUDY	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	END OF HURRICAN SANDY - BEAVER DAMS NON-WADEABLE/3 FT BELOW SURFACE
SITE 9	YOUNG BROOK - JPRY00 - VRMP	6/24/2012	7:26 PM	N	STORM FLOW	HIGH	15.56		LIGHT RAIN, PARTLY CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RIFFLE		TURBID	2" - 8" RAIN THROUGHOUT THE WATERSHED IN 24 PERIOD. SAMPLING LOCATION NOT RECORDED. NO VERTICAL DEPTH RECORDED.
SITE 9	YOUNG BROOK - JPRY00 - VRMP	10/31/2012	5:00 PM	N	STORM FLOW	MED	15	BRIDGE	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, SHOWERS	RUN		TURBID	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
SITE 10	PRESTILE STREAM - JPR00 - VRMP	6/24/2012	7:07 PM	N	STORM FLOW	HIGH	15.56	BRIDGE	LIGHT RAIN, PARTLY CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	2" - 8" RAIN THROUGHOUT THE WATERSHED IN 24 PERIOD NON-WADEABLE/3 FT BELOW SURFACE
SITE 10	PRESTILE STREAM - JPR00 - VRMP	6/24/2012	7:44 PM	N	STORM FLOW	HIGH	15.56	BRIDGE	LIGHT RAIN, PARTLY CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	2" - 8" RAIN THROUGHOUT THE WATERSHED IN 24 PERIOD NON-WADEABLE/3 FT BELOW SURFACE
SITE 10	PRESTILE STREAM - JPR00 - VRMP	10/31/2012	5:15 PM	N	STORM FLOW	MED	15	BRIDGE	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, SHOWERS	RUN		TURBID	NON-WADEABLE/3 FT BELOW SURFACE
SITE 11	WHITNEY BROOK - JPRWH02 - VRMP	6/24/2012	6:49 PM	N	STORM FLOW	HIGH	15.56	BANK	LIGHT RAIN, PARTLY CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, PARTLY CLOUDY	CASCADE		TURBID	2" - 8" RAIN THROUGHOUT THE WATERSHED IN 24 PERIOD NON-WADEABLE/3 FT BELOW SURFACE
SITE 11	WHITNEY BROOK - JPRWH02 - VRMP	10/31/2012	5:30 PM	N	STORM FLOW	MED	15	BRIDGE	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, SHOWERS	RUN		TURBID	NON-WADEABLE/MID-DEPTH
SITE 12	WHITNEY BROOK - JPRWH34 - VRMP	6/24/2012	6:36 PM	N	STORM FLOW	HIGH	15.56	BRIDGE	LIGHT RAIN, PARTLY CLOUDY	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	2" - 8" RAIN THROUGHOUT THE WATERSHED IN 24 PERIOD NON-WADEABLE/MID-DEPTH
SITE 12	WHITNEY BROOK - JPRWH34 - VRMP	10/31/2012	5:50 PM	N	STORM FLOW	MED	15	BRIDGE	CLOUDY, LIGHT RAIN	BREEZE	CLOUDY, HEAVY RAIN, SHOWERS	RUN		TURBID	NON-WADEABLE/MID-DEPTH
SITE 13	PRETTY BROOK - JPRYG05 - VRMP	6/24/2012	5:10 PM	N	STORM FLOW	HIGH	15	WADING	HEAVY RAIN, PARTLY CLOUDY	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RIFFLE		TURBID	2"-8" RAIN WATERSHED WIDE NON-WADEABLE/MID-DEPTH
SITE 14	FROST BROOK - JPRFB06 - VRMP	6/24/2012	10:00 AM	N	STORM FLOW	HIGH	15.56	CULVERT	LIGHT RAIN, SHOWERS	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RUN		TURBID	RAIN GAUGE MEASUREMENTS: SAT 6/23 AM-1.5", SUN 6/24 - AM 1.8" PM 1.8". NO VERTICAL DEPTH RECORDED.

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
SITE 14	FROST BROOK - JPRFB06 - VRMP	10/31/2012	3:14 PM	N	STORM FLOW	MED	16.67	CULVERT	HEAVY RAIN, LIGHT RAIN	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		CLEAR	HURRICANE SANDY'S AFTER EFFECTS (SOUTHERN ME 10/29) WADEABLE/MID-DEPTH
SITE 15	ALLEN BROOK - JPRAB06 - VRMP	6/24/2012	10:05 AM	N	STORM FLOW	HIGH	15.56	CULVERT	LIGHT RAIN, SHOWERS	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RUN		FOAMY	RAIN GAUGE MEASUREMENTS: SAT 6/23 AM-1.5", SUN 6/24 - AM 1.8" PM 1.8". CAN HEAR WATER CASCADE OVER UNSEEN BEAVER DAM UPSTREAM. NO VERTICAL DEPTH RECORDED.
SITE 15	ALLEN BROOK - JPRAB06 - VRMP	10/31/2012	3:18 PM	N	STORM FLOW	MED	16.67	CULVERT	HEAVY RAIN, LIGHT RAIN	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	HURRICANE SANDY'S AFTER EFFECTS (SOUTHERN ME 10/29) WADEABLE/MID-DEPTH
SITE 16	CLARK BROOK - JPRCL05 - VRMP	6/24/2012	10:19 AM	N	STORM FLOW	MED	15.56	CULVERT	LIGHT RAIN, SHOWERS	CALM	CLOUDY, HEAVY RAIN, LIGHT RAIN, SHOWERS	RUN		FOAMY	RAIN GAUGE MEASUREMENTS: SAT 6/23 AM-1.5", SUN 6/24 - AM 1.8" PM 1.8". WATER CASCADING OVER BEAVER DAM @ CULVERT. DARKER TURBIDITY UPSTREAM FOAMY WATER BELOW CULVERT. WADEABLE/MID-DEPTH
SITE 16	CLARK BROOK - JPRCL05 - VRMP	10/31/2012	3:23 PM	N	STORM FLOW	MED	16.67	CULVERT	HEAVY RAIN, LIGHT RAIN	BREEZE	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	HURRICANE SANDY'S AFTER EFFECTS (SOUTHERN ME 10/29) #16 CLARK BROOK BEAVER DAMN ON WEST SIDE OF BRIDGE FOAMY WATERS ON EAST SIDE NON-WADEABLE/3 FT BELOW SURFACE
SITE 17	WILLIAMS BROOK - JPRWB03 - VRMP	6/24/2012	3:26 PM	N	STORM FLOW	HIGH	17.22	CULVERT	SHOWERS	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	NON-WADEABLE/MID-DEPTH
SITE 17	WILLIAMS BROOK - JPRWB03 - VRMP	10/15/2012	5:15 PM	N	STORM FLOW	HIGH	11.67	CULVERT	LIGHT RAIN, MOSTLY CLOUDY	CALM	FOGGY, HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY	RUN		CLEAR	1" OF RAIN WATERSHED WIDE. WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.
SITE 18	WILLIAMS BROOK - JPRWB19 - VRMP	6/24/2012	2:55 PM	N	STORM FLOW	MED	17.22	CULVERT	SHOWERS	CALM	HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY, SHOWERS	RUN		TURBID	NON-WADEABLE/3 FT BELOW SURFACE

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
SITE 18	WILLIAMS BROOK - JPRWB19 - VRMP	10/15/2012	5:03 PM	N	STORM FLOW	HIGH	11.67	CULVERT	LIGHT RAIN, MOSTLY CLOUDY	CALM	FOGGY, HEAVY RAIN, LIGHT RAIN, MOSTLY CLOUDY	RUN		CLEAR	1" OF RAIN WATERSHED WIDE. WADEABLE/MID-DEPTH DID NOT COMPLETE CHAIN OF CUSTODY FOR DATASHEET.