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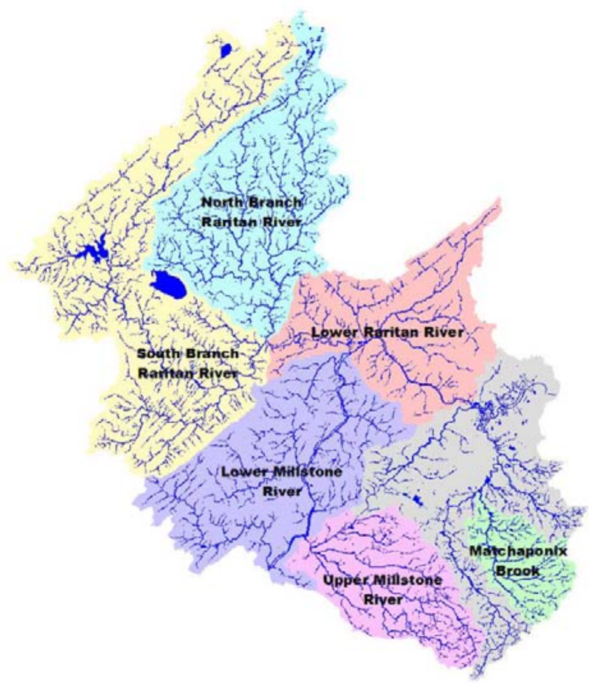
The Raritan River Basin TMDL
Phase I Data Summary and Analysis Report



Presented to:

Rutgers University
New Jersey EcoComplex
and
New Jersey Department of Environmental Protection
Division of Watershed Management

December 19, 2005

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I. INTRODUCTION

This report has been prepared by TRC Omni Environmental Corporation (TRC Omni) to present and summarize the data collected within Phase I of the Raritan River Basin Nutrient Total Maximum Daily Load (TMDL) project. The Raritan River Basin encompasses over 1,100 square miles in the central portion of New Jersey that drain to the Raritan Bay, and includes three of the State of New Jersey's Watershed Management Areas (WMAs): WMA 8 (470 mi^2), WMA 9 (350 mi^2), and WMA 10 (285 mi^2). The Raritan River Basin Nutrient TMDL project is designed to help New Jersey Department of Environmental Protection (NJDEP) develop TMDLs as necessary to address phosphorus and other conventional impairments in the Raritan River Basin. Extensive data collection was performed during Phase I, the purpose of which was to augment presently available information in order to provide data necessary to evaluate nutrient chemistry and use impairment, as well as provide data necessary for the modeling work in Phase II. Sampling was performed in accordance with the Quality Assurance Sampling Plan prepared by TRC Omni and approved by NJDEP (TRC Omni, May 24, 2004).

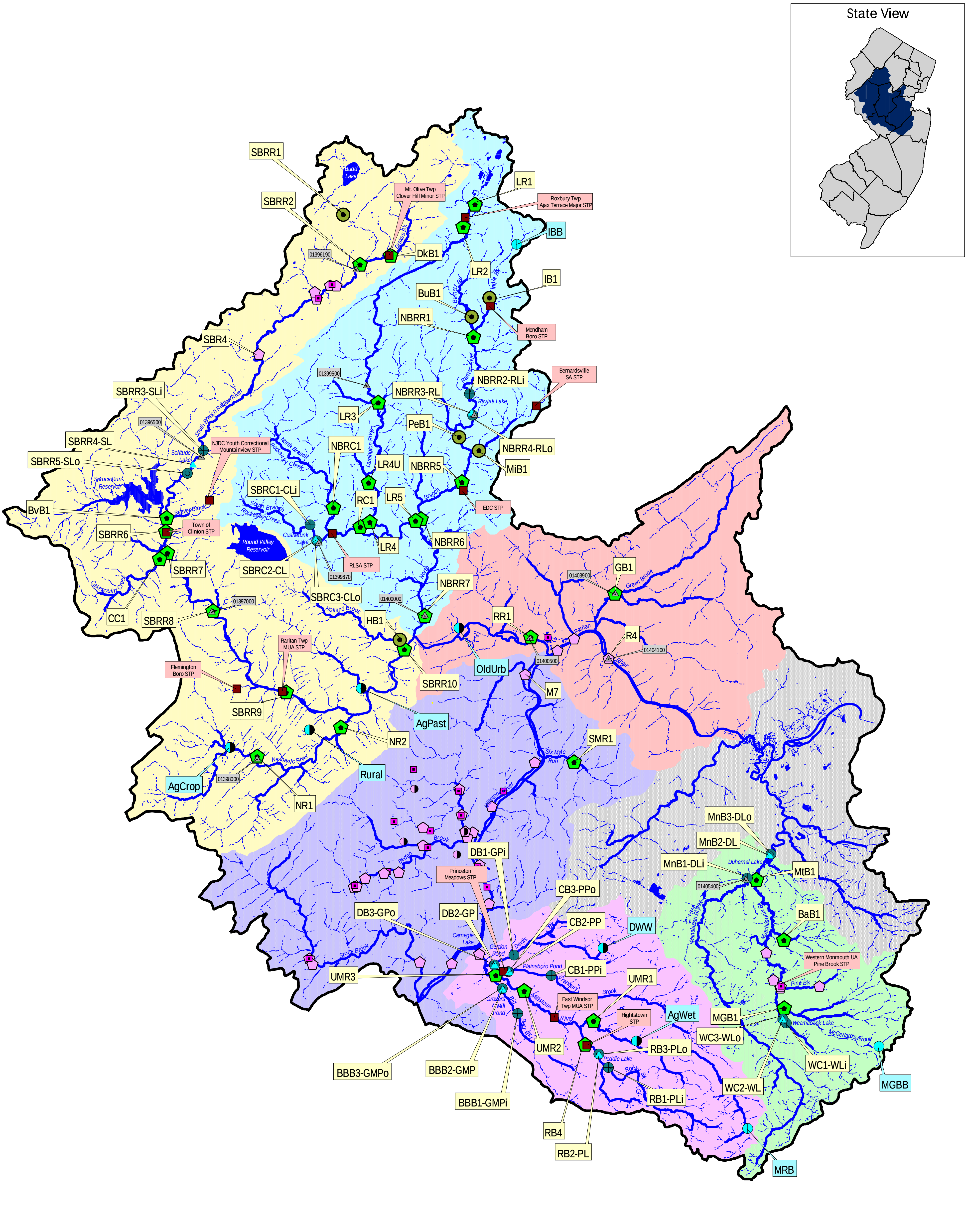
This project complements phosphorus evaluation studies performed in 2000, 2001, and 2003 for substantial portions of the Lower Millstone River and mainstem Raritan watersheds (TRC Omni, May 6, 2004; TRC Omni, December 8, 2004) as well as phosphorus evaluations performed concurrently in 2004 in segments of the South Branch Raritan River (TRC Omni, March 8, 2005) and Matchaponix Brook (TRC Omni, April 11, 2005). The purpose of these phosphorus evaluations, performed by TRC Omni on behalf of municipal utility authorities, was to evaluate nutrient limitation and use impairment in order to determine the applicability of the phosphorus stream criterion. In accordance with NJDEP guidance, nutrient limitation was evaluated using instream nutrient chemistry while use impairment was evaluated using response indicators of productivity under critical conditions, namely diurnal DO, phytoplankton concentration, and periphyton density.

II. FLOW AND WATER QUALITY SAMPLING SUMMARY

As detailed in the Quality Assurance Sampling Plan (May 24, 2004) and subsequent Amendments (June 3, 2004 and June 18, 2004), sampling under specified flow and weather conditions was performed at 54 locations in the "Northern Raritan" sampling area and 33 locations in the "Southern Raritan" sampling area. The Northern Raritan sampling area includes stream, lake, and sewage treatment plant locations in the mainstem Raritan River, Bound Brook, and all of Watershed Management Area 8 (North and South Branches of the Raritan River); the Southern Raritan sampling area includes stream, lake, and sewage treatment plant locations in the Millstone River and Matchaponix Brook watersheds. TRC Omni began Phase I of this project in May 2004 and completed the final low-flow sampling event on August 4-5, 2005 in the "Northern Raritan" sampling area.

Figure 1 is provided to identify the locations of each of the sampling stations, while Table 1 summarizes the sampling location information by station network type and sampling area. In addition to the sampling stations related to this study, Figure 1 and Table 1 also show those phosphorus evaluation study locations that were sampled again during this study in order to provide additional data during sampling events that occurred after the phosphorus evaluations were completed. The networks of sampling stations related to this study are comprised of the following:

- 9 baseflow locations, 6 of which also serve as stormwater locations;
- 6 stormwater locations, which also serve as baseflow locations;
- 33 stream characterization stations;
- 9 lake inlet locations;
- 9 lake outlet locations;
- 9 lake stations;
- 6 tributary locations; and
- 13 wastewater treatment plant outfalls.



MONITORING LOCATIONS

- Characterization Station
- Tributary Station
- Lake Inlet
- Lake Station
- Lake Outlet
- Background/Stormwater Station
- Background Station
- STP
- STP - Phosphorus Study
- Phosphorus Study Station
- Phosphorus Study Stormwater Station
- USGS Flow Station

- Main Stem Raritan River
- Matchaponix Brook
- North Branch Raritan River
- South Branch Raritan River
- Lower Millstone River
- Upper Millstone River
- Outside Study Area

- Lake
- River
- Stream

Figure 1

Raritan River Basin Nutrient TMDL Study Monitoring Locations

TRC Omni Environmental Corporation

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December 19, 2005

Table 1 Sampling Station Types and Locations

Sampling Area	Station Type	Study Area	Station ID	Location Description
Raritan Northern	Baseflow	Raritan River Headwaters	IBB	India Brook at Combs Hollow Rd in Coleman Hollow, Randolph Twp.
	Baseflow / Stormwater	Agriculture - Cropland	AgCrop	Trib to Neshanic R at Kuhl Rd near Reaville, Raritan Twp.
		Agriculture - Pasture	AgPast	Pleasant Run at South Branch Road in Branchburg
		Old Urban	OldUrb	Trib to canal at Route 567 and Woodmere St in Bradley Gardens, Bridgewater
		Residential, Rural	Rural	Tributary to SB Raritan River at Hockenbury Rd in Cloverhill, Hillsborough
	Characterization	North Branch Raritan	LR1	Lamington River at Righter Road between Roxbury and Randolph
			LR2	Lamington River at Ironia Road in Chester
			LR3	Lamington River near Route 512 in Pottersville, Bedminster/Tewksbury
			LR4	Lamington River at River Road near Whitehouse, Readington/Bedminster
			LR5	Lamington River at Cowperthwaite Road in Burnt Mills, Bedminster/Branchburg
			NBRC1	North Branch Rockaway Creek at Route 523 near Whitehouse Station
			NBRR1	North Branch Raritan River at Roxiticus Road in Mendham Township
			NBRR5	North Branch Raritan R. at Rte 202/206 just upstream of small trib in Bedminster
			NBRR6	North Branch Raritan River at Burnt Mills Road in Burnt Mills, Bedminster
			NBRR7	North Branch Raritan River at Route 202 near Branchburg Park, Bedminster
			RC1	Rockaway Creek at Lamington Road near Whitehouse in Readington
		South Branch Raritan	BvB1	Beaver Brook at Hamden Road in Town of Clinton
			CC1	Cakepoulin Creek at Lower Landsdown Road in Franklin
			DkB1	Drakes Brook upstream of Mt. Olive STP in Mount Olive
			NR1	Neshanic River at Reaville-Everitt Road near Reaville
			NR2	Neshanic River at Amwell Road in Hillsborough
			SBRR2	South Branch Raritan River near Four Bridges in Washington Township (USGS)
			SBRR6	South Branch Raritan River just upstream of Clinton WTP in Town of Clinton
			SBRR7	South Branch Raritan River at Hamden Rd just downstream of Cakepoulin Creek
			SBRR8	South Branch Raritan River at Stanton Station Rd (USGS 01397000)
			SBRR9	South Branch Raritan River at Main Street in Three Bridges
			SBRR10	South Branch Raritan River on Studdiford Dr in South Branch
		Mainstem Raritan	GB1	Green Brook (Bound Brook) at Greenbrook Rd. in Middlesex
			RR1	Raritan River at Main Street in Manville
	Lake Inlet	North Branch Raritan	NBRR2-RLi	North Branch Raritan River at Campbell Road, Far Hills/Peapack Gladstone
			SBRC1-CLi	South Branch Rockaway Creek at Van Horne Road off Route 22 in Readington
		South Branch Raritan	SBRR3-SLi	South Branch Raritan River at River Rd (or Cokesbury Rd) in Clinton Townshi
	Lake Outlet	North Branch Raritan	NBRR4-RLo	North Branch Raritan River at Highland Ave off Lake Road, Far Hills/Peapac
			SBRC3-CLo	Cushetunk Lake near Dam in Readington
		South Branch Raritan	SBRR5-SLo	South Branch Raritan River at Washington Ave in High Bridge
	Lake Station	North Branch Raritan	NBRR3-RL	Ravine Lake off Lake Road at USGS Far Hills gage (01398500)
			SBRC2-CL	Cushetunk Lake
		South Branch Raritan	SBRR4-SL	Solitude Lake near dam in High Bridge
	Tributary	North Branch Raritan	BuB1	Burnett Brook at Hackettstown Rd (Route 24) in Chester
			IB1	India Brook at Mountainside Road on Mendham Boro/Township boundary
			MiB1	Mine Brook at Far Hills Road (Route 512) in Far Hills
			PeB1	Peapack Brook at Old Dutch Road in Bedminster
		South Branch Raritan	HB1	Holland Brook at South Branch Road (Route 567) in Branchburg
			SBRR1	South Branch Raritan River at Bartley-Drakestown Road in Mount Olive
	STP	North Branch Raritan	STP-EDC	Environmental Disposal Corp. Major STP DSW to NB Raritan River tributary
			STP-Men	Mendham Boro Minor STP DSW to India Brook
			STP-RLSA	Readington-Lebanon SA Minor STP DSW to Rockaway Creek
			STP-Rox	Roxbury Twp - Ajax Terrace Major STP DSW to Lamington River
		South Branch Raritan	STP-BSA	Bernardsville SA Minor STP DSW to Mine Brook
			STP-FB	Flemington Boro - Major STP DSW to Bushkill Brook
			STP-MtO	Mt. Olive Twp - Clover Hill Minor STP DSW to Drakes Brook
			STP-MV	NJDC Youth Correctional - Mountainview Minor STP DSW to Beaver Brook
			STP-RT	Raritan Twp MUA - Major STP DSW to SB Raritan River
			STP-ToC	Town of Clinton - WTP Major STP DSW to SB Raritan River
	Phosphorus Study Station	Washington Township	SBR4	South Branch Raritan River off Route 513 at Middle Valley
		Lower Millstone / Raritan	R4	Raritan River above Fieldville Dam
			M7	Lower Millstone River at Weston
Raritan Southern	Baseflow	Matchaponix Brook Headwaters	MGBB	McGellairds Brook at Robertsville Rd in Freehold (upstream Topanemus Lake)
		Millstone River Headwaters	MRB	Millstone River at Sweetmans Lane in Sweetman, Millstone Twp.
	Baseflow / Stormwater	Agricultural Wetlands	AgWet	Tributary to Millstone Ri.at Probasco Rd and Wyckoffs Mills Rd in Wyckoffs
		Deciduous Wooded Wetlands	DWW	Tributary to Shallow Brook at Broadway Rd. in South Brunswick
	Characterization	Matchaponix	BaB1	Barclays Brook at Route 527 in Old Bridge
			MGB1	McGellairds Brook at Route 527 in Englishtown
			MtB1	Matchaponix Brook at West Greystone Rd in Spotswood
		Upper Millstone	CB4	Cranbury Brook near outlet downstream of Princeton Meadows STP in Plainsboro
			RB4	Rocky Brook at Route 130 in East Windsor
			UMR1	Upper Millstone River at Old Cranbury Road in Millstone, Cranbury/East Wind
			UMR2	Upper Millstone River at CR615 off Cranbury Neck Road in West Windsor
			UMR3	Upper Millstone River just downstream of railroad crossing in Plainsboro
		Mainstem Raritan	SMR1	Six Mile Run at CR615 near Blackwells Mills, Franklin
	Lake Inlet	Matchaponix	MnB1-DLi	Manalapan Brook outlet at Devoe Avenue in Boro of Spotswood
			WC1-WLi	Weamaconk Creek at Main Street in Tennent, Manalapan Twp.
		Upper Millstone	BBB1-GMPi	Big Bear Brook at Rabbit Hill Road in West Windsor
			CB1-PPi	Cranbury Brook at George Davison Road in Plainsboro
			DB1-GPi	Devils Brook at Scudders Mill Road in Plainsboro
			RB1-PLi	Rocky Brook at Ward Street in East Windsor (just West of Turnpike)
	Lake Outlet	Matchaponix	MnB3-DLo	Duhernal Lake outlet over dam in Old Bridge
			WC3-WLo	Weamaconk Creek at Weamaconk Lake outlet off Main Street in Englishtown
		Upper Millstone	BBB3-GMPo	Big Bear Brook downstream of dam at Clarksville Rd in West Windsor
			CB3-PPo	Cranbury Brook downstream of dam off Cranbury Neck Road in Plainsboro
			DB3-GPo	Devils Brook at Gordon Pond outlet in Plainsboro
			RB3-PLo	Rock Brook downstream of Peddie Lake dam at Route 33 in Hightsown
	Lake Station	Matchaponix	MnB2-DL	Duhernal Lake upstream of dam
			WC2-WL	Weamaconk Lake upstream of dam in Englishtown
		Upper Millstone	BBB2-GMP	Grovers Mill Pond upstream of dam in West Windsor
			CB2-PP	Plainsboro Pond upstream of dam in Plainsboro
			DB2-GP	Gordon Pond upstream of dam in Plainsboro
			RB2-PL	Peddie Lake upstream of dam in Hightstown
	STP	Upper Millstone	STP-EW	East Windsor Twp MUA Major STP DSW to Millstone River
			STP-HI	Hightstown Advanced WTP Major STP DSW to Rocky Brook
			STP-PMUA	Princeton Meadows Minor STP DSW to Cranbury Brook
	STP - Phos. Study	Western Monmouth	STP-WMUA	Western Monmouth UA - Pine Brook Major STP DSW to Pine Brook

Stream sampling stations were selected so that eutrophication impacts could be evaluated and a water quality model could be calibrated and verified within the phosphorus impaired segments of the Raritan River Basin. Six locations that drain small watersheds were selected for both baseflow and stormwater stations in order to characterize prevalent land use types for which stormwater data have not already been collected during previous studies. Lake inlet, lake outlet, and in-lake stations were selected for nine run-of-the-river lakes in order to characterize their impact on the phosphorus budget as well as the impact of phosphorus on these critical locations. Six tributary stations were selected in order to characterize substantial inputs into the major streams within the study area. Wastewater treatment plants within the study areas were chosen for sampling if their permitted flow exceeds 1.0 mgd (classified as "major" according to EPA) or if their actual flow exceeds 0.1 mgd. As shown in Figure 1, sampling locations were selected to complement and extend the study areas of Phosphorus Evaluations.

Sampling events for stations in the Northern Raritan River basin were performed independently from sampling events in the Southern Raritan River basin.

- Three low-flow sampling events were performed at 66 stations, each event consisting of two consecutive days of sampling for a total of six samples per station. Sampling networks that were sampled during the low-flow events include baseflow, characterization, lake inlet, lake outlet, STP (one 24-hour composite per event), and tributary network stations.
- Three high-flow sampling events were performed at 57 stations, each event consisting of two consecutive days of sampling for a total of six samples per station. Sampling networks that were sampled during the high-flow events include characterization, lake inlet, lake outlet, STP (one 24-hour composite per event), and tributary network stations.
- Eight ambient sampling events were performed at 42 stations, each event consisting of one day of sampling for a total of eight samples per station. Sampling networks that were sampled during the ambient events include characterization and lake inlet network stations.

- Three diurnal monitoring events were performed at 42 stations, each event consisting of continuous monitoring every 15 minutes during at least three consecutive days coincident with the low-flow events. Sampling networks that were sampled during the diurnal events include characterization and lake network stations.
- Three periphyton sampling events were performed at 42 stations, each event consisting of a single composite sample or observation for a total of three composite samples and/or observations per station. Periphyton sampling events were performed coincident with the low-flow events. Sampling networks that were sampled during the periphyton events include baseflow and characterization network stations.
- Three stormwater events were performed at the six stormwater network stations, each event consisting of approximately five samples per storm for a minimum total of 15 samples per station.

Flow and weather condition requirements, specific parameters monitored during each event, and sampling procedures are specified in the Quality Assurance Sampling Plan (TRC Omni, May 24, 2004). Table 2 below shows the dates when the ambient, low-flow, high-flow, and stormwater events were performed in both the Northern Raritan and Southern Raritan sampling areas.

Table 2: Dates of Sampling Events in Northern and Southern Raritan Sampling Areas

Sampling Event	Northern Raritan	Southern Raritan
Ambient	June 3, 2004 June 9, 2004 June 16, 2004 June 22, 2004 July 7, 2004 August 25, 2004 September 16, 2004 October 13, 2004	June 2, 2004 June 10, 2004 June 15, 2004 June 23, 2004 July 20, 2004 August 8, 2004 August 24, 2004 September 22, 2004 October 11, 2004
High-Flow	July 15-16, 2004 July 28-29, 2004 November 29-30, 2004	July 13-14, 2004 August 16-17, 2004 November 12-13, 2004
Low-Flow	August 9-10, 2004 November 2-3, 2004 August 4-5, 2005	July 8-9, 2004 September 7-8, 2004 November 10-11, 2004
Stormwater	September 18-19, 2004 September 28-29, 2004 April 22 – May 1, 2005	

III. RESULTS

Appendix A graphically displays the flow and precipitation conditions during all sampling events at continuous flow gage locations throughout the study area. Sampling conditions during the Northern Raritan sampling events were characterized by the following continuous flow gages: South Branch Raritan River at Four Bridges (01396190), South Branch Raritan River near High Bridge (01396500), South Branch Raritan River at Stanton (01397000), Neshanic River at Reaville (01398000), North Branch Raritan River near Far Hills (01398500), Lamington River near Pottersville (01399500), South Branch Rockaway Creek at Whitehouse Station (01399670), North Branch Raritan River at North Branch (01400000), Raritan River at Manville (01400500), and Bound Brook at Middlesex (01403900). No active continuous gages exist within the study areas of the Southern Raritan sampling area (Upper Millstone and Matchaponix). Four nearby gages were used to characterize sampling conditions during the Southern Raritan sampling events: Manasquan River at Squankum (01408000), Manalapan Brook at Spotswood (01405400), Stony Brook at Princeton (01401000), and Millstone River at Blackwells Mills (01402000).

Appendix B, C, D, and E provide tables of all instream data, STP effluent data, background sampling data, and stormwater sampling data, respectively, that were collected for this project. For all appendices, sampling stations are sorted by major watershed and then alphabetically by station name. Note that Station NR2Unk, included alphabetically with the instream data for the South Branch Raritan study area in Appendix B, is an illicit point source discovered by TRC Omni in close proximity to Station NR2. TRC Omni sampled this point source as a courtesy and provided exact location, photos, and sampling results to NJDEP. Also, it should be noted that only two sampling events were performed for Flemington Boro STP (STP-FB in Appendix C) because it only discharges occasionally under high flow conditions.

Nutrient chemistry graphs are provided in Appendix F. In order to evaluate nutrient limitation (NJDEP, 2003), these graphs plot total phosphorus (TP) and dissolved reactive phosphorus (D-OPO_4) against the ratio of total inorganic nitrogen to dissolved reactive phosphorus. On each graph, a single horizontal dashed line is used to indicate the 0.1 mg/l total phosphorus instream criterion (primary axis) and the 0.05 mg/l dissolved reactive phosphorus threshold (secondary axis). A vertical dashed line shows the ratio of total inorganic nitrogen to dissolved reactive phosphorus at the threshold value of 5. Note that both total phosphorus and dissolved reactive phosphorus are plotted as pairs on separate y-axes. According to NJDEP's Technical Manual, phosphorus can be excluded as a limiting nutrient if the ratio of total inorganic nitrogen to dissolved reactive phosphorus is less than 5, or if the concentration of dissolved reactive phosphorus exceeds 0.05 mg/l. These graphs provide insight into the degree to which the productivity at various locations would be sensitive to changes in phosphorus loads.

Appendix G contains graphs of the diurnal dissolved oxygen, percent dissolved oxygen saturation, pH, and temperature data. Percent dissolved oxygen saturation is simply the measured dissolved oxygen divided by the dissolved oxygen in equilibrium with the atmosphere (100% saturation), expressed as a percentage. Dissolved oxygen at 100% saturation was calculated as a function of temperature and atmospheric pressure, as follows:[1]

$$DO_{sat} = \frac{\left[\begin{array}{l}\left(P \times e^{(7.7117 - 1.31403 \times \ln(T+45.93))}\right) \times \left(1 - \dfrac{e^{\left(11.8571 - \frac{3840.7}{(T+273.15)} - \frac{216961}{(T+273.15)^2}\right)}}{P}\right) \\ \times \left(1 - \left(0.000975 - \left(0.00001426 \times T\right) + \left(0.00000006436 \times T^2\right)\right) \times P\right)\end{array}\right]}{\left[\begin{array}{l}\left(1 - \dfrac{e^{\left(11.8571 - \frac{3840.7}{(T+273.15)} - \frac{216961}{(T+273.15)^2}\right)}}{P}\right) \\ \times \left(1 - \left(0.000975 - \left(0.00001426 \times T\right) + \left(0.00000006436 \times T^2\right)\right)\right)\end{array}\right]}$$

Where: DO_{sat} = dissolved oxygen at 100% saturation;

P = atmospheric pressure (atm); and

T = stream temperature (Celsius).

The graphs in Appendix G display an enormous quantity of data over long periods of time. As noted on each page, grab samples taken at the beginning and end of each diurnal event

[1] WOW. 2004. Water on the Web - Monitoring Minnesota Lakes on the Internet and Training Water Science Technicians for the Future - A National On-line Curriculum using Advanced Technologies and Real-Time Data. (http://waterontheweb.org/under/waterquality/oxygen.html). University of Minnesota-Duluth, Duluth, MN 55812.

were taken near the exact location of the continuous meter. However, grab samples of dissolved oxygen, temperature and pH were taken mid-stream and mid-depth during water quality sampling events. These grab samples are shown on the same graph with continuous sensor results as a comparison, but should not be expected to match as well as the grab samples taken at the beginning and end of each meter deployment. The outstanding performance of the continuous temperature, dissolved oxygen, and pH sensors is demonstrated by the duplicate deployments at UMR2 (7/2004), BaB1 (11/2004), SMR1 (11/2004), and RC1 (9/2005).

The graphs in Appendix G provide an excellent indicator of productivity impacts at numerous locations throughout the basin. The graphs on the left side of each facing page show pH and temperature, while graphs on the right side show dissolved oxygen and percent oxygen saturation. While maximum productivity impacts are observed during dry weather low-flow periods, it is also interesting to observe the impacts of storm events on dissolved oxygen. Diurnal measurements tend to focus on low-flow periods; this study collected an enormous amount of diurnal data at many locations during a variety of flow conditions.

Phytoplankton (water column algae) and periphyton (attached algae) graphs for each study area are provided in Appendix H. For phytoplankton, summer averages and summer maximums were calculated based on all data collected from June through September. Samples taken on consecutive days during the same event (e.g. low-flow event) were averaged together and counted as a single result. For comparison, the seasonal average and two–week average thresholds from NJDEP's Technical Manual are shown as horizontal lines on the phytoplankton graphs. For periphyton, average and maximum values are shown; the seasonal average and maximum periphyton density thresholds from NJDEP's Technical Manual are shown as horizontal lines for comparison.

Diurnal solar radiation (i.e., light intensity) measurements taken during each of the three low stream flow events are provided as graphs in Appendix I. Also, underwater light intensity was measured to determine light extinction rates at many sampling locations. These data, along with depth profiles of dissolved oxygen and temperature as well as surface phytoplankton samples in lakes are provided in Appendix J. While depth profiles and surface phytoplankton samples in lakes were not required by the study design or sampling plan, these additional data were collected along with light extinction and are therefore included in Appendix J.

Bathymetry maps showing one-foot depth contours are provided in Appendix K based on depth surveys performed by TRC Omni at each of the nine run-of-the river lakes sampled during the study. While not specifically required in the sampling plan, depth surveys were performed for each lake primarily in order to calculate volumes. Table 3 below shows the area, maximum observed depth, average depth, and volume for each lake. Volume was calculated by summing the volumes calculated for one-foot layers, or frustums (Taube, 2000):

$$V = \frac{1}{3} \cdot H \cdot \left(A_1 + A_2 + \sqrt{A_1 + A_2} \right)$$

Where: V = volume of each frustum;

A_1 = area of the top of the frustum (area of outer depth contour);

A_2 = area of the bottom of the frustum (area of inner depth contour).

Average depth was calculated by simply dividing the lake volume by the lake area.

Table 3: Lake Volume Calculations

Study Area	Lake	Area (acres)	Max. Depth (feet)	Avg. Depth (feet)	Volume (acre-feet)
North Branch Raritan	Cushetunk Lake	25.42	10.2	2.8	71.60
	Ravine Lake	45.58	24.3	8.4	381.27
South Branch Raritan	Solitude Lake	18.13	12.1	2.7	49.28
Matchaponix	Duhernal Lake	113.60	10.4	3.0	343.02
	Weamaconk Lake	6.70	7.6	4.6	30.75
Upper Millstone	Gordon Pond	15.64	10.9	3.9	60.40
	Grovers Mill Pond	30.54	8.6	3.0	93.12
	Peddie Lake	16.50	10.9	6.5	106.55
	Plainsboro Pond	36.50	9.5	3.0	110.67

IV. IDENTIFICATION OF CRITICAL LOCATIONS

The following streams in the Raritan River Basin are designated by NJDEP as impaired for phosphorus because instream concentrations of phosphorus exceed the 0.1 mg/l threshold in the Surface Water Quality Standards (SWQS): Beden Brook; Bound Brook; Cakepoulin Creek; Lamington River; Manalapan Brook; Matchaponix Brook; McGellairds Brook; Millstone River, Upper and Lower; Neshanic River; Pike Run; Raritan River, North Branch, South Branch, and Mainstem; Rockaway Creek; Six Mile Run; Spruce Run (downstream of reservoir); Stony Brook; Weamaconk Creek; and Wemrock Brook. In its 2004 Integrated Water Quality Report, NJDEP committed to establishing Total Maximum Daily Loads (TMDLs) where required for all phosphorus-impaired waters in the Raritan River Basin by 2006. In addition to phosphorus impairment designations, NJDEP has designated several of these streams as impaired for pH, total suspended solids (TSS), temperature, and dissolved oxygen (DO).

Utilizing the data collected for this study, TRC Omni evaluated to what degree water column phosphorus appears to be controlling productivity and whether phosphorus is causing, or potentially causing, instream impairment. Nutrient chemistry (Appendix F), diurnal dissolved oxygen and pH (Appendix G), and Chlorophyll-a measurements (Appendix H) were used to assess nutrient limitation, productivity, and phosphorus impairment. Recall that this project complements phosphorus evaluation studies performed for substantial portions of the Lower Millstone River and mainstem Raritan watersheds (TRC Omni, May 6, 2004; TRC Omni, December 8, 2004) as well as segments of the South Branch Raritan River (TRC Omni, March 8, 2005) and Matchaponix Brook (TRC Omni, April 11, 2005). These reports provide assessments of nutrient limitation and productivity for waters within the spatial extent of the phosphorus evaluation studies.

TRC Omni also used the data collected for this study to assess the nature and cause of other conventional impairments in the Raritan River basin that were identified on the Integrated Water Quality Report (NJDEP, 2004), namely total suspended solids, pH, temperature, and dissolved oxygen.

A. North Branch Raritan River Watershed

The North Branch Raritan River watershed can be assessed as four distinct subwatersheds: the Lamington River subwatershed upstream of its confluence with Rockaway Creek; the Rockaway Creek subwatershed, including the portion of the Lamington River from the Rockaway Creek confluence to the North Branch Raritan River Confluence; the upper North Branch Raritan River subwatershed upstream of the Lamington River confluence; and the lower North Branch Raritan River downstream of the Lamington River confluence.

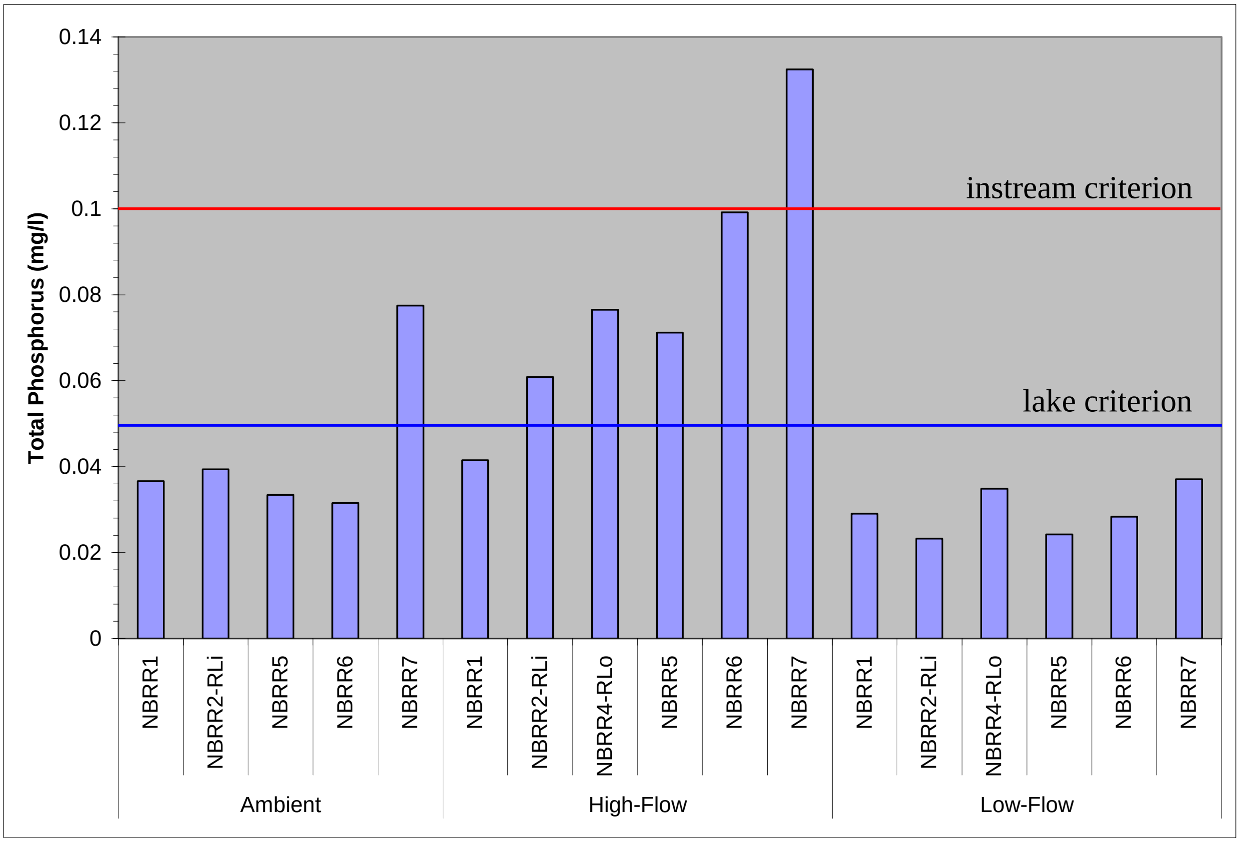
1. Phosphorus

Phosphorus is generally much lower than 0.1 mg/l (average TP = 0.043 mg/l) and appears to be a limiting nutrient in the headwaters and tributaries of all four subwatersheds (LR1, NBRC1, SBRC1-CLi, BuB1, IBB, IB1, PeB1, MiB1, NBRR1). The Lamington River exceeds 0.1 mg/l TP in Chester downstream of Roxbury Township STP, but returns to a low phosphorus condition downstream in Pottersville (LR3) and near Whitehouse (LR4). Under ambient and low-flow conditions, stations LR3 and LR4 are very similar to the headwater condition at station LR1. Under high-flow conditions, stations LR3 and LR4 exceed 0.1 mg/l TP occasionally, coincident with high iron and high TSS concentrations. Such exceedances are related to erosion, not productivity. The Lamington River downstream of Roxbury Township STP (LR2) appears to remain phosphorus-limited when total phosphorus is near 0.1 mg/l, although there are many times when phosphorus levels are too high to be limiting productivity.

The upstream stations in the Rockaway Creek subwatershed (NBRC1 and SBRC1-CLi) are very similar to the Lamington River just upstream of the Rockaway River confluence: phosphorus is generally lower than 0.1 mg/l (0.034 and 0.062 mg/l, respectively), but exceeds 0.1 mg/l occasionally, coincident with high iron and high TSS concentrations. However, station SBRC-CLi is near the inlet to Cushetunk Lake, and frequently exceeds the lake criterion of 0.05 mg/l TP (average TP = 0.062 mg/l). Interestingly, phosphorus concentration increases in Cushetunk Lake outlet (SBRC3-CLo) compared to its inlet (SBRC1-CLi), indicating either substantial in-lake phosphorus sources or direct sources to the lake. Phosphorus remains the limiting nutrient in Cushetunk Lake even when TP exceeds 0.1 mg/l, as is common in lake environments. Phosphorus concentrations exceed 0.1 mg/l commonly in the mainstem Rockaway Creek and Lamington River downstream of the Rockaway Creek confluence (Readington-Lebanon Sewerage Authority STP discharges to South Branch Rockaway Creek just upstream of the confluence with the North Branch Rockaway Creek). However, phosphorus no longer limits productivity in the mainstem Rockaway Creek and lower Lamington River when TP exceeds 0.1 mg/l.

In the North Branch Raritan River, phosphorus occasionally exceeds 0.1 mg/l. It is difficult to assess whether phosphorus continues to control productivity when TP exceeds 0.1 mg/l, except in the lower North Branch Raritan River (NBRR7) where it clearly does not. While several municipal STPs discharge to the North Branch Raritan River and its tributaries, these STPs perform a high degree of phosphorus treatment. Consequently, the concentration of phosphorus in the North Branch Raritan River during low-flow events is low and fairly constant upstream to downstream (Figure 2). On the other hand, phosphorus concentration during high-flow events increases noticeably from upstream to downstream (Figure 2), coincident with high TSS values. This pattern is consistent with stream bank erosion. The lake criterion of 0.05 mg/l is frequently exceeded at the inlet to Ravine Lake (NBRR2-RLi), especially during high-flow events. Phosphorus at the outlet of Ravine Lake (NBRR4-RLo) is higher than the inlet, indicating substantial in-lake sources or direct sources to the lake.

Figure 2: Average Phosphorus Concentrations in North Branch Raritan River



2. Productivity Indicators

Phytoplankton concentrations are quite low throughout the North Branch Raritan River watershed, especially during the summer months of July, August and September. The average of all phytoplankton observations at all stream stations in the watershed was 1.9 µg/l chlorophyll-a. Only the three most downstream stations, the North Branch Raritan River and Lamington River at Burnt Mills just upstream of their confluence (LR5 and NBRR6) and the North Branch Raritan River near the outlet of the watershed (NBRR7), were observed to have single-sample phytoplankton concentrations of 8 µg/l or higher. Interestingly, the highest observed values at all three stations occurred on single days in October and November of 2004; most phytoplankton values at these stream locations were very small. While lake water quality was generally assessed using outlet stream data (NBRR4-RLo and SBRC3-CLo), a few additional in-lake phytoplankton grab samples[2] were taken; these are provided in Appendix J. Phytoplankton chlorophyll-a concentrations in Ravine Lake ranged from non-detect during low-flow dry weather in August 2005 to 18.7 µg/l on October 4, 2005 during fall turnover. Phytoplankton chlorophyll-a concentration in Cushetunk Lake was observed to be 23.4 µg/l on August 22, 2005. Periphyton densities are fairly low throughout the watershed. Only two sites, both in the Lamington River (LR3 and LR5), were observed to have maximum periphyton densities over 50 mg/m^2: 58 and 64 mg/m^2, respectively. None of the phytoplankton or periphyton values exceeded the thresholds in the NJDEP Technical Manual (NJDEP, 2003).

The Lamington River subwatershed (upstream of Rockaway Creek) generally exhibits substantial, but not apparently unhealthy, diurnal DO and pH swings. The exception is the Lamington River in Chester downstream of Roxbury Township STP. While sediment oxygen demand appears to be substantial both upstream (LR1) and downstream (LR2) of the discharge, the extreme diurnal DO swings as high as 10 mg/l exacerbate the low DO, causing the stream to violate the 4.0 mg/l minimum DO criterion and even become apparently anoxic during the night under extreme low-flows. It should be noted that this stream segment is the only one in the Raritan River basin designated by NJDEP as impaired for DO (NJDEP, 2004). Macrophytes are responsible for much of the productivity in the Lamington River (Figure 3).

[2] These samples were not composited spatially; rather, they were near-surface grab samples taken near the center of the lakes laterally and in the deeper area upstream of the dam longitudinally.

Figure 3: Rooted Macrophytes at LR2

The North Branch Rockaway Creek (NBRC1), mainstem Rockaway Creek (RC1) and lower Lamington River (LR5) all experience substantial diurnal DO swings driven by rooted macrophytes. During critical low-flow periods, the North Branch Rockaway Creek experienced DO swings up to 8 mg/l, while the mainstem Rockaway Creek and lower Lamington River experienced DO swings as high as 6 mg/l. These three segments of the stream are remarkably similar in terms of productivity, although their phosphorus concentrations are dramatically different. It is also important to note that diurnal pH swings observed at all three locations were as high as 1 s.u., meaning a ten-fold diurnal swing in hydrogen ion concentration. Also, the peaks of these pH swings exceeded the maximum pH criterion of 8.5 s.u. occasionally at all three locations. The South Branch and mainstem Rockaway Creek and lower Lamington River are occasionally affected by releases from Round Valley Reservoir through its Whitehouse Release in the South Branch Rockaway Creek. Summer 2005 diurnal monitoring at stations RC1 and LR5 was impacted by releases from Round Valley Reservoir; it its likely that the diurnal variation of DO and pH at these locations would have been greater in the absence of the increased flow from Round Valley during August and September of 2005. Finally, Cushetunk Lake (SBRC2-CL) routinely experiences 8 mg/l and 1 s.u. diurnal fluctuations of DO and pH, respectively.[3] The pH during these periods of high productivity frequently exceeds the maximum criterion of 8.5 s.u.

The North Branch Raritan River upstream of Ravine Lake (NBRR1) shows no signs of excessive productivity. In fact, Ravine Lake (NBRR3-RL) experiences only mild diurnal DO swings in its epilimnion. However, the hypolimnion of Ravine Lake was observed to be anoxic from the bottom (21 feet deep) all the way to the beginning of the thermocline around 10 feet deep. Overall productivity appears to be surprisingly low in Ravine Lake; during two peak summer observations, in-lake phytoplankton chlorophyll-a was measured non-detect and 10.7 µg/l. The deep anoxic thermocline must be caused more by the circulation patterns and temperature stratification than decomposition of detrital matter. Diurnal DO swings at the two most downstream locations in the North Branch Raritan River (NBRR6 and NBRR7) are substantial, but do not appear to be excessive or causing obvious impairment. During critical conditions, DO ranges from 6 to 12 mg/l at these locations. On the other hand, the North Branch Raritan River in Bedminster (NBRR5) experiences extreme DO and pH swings, observed as high as 14 mg/l and 1.5 s.u., respectively. Furthermore, the daily DO troughs during August 2005 at NBRR5 were observed to reach the minimum DO criterion of 4 mg/l.

[3] Cushetunk Lake stratifies in the summer (see Appendix J p. J-9). The meter deployment in 2005 best represents summer epilimnetic conditions. Hypolimnetic conditions are typically low in DO due to low rate of reaeration.

3. TSS, pH, and Temperature

None of the streams in the North Branch Raritan River watershed were designated by NJDEP as impaired for TSS (2004). However, exceedances of the applicable maximum TSS criteria (25 mg/l for trout waters and 40 mg/l for non-trout waters) were observed during high-flow sampling events. The TSS increases dramatically during high-flow events from upstream to downstream in all three subwatershed, as shown in Figures 4, 5, and 6. This pattern points to stream bank erosion as the primary cause, as seen in Figure 7 (North Branch Raritan River in Bridgewater). TSS near the outlets of Cushetunk Lake (SBRC3-CLo) and Ravine Lake (NBRR4-RLo) may also be exacerbated by flushing of sediments stored in the lakes.

Figure 4: TSS in Lamington River

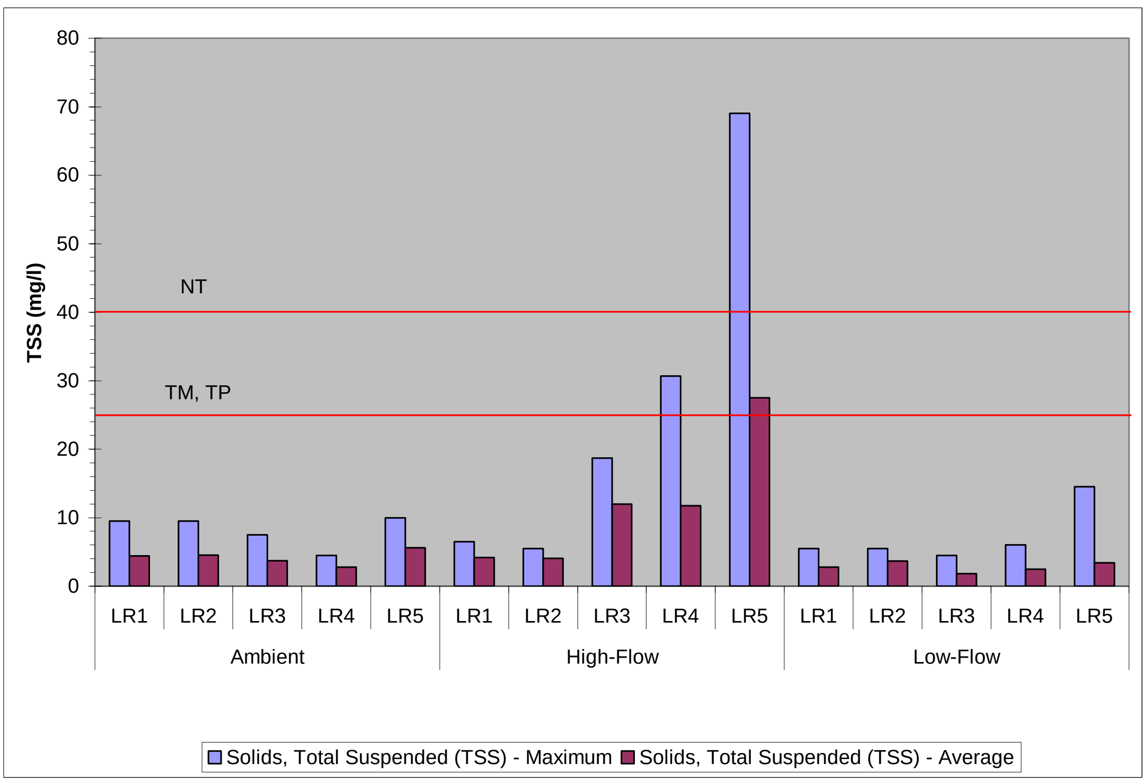


Figure 5: TSS in Rockaway Creek Subwatershed

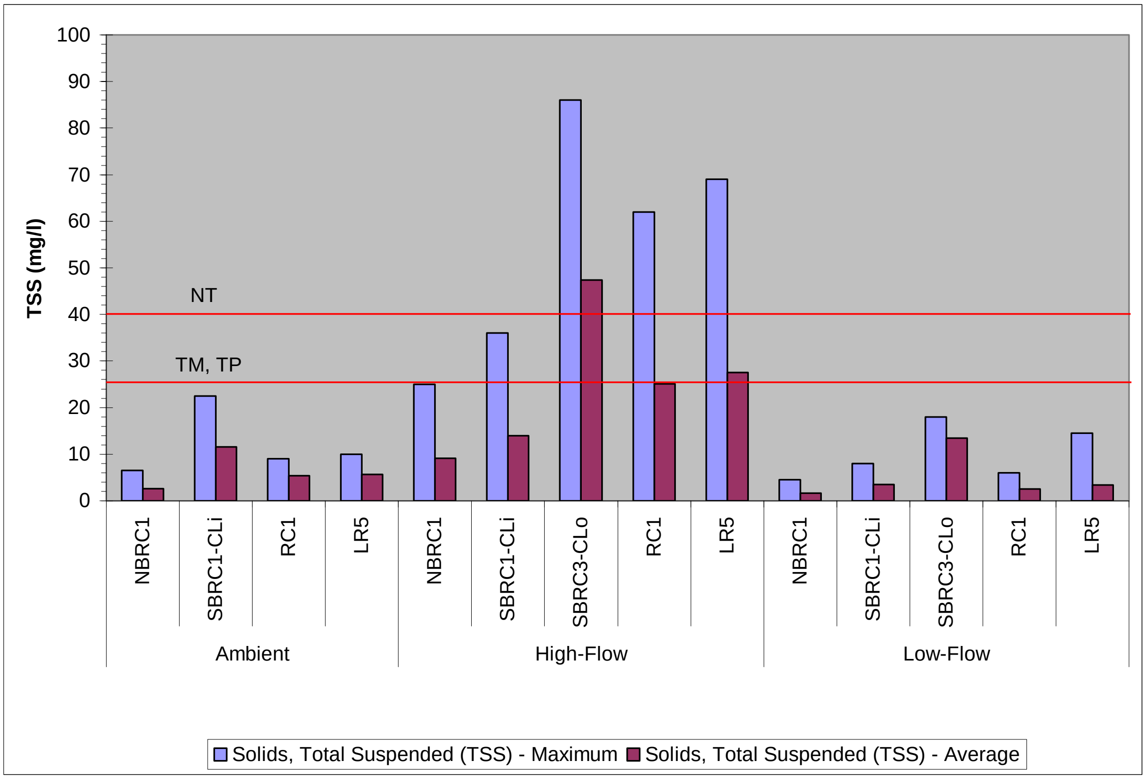


Figure 6: TSS in North Branch Raritan River Subwatershed

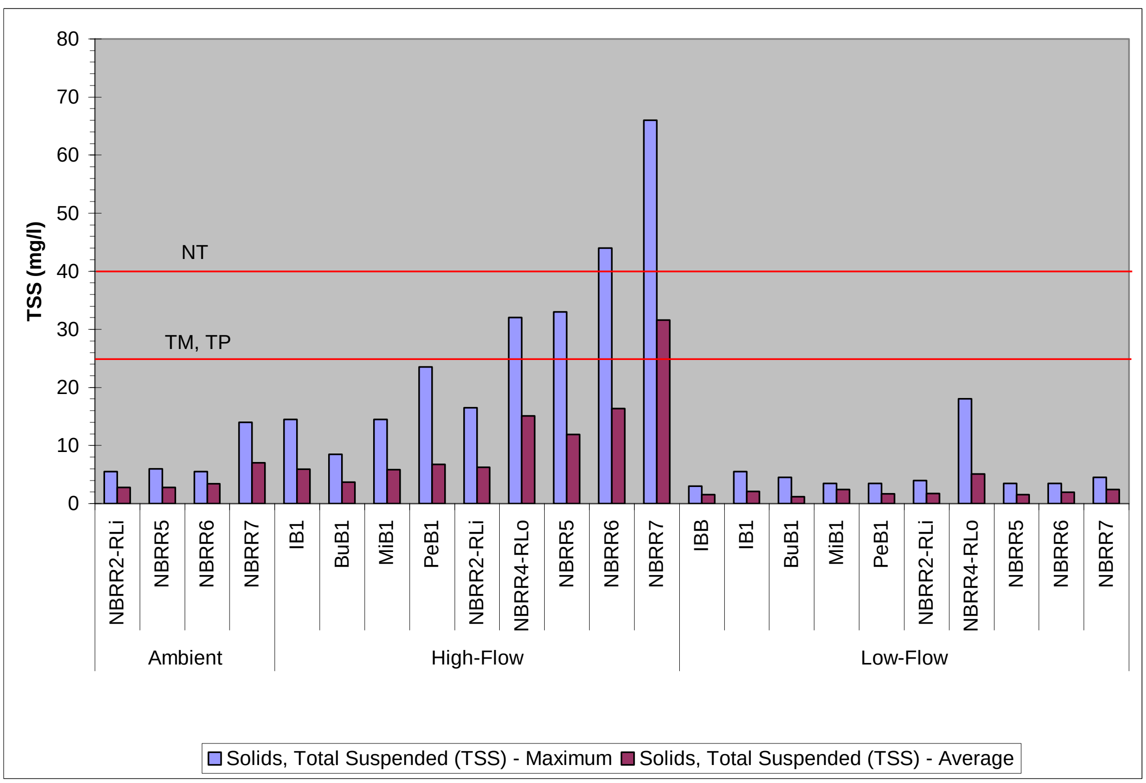


Figure 7: Stream Bank Erosion in North Branch Raritan River

None of the streams in the North Branch Raritan River watershed were designated by NJDEP as impaired for pH (2004). While the peak pH of the diurnal pH swings at several locations did exceed the maximum pH criterion of 8.5 s.u., this occurred during mild swings at lower temperatures as well. The naturally high pH and low alkalinity throughout the North Branch Raritan River watershed cause the pH to exceed the maximum pH criterion occasionally, even during very mild pH swings.

The Lamington River at Route 523 (near LR3) is designated by NJDEP as impaired for temperature. Figure 8 shows the average and maximum temperatures during the summer (June to September) at locations throughout the watershed (upstream to downstream). Not only do many of the maximum temperatures exceed applicable criteria, but the summer average temperature at all of the locations classified as trout waters is near or above the applicable maximum criterion of 20 degrees C: LR3, NBRC1, SBRC1-CLi, SBRC3-CLo, IBB, IB1, BuB1, NBRR1, NBRR2-RLi, and NBRR4-RLo. TRC Omni is not aware of any thermal discharges causing these exceedances of the trout temperature criterion. On the contrary, these temperatures appear to be naturally occurring. The streams are wide and flat, and therefore very shallow under low flows. Despite having excellent riparian canopy, these trout streams are exposed to sunlight due to their width. This condition is best illustrated in the Lamington River, which even exceeds the applicable temperature criterion of 30 degrees C in its downstream non-trout segment (LR4). Figure 9 shows the Lamington River with dozens of geese wading in its shallow water. Trout streams downstream of Cushetunk Lake and Ravine Lake are further impacted by solar heating of the epilimnion prior to discharge, another natural cause of increased temperature.

Figure 8: Summer Temperatures in the North Branch Raritan River Watershed

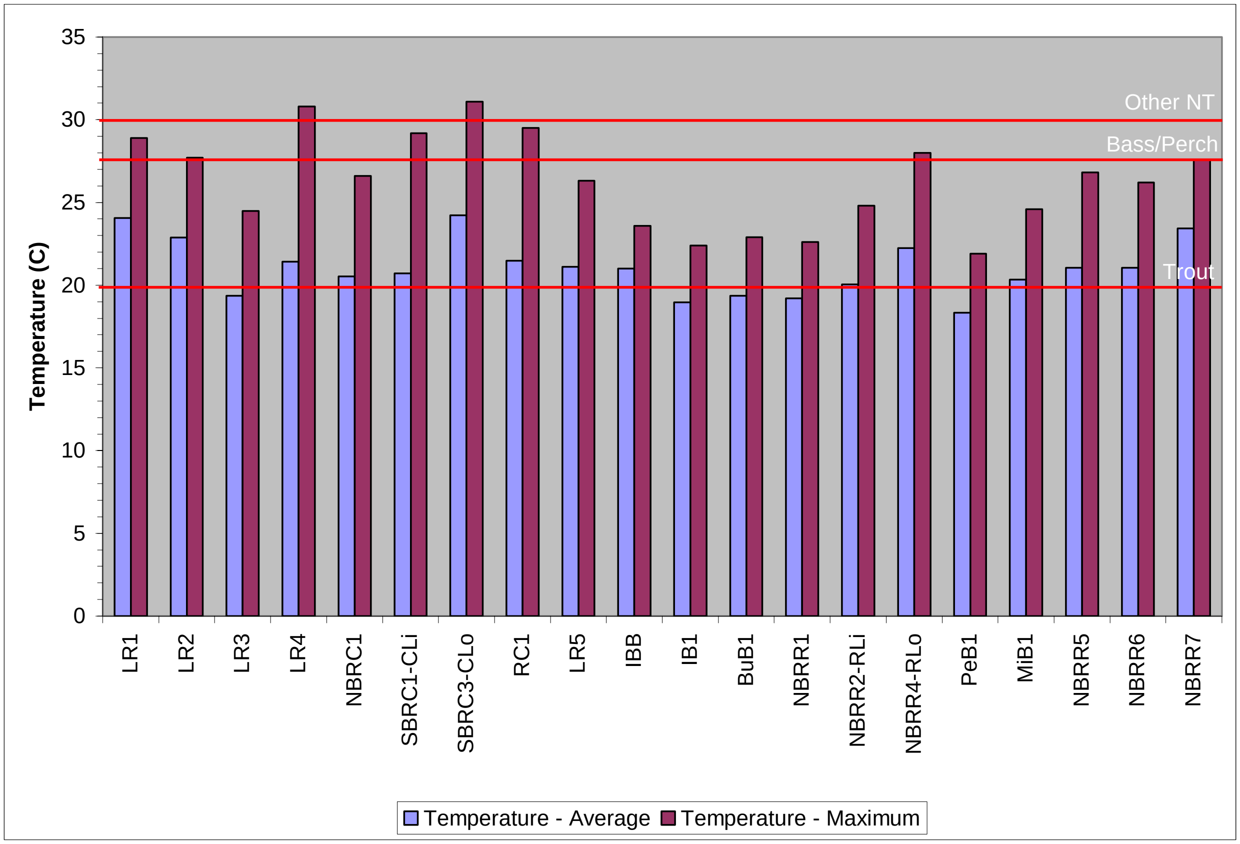
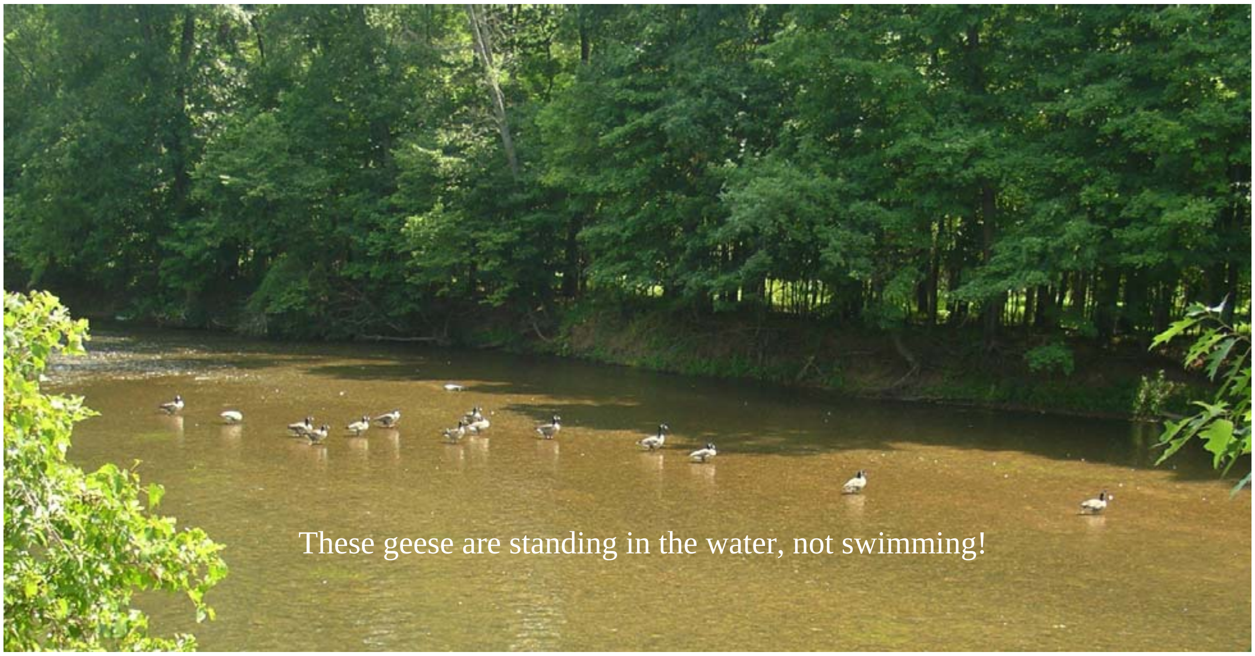


Figure 9: Lamington River Community of Geese Waders



B. South Branch Raritan River Watershed

The South Branch Raritan River watershed can be assessed as three distinct subwatersheds: the upper South Branch Raritan River subwatershed extending from headwaters to Solitude Lake in High Bridge; the middle South Branch Raritan River subwatershed extending from Solitude Lake to Rowland Mills (at Route 31 bridge north of Flemington), where the South Branch Raritan River changes from Trout Maintenance to Non-trout classification; and the lower South Branch Raritan River subwatershed extending from Rowland Mills to the confluence with the North Branch Raritan River.

1. Phosphorus

Phosphorus is generally low in the upper and middle South Branch Raritan River subwatersheds. Throughout the South Branch Raritan River watershed, the highest concentrations of phosphorus occur consistently during high-flow events, and phosphorus no longer limits productivity when total phosphorus exceeds 0.1 mg/l (Appendix F). The middle South Branch Raritan River (SBRR6, SBRR7, and SBRR8) occasionally exceeds 0.1 mg/l total phosphorus while Dissolved Reactive Phosphorus remains low; however, these few occasions occur during high-flow events coincident with high TSS and iron concentrations. This is indicative of stream bank erosion of particulate unavailable phosphorus rather than nutrient limitation. Figure 10 shows the average phosphorus concentration at locations (upstream to downstream) in the South Branch Raritan River watershed where not more than one water quality sample was observed to be higher than 0.1 mg/l total phosphorus. Figure 11 shows the average phosphorus concentration at locations (upstream to downstream) in the South Branch Raritan River watershed where more than one water quality sample was observed to be higher than 0.1 mg/l total phosphorus.

Figure 10: "Low" Phosphorus Locations in South Branch Raritan River Watershed

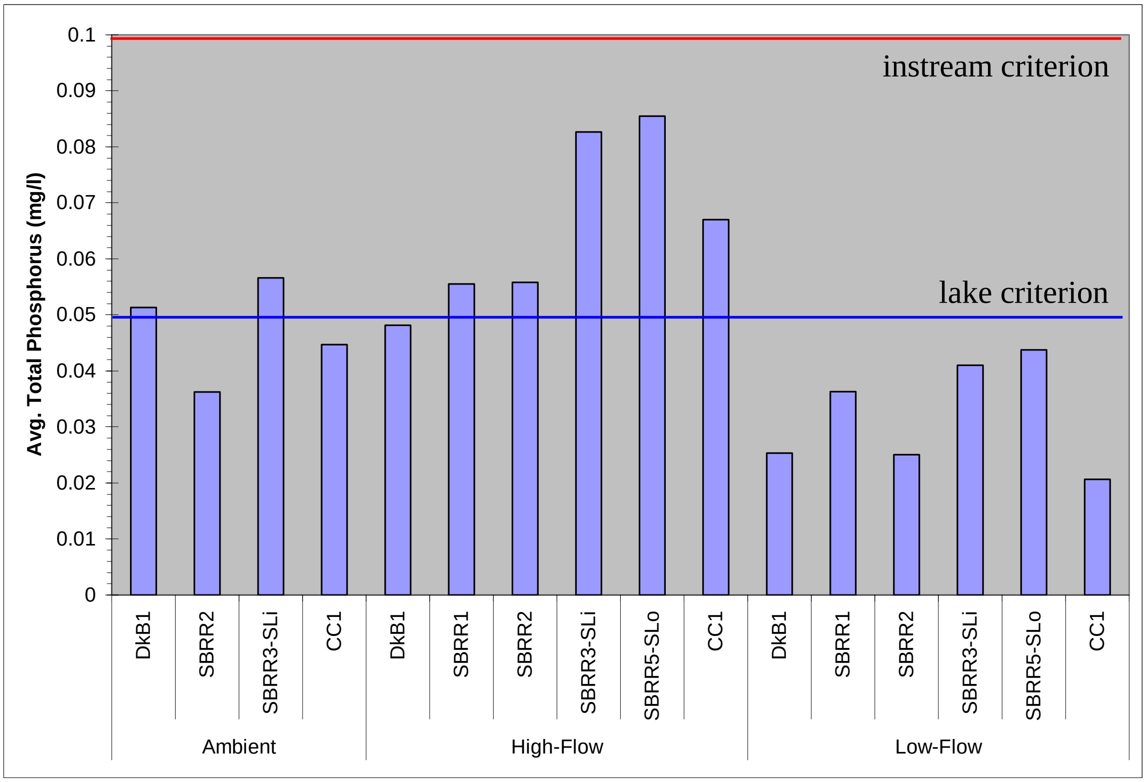
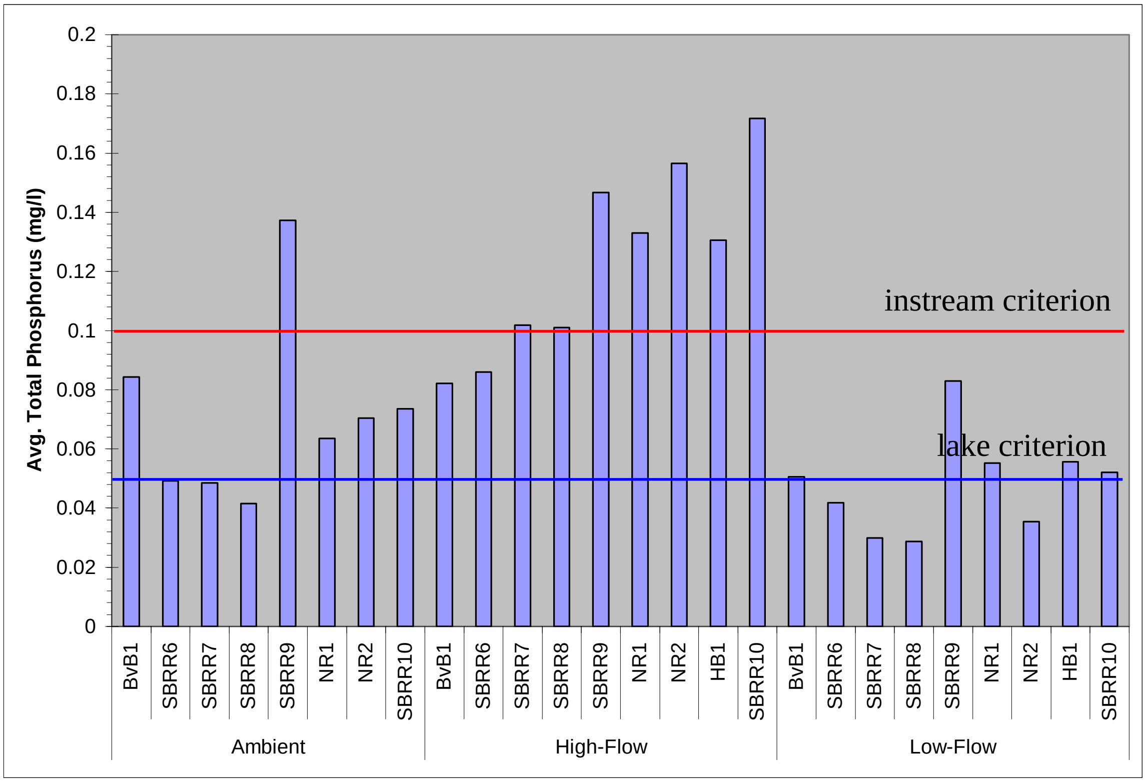


Figure 11: "High" Phosphorus Locations in South Branch Raritan River Watershed



Note that the lake criterion of 0.05 mg/l is frequently exceeded at the inlet to Solitude Lake (SBRR3-SLi) as well as the outlet of Solitude Lake (SBRR5-SLo), especially during high-flow events. Phosphorus concentrations at the inlet and outlet of Solitude Lake are very similar, suggesting that loads are simply passing through the lake.

2. Productivity Indicators

Phytoplankton concentrations are quite low throughout the South Branch Raritan River watershed, especially during the summer months of July, August and September. The average of all phytoplankton observations at all stream stations in the watershed was 1.9 µg/l chlorophyll-a. Only Beaver Brook (BvB1), Neshanic River (NR2), and the most downstream station in the South Branch Raritan River (SBRR10) were observed to have single-sample phytoplankton concentrations of 8 µg/l or higher. Most other phytoplankton values at these stream locations were very small. All three additional in-lake phytoplankton grab samples[4] taken in Solitude Lake (appendix J) were less than 5 µg/l chlorophyll-a. Periphyton densities are moderately low throughout the watershed. Five sites (SBRR2, BvB1, CC1, SBRR7, and NR2) were observed to have maximum periphyton densities over 50 mg/m²: 83, 103, 82, 53, and 60 mg/m², respectively. None of the phytoplankton or periphyton values exceeded the thresholds in the NJDEP Technical Manual (NJDEP, 2003).

Most locations throughout the South Branch Raritan River watershed experience substantial diurnal DO swings driven by rooted macrophytes and, to a lesser extent, periphyton. Drakes Brook (DkB1), the upper South Branch Raritan River upstream of Washington Township (SBRR2), and Cakepoulin Creek (CC1) are exceptions; these locations experience diurnal DO swings of 3 mg/l or less under critical low-flow conditions. During critical low-flow periods, the South Branch Raritan River in Middle Valley (SBR4) experienced DO swings up to 9 mg/l, apparently causing the minimum DO to violate the applicable 7 mg/l minimum criterion for trout production waters. This critical location was identified previously in the Phosphorus Evaluation Study for Washington Township MUA (TRC Omni, March 8, 2004). Solitude Lake exhibits surprisingly moderate DO swings.

In the middle South Branch Raritan River subwatershed, Beaver Brook (BvB1) and the South Branch Raritan River at Hamden (SBRR7) experience diurnal DO swings up to 9 and 7 mg/l, respectively. Other locations in the middle South Branch Raritan River subwatershed experience substantial, but not apparently excessive, diurnal variations. Note that the South Branch Raritan River downstream of Spruce Run (SBRR6) is affected by releases from Spruce Run, which was observed to cause anoxia in the stream on one occasion lasting several days.

The most extreme diurnal DO swings occur in the lower South Branch Raritan River subwatershed at two locations: the Neshanic River (NR1) and the

[4] These samples were not composited spatially; rather, they were near-surface grab samples taken near the center of the lakes laterally and in the deeper area upstream of the dam longitudinally.

South Branch Raritan River near the confluence with the North Branch Raritan River (SBRR10). The locations were observed to exhibit diurnal DO swings of 14 and 11 mg/l, respectively. Furthermore, these diurnal DO swings are accompanied by equally extreme diurnal pH swings, observed as high as 2.5 and 1 s.u. and pushing the pH above the maximum criterion of 8.5 s.u.

3. TSS, pH, and Temperature

In the South Branch Raritan River watershed, only the Neshanic River was designated by NJDEP as impaired for TSS (2004). Intensive sampling performed for this study did not show any exceedances of the applicable (non-trout) maximum TSS criterion of 40 mg/l in the Neshanic River (Figure 12). However, exceedances of the applicable maximum TSS criteria (25 mg/l for trout waters and 40 mg/l for non-trout waters) were observed during high-flow sampling events in the South Branch Raritan River itself (Figure 13). The TSS increases dramatically during high-flow events from upstream to downstream in the South Branch Raritan River, as shown in Figure 13. This pattern points to stream bank erosion as the primary cause, as seen in Figure 14 in South Branch.

Figure 12: TSS in Tributaries to the South Branch Raritan River

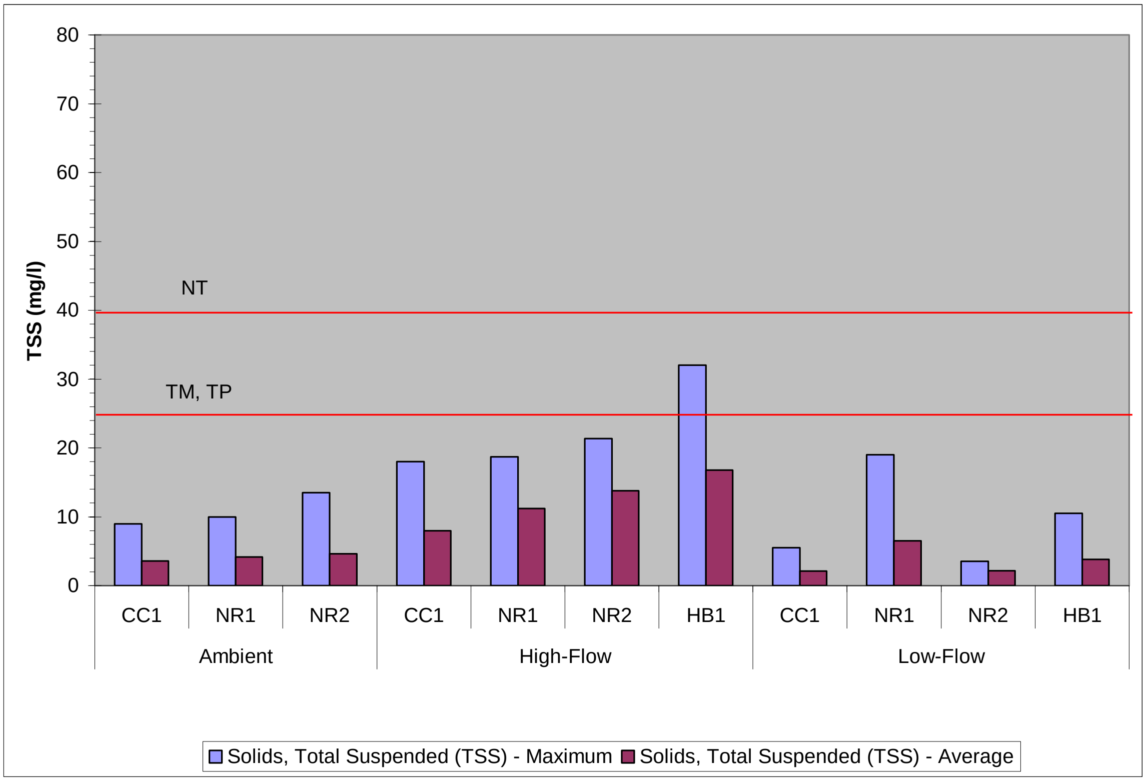


Figure 13: TSS in South Branch Raritan River

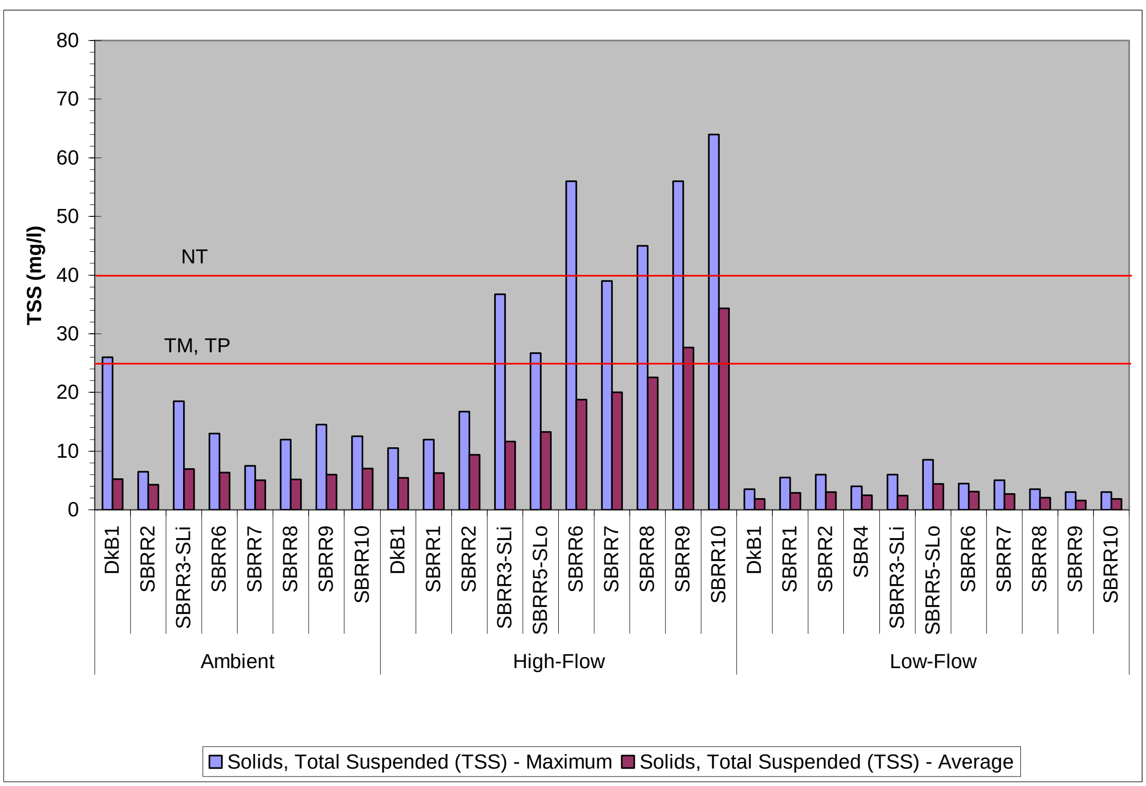
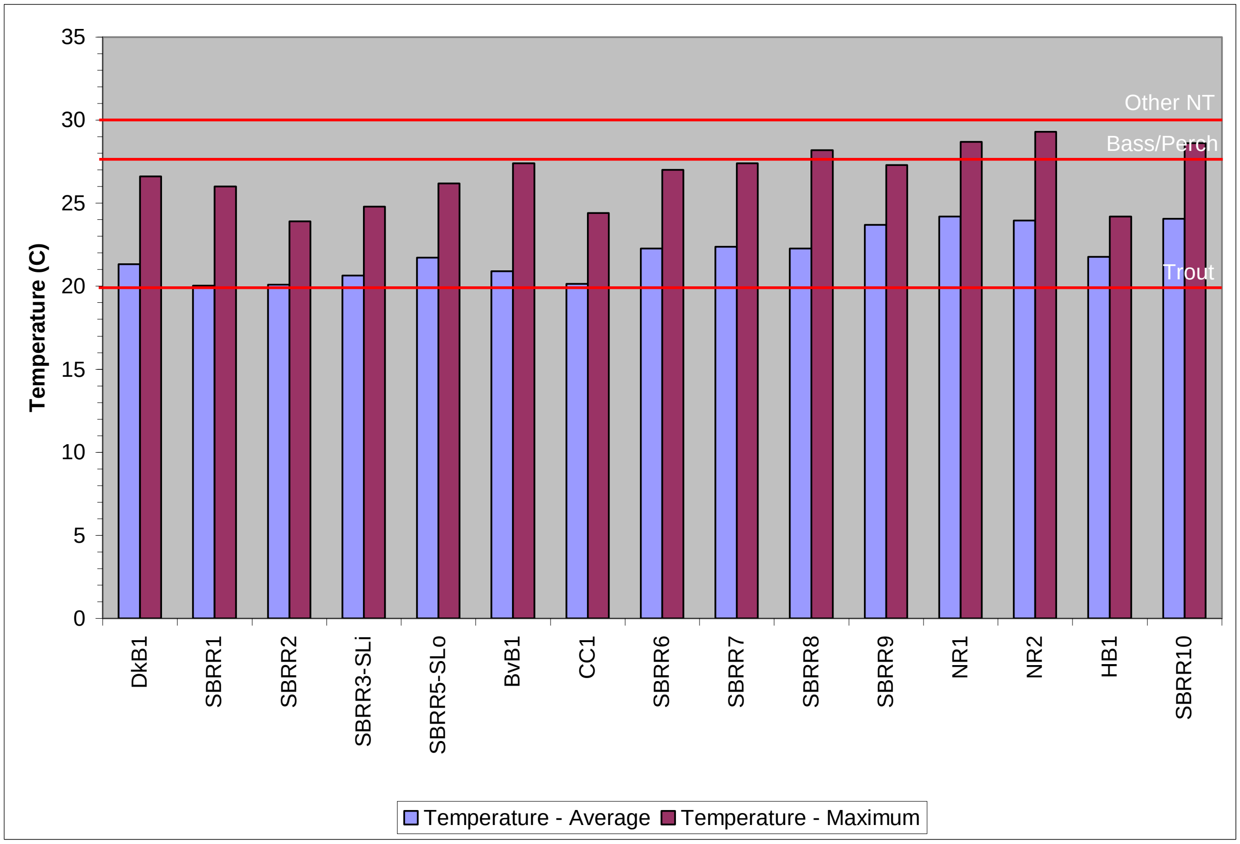


Figure 14: Erosion-Vulnerable Stream Bank in South Branch Raritan River

The South Branch Raritan River at Stanton (SBRR8) and the South Branch Raritan River at South Branch (SBRR10) were designated by NJDEP as impaired for pH (2004). Indeed, the peak pH of the diurnal pH swings at several locations throughout the South Branch Raritan River watershed did exceed the maximum pH criterion of 8.5 s.u. The naturally high pH and low alkalinity throughout the South Branch Raritan River watershed cause the pH to exceed the maximum pH criterion occasionally, even during very mild pH swings. However, the extreme diurnal variations in the Neshanic River (NR1) and the South Branch Raritan River at South Branch exacerbate the pH peaks, causing more severe violations of the maximum pH criterion.

The portions of the South Branch Raritan River classified as trout waters (SBRR1 – SBRR8) were designated by NJDEP as impaired for temperature (NJDEP, 2004). Figure 15 shows the average and maximum temperatures during the summer (June to September) at locations throughout the watershed (upstream to downstream). Not only do many of the maximum temperatures exceed applicable criteria, but the summer average temperature at all of the locations classified as trout waters is at or above the applicable maximum criterion of 20 degrees C (DkB1 – SBRR8). TRC Omni is not aware of any thermal discharges causing these exceedances of the trout temperature criterion, except perhaps release from Spruce Run under certain circumstances. On the contrary, these temperatures appear to be naturally occurring for the most part. The streams are wide and flat, and therefore very shallow under low flows. Even in locations with excellent riparian canopy, these trout streams are exposed to sunlight due to their width.

Figure 15: Summer Temperatures in the South Branch Raritan River Watershed



C. Mainstem Raritan River Watershed

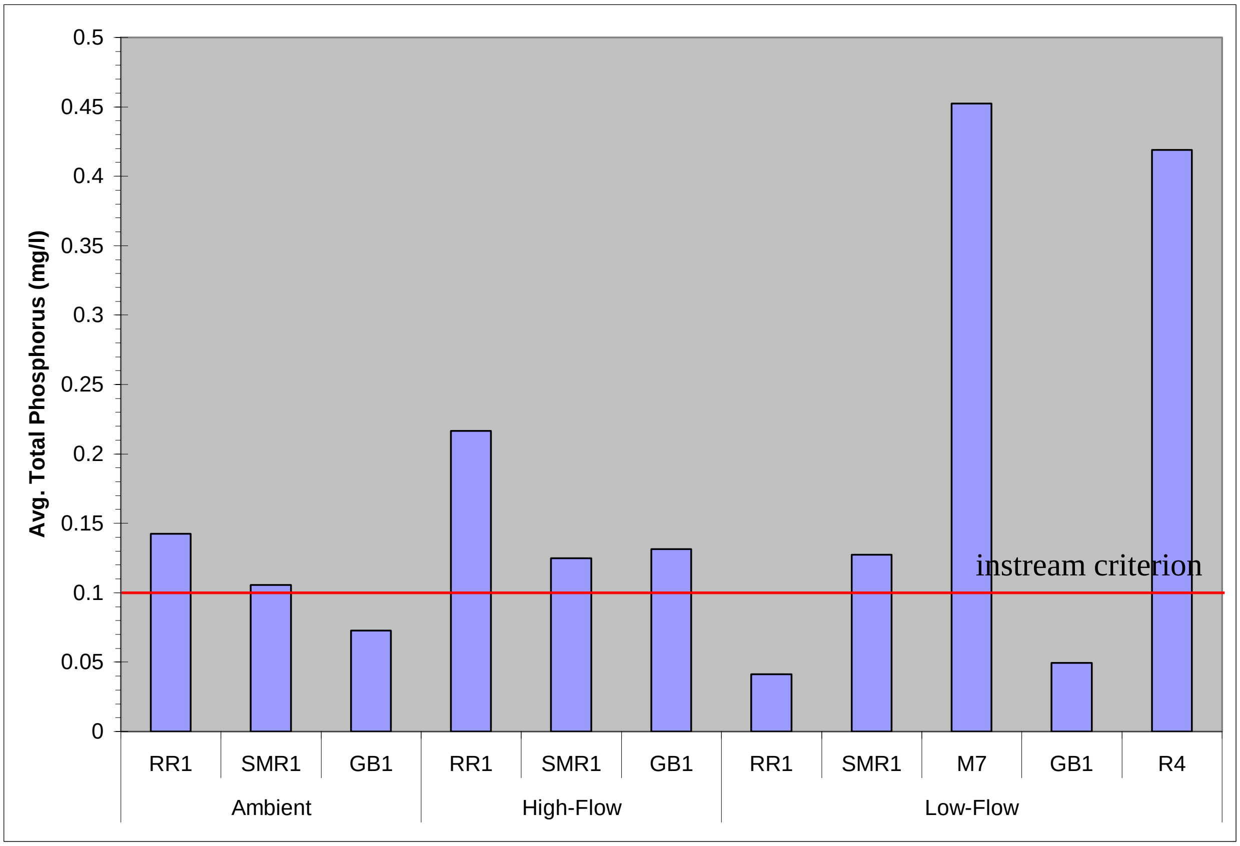
The Mainstem Raritan River watershed, for the purposes of this Data Report, consists of the following stations: Raritan River at Manville (RR1), Raritan River at Fieldville Dam near South Bound Brook (R4), Green Brook (also called Bound Brook) in Middlesex (GB1), Six Mile Run near Blackwells Mills (SMR1), and Millstone River at Weston (M7). The spatial extent of this study ended at RR1, the upstream boundary of the Phosphorus Evaluation Study for the Lower Millstone / Raritan River watershed

(TRC Omni, May 6, 2004 and December 8, 2004). Nevertheless, R4 and M7 were sampled again to provide additional calibration data during the same sampling event as the rest of the watershed. Green Brook and Six Mile Run were added because these streams were designated as impaired for phosphorus by NJDEP.

1. Phosphorus

All of the stations in the mainstem Raritan River watershed exceed the instream phosphorus criterion of 0.1 mg/l under certain conditions. Stations RR1 and GB1 exceed the criterion more frequently during high-flow events, while Six Mile Run (SMR1) exceeds the criterion equally during high and low flow events. Stations M7 and R4 were only sampled during a low-flow event for this study. At all stations in the mainstem Raritan River watershed, phosphorus no longer limits productivity when total phosphorus is greater than 0.1 mg/l.

Figure 16: Average Phosphorus Concentrations in Mainstem Raritan River Watershed



2. Productivity Indicators

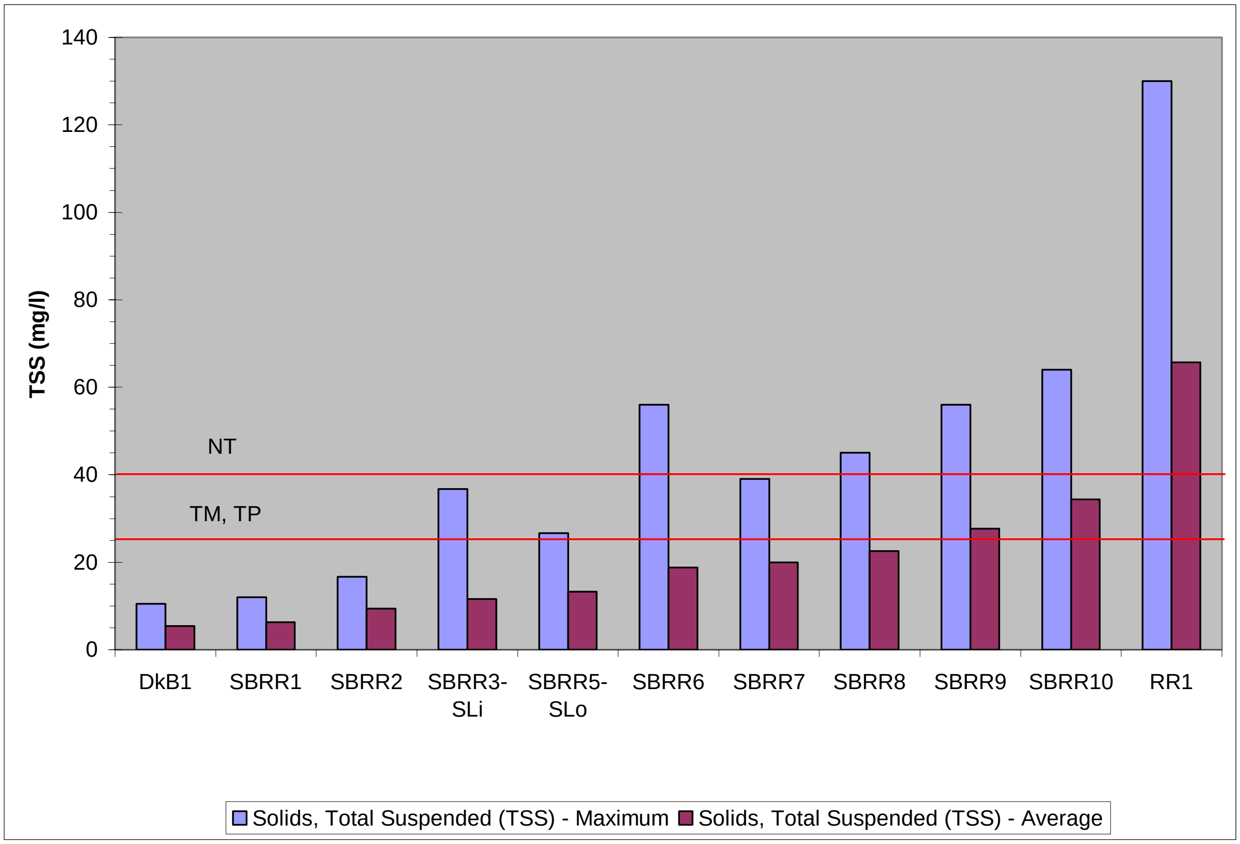
Phytoplankton concentrations are quite low at all the stations in the mainstem Raritan River watershed, ranging from a maximum of 8.7 μg/l at RR1 to non-detect at stations M7 and R4. Periphyton densities are very low at stations RR1 and SMR1. More substantial periphyton growth occurs at stations M7, GB1, and R4, which were observed to have maximum periphyton densities of 76, 60, and 144 mg/m², respectively. These maximum periphyton densities were observed during the low-flow event on August 4-5, 2005. None of the phytoplankton or periphyton values exceeded the thresholds in the NJDEP Technical Manual (NJDEP, 2003).

Green Brook (GB1) and Six Mile Run (SMR1) exhibit very mild diurnal DO swings (maximum swings of 4 and 3, respectively) accompanied by little to no pH variation. The Mainstem Raritan River at Manville (RR1) and at Fieldville Dam (R4) exhibit substantial diurnal DO swings as high as 8 mg/l accompanied by pH swings as high as 1 s.u.

3. TSS, pH, and Temperature

The mainstem Raritan River at Queens Bridge (upstream of R4) is designated by NJDEP as impaired for TSS (NJDEP, 2004). While this study did not specifically collect high-flow data in the Raritan River downstream of the Millstone River confluence, exceedances of the applicable maximum TSS criteria (25 mg/l for trout waters and 40 mg/l for non-trout waters) were observed during high-flow sampling events in both the North and South Branches of the Raritan River. The TSS increases dramatically during high-flow events from upstream to downstream, as shown previously. This pattern continues into the mainstem Raritan River, as seen in Figure 17, which shows TSS during high-flow events from the South Branch Raritan River headwaters all the way down to the mainstem Raritan River at Manville. It is not difficult to imagine this trend continuing downstream to the segment identified as impaired by NJDEP. As discussed previously, this pattern points clearly to stream bank erosion as the primary cause.

Figure 17: TSS from South Branch Raritan River Headwaters to Mainstem Raritan River



None of the streams in the mainstem Raritan River watershed were designated by NJDEP as impaired for pH or temperature (NJDEP, 2004). While the peak pH of the diurnal pH swings at several locations did exceed the maximum pH criterion of 8.5 s.u., this occurred during mild swings at lower temperatures as well. The naturally high pH and low alkalinity throughout the Raritan River watershed cause the pH to exceed the maximum pH criterion occasionally, even during very mild pH swings. None of the data collected during this study found stream temperatures in the mainstem Raritan River watershed in excess of the applicable (non-trout) maximum criterion of 30 degrees C.

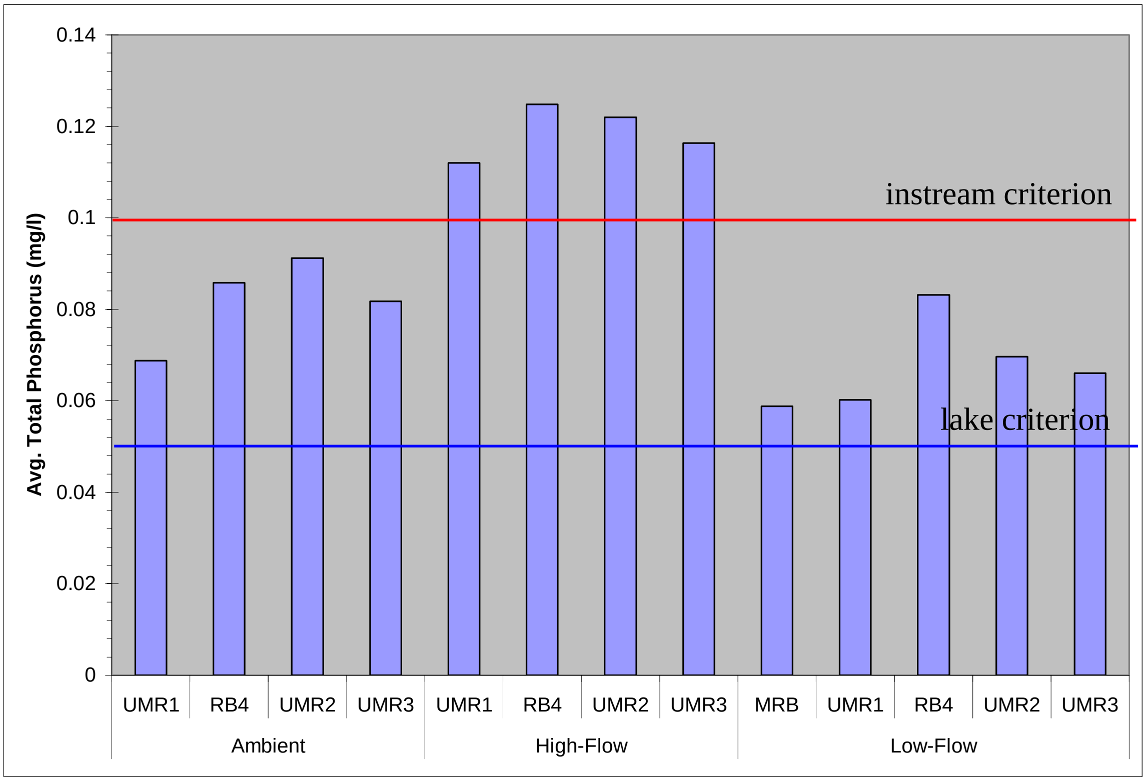
D. Upper Millstone River Watershed

The Upper Millstone River watershed drains to Carnegie Lake. Three locations were sampled on the Upper Millstone River itself (UMR1 – UMR3), while Rocky Brook, its largest tributary, was sampled at one location (RB4). In addition to the streams in the watershed, four lakes were sampled. Three of the lakes (Plainsboro Pond, Gordon Pond, and Grovers Mill Pond) impound small tributaries and discharge to the Upper Millstone River near its mouth. The fourth lake, Peddie Lake, is an impoundment of Rocky Brook in Hightstown. It is helpful to assess the lakes and streams in the Upper Millstone River watershed separately.

1. Phosphorus

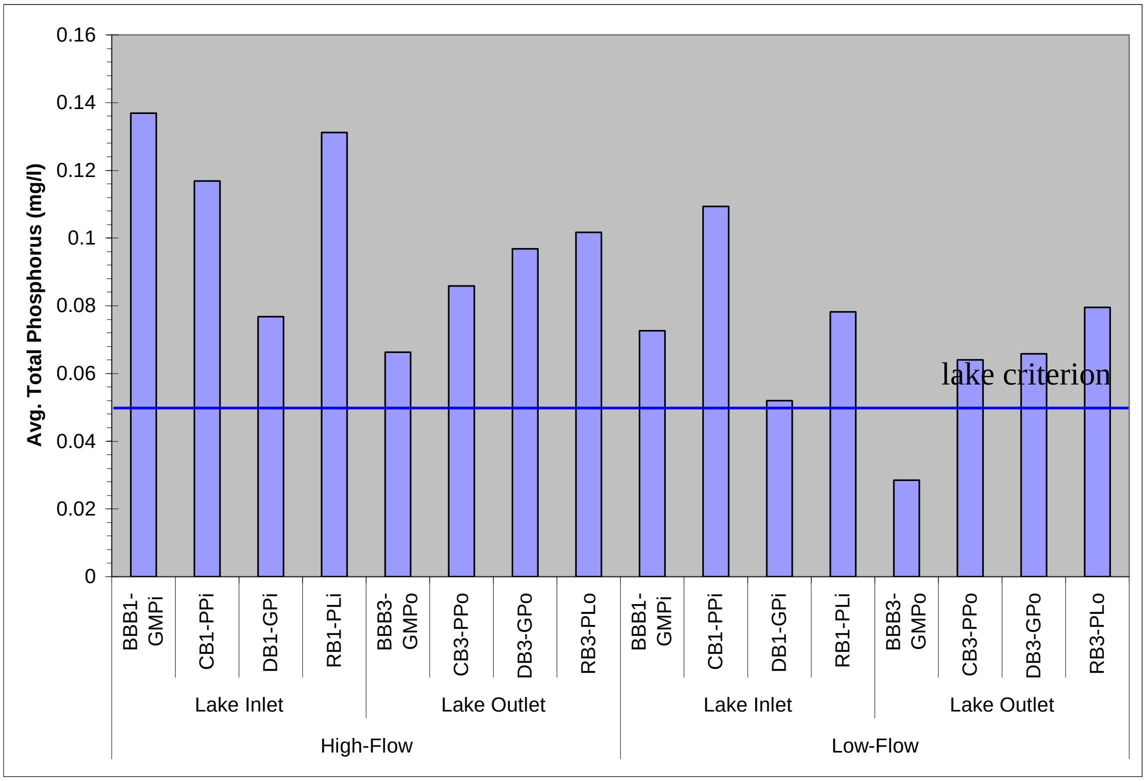
Phosphorus in streams throughout the Upper Millstone River watershed exceeds the instream criterion of 0.1 mg/l during high flows coincident with high very iron concentrations (Figure 18). This is not surprising, since the headwaters of the Upper Millstone River watershed contain soil formations high in glauconite. These soils contain highly erodable granules of clay particles that are high in iron and therefore bind phosphorus. When total phosphorus exceeds 0.1 mg/l, which almost only occurs during high-flow events in this watershed, the iron removes available phosphorus from the water column. Downstream of Rocky Brook, the Upper Millstone River is only high in iron on an episodic basis during high flows. During low flows, phosphorus concentrations are generally less than 0.1 mg/l and limiting productivity. On the few occasions when total phosphorus exceeded 0.1 mg/l under low flows when iron concentrations were low, it appears that phosphorus no longer limits productivity. However, phosphorus concentrations during low-flow events, while less than 0.1 mg/l and less than during high-flow events, are still high enough to drive substantial productivity. Finally, phosphorus concentration at the outlet of the watershed (UMR3), which is a major inlet to Carnegie Lake, exceeds the lake criterion of 0.05 mg/l total phosphorus.

Figure 18: Phosphorus in Streams within Upper Millstone River Watershed



Much of the phosphorus delivered to four lakes sampled in the Upper Millstone River watershed is in fact bound to iron. This phosphorus will be released in anoxic environments, such as is frequently found in lake sediments. The degree to which phosphorus is made available for plants can best be evaluated by looking at the productivity observed in each lake, which is discussed in the subsequent section. While the lake criterion of 0.05 mg/l total phosphorus is exceeded commonly in all four lakes, phosphorus is higher during high-flow events than low-flow and generally higher in the lake inlets than the lake outlets (Figure 19). Higher concentration at the inlets generally indicated a net phosphorus deposition.

Figure 19: Phosphorus in Lakes within Upper Millstone River Watershed



2. Productivity Indicators

As seen in Appendix J, phytoplankton concentrations are moderate throughout the Upper Millstone River watershed. As expected, the highest concentrations are found at the outlet of lakes. While individual phytoplankton samples were observed as high as 28 µg/l at lake outlets (e.g. Peddie Lake, RB3-PLo), overall the phytoplankton concentrations at lake outlets was low, averaging only 5.9 µg/l during the summer months. This is not surprising, since these lakes are shallow and generally dominated by macrophytes. Periphyton densities are moderate at several locations in the watershed. Three out of the four sites where periphyton was measured were observed to have maximum periphyton densities over 50 mg/m^2: RB4, UMR1, and UMR3 had maximum periphyton densities of 57, 102, and 141 mg/m^2, respectively. None of the phytoplankton or periphyton values exceeded the thresholds in the NJDEP Technical Manual (NJDEP, 2003).

During 2005, Grovers Mill Pond exhibited very high diurnal DO and pH swings of 6 – 9 mg/l and 2 – 3 s.u., respectively. The pH swings in Grovers Mill

Pond push the pH above the maximum criterion of 8.5 s.u., despite the naturally low pH prevalent in this watershed. Interestingly, only moderate DO swings were observed during the summer of 2004 in Grovers Mill Pond prior to the dam restoration. It is possible that the meter in 2004 was installed closer to the sediments of this very shallow pond, such that sediment oxygen demand overshadowed the extent of productivity in the water column. Alternatively, it may be that the extensive plant beds observed in 2004 prevented light penetration, and therefore dampened the productivity observed near the meter depth. In any case, the picture of extensive beds of nuisance aquatic vegetation in July 2004 (Figure 20) dispels any question as to whether Grovers Mill is impaired! Plainsboro Pond and Gordon Pond exhibit moderate diurnal DO swings of 4 – 6 mg/l. Peddie Lake appears to exhibit milder DO swings of about 3 mg/l. All four lakes stratify and destratify easily, making it difficult to interpret continuous DO measurements made at a single depth. To complicate matters further, all four lakes appear to have anoxic sediments that become disturbed during storms. It appears that phosphorus is made available for uptake by plants and algae within these lakes.

Figure 20: Nuisance Aquatic Vegetation in Grovers Mill Pond (July 2004)

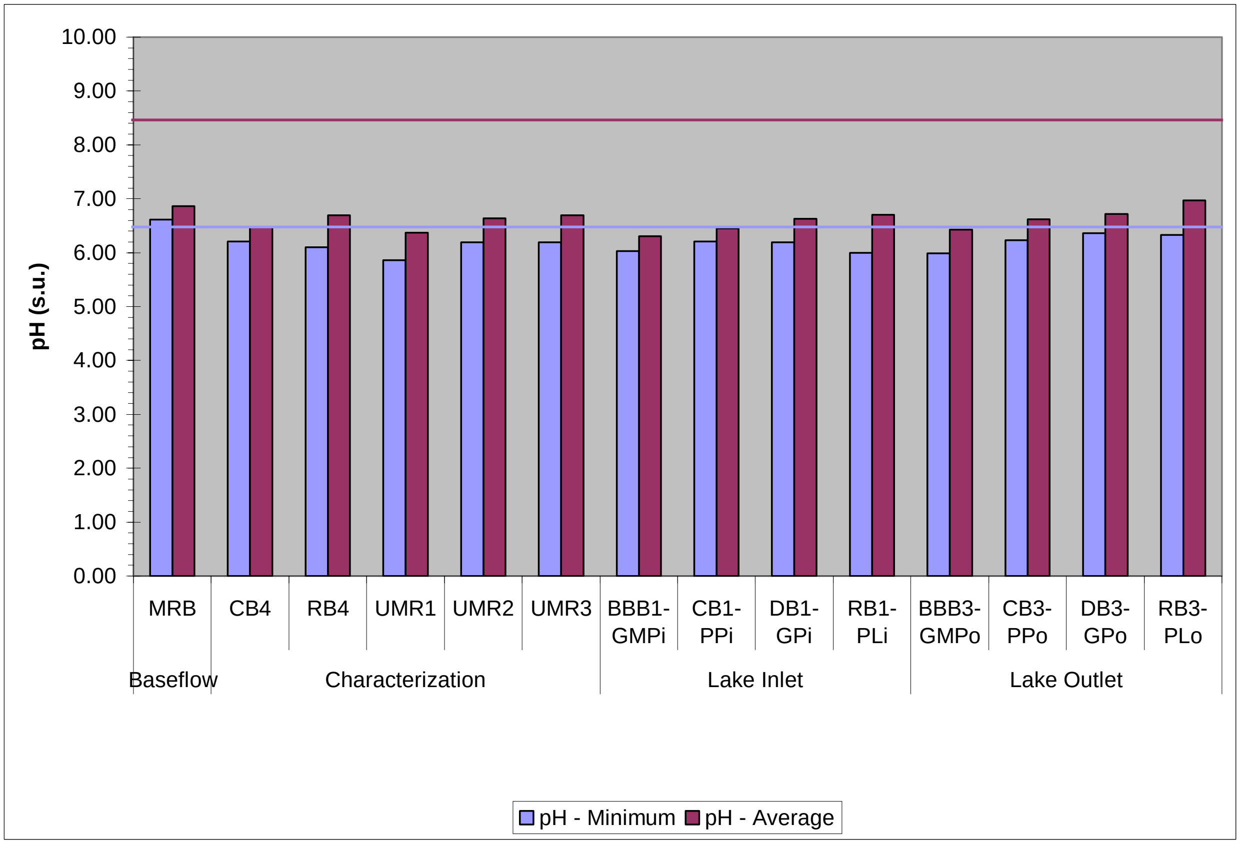
Rocky Brook (RB4) and the upstream location in the Upper Millstone River (UMR1) exhibit very little diurnal DO swings. Iron is fairly high at these locations, and appears to prevent excessive productivity from occurring. On the other hand, downstream locations in the Upper Millstone River (UMR2 and UMR3) exhibit substantial DO swings as high as 4-6 mg/l. While not extreme, these swings cause the minimum DO at UMR3 to go down to the minimum DO criterion of 4 mg/l occasionally. Productivity at this location is driven by very dense macrophytes (Figure 21).

Figure 21: Rooted Macrophytes in the Upper Millstone River (upstream UMR3)

3. TSS, pH, and Temperature

The Upper Millstone River near Manalapan (upstream of UMR1 considerably) is designated by NJDEP as impaired for TSS (NJDEP, 2004). None of the samples collected for this study in the Upper Millstone River watershed exceeded the applicable (non-trout) maximum TSS criterion of 40 mg/l. The Upper Millstone River near Manalapan (upstream of UMR1 considerably) and Cranbury Brook upstream of Plainsboro Pond were both designated by NJDEP as impaired for pH (NJDEP, 2004) because the pH was found to be less than the minimum criterion of 6.5 s.u. This appears to be a natural condition in the Upper Millstone River watershed, as seen in Figure 22. No waters in the Upper Millstone River watershed were designated as impaired for temperature, and none of the sampling results from this study showed any exceedances of the applicable (non-trout) temperature criterion of 30 degrees C.

Figure 22: pH in the Upper Millstone River Watershed



E. <u>Duhernal Lake Watershed (Matchaponix Brook)</u>

The Manalapan Brook and Matchaponix Brook join together in Spotswood to form Duhernal Lake, which discharges into the tidally influenced South River. This study is focused on the Matchaponix Brook watershed, and complements the Phosphorus Evaluation Study performed for Pine Brook and Matchaponix Brook (TRC Omni, April 11, 2005). Upstream of the spatial extent of the Phosphorus Evaluation Study, this study sampled McGellairds Brook (MGBB and MGB1) and the inlet and outlet of Weamaconk

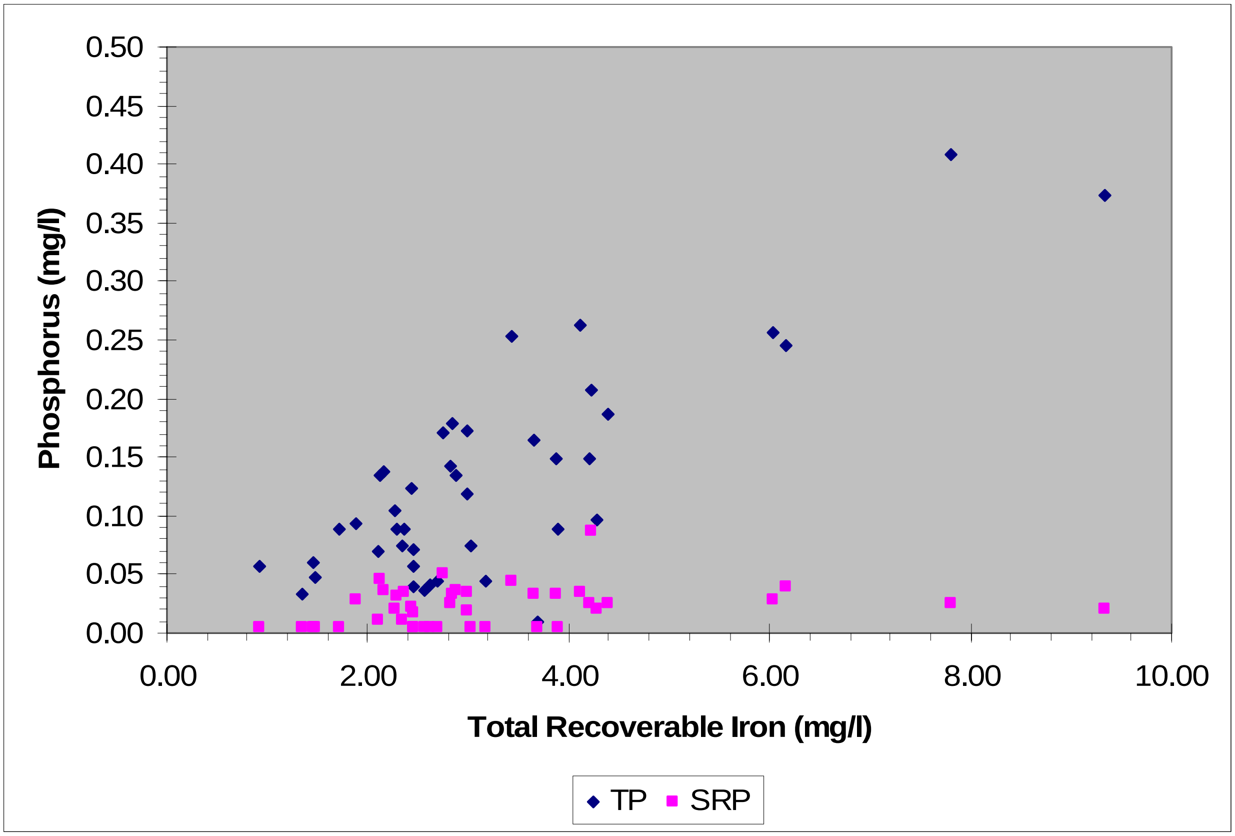
Lake (WC1-WLi, WC3-WLo). Downstream of the spatial extent of the Phosphorus Evaluation Study, this study sampled Barclays Brook (BaB1) and the inlets (MtB1, MnB1-DLi) and outlet (MnB3-DLo) of Duhernal Lake. Diurnal monitoring was also performed in Weamaconk Lake and Duhernal Lake. It is helpful to assess the lakes and streams in the Duhernal Lake watershed separately.

1. Phosphorus

The Duhernal Lake watershed is extremely high in iron due to local glauconitic soils and naturally low pH (discussed below). In the presence of oxygen, ferric iron binds available phosphorus to particles, rendering it unavailable for plant and algal uptake. As a result, the excess amount of iron present in waters throughout this watershed essentially sponge up available phosphorus and restrain productivity in the stream where oxygen is plentiful. This phenomenon was explained in considerable detail in the Phosphorus Evaluation Study for Pine Brook and Matchaponix Brook (TRC Omni, April 11, 2005).

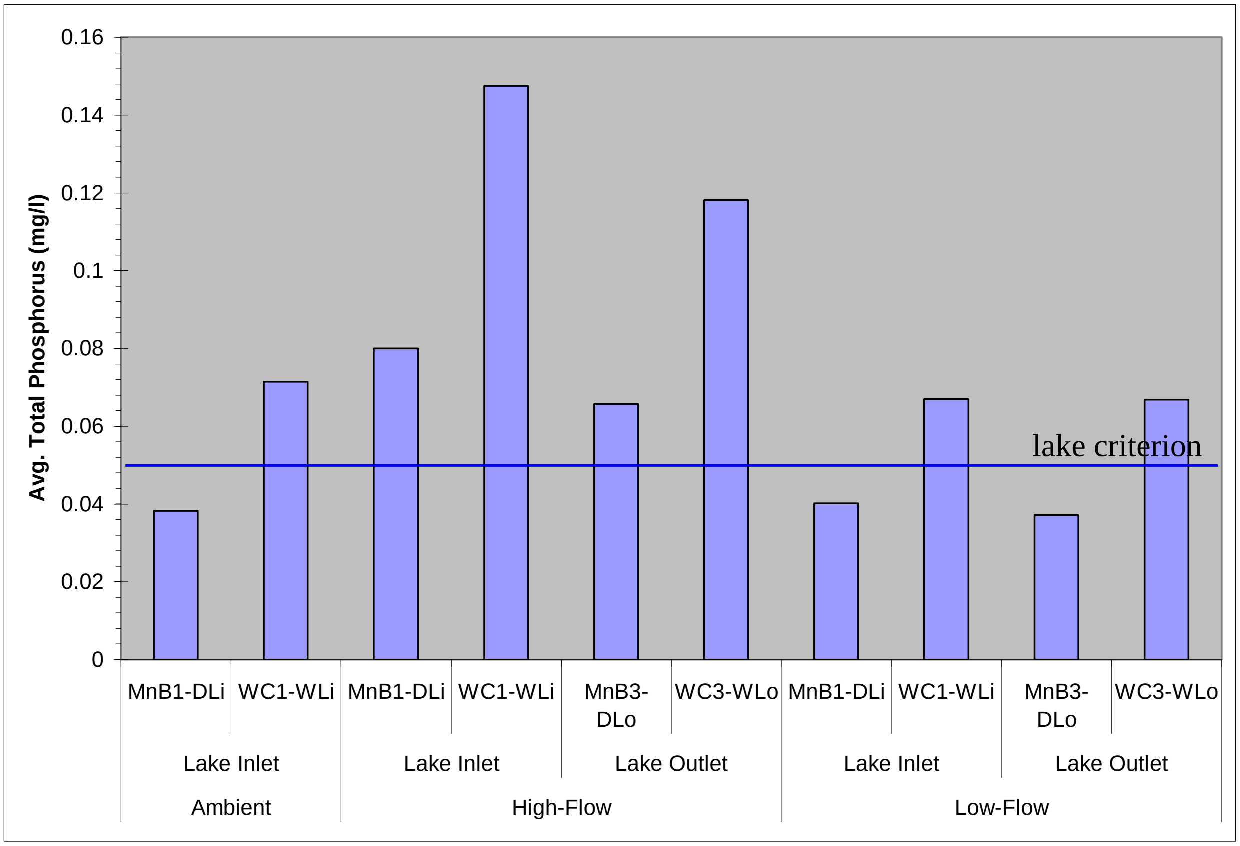
The data obtained during this study reinforce the conclusions of that study and extend them in fact to all the areas sampled. Figure 23 shows total phosphorus and dissolved reactive phosphorus plotted against iron for all the samples collected in Duhernal Lake watershed during this study. Total phosphorus is linearly related to iron, demonstrating that the phosphorus is in fact bound to iron. On the other hand, available phosphorus (dissolved reactive phosphorus) is chemically removed from the water column and is therefore quite low. Productivity within the streams in this watershed is not at all sensitive to changes in phosphorus concentration due to the presence of such high levels of iron in an aerobic environment; the streams are therefore not phosphorus limited in any meaningful way.

Figure 23: Phosphorus and Iron within Duhernal Lake Watershed



On the other hand, the lakes in the watershed (Duhernal and Weamaconk) are likely to release the phosphorus to some degree due to anaerobic conditions near the sediment. In anaerobic environments, reduced ferrous iron will release the phosphorus in its dissolved reactive form, available for uptake. The degree to which this is in fact occurring is best evaluated by looking at indicators of productivity within each lake. Phosphorus is higher during high-flow events than low-flow and generally higher in the lake inlets than the lake outlets (Figure 24). Higher concentration at the inlets generally indicated a net phosphorus (and iron) deposition.

Figure 24: Phosphorus in Duhernal Lake and Weamaconk Lake



2. Productivity Indicators

Phytoplankton concentrations are low at all the stations sampled throughout the Duhernal Lake watershed. Periphyton was measured at three locations, and was extremely low except for Barclays Brook (BaB1). Despite having non-detect concentrations of available phosphorus in all samples and extremely low pH, BaB1 had average and maximum periphyton densities of 51 and 134 mg/m², respectively. None of the phytoplankton or periphyton values exceeded the thresholds in the NJDEP Technical Manual (NJDEP, 2003).

As expected, diurnal DO swings at all three stream locations were minimal. McGellairds Brook and Matchaponix Brook showed less than 1 mg/l diurnal dissolved oxygen variation, while Barclays Brook showed about 2 mg/l dissolved oxygen swing. These dissolved oxygen results confirm that productivity is very low in the streams in this watershed regardless of phosphorus concentration. In fact, the only location showing any noticeable productivity is

Barclays Brook, which happens to be extremely low in phosphorus. It should be noted that DO was fairly low in both Barclays Brook and the downstream Matchaponix Brook (MtB1). This appears to be a natural condition, which may be made worse at MtB1 due to apparent sediment oxygen demand.

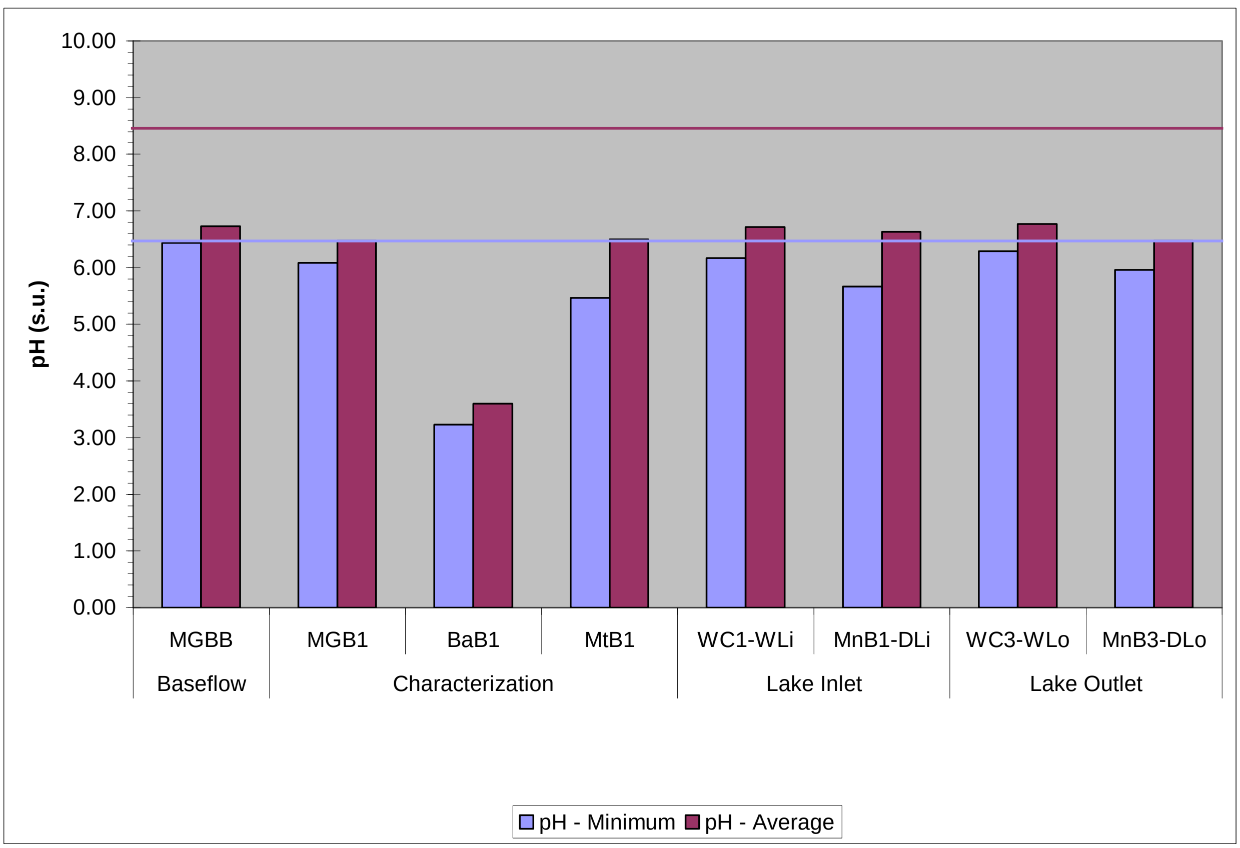
Weamaconk Lake exhibits moderate diurnal DO swings of 4 – 6 mg/l, while Duhernal Lake exhibits more substantial DO swings of about 6 – 8 mg/l. Both lakes stratify and destratify easily, making it difficult at times to interpret continuous DO measurements made at a single depth. Weamaconk Lake also appears to have anoxic sediments that become disturbed during storms. Diurnal DO swings caused by dense macrophytes in Duhernal Lake appear to cause occasional violations of the minimum DO criterion of 4 mg/l. In both lakes, it appears that phosphorus is made available for uptake by plants.

Figure 25: Rooted Macrophytes in Duhernal Lake

3. TSS, pH, and Temperature

None of the streams in the Duhernal Lake watershed were designated by NJDEP as impaired for TSS (NJDEP, 2004). Only one of the samples collected for this study in the Duhernal Lake watershed exceeded the applicable (non-trout) maximum TSS criterion of 40 mg/l, a high-flow sample taken at station MtB1. Both Barclays Brook and Matchaponix Brook were designated by NJDEP as impaired for pH (NJDEP, 2004) because the pH was found to be less than the minimum criterion of 6.5 s.u. This appears to be a natural condition in the Duhernal Lake watershed, as seen in Figure 26. No waters in the Duhernal Lake watershed were designated as impaired for temperature, and none of the sampling results from this study showed any exceedances of the applicable (non-trout) temperature criterion of 30 degrees C.

Figure 26: pH in the Duhernal Lake Watershed



V. CONCLUSIONS

The Raritan River Basin Nutrient TMDL project is designed to help the New Jersey Department of Environmental Protection (NJDEP) develop TMDLs as necessary to address phosphorus and other conventional impairments in the Raritan River Basin. Accordingly, based on the extensive data collected, TRC Omni assessed the major watersheds as discussed previously in this report and in previous Phosphorus Evaluation Studies. Careful attention was given to identifying critical locations where phosphorus has the potential to cause water quality impairment. In addition, the nature and cause of impairments (or perceived impairments) due to TSS, pH, and temperature was evaluated.

Critical locations identified within the North Branch Raritan River watershed include the following.

- The Lamington River in Chester (LR2) experiences extreme dissolved oxygen swings and DO depletions driven by macrophytes and perhaps sediment oxygen demand.
- Cushetunk Lake often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits high diurnal DO and pH swings.
- The Rockaway Creek and lower Lamington River (NBRC1, RC1, LR5) all exhibit substantial diurnal DO swings driven by rooted macrophytes.
- Ravine Lake often exceeds the lake criterion of 0.05 mg/l total phosphorus, although it shows no signs of excessive productivity.
- The North Branch Raritan River in Bedminster (NBRR5) experiences extreme diurnal DO and pH swings, and the minimum DO decreases as low as 4 mg/l.

Critical locations identified within the South Branch Raritan River watershed include the following.

- The South Branch Raritan River in Middle Valley (SBR4) exhibits large diurnal DO swings that apparently cause the minimum DO to violate the criterion for trout production waters (7.0 mg/l).

- The inlet to Solitude Lake (SBRR3-SLi) often exceeds the lake criterion of 0.05 mg/l total phosphorus. Whether Solitude Lake is in fact a lake that qualifies for the protection afforded by the lake criterion for phosphorus is unknown at this time. It should be noted that Solitude Lake is largely filled in and is no longer utilized for recreation of any kind. Furthermore, the pond shows no signs of excessive productivity.
- Beaver Brook (BvB1) experiences large diurnal DO swings.
- SBRR7 experiences large diurnal DO swings.
- NR1 experiences extreme diurnal DO and pH swings.
- SBRR10 experiences extreme diurnal DO swings.

Critical locations identified within the mainstem Raritan River watershed include the following.

- The mainstem Raritan River at Manville (RR1) and Fieldville Dam (R4) exhibit substantial diurnal DO swings.

Critical locations identified within the Upper Millstone River watershed include the following.

- Plainsboro Pond often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits moderate diurnal DO and pH swings. Whether Plainsboro Pond is in fact a lake that qualifies for the protection afforded by the lake criterion for phosphorus is unknown at this time. As shown in the bathymetry map in Appendix K, Plainsboro Pond is merely a deeper elongated section of Cranbury Brook. Furthermore, none of the data collected for this study suggest that Plainsboro Pond is currently experiencing excessive productivity.
- Gordon Pond often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits moderate diurnal DO and pH swings. Whether Gordon Pond is in fact a lake that qualifies for the protection afforded by the lake criterion for phosphorus is unknown at this time. As shown in the bathymetry map in Appendix K, Gordon Pond is merely a deeper elongated section of Devils Brook. Furthermore, none of the data

collected for this study suggest that Gordon Pond is currently experiencing excessive productivity.

- Grovers Mill Pond often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits very high DO and pH swings as well as nuisance levels of aquatic vegetation.
- Peddie Lake often exceeds the lake criterion of 0.05 mg/l total phosphorus. However, none of the data collected for this study suggest that Peddie Lake is currently experiencing excessive productivity.
- The Upper Millstone River in Plainsboro (UMR3) exhibits substantial diurnal DO swings that cause the minimum DO to go down to 4 mg/l. Furthermore, this location is near the inlet to Carnegie Lake and exceeds the lake criterion of 0.05 mg/l total phosphorus.

Critical locations identified within the Duhernal Lake watershed include the following.

- Duhernal Lake often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits substantial diurnal DO swings.
- Weamaconk Lake often exceeds the lake criterion of 0.05 mg/l total phosphorus and exhibits moderate diurnal DO swings. Since NJDEP has previously established a TMDL for Weamaconk Lake based on the lake criterion for phosphorus of 0.05 mg/l, it must be assumed that Weamaconk Lake is in fact a lake that qualifies for the protection afforded by the lake criterion for phosphorus. However, as shown in Appendix K, Weamaconk Lake is a very small (6.7 acres) impoundment of Weamaconk Creek.

Additional critical locations identified in Phosphorus Evaluation Studies within the Raritan River basin that are not listed above include the following.

- Carnegie Lake exceeds the lake criterion of 0.05 mg/l total phosphorus.
- Stony Brook at Princeton (SB3) exhibits large diurnal DO swings.
- Beden Brook exhibits large diurnal DO swings with minimum DO below 4 mg/l, caused by dense periphyton and macrophytes.
- Pike Brook exhibits substantial diurnal DO swings.

The nature and cause of other conventional impairments was evaluated and is summarized below.

- TSS impairments are prevalent throughout the Lamington River, Rockaway Creek, North Branch Raritan River, South Branch Raritan River, and mainstem Raritan River, apparently due to excessive stream bank erosion.
- Naturally high pH and low alkalinity throughout the Lamington River, Rockaway Creek, North Branch Raritan River, South Branch Raritan River, and mainstem Raritan River cause the pH to exceed the maximum pH criterion occasionally. This is exacerbated at several locations due to extreme diurnal pH swings driven by productivity.
- The maximum temperature criterion for trout waters in the Lamington River, North Branch Rockaway Creek, North Branch Raritan River, and South Branch Raritan River is occasionally exceeded. These temperatures appear to be naturally occurring.
- The pH in waters throughout the Upper Millstone River and Duhernal Lake watersheds is frequently below the minimum pH criterion. This appears to be a natural condition.

Phase II of this study is currently underway and is being performed by TRC Omni, working closely with NJDEP. Using the data and information developed during Phase I of the project, Phase II encompasses all modeling work as well as the application of the models to perform TMDL calculations for NJDEP. The TMDL(s) will be established in order to determine point and nonpoint source pollutant load reductions that would be necessary to bring each impaired segment into compliance with applicable water quality standards. The purpose of the watershed modeling, therefore, is to relate point and nonpoint sources to water quality targets at critical locations in order to provide the basis for a watershed-based TMDL. While the focus of the TMDL study is on phosphorus and its impacts, each of the other conventional impairments on the 2004 Integrated List of Waterbodies (total suspended solids, pH, dissolved oxygen, and temperature) will also be addressed through the study.

VI. REFERENCES

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Taube, Clarence M. 2000. Instructions for winter lake mapping. Chapter 12 *in* Schneider, James C. (ed.). 2000. Manual of fisheries survey methods II: with periodic updates. Michigan Department of Natural Resources, Fisheries Special Report 25, Ann Arbor.

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TRC Omni. April 11, 2005. Pine Brook / Matchaponix Brook Phosphorus Evaluation Study.

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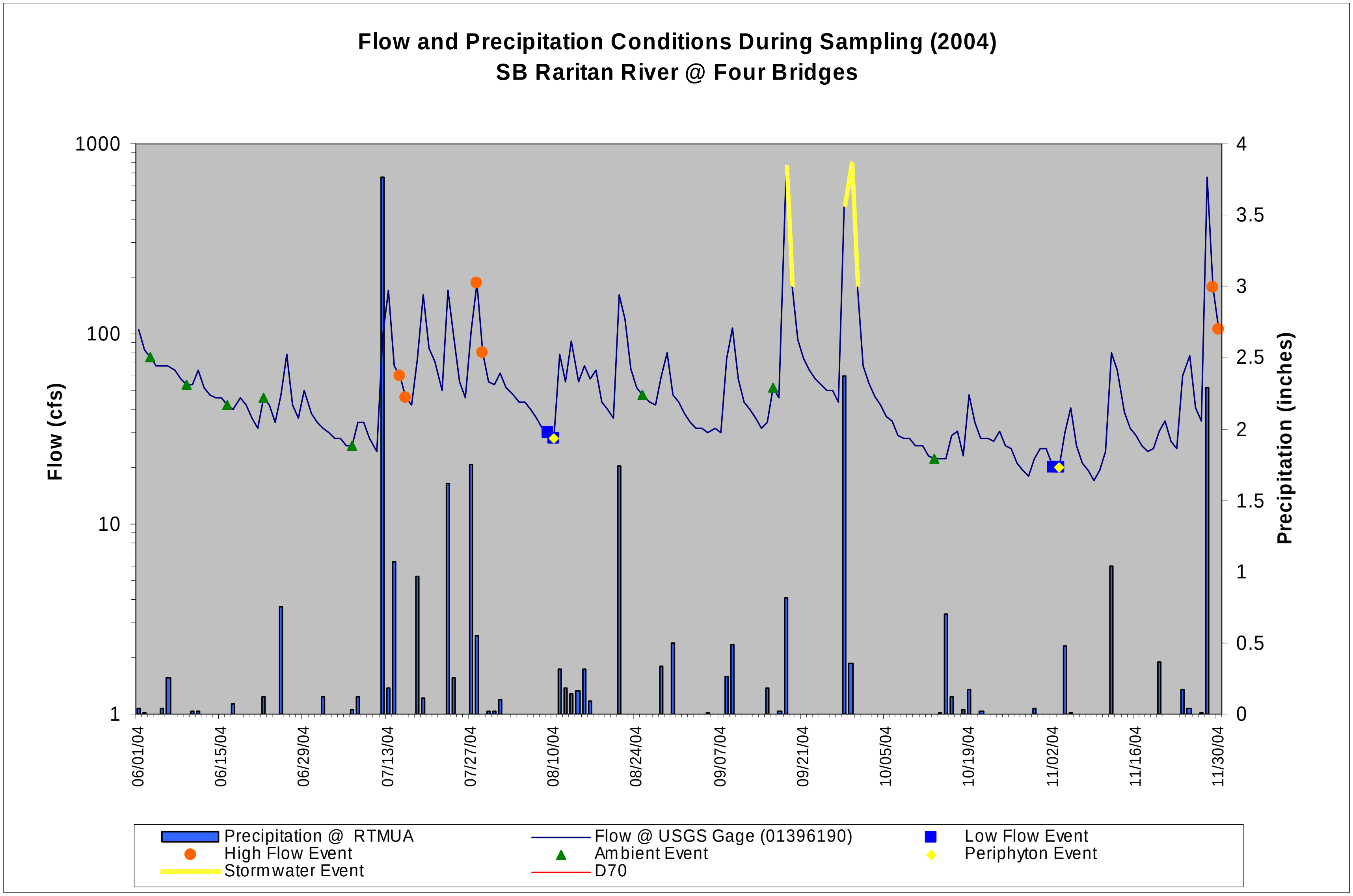
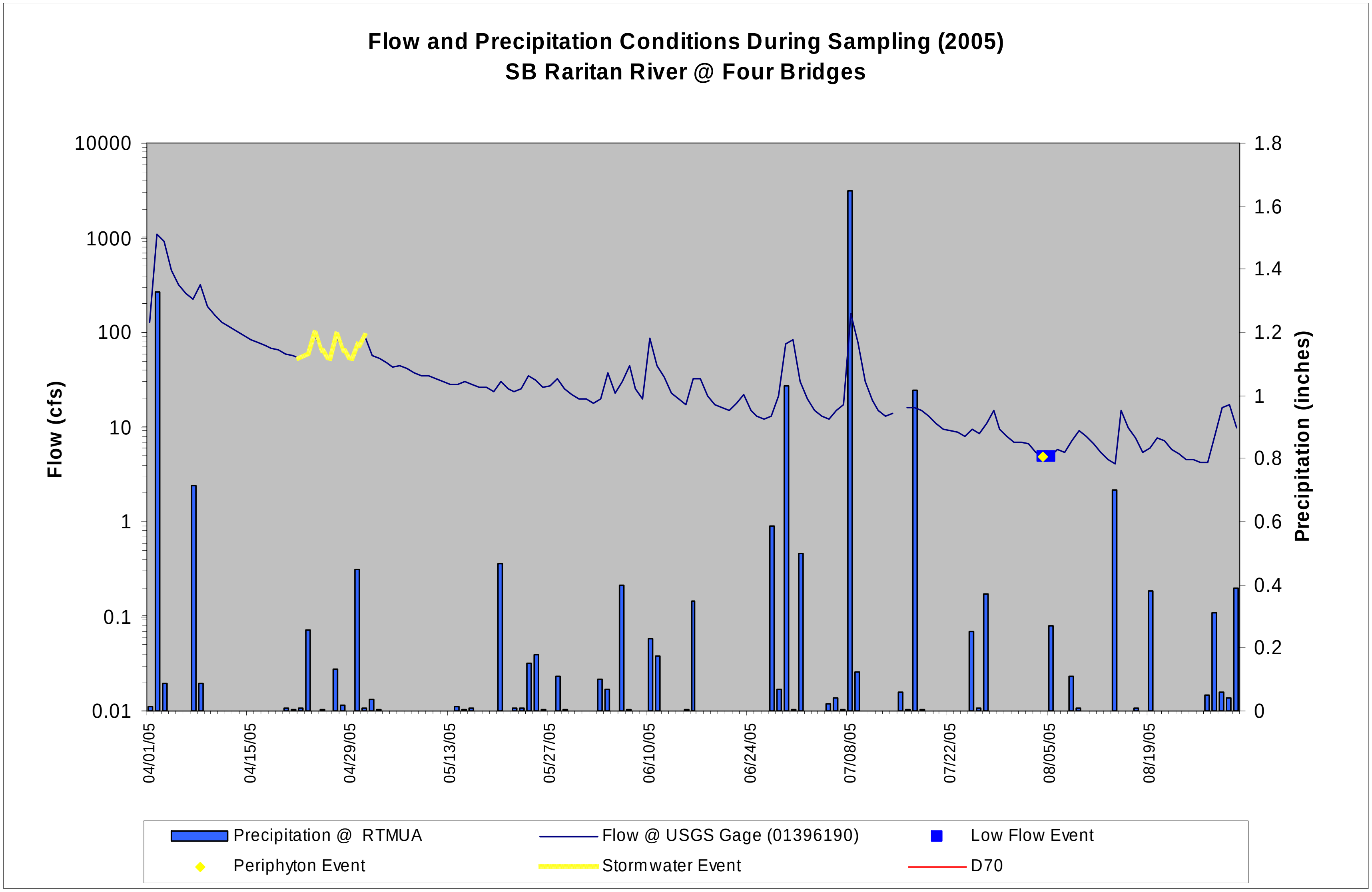
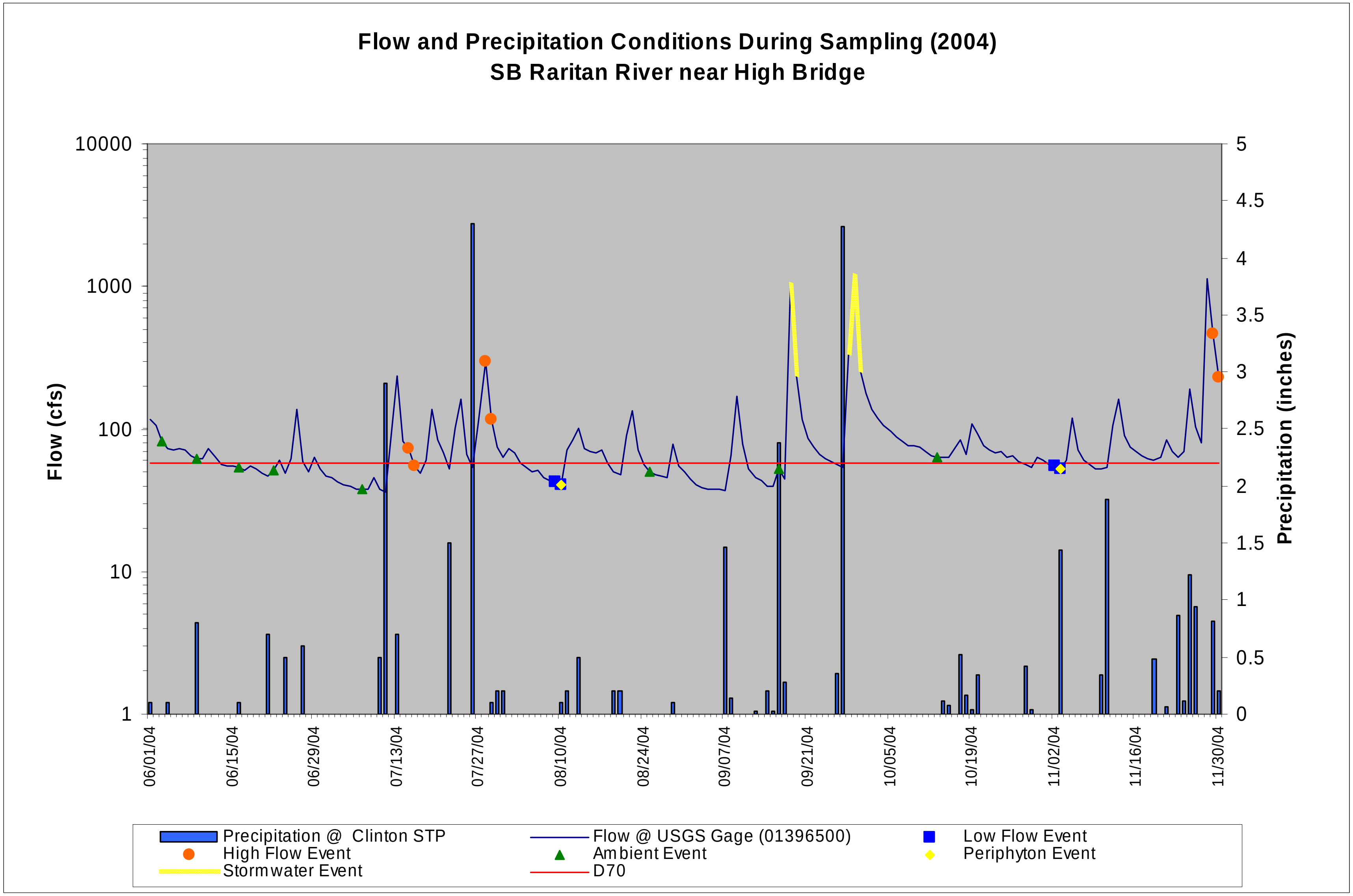
TRC Omni. March 8, 2004. Upper South Branch Raritan River Phosphorus Evaluation Study.

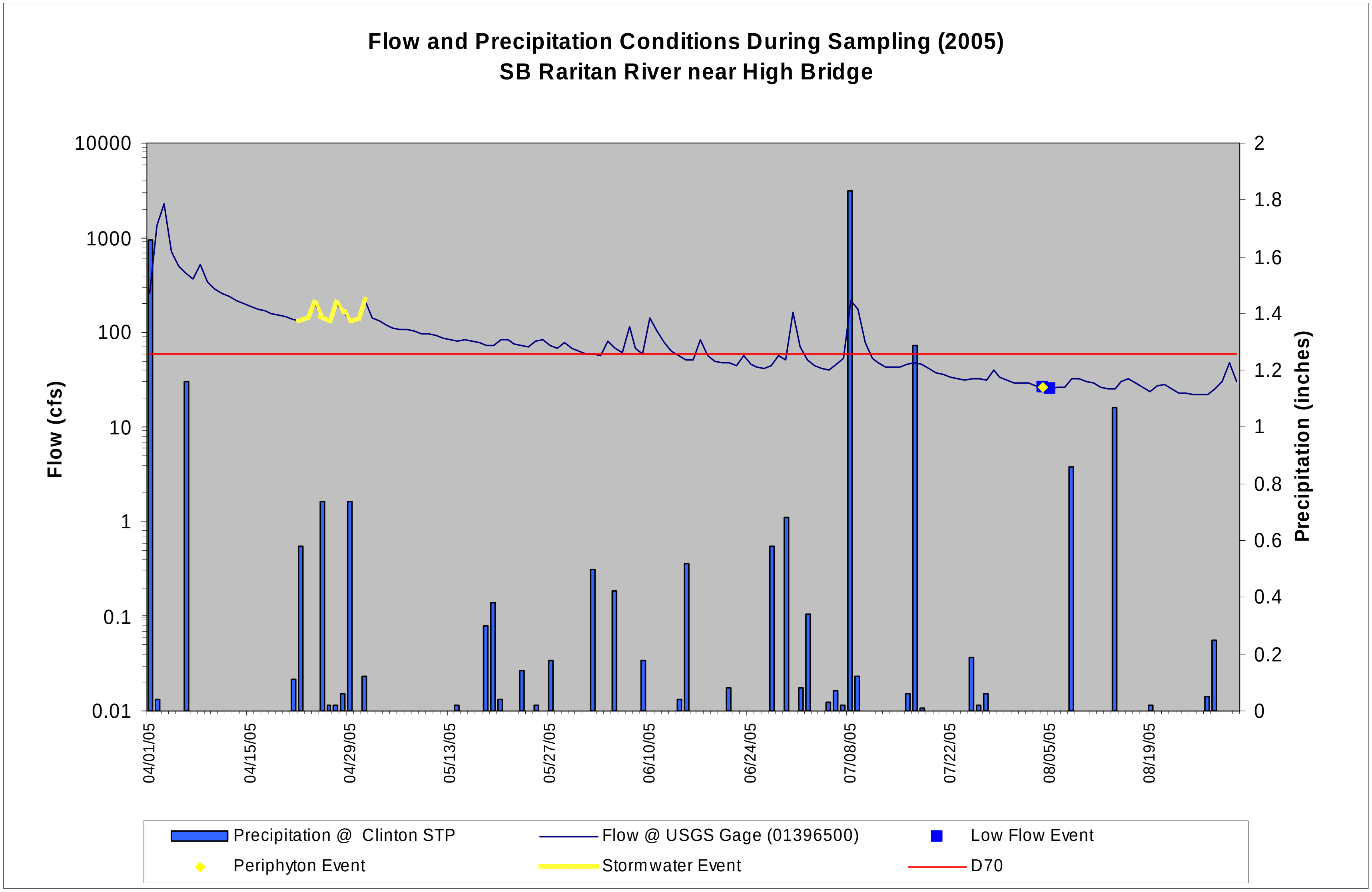
APPENDIX A

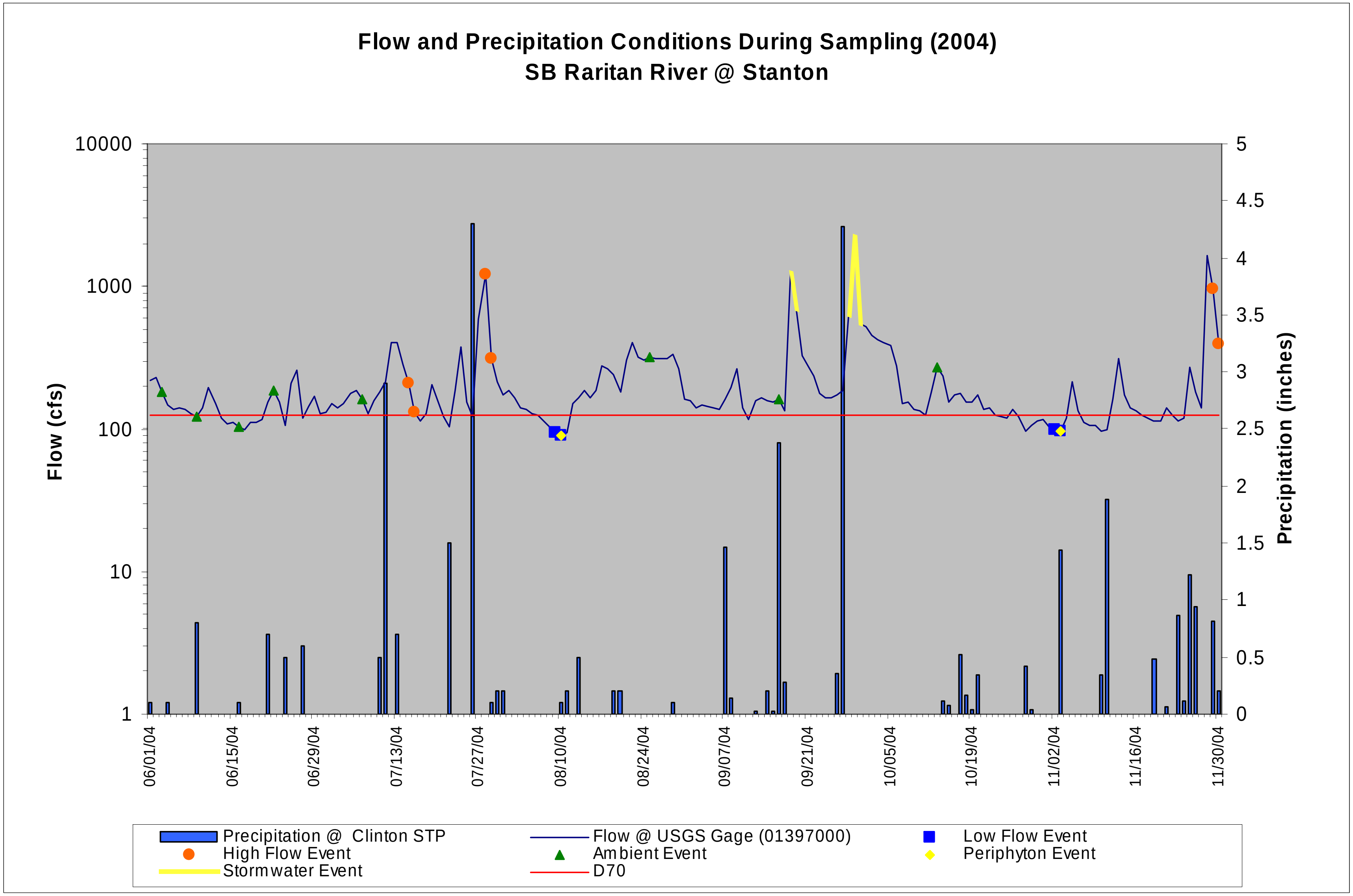
Flow and Precipitation Conditions during Sampling


Flow and Precipitation Conditions During Sampling (2004)
SB Raritan River @ Four Bridges
Flow (cfs)
Precipitation (inches)
1000
100
10
1
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ RTMUA
Flow @ USGS Gage (01396190)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
SB Raritan River @ Four Bridges
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
0.1
0.01
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ RTMUA
Flow @ USGS Gage (01396190)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
SB Raritan River near High Bridge
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Clinton STP
Flow @ USGS Gage (01396500)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
SB Raritan River near High Bridge
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ Clinton STP
Flow @ USGS Gage (01396500)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
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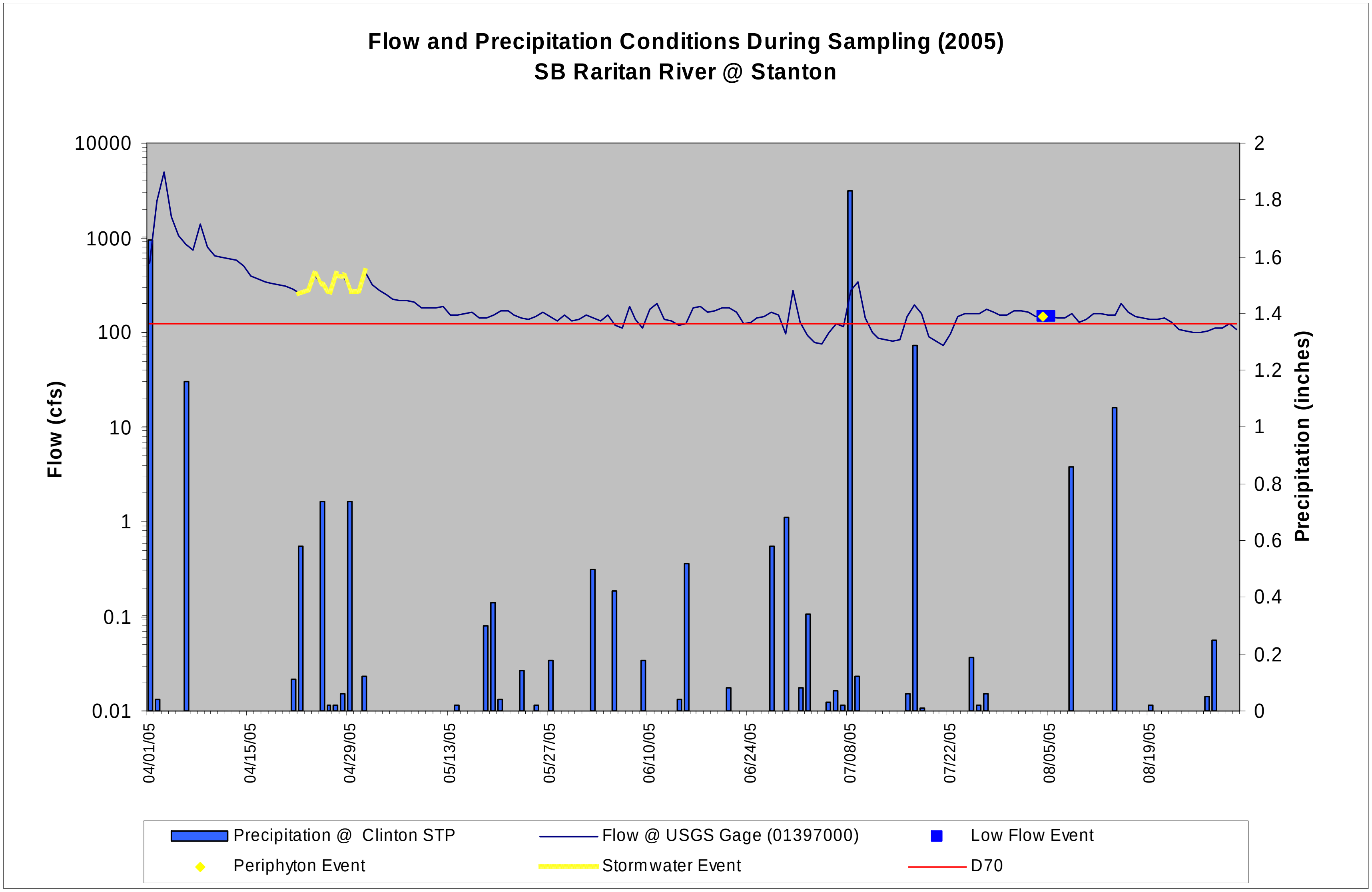
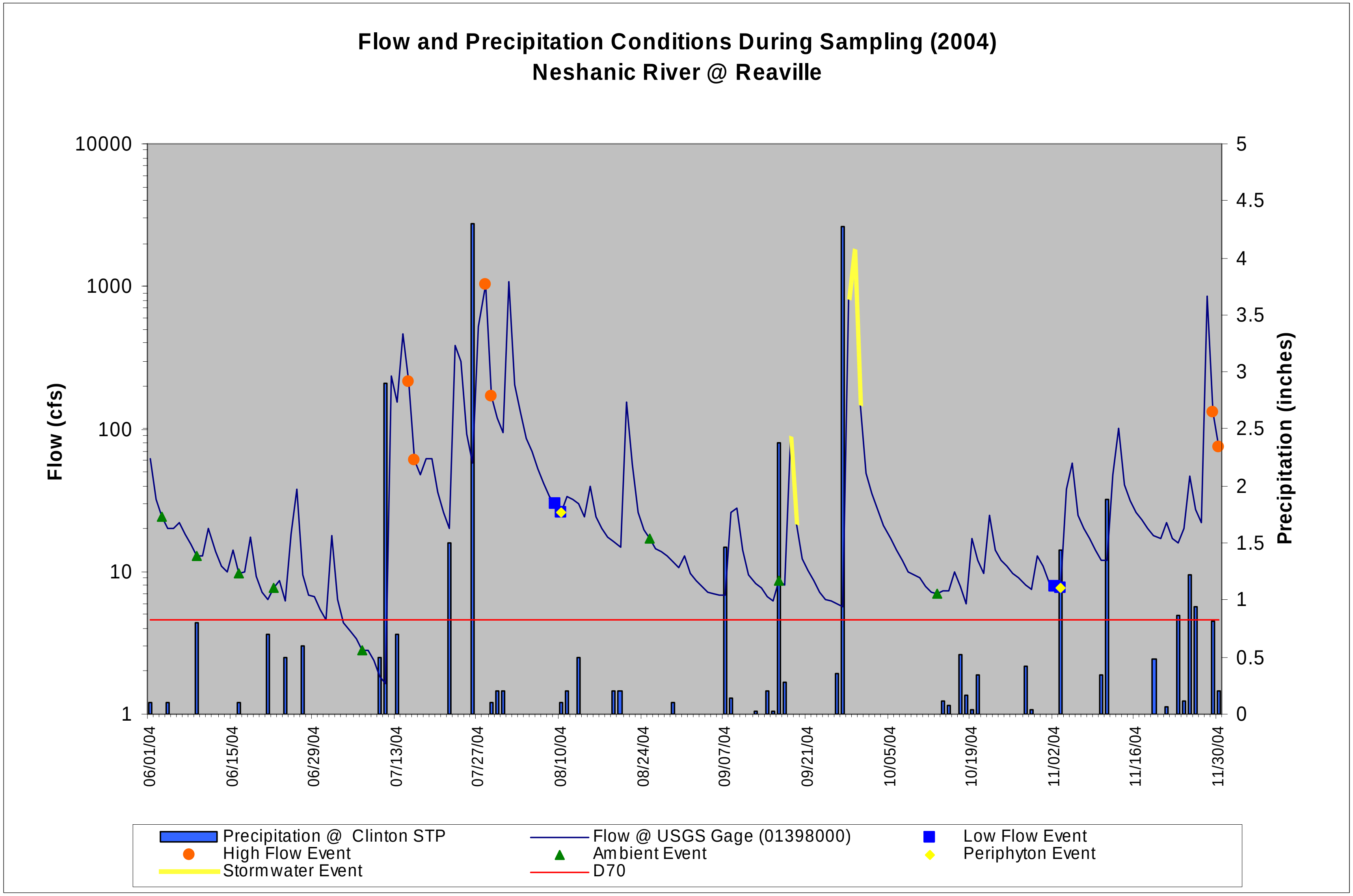
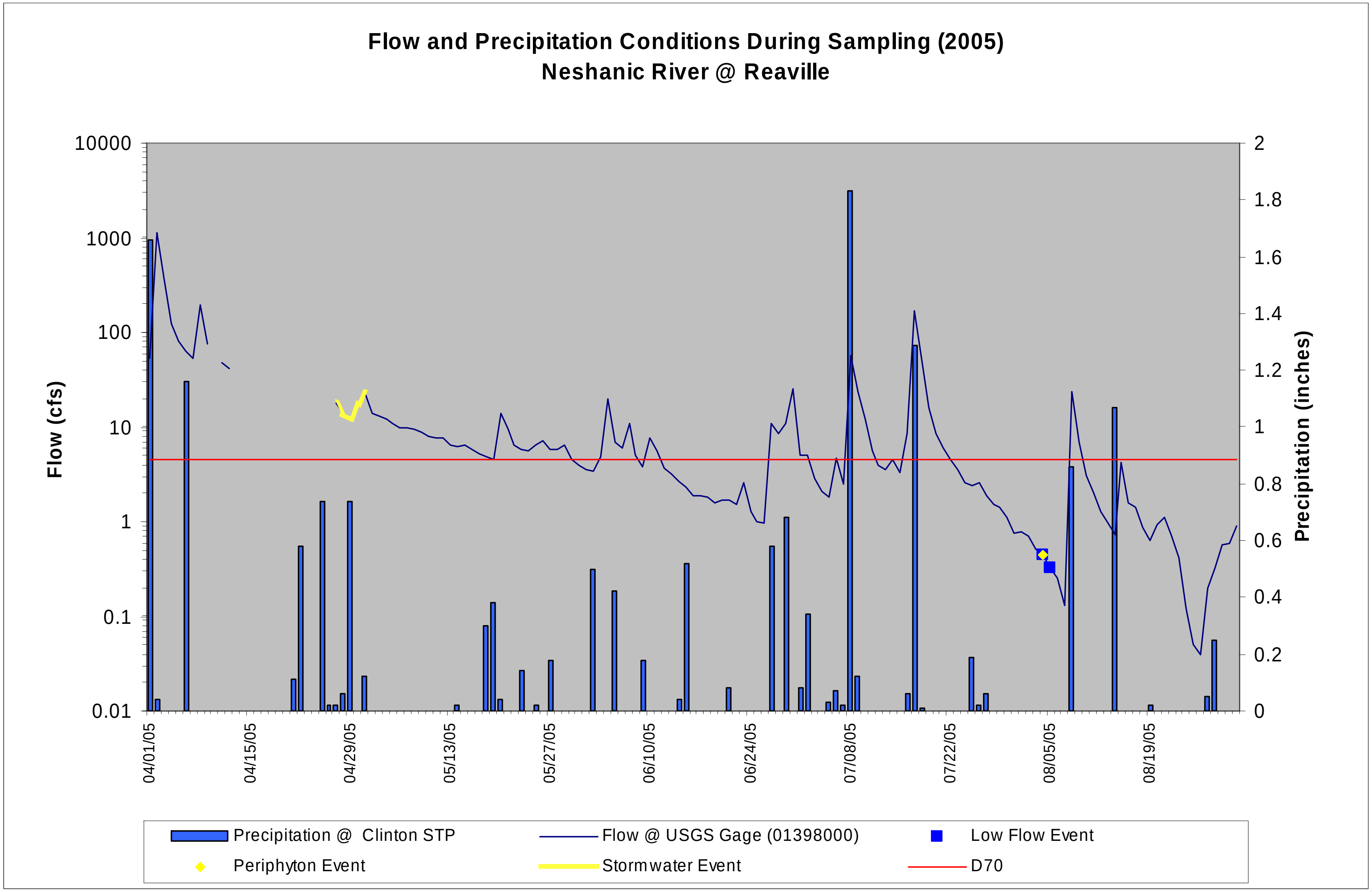
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Clinton STP
Flow @ USGS Gage (01397000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
SB Raritan River @ Stanton
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ Clinton STP
Flow @ USGS Gage (01397000)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
Neshanic River @ Reaville
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Clinton STP
Flow @ USGS Gage (01398000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
Neshanic River @ Reaville
Flow (cfs)
Precipitation (inches)
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10
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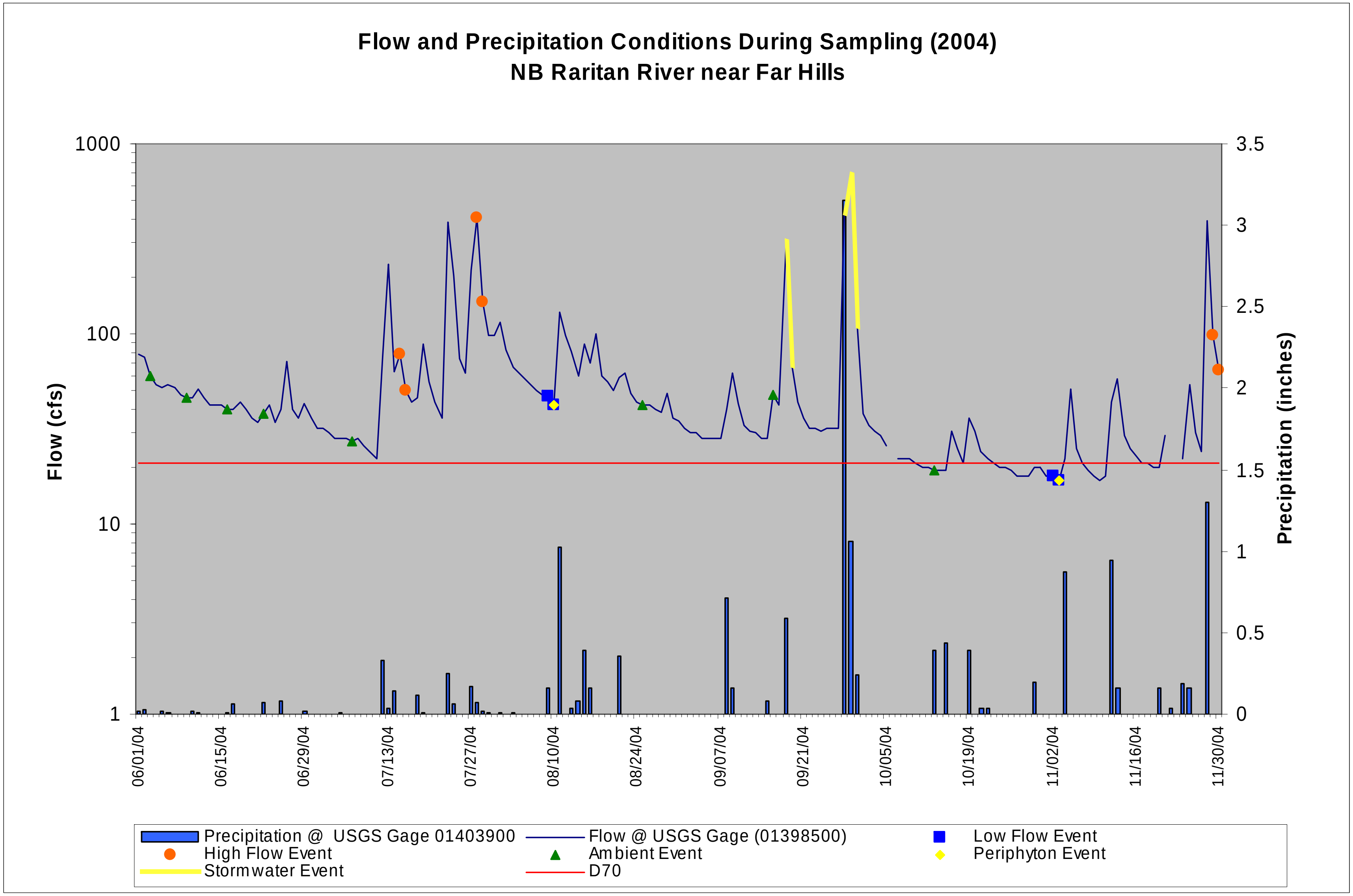
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ Clinton STP
Flow @ USGS Gage (01398000)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
NB Raritan River near Far Hills
Flow (cfs)
1000
100
10
1
Precipitation (inches)
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01398500)
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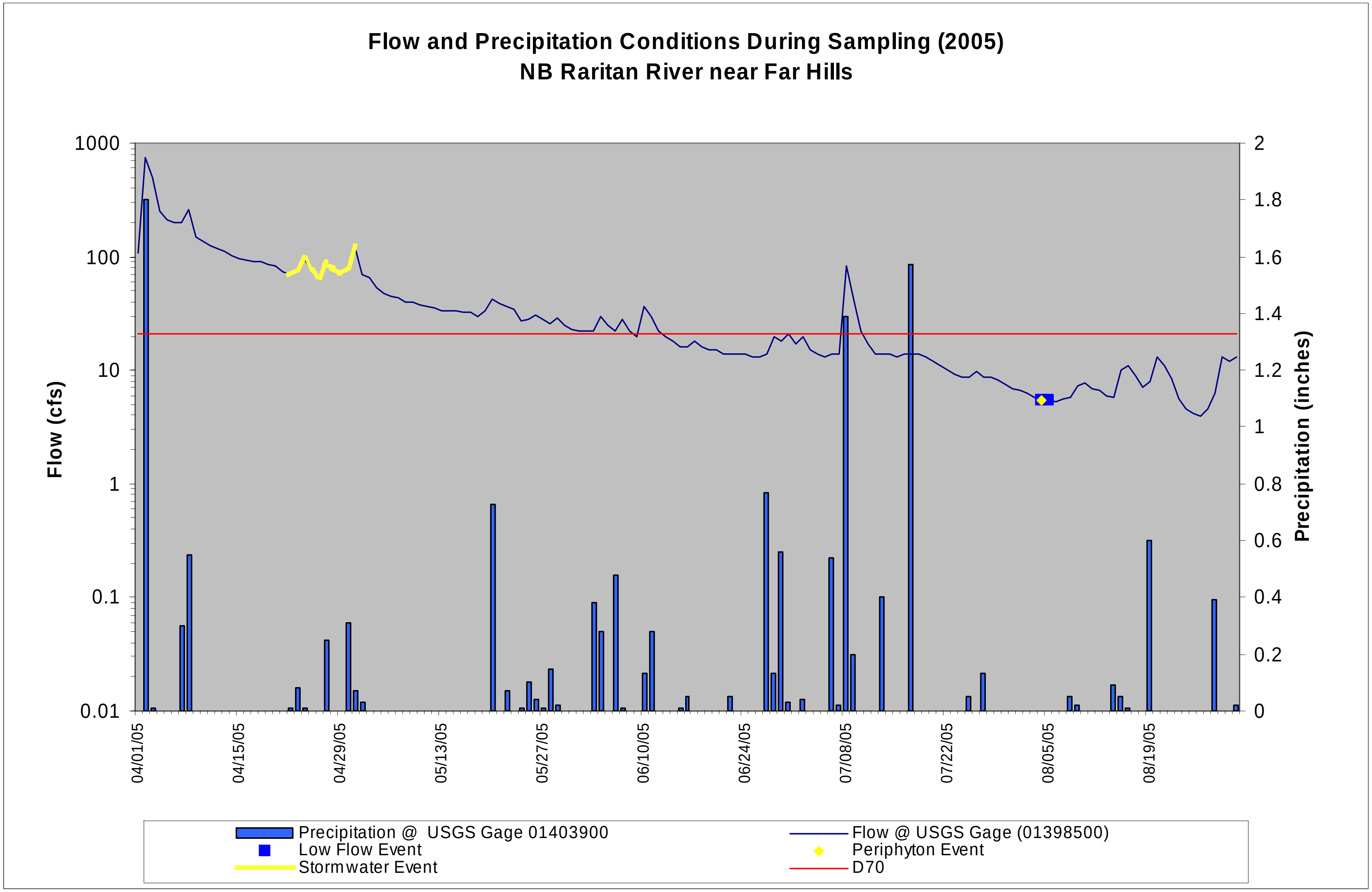
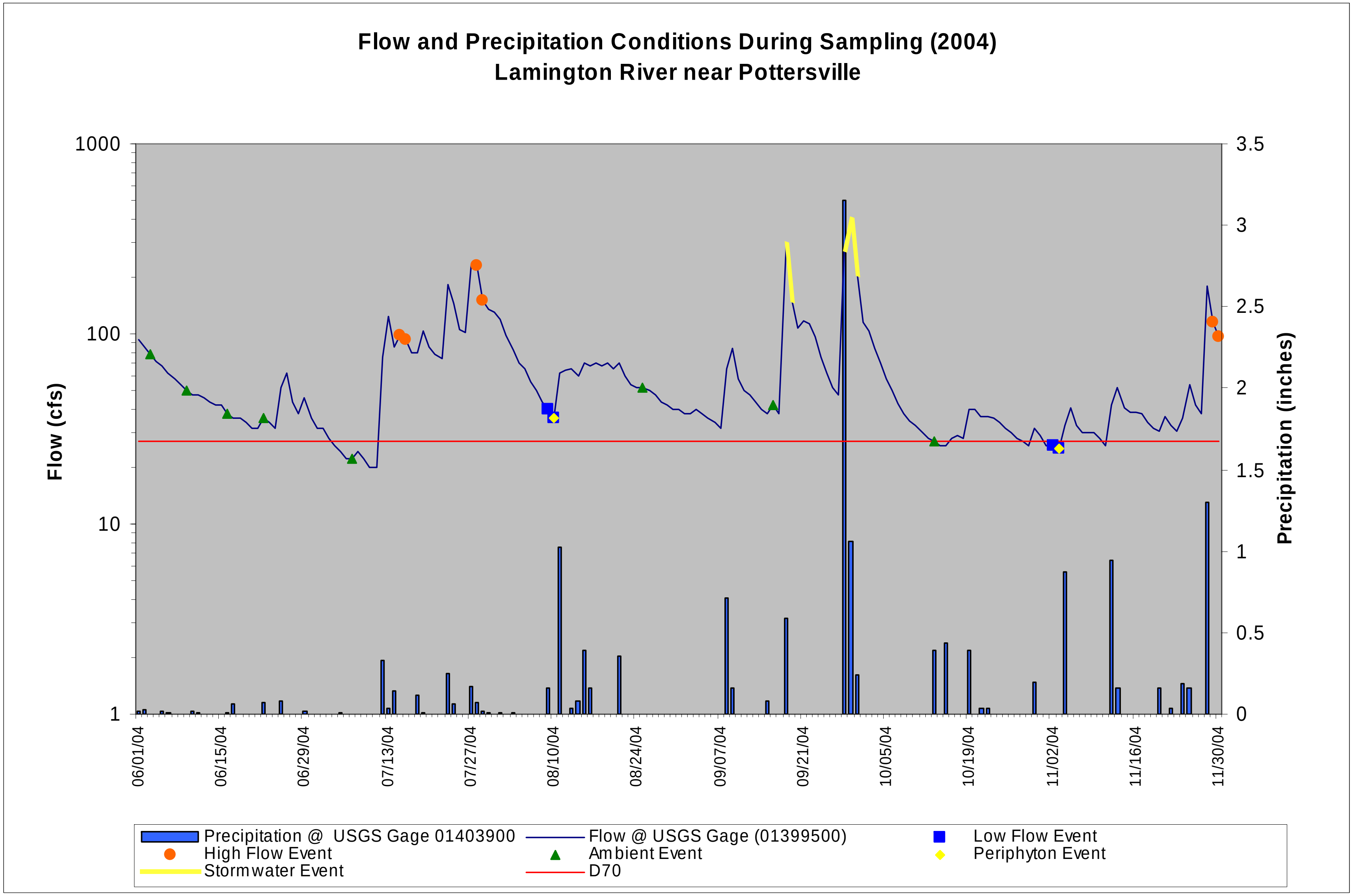
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
NB Raritan River near Far Hills
Flow (cfs)
Precipitation (inches)
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01398500)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
Lamington River near Pottersville
Flow (cfs)
Precipitation (inches)
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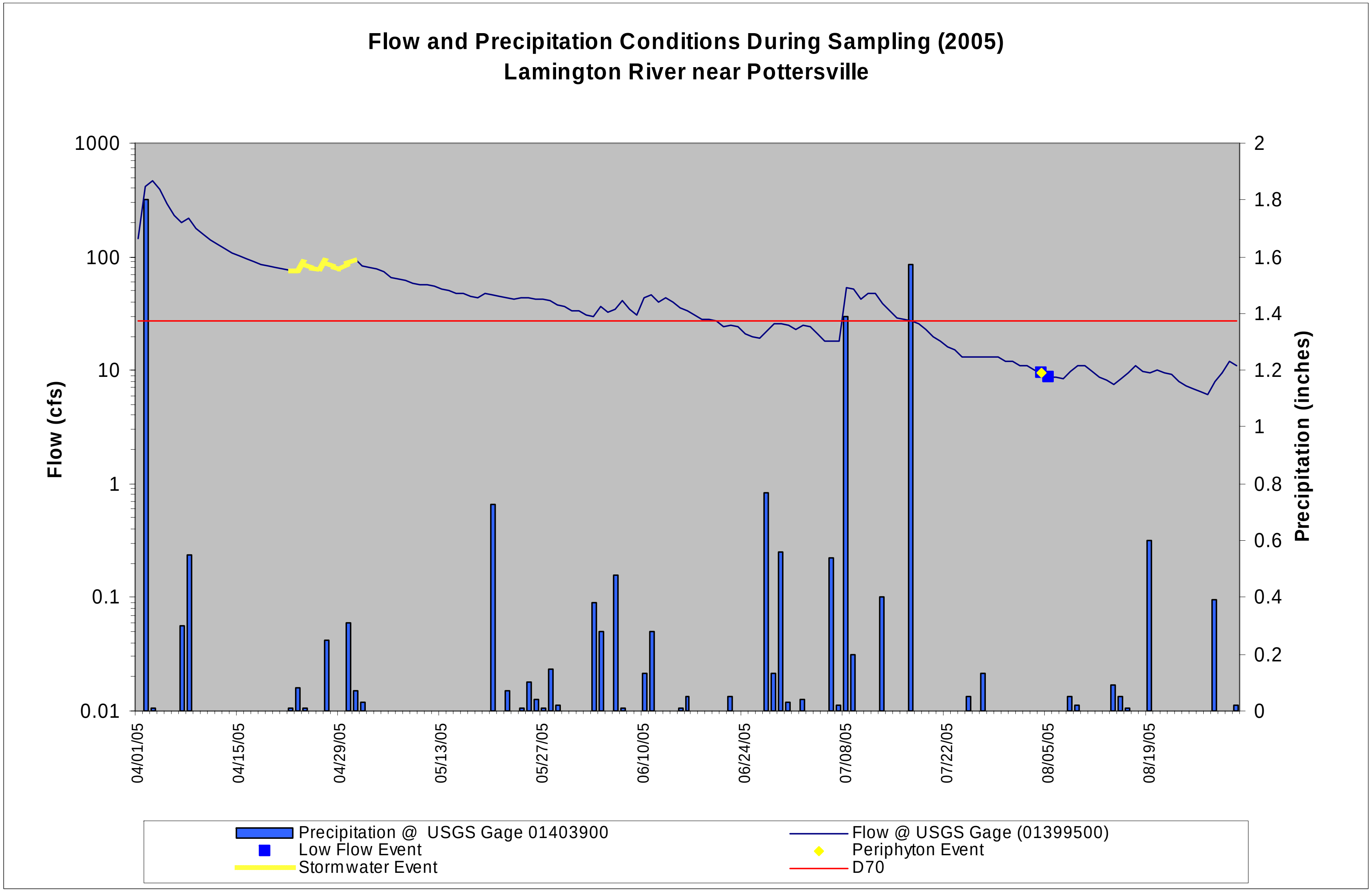
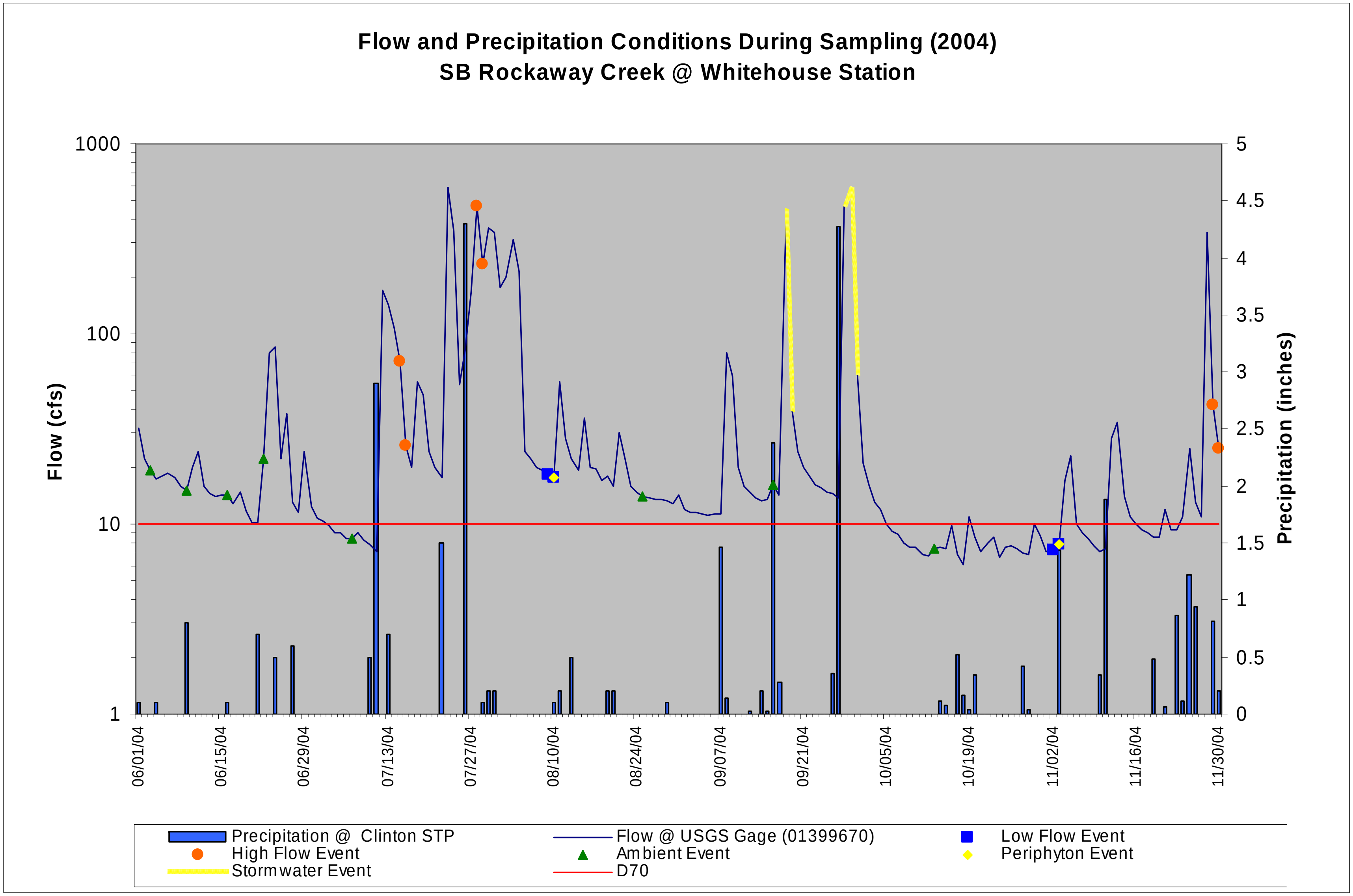
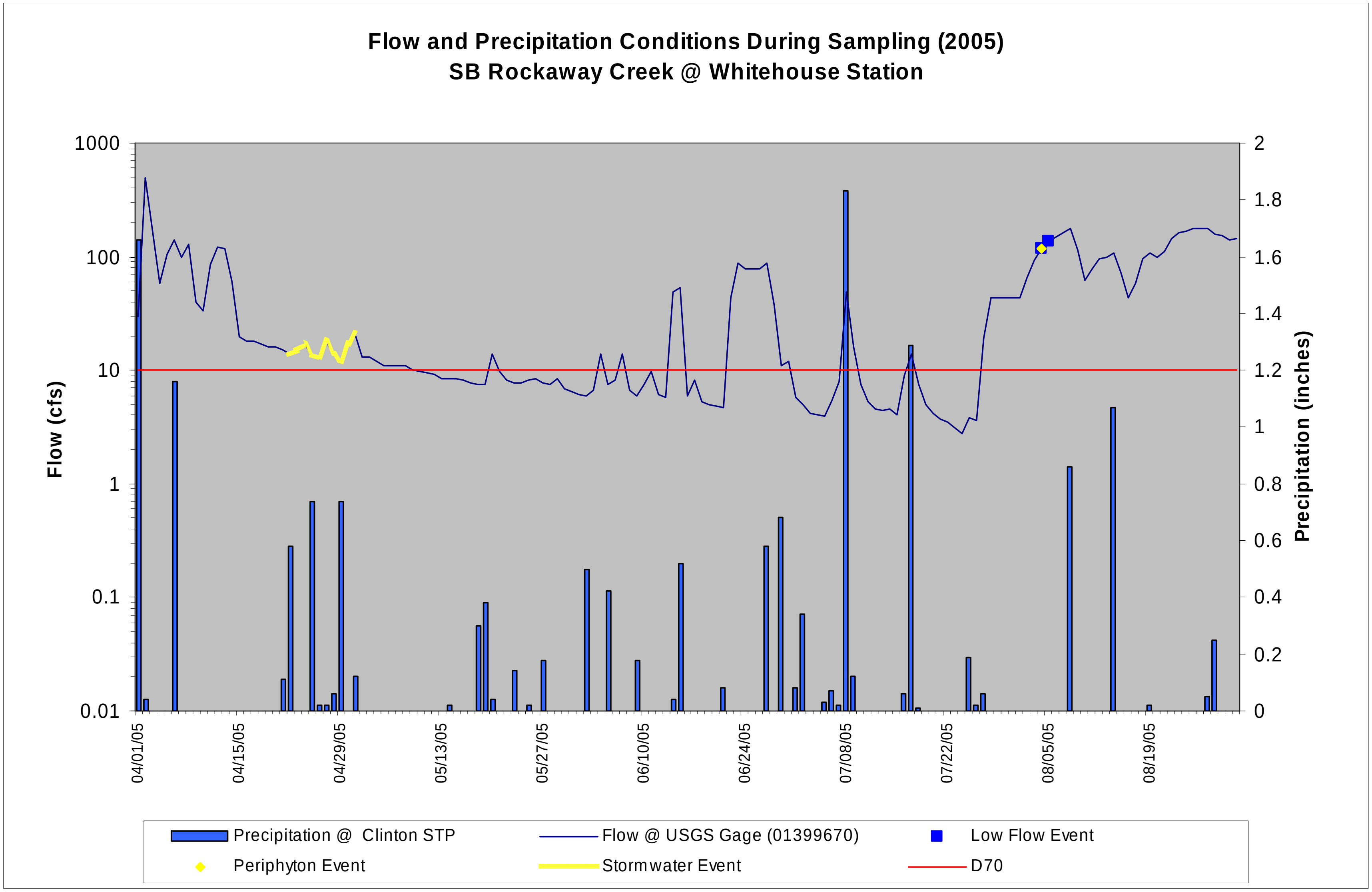
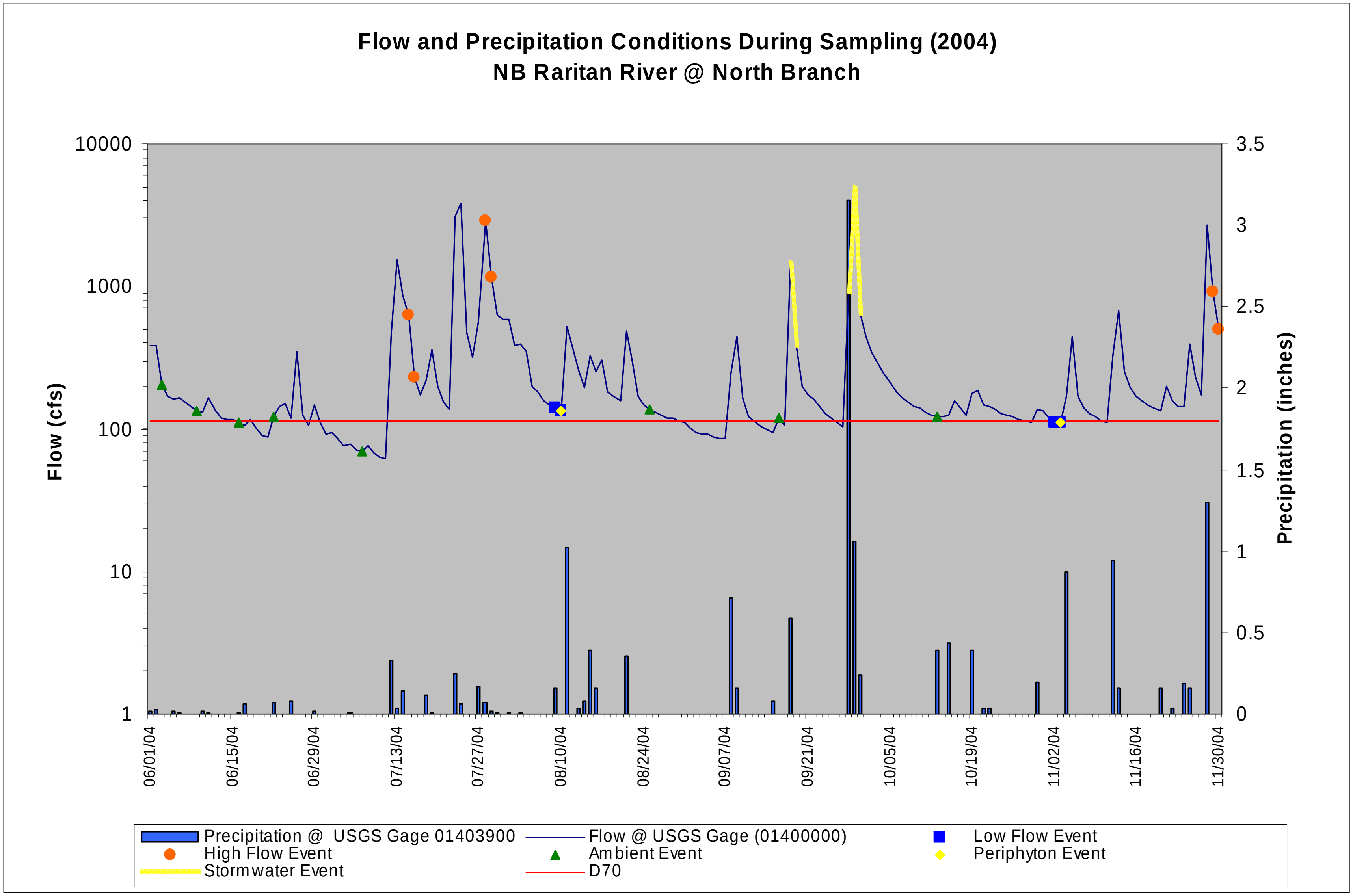
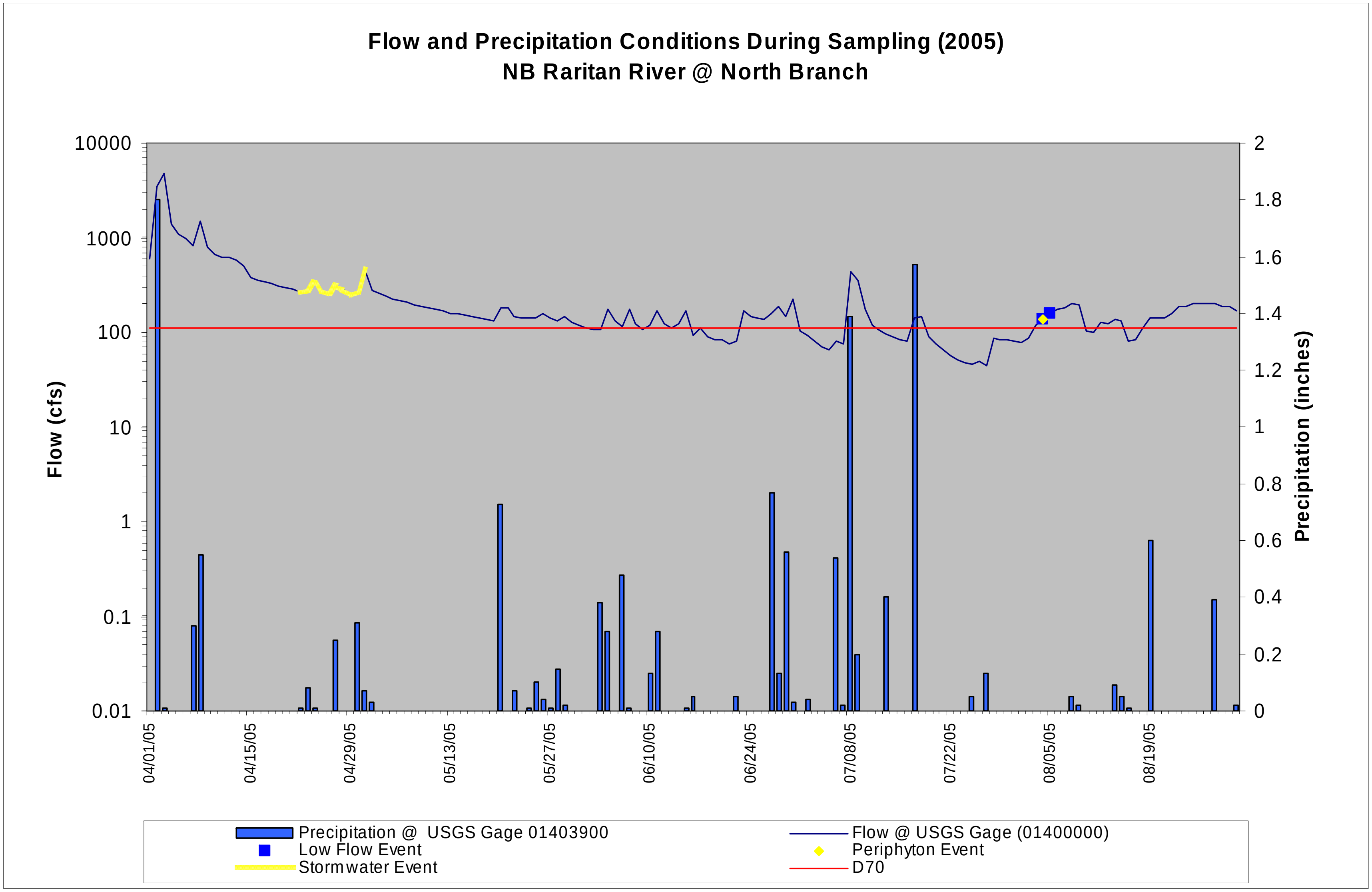
100
10
1
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01399500)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70

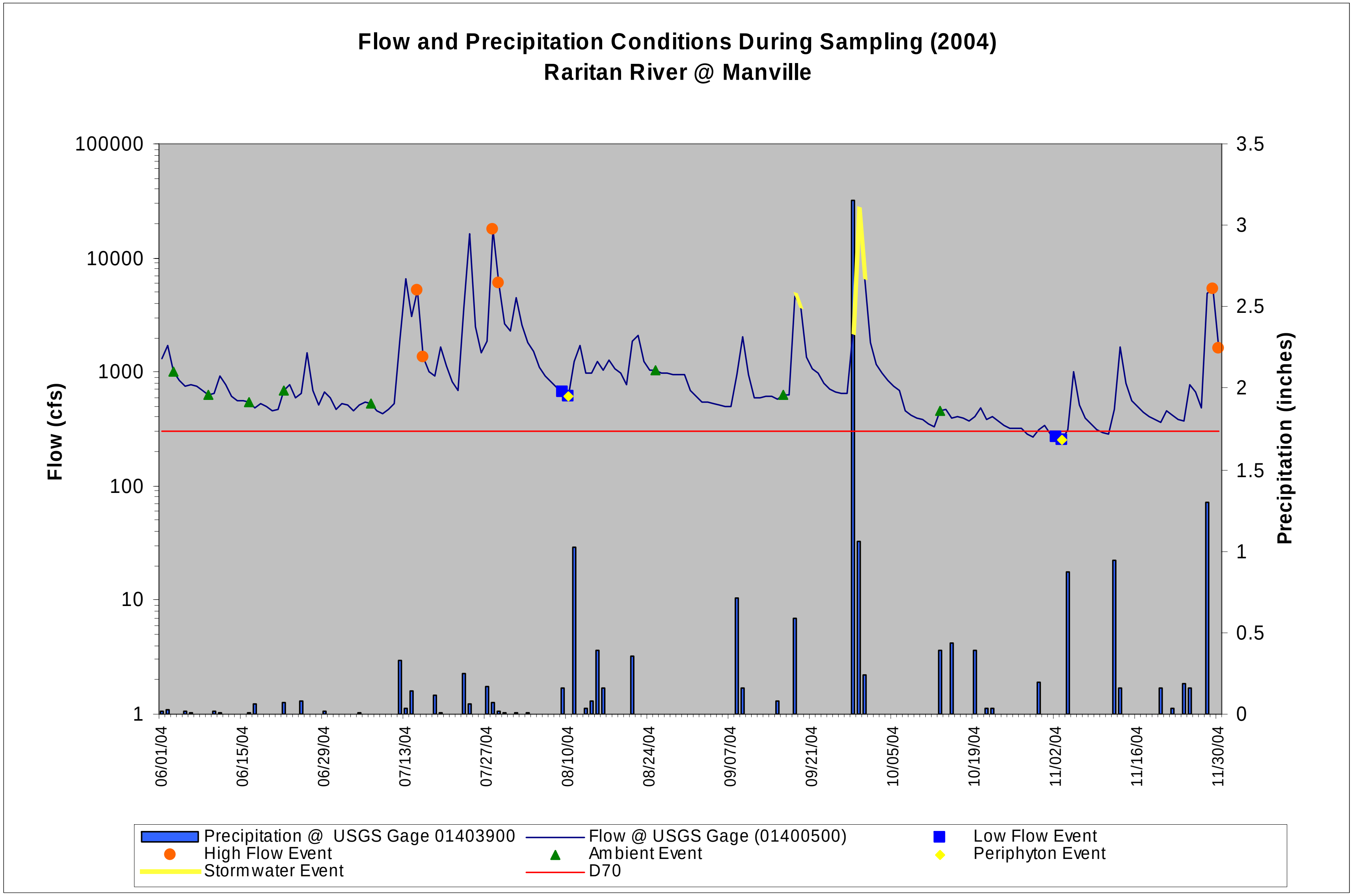

Flow and Precipitation Conditions During Sampling (2005)
Lamington River near Pottersville
Flow (cfs)
Precipitation (inches)
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01399500)
Low Flow Event
Periphyton Event
Stormwater Event
D70

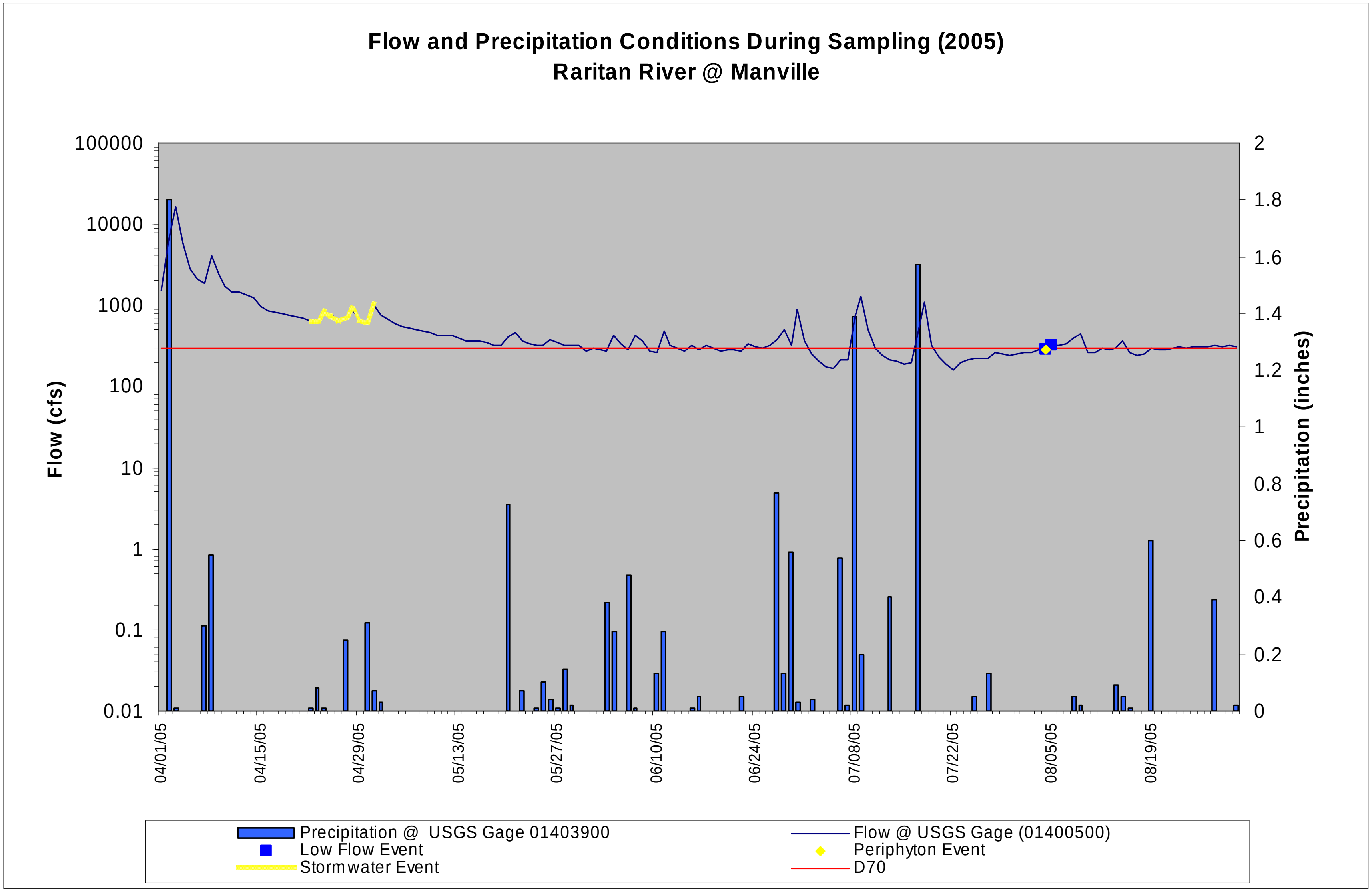

Flow and Precipitation Conditions During Sampling (2004)
SB Rockaway Creek @ Whitehouse Station
Flow (cfs)
Precipitation (inches)
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Clinton STP
Flow @ USGS Gage (01399670)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70

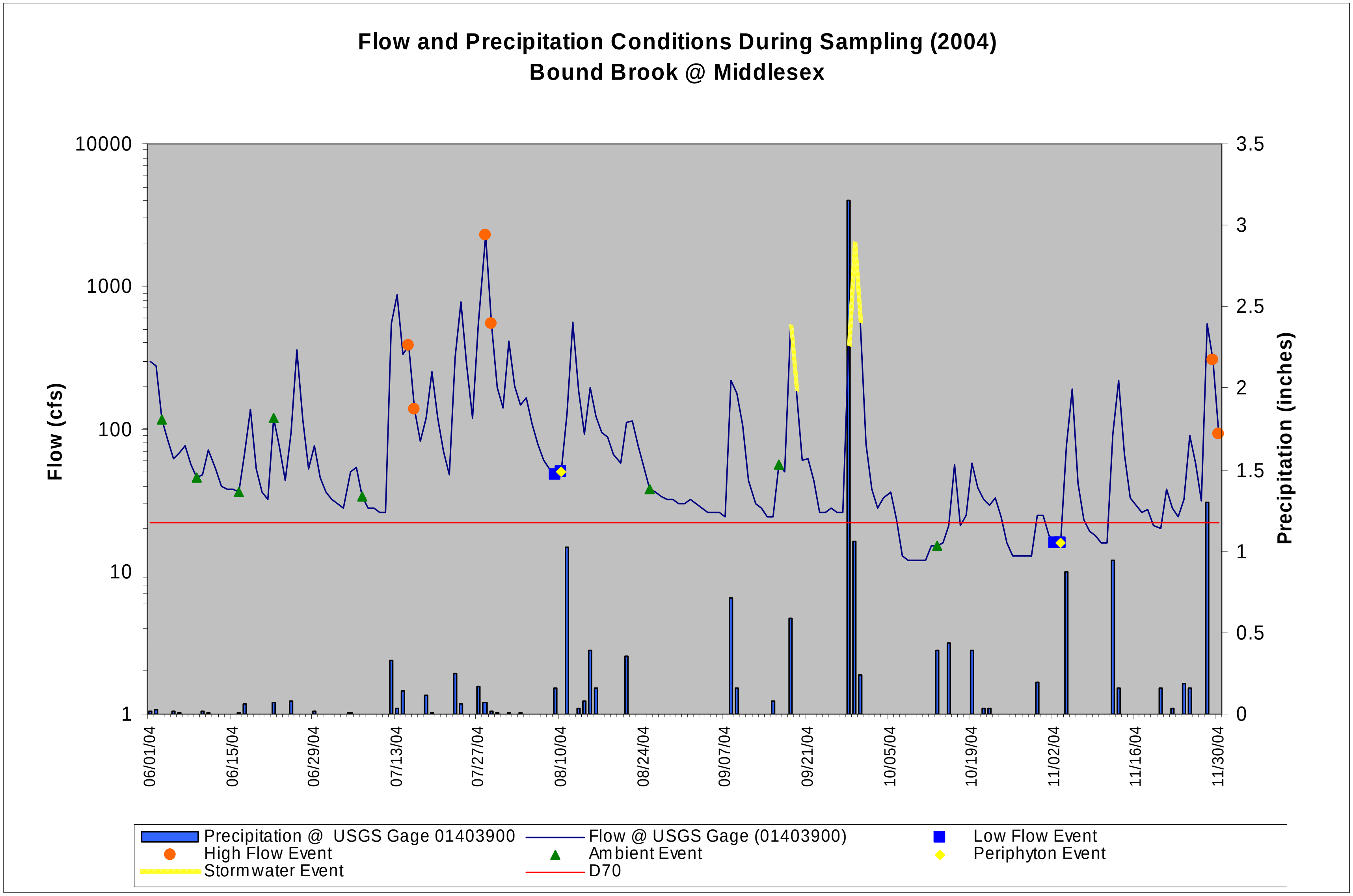

Flow and Precipitation Conditions During Sampling (2005)
SB Rockaway Creek @ Whitehouse Station
Flow (cfs)
1000
100
10
1
0.1
0.01
Precipitation (inches)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ Clinton STP
Flow @ USGS Gage (01399670)
Low Flow Event
Periphyton Event
Stormwater Event
D70

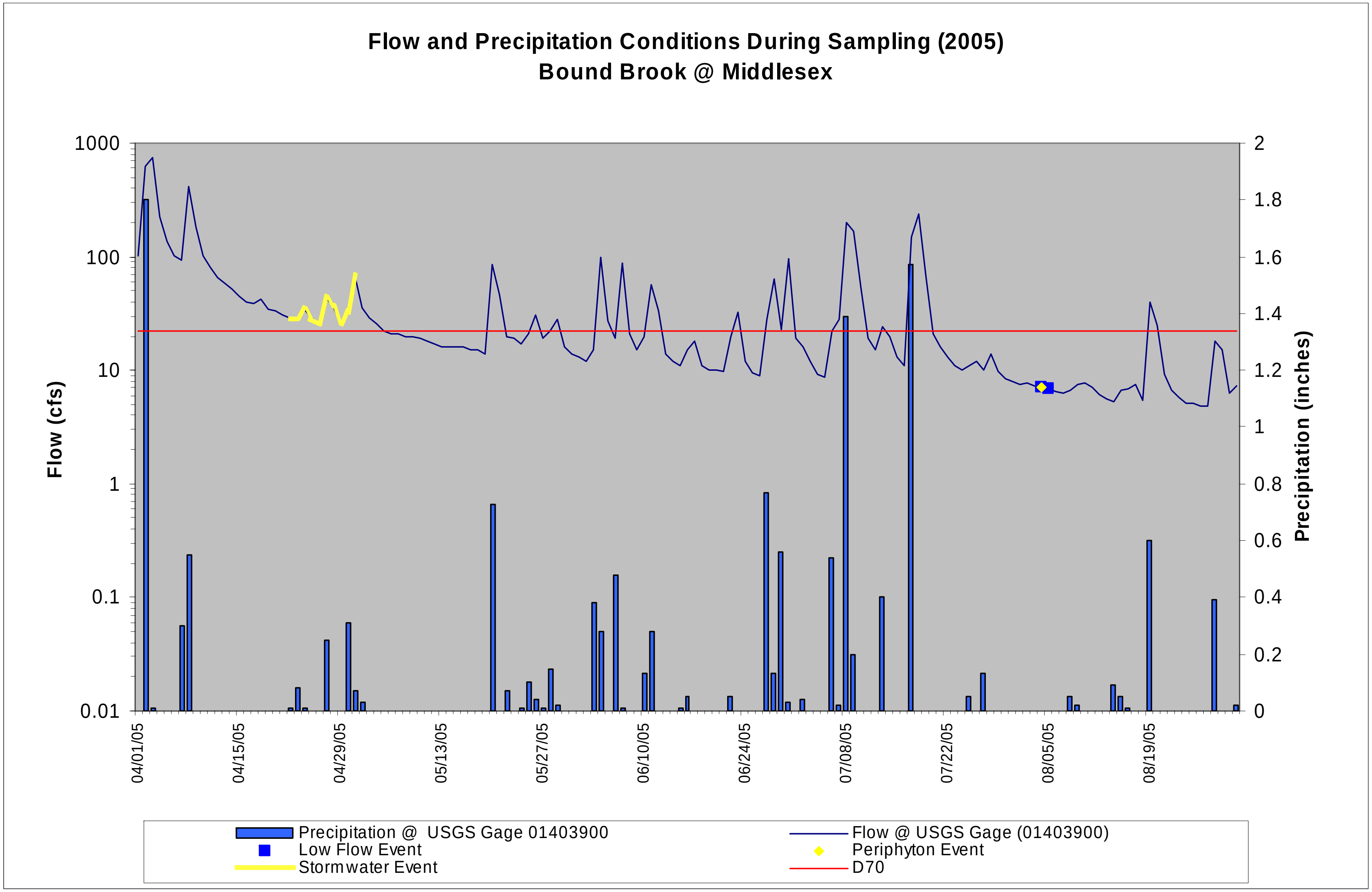

Flow and Precipitation Conditions During Sampling (2004)
NB Raritan River @ North Branch
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01400000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70

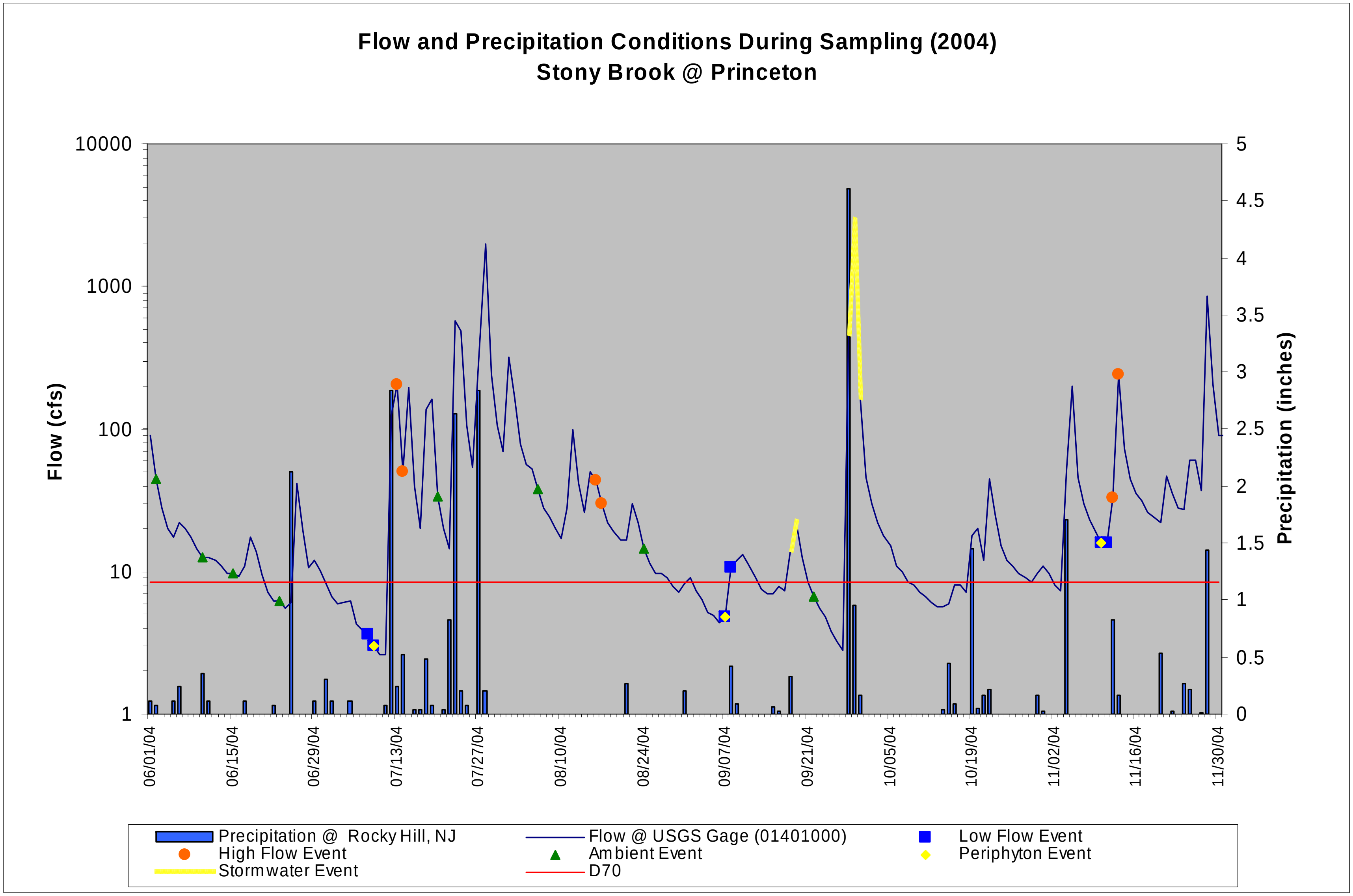

Flow and Precipitation Conditions During Sampling (2005)
NB Raritan River @ North Branch
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01400000)
Low Flow Event
Periphyton Event
Stormwater Event
D70

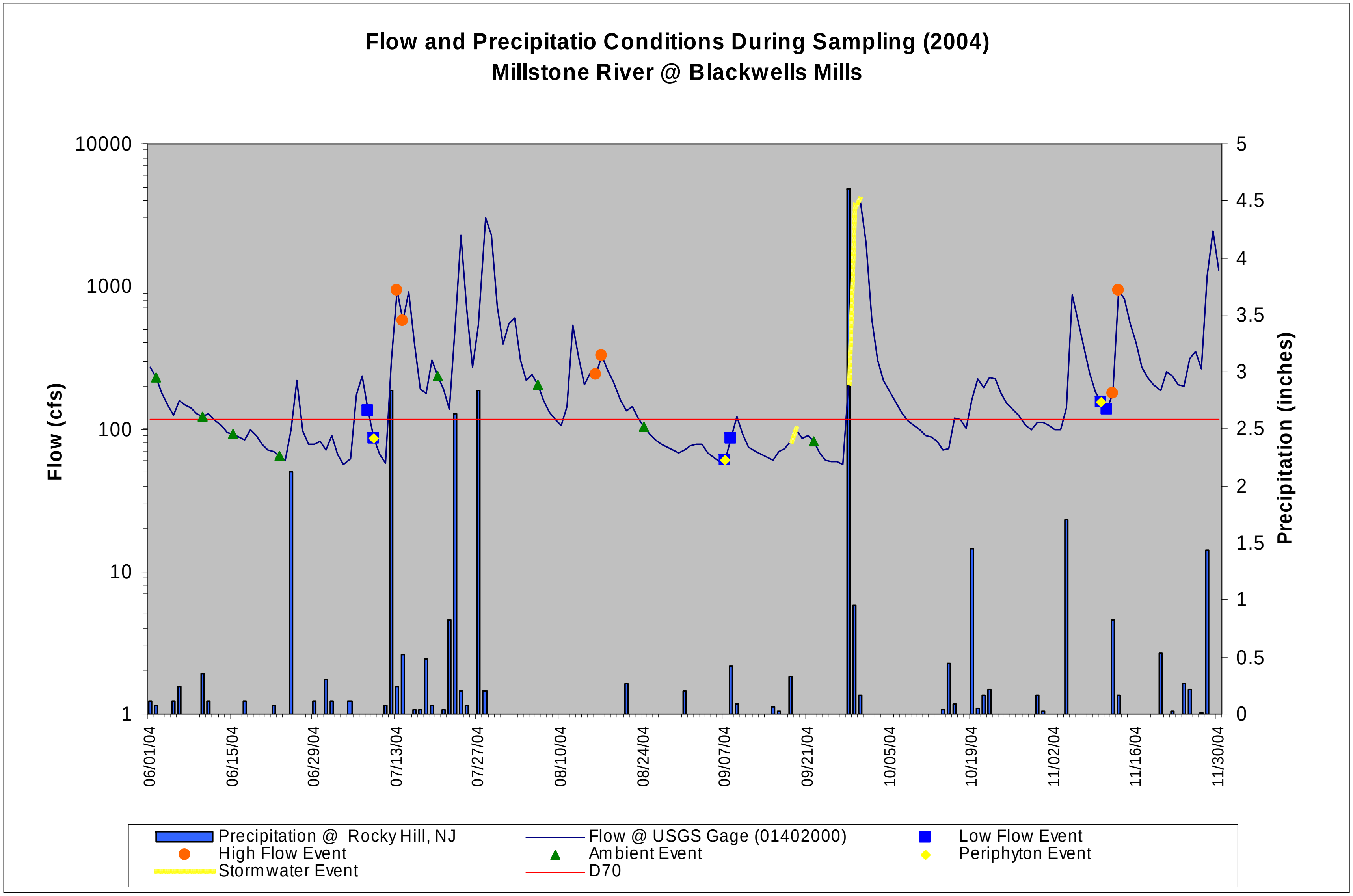

Flow and Precipitation Conditions During Sampling (2004)
Raritan River @ Manville
Flow (cfs)
100000
10000
1000
100
10
1
Precipitation (inches)
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01400500)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70

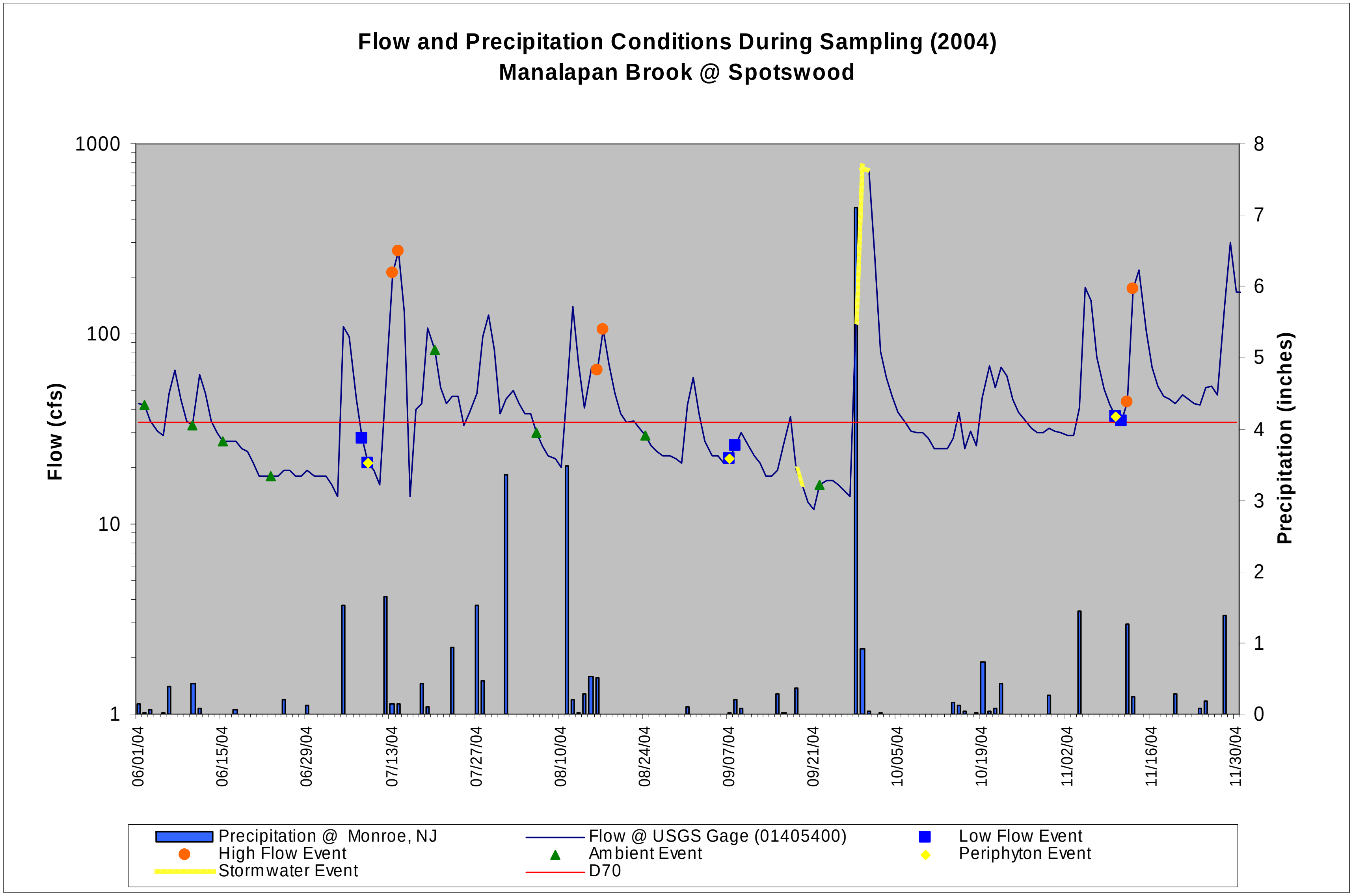

Flow and Precipitation Conditions During Sampling (2005)
Raritan River @ Manville
Flow (cfs)
Precipitation (inches)
100000
10000
1000
100
10
1
0.1
0.01
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01400500)
Low Flow Event
Periphyton Event
Stormwater Event
D70

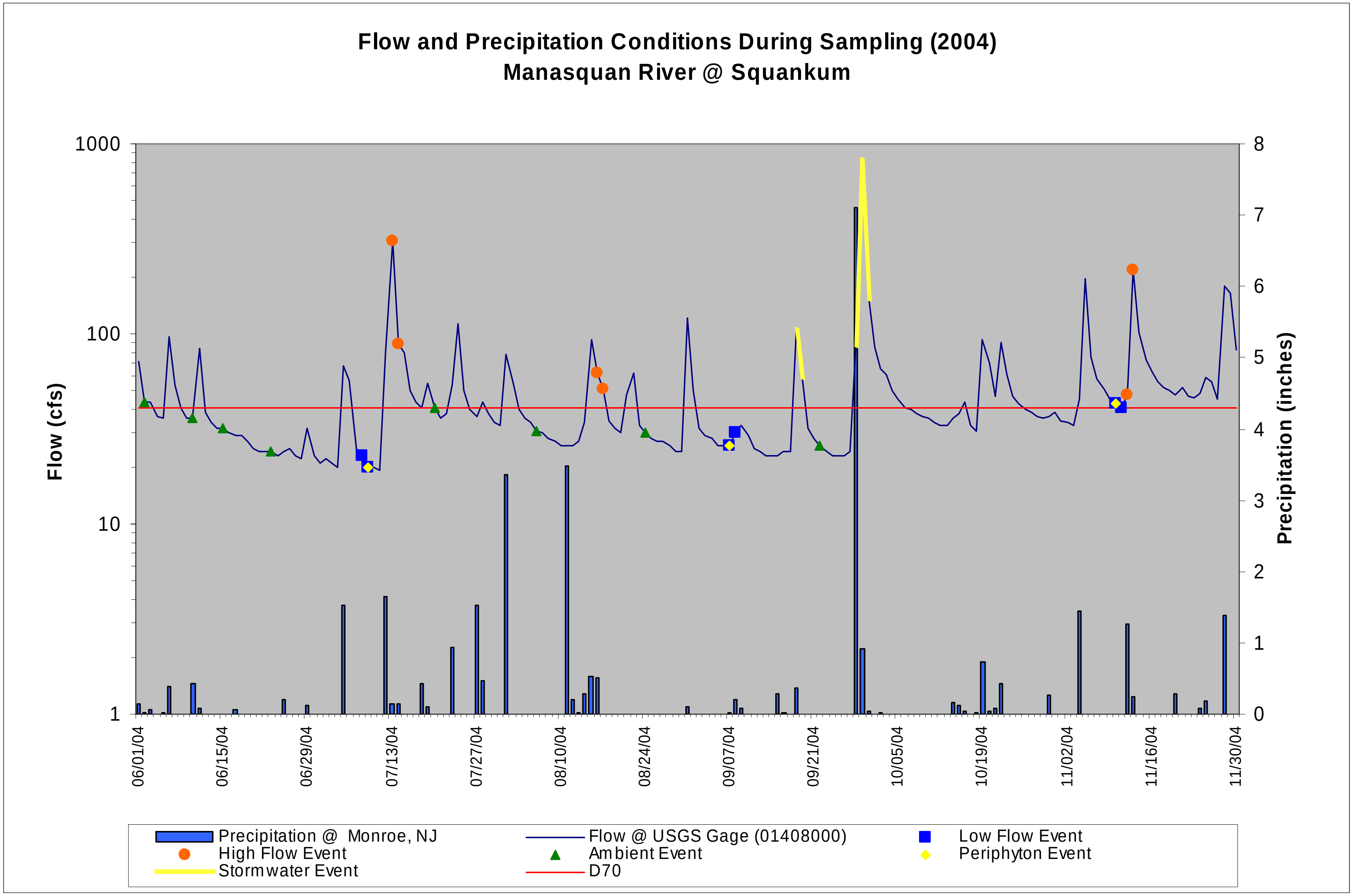

Flow and Precipitation Conditions During Sampling (2004)
Bound Brook @ Middlesex
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01403900)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2005)
Bound Brook @ Middlesex
Flow (cfs)
1000
100
10
1
0.1
0.01
Precipitation (inches)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
04/01/05
04/15/05
04/29/05
05/13/05
05/27/05
06/10/05
06/24/05
07/08/05
07/22/05
08/05/05
08/19/05
Precipitation @ USGS Gage 01403900
Flow @ USGS Gage (01403900)
Low Flow Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
Stony Brook @ Princeton
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Rocky Hill, NJ
Flow @ USGS Gage (01401000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitatio Conditions During Sampling (2004)
Millstone River @ Blackwells Mills
Flow (cfs)
Precipitation (inches)
10000
1000
100
10
1
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Rocky Hill, NJ
Flow @ USGS Gage (01402000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
Manalapan Brook @ Spotswood
Flow (cfs)
Precipitation (inches)
1000
100
10
1
8
7
6
5
4
3
2
1
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Monroe, NJ
Flow @ USGS Gage (01405400)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70


Flow and Precipitation Conditions During Sampling (2004)
Manasquan River @ Squankum
Flow (cfs)
Precipitation (inches)
1000
100
10
1
8
7
6
5
4
3
2
1
0
06/01/04
06/15/04
06/29/04
07/13/04
07/27/04
08/10/04
08/24/04
09/07/04
09/21/04
10/05/04
10/19/04
11/02/04
11/16/04
11/30/04
Precipitation @ Monroe, NJ
Flow @ USGS Gage (01408000)
Low Flow Event
High Flow Event
Ambient Event
Periphyton Event
Stormwater Event
D70

APPENDIX B

Stream Sampling Results

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	BuB1	07/15/04	12:30 PM	5.3 m	7.43	18.7	9.28	nr	< 2.0	4.0	190	nr	0.23	0.20	0.06	0.75	< 0.04	165	< 0.01	0.04	nr	nr
		07/16/04	9:10 AM	nr	7.46	16.9	9.46	nr	< 2.0	2.5	160	nr	0.12	0.23	< 0.05	0.88	< 0.04	54.4	0.02	0.03	nr	nr
		07/28/04	11:40 AM	10.9 m	7.47	18.5	9.10	nr	< 2.0	8.5	130	nr	0.47	0.29	< 0.05	0.75	< 0.04	72.3	0.01	0.05	nr	nr
		07/29/04	10:56 AM	nr	7.51	19.6	9.20	nr	< 2.0	4.0	180	nr	0.23	0.10	< 0.05	0.89	< 0.04	39	0.02	0.03	nr	nr
		08/09/04	11:00 AM	nr	7.38	17.4	9.80	nr	< 2.0	< 0.5	170	nr	0.07	0.28	< 0.05	1.31	< 0.04	123	0.01	0.02	nr	nr
		08/10/04	11:05 AM	2.8 m	7.31	18.2	9.59	nr	< 2.0	0.5	190	nr	< 0.05	0.38	< 0.05	1.25	< 0.04	259	< 0.01	0.04	nr	nr
		11/02/04	1:12 PM	nr	7.60	11.7	12.1	nr	< 2.0	< 0.5	170	nr	0.07	0.44	0.08	0.84	< 0.04	188	< 0.01	0.06	nr	nr
		11/03/04	12:55 PM	0.9 m	6.73	12.5	11.4	nr	< 2.0	0.5	160	nr	0.07	0.08	< 0.05	0.67	< 0.04	143	< 0.01	< 0.02	nr	nr
		11/29/04	1:15 PM	nr	6.79	7.8	11.7	nr	< 2.0	< 0.5	130	nr	0.17	0.20	0.08	0.82	< 0.04	183	< 0.01	< 0.02	nr	nr
		11/30/04	1:30 PM	1.5 m	6.90	7.9	11.0	nr	< 2.0	2.5	150	nr	0.13	0.39	0.11	0.82	< 0.04	191	< 0.01	< 0.02	nr	nr
		08/04/05	12:02 PM	nr	7.74	22.6	8.26	nr	< 2.0	0.5	210	nr	0.17	0.22	< 0.05	2.19	< 0.04	148	0.02	0.06	nr	nr
		08/05/05	11:10 AM	0.7 m	7.60	22.9	8.22	nr	< 2.0	4.5	170	nr	0.31	0.17	< 0.05	1.08	< 0.04	225	< 0.01	0.07	nr	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	IB1	07/15/04	1:04 PM	4.7 m	7.42	18.5	9.21	nr	< 2.0	7.0	170	nr	0.33	0.22	0.05	0.61	< 0.04	137	< 0.01	0.05	nr	nr
		07/16/04	9:27 AM	nr	7.38	17.0	9.47	nr	< 2.0	4.0	140	nr	0.21	0.21	< 0.05	0.62	< 0.04	51.2	0.01	0.03	nr	nr
		07/28/04	12:10 PM	15.5 m	7.46	18.6	9.18	nr	< 2.0	14.5	95	nr	1.01	0.42	< 0.05	0.62	< 0.04	60.5	0.01	0.07	nr	nr
		07/29/04	11:20 AM	nr	7.55	19.2	9.41	nr	< 2.0	6.5	110	nr	0.46	0.30	< 0.05	0.70	< 0.04	57.3	0.01	0.04	nr	nr
		08/09/04	11:40 AM	nr	7.38	17.8	9.43	nr	< 2.0	1.0	180	nr	0.19	0.16	0.05	1.08	< 0.04	229	< 0.01	< 0.02	nr	nr
		08/10/04	1:45 PM	3.2 m	7.06	19.2	8.85	nr	< 2.0	5.5	150	nr	0.26	0.51	< 0.05	1.12	< 0.04	89.6	0.01	0.04	nr	nr
		11/02/04	1:47 PM	nr	7.63	11.6	12.3	nr	< 2.0	< 0.5	160	nr	0.08	0.28	0.05	0.77	< 0.04	168	< 0.01	< 0.02	nr	nr
		11/03/04	1:18 PM	4.9 m	6.98	11.7	12.2	nr	< 2.0	1.0	160	nr	0.07	< 0.05	< 0.05	0.74	< 0.04	157	< 0.01	0.03	nr	nr
		11/29/04	2:10 PM	nr	6.60	8.1	11.7	nr	< 2.0	< 0.5	99	nr	0.43	0.26	0.07	0.71	< 0.04	161	< 0.01	0.03	nr	nr
		11/30/04	2:06 PM	8.8 m	7.20	7.2	11.7	nr	< 2.0	3.0	100	nr	0.22	0.31	0.07	0.87	< 0.04	193	< 0.01	0.02	nr	nr
		08/04/05	12:40 PM	nr	7.69	22.4	8.16	nr	< 2.0	0.5	180	nr	0.18	0.18	< 0.05	0.84	< 0.04	78.3	0.01	0.05	nr	nr
		08/05/05	12:00 PM	0.6 m	7.61	n/a	8.19	nr	< 2.0	4.0	130	nr	0.23	< 0.05	< 0.05	0.97	< 0.04	203	< 0.01	0.07	nr	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
m = measured flow
ug = USGS gage flow

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	CBOD$_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH$_3$-N (mg/l)	NO$_3$-N (mg/l)	NO$_2$-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO$_4$ (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	LR1	06/03/04	4:35 PM	6.8 m	8.30	22.2	8.57	76.4	2.1	8.0	350	3.44	0.24	0.42	0.08	0.31	< 0.04	82	< 0.01	< 0.02	3.3	nr
		06/09/04	4:23 PM	5.8 m	8.20	25.8	8.40	79.3	< 2.0	5.0	370	3.97	0.25	0.45	0.06	0.34	< 0.04	84.8	< 0.01	0.03	2.7	nr
		06/16/04	12:55 PM	n/a	7.74	25.3	7.65	81.3	< 2.0	5.0	350	2.80	0.24	0.36	0.06	0.30	< 0.04	75.8	< 0.01	0.03	3.3	nr
		06/22/04	3:30 PM	5.8 m	7.37	20.3	6.82	70.5	< 2.0	9.5	310	7.83	0.33	0.69	0.06	0.39	< 0.04	94.8	< 0.01	0.08	3.3	nr
		07/07/04	6:00 PM	n/a	7.80	25.9	7.28	82.1	< 2.0	4.5	360	1.80	0.14	0.39	< 0.05	0.24	< 0.04	57	< 0.01	0.09	1.3	nr
		07/15/04	2:20 PM	10.6 m	7.78	22.6	8.08	76.1	< 2.0	5.0	320	3.15	0.23	0.32	< 0.05	0.21	< 0.04	51	< 0.01	0.05	4.0	nr
		07/16/04	12:00 PM	nr	7.67	21.7	7.88	78.8	< 2.0	6.5	340	2.41	0.18	0.35	< 0.05	0.24	< 0.04	57	< 0.01	0.04	4.7	nr
		07/28/04	1:25 PM	nr	7.34	22.2	7.67	68.8	< 2.0	4.5	300	2.55	0.23	0.38	< 0.05	0.53	< 0.04	115	< 0.01	0.03	< 1.0	nr
		07/29/04	2:45 PM	10.3 m	7.86	25.1	8.39	75	< 2.0	2.0	310	2.42	0.20	0.30	< 0.05	0.48	< 0.04	105	< 0.01	0.02	< 1.0	nr
		08/09/04	1:35 PM	nr	7.71	25.1	7.93	78.4	< 2.0	3.0	360	2.40	0.16	0.20	< 0.05	0.49	< 0.04	48.6	0.01	0.05	< 1.0	nr
		08/10/04	2:58 PM	2.9 m	7.72	25.6	3.69	81.3	< 2.0	5.5	300	1.65	0.16	0.34	0.09	0.51	< 0.04	124	< 0.01	0.03	2.0	3.8
		08/25/04	3:15 PM	5.7 m	8.14	23.0	8.59	77.1	< 2.0	2.0	340	1.12	0.17	0.52	< 0.05	0.44	< 0.04	97	< 0.01	0.03	< 1.0	nr
		09/16/04	4:52 PM	4.3 m	7.70	21.9	8.20	76.7	< 2.0	1.0	320	1.55	0.16	0.31	< 0.05	0.51	< 0.04	111	< 0.01	0.03	< 1.0	nr
		10/13/04	11:50 AM	4.7 m	7.49	14.3	8.02	74.5	< 2.0	0.5	320	2.19	0.13	0.36	< 0.05	0.55	< 0.04	119	< 0.01	0.02	2.0	nr
		11/02/04	2:40 PM	3.7 m	7.38	13.2	9.04	85.3	< 2.0	2.5	330	2.76	0.20	0.37	0.11	0.57	< 0.04	140	< 0.01	0.05	1.3	nr
		11/03/04	3:40 PM	nr	7.65	12.4	8.87	85.2	< 2.0	2.0	310	2.16	0.19	0.26	0.05	0.59	< 0.04	133	< 0.01	0.03	< 1.0	12.8
		11/29/04	3:25 PM	20.0 m	7.65	8.1	10.9	70.7	< 2.0	1.0	280	7.64	0.45	0.48	0.18	0.59	< 0.04	158	< 0.01	0.03	< 1.0	nr
		11/30/04	3:15 PM	nr	7.75	8.0	11.3	78.3	< 2.0	6.0	290	6.37	0.37	0.47	0.17	0.53	< 0.04	144	< 0.01	0.04	1.3	nr
		08/04/05	2:20 PM	n/a	7.90	28.9	6.55	65	< 2.0	2.0	380	2.11	0.28	0.63	< 0.05	0.58	< 0.04	125	< 0.01	0.06	< 1.0	nr
		08/05/05	12:15 PM	n/a	7.80	25.5	6.26	79.4	< 2.0	1.5	360	2.24	0.25	0.24	0.05	0.83	< 0.04	180	< 0.01	0.03	1.3	< 25.0

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

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- n/a = Data Not Available
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	LR2	06/03/04	3:50 PM	13.7 m	7.50	21.6	7.96	71.5	< 2.0	9.5	330	4.08	0.37	0.68	0.10	2.39	< 0.04	33.4	0.08	0.17	4.0	nr
		06/09/04	3:44 PM	6.9 m	7.40	25.8	8.02	73.3	< 2.0	8.0	340	5.50	0.31	0.67	0.06	2.35	< 0.04	40.5	0.06	0.13	6.7	nr
		06/16/04	12:30 PM	n/a	7.40	24.6	8.32	71.4	< 2.0	6.0	350	4.40	0.27	0.32	0.08	3.43	< 0.04	49.7	0.07	0.14	2.0	nr
		06/22/04	2:55 PM	7.6 m	7.16	19.2	7.34	67.7	< 2.0	6.5	340	7.21	0.31	0.65	0.07	3.46	< 0.04	72.5	0.05	0.17	2.7	nr
		07/07/04	5:40 PM	1.4 m	8.07	26.0	10.2	68.2	< 2.0	4.5	370	2.68	0.15	0.69	< 0.05	5.76	< 0.04	39.5	0.15	0.22	2.0	nr
		07/15/04	2:05 PM	n/a	7.40	21.4	8.41	63.7	< 2.0	4.0	300	2.83	0.22	0.44	< 0.05	1.52	< 0.04	71.1	0.02	0.07	4.0	nr
		07/16/04	11:45 AM	n/a	7.48	20.5	8.80	68.2	< 2.0	5.0	340	2.22	0.19	0.47	< 0.05	2.04	< 0.04	69.5	0.03	0.08	2.7	nr
		07/28/04	1:10 PM	n/a	6.55	20.3	6.28	41	< 2.0	4.5	190	2.79	0.36	0.60	< 0.05	0.79	< 0.04	49.1	0.02	0.08	7.3	nr
		07/29/04	2:25 PM	n/a	7.39	22.6	8.29	61.7	< 2.0	1.5	250	2.16	0.30	0.54	< 0.05	1.08	< 0.04	40.2	0.03	0.08	2.7	nr
		08/09/04	1:20 PM	n/a	7.90	22.3	10.7	70.3	< 2.0	3.5	370	1.91	0.14	0.12	< 0.05	2.83	< 0.04	73.7	0.04	0.11	< 1.0	nr
		08/10/04	2:41 PM	n/a	8.06	23.7	11.2	71.6	< 2.0	5.5	370	2.19	0.16	0.70	0.08	3.00	< 0.04	37.8	0.08	0.13	1.3	20.2
		08/25/04	3:00 PM	n/a	7.86	21.4	9.64	67.3	< 2.0	1.0	330	1.07	0.18	0.49	< 0.05	1.94	< 0.04	56.7	0.04	0.05	< 1.0	nr
		09/16/04	4:37 PM	n/a	7.29	20.8	8.72	56.6	< 2.0	0.5	270	2.15	0.22	0.35	< 0.05	2.39	< 0.04	59.4	0.04	0.06	< 1.0	nr
		10/13/04	11:15 AM	9.2 m	7.23	12.6	7.93	65.8	< 2.0	0.5	320	2.22	0.17	0.42	< 0.05	3.06	< 0.04	97	0.03	0.03	< 1.0	nr
		11/02/04	2:20 PM	n/a	7.31	12.5	9.14	71.6	< 2.0	3.5	320	3.10	0.29	0.76	0.06	3.47	< 0.04	91	0.04	0.11	< 1.0	nr
		11/03/04	3:20 PM	n/a	7.39	12.5	9.04	69.5	< 2.0	4.5	320	3.00	0.28	0.45	< 0.05	3.54	< 0.04	76.3	0.05	0.11	< 1.0	10.9
		11/29/04	3:00 PM	n/a	7.16	7.2	10.1	40.7	< 2.0	5.5	170	2.61	0.43	0.61	0.06	1.05	< 0.04	86.5	0.01	0.08	< 1.0	nr
		11/30/04	2:55 PM	n/a	7.40	7.4	11.0	57.3	< 2.0	4.0	230	4.63	0.33	0.55	0.08	1.40	< 0.04	93.7	0.02	0.07	1.3	nr
		08/04/05	1:50 PM	2.8 m	8.72	27.7	9.43	63.2	< 2.0	4.5	450	1.53	0.13	0.54	< 0.05	7.54	< 0.04	122	0.06	0.12	< 1.0	nr
		08/05/05	12:00 PM	nr	7.99	25.2	8.51	66.5	< 2.0	0.5	430	1.50	0.12	0.25	0.49	7.15	< 0.04	137	0.06	0.09	2.0	< 25.0

Stream Sampling Results

NOTES:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	LR3	06/03/04	8:55 AM	78 ug	6.90	16.6	9.28	44.4	< 2.0	7.5	180	2.50	0.53	0.19	< 0.05	0.43	< 0.04	21.6	0.02	0.06	3.3	nr
		06/09/04	8:40 AM	50 ug	7.70	18.8	9.15	48.7	< 2.0	3.5	200	3.64	0.35	0.36	< 0.05	0.52	< 0.04	43.5	0.01	0.03	3.3	nr
		06/16/04	7:55 AM	38 ug	7.40	20.0	9.07	50.8	< 2.0	3.0	220	3.41	0.33	0.41	< 0.05	0.55	< 0.04	35	0.02	0.04	2.0	nr
		06/22/04	8:25 AM	36 ug	7.63	17.3	8.78	55.5	< 2.0	6.5	200	3.78	0.32	0.28	< 0.05	0.53	< 0.04	24	0.02	0.04	1.3	nr
		07/07/04	10:30 AM	22 ug	7.62	19.9	9.20	52.7	< 2.0	3.0	210	1.02	0.16	0.29	< 0.05	0.59	< 0.04	30.2	0.02	0.03	< 1.0	nr
		07/15/04	11:15 AM	98 ug	7.52	19.3	9.09	38.8	< 2.0	10.0	160	3.89	0.72	0.37	< 0.05	0.35	< 0.04	15.2	0.03	0.07	2.7	nr
		07/16/04	9:35 AM	94 ug	7.61	18.6	9.19	36.5	< 2.0	9.5	190	2.75	0.64	0.48	< 0.05	0.28	< 0.04	10.8	0.03	0.08	2.7	nr
		07/28/04	10:10 AM	228 ug	7.38	18.7	9.20	31.8	< 2.0	18.7	130	13.5	1.43	0.40	< 0.05	0.59	< 0.04	24.4	0.03	0.11	< 1.0	nr
		07/29/04	11:25 AM	150 ug	7.55	19.7	9.12	35.3	< 2.0	13.0	130	6.02	0.83	0.44	< 0.05	0.58	< 0.04	20.8	0.03	0.07	2.0	nr
		08/09/04	11:50 AM	40 ug	7.98	18.4	9.72	51.8	< 2.0	1.5	180	1.67	0.27	0.12	< 0.05	0.86	< 0.04	41.1	0.02	0.05	< 1.0	nr
		08/10/04	9:40 AM	36 ug	7.85	18.0	9.69	50.7	< 2.0	4.5	180	1.61	0.25	0.72	< 0.05	0.87	< 0.04	70.4	0.01	0.03	1.3	57.7
		08/25/04	9:35 AM	52 ug	7.55	18.8	9.28	47	< 2.0	4.0	180	0.98	0.38	0.20	< 0.05	0.75	< 0.04	33.1	0.02	0.03	< 1.0	nr
		09/16/04	9:35 AM	42 ug	7.48	18.4	9.40	49.1	< 2.0	1.5	170	2.27	0.26	1.22	< 0.05	0.80	< 0.04	38.4	0.02	0.05	< 1.0	nr
		10/13/04	9:35 AM	27 ug	7.48	10.6	11.3	43.4	< 2.0	< 0.5	180	2.10	0.20	0.27	< 0.05	0.88	< 0.04	66.1	0.01	0.08	< 1.0	nr
		11/02/04	12:10 PM	26 ug	7.89	11.2	11.6	43.8	< 2.0	< 0.5	180	2.25	0.23	0.38	< 0.05	0.77	< 0.04	163	< 0.01	0.04	< 1.0	nr
		11/03/04	12:55 PM	25 ug	7.92	11.7	11.6	45.6	< 2.0	1.5	190	2.87	0.22	0.34	< 0.05	0.76	< 0.04	161	< 0.01	0.03	< 1.0	13.7
		11/29/04	1:15 PM	115 ug	7.59	7.6	13.7	25.1	< 2.0	14.5	150	8.94	0.92	0.43	< 0.05	0.59	< 0.04	127	< 0.01	0.06	< 1.0	nr
		11/30/04	12:40 PM	96 ug	7.74	6.3	14.5	28.1	< 2.0	6.0	120	5.82	0.56	0.39	< 0.05	0.67	< 0.04	47.7	0.02	0.04	2.0	nr
		08/04/05	11:45 AM	9 ug	8.34	24.5	8.05	60.4	< 2.0	0.5	210	1.08	0.10	0.26	< 0.05	0.88	< 0.04	38.5	0.02	0.07	< 1.0	19.9
		08/05/05	10:10 AM	9 ug	8.13	23.5	7.74	56.9	< 2.0	2.5	240	0.97	0.13	0.23	0.05	0.82	< 0.04	43	0.02	0.03	1.3	nr

Stream Sampling Results

NOTES:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	LR4	06/03/04	9:20 AM	n/a	7.54	17.6	9.26	53.4	< 2.0	4.5	170	3.72	0.41	0.28	< 0.05	0.56	< 0.04	35.6	0.02	0.04	2.0	nr
		06/09/04	9:10 AM	48.9 m	7.89	20.6	9.74	58.6	< 2.0	4.5	200	2.28	0.20	0.29	< 0.05	0.63	< 0.04	135	< 0.01	0.05	< 1.0	nr
		06/16/04	9:45 AM	32.2 m	7.00	22.4	9.79	69.9	< 2.0	2.0	230	2.42	0.18	0.31	< 0.05	0.64	< 0.04	137	< 0.01	0.06	3.6	nr
		06/22/04	8:50 AM	n/a	7.19	19.4	9.00	67.1	< 2.0	3.0	220	2.11	0.18	0.29	< 0.05	0.69	< 0.04	147	< 0.01	0.06	4.0	nr
		07/07/04	9:15 AM	24.4 m	7.46	21.1	9.82	70.5	< 2.0	4.0	210	2.58	0.15	0.42	< 0.05	0.72	< 0.04	153	< 0.01	< 0.02	2.0	nr
		07/15/04	8:45 AM	109.6 m	7.22	19.6	8.50	39.4	< 2.0	9.5	140	15.0	0.86	0.51	< 0.05	0.45	< 0.04	12.7	0.04	0.10	1.3	nr
		07/16/04	8:40 AM	nr	7.26	18.8	8.81	n/a	< 2.0	5.0	170	n/a	0.40	0.32	< 0.05	0.44	< 0.04	14.7	0.03	0.06	n/a	nr
		07/28/04	8:55 AM	nr	7.01	19.5	8.55	32.2	< 2.0	30.7	95	28.7	2.05	0.54	< 0.05	0.56	< 0.04	14.8	0.04	0.13	4.0	nr
		07/29/04	2:15 PM	nr	7.64	21.2	9.08	44.8	< 2.0	12.7	120	8.43	0.64	0.42	< 0.05	0.74	< 0.04	22.4	0.04	0.06	1.3	nr
		08/09/04	4:10 PM	n/a	9.11	23.5	12.4	70.4	< 2.0	0.5	200	1.69	0.18	0.20	< 0.05	0.83	< 0.04	175	< 0.01	0.03	1.3	n/a
		08/10/04	2:00 PM	n/a	9.24	21.6	14.2	66.2	< 2.0	2.0	200	0.98	0.13	0.37	0.09	0.86	< 0.04	195	< 0.01	0.02	< 1.0	n/a
		08/25/04	9:10 AM	41.5 m	7.83	19.3	8.70	64.2	< 2.0	2.0	180	1.22	0.19	0.99	< 0.05	0.86	< 0.04	181	< 0.01	0.03	< 1.0	nr
		09/16/04	1:30 PM	35.3 m	8.04	20.4	10.3	61	< 2.0	1.5	140	1.39	0.13	0.36	< 0.05	0.93	< 0.04	44.3	0.02	0.04	< 1.0	nr
		10/13/04	3:35 PM	46.5 m	8.56	13.5	12.1	56.3	< 2.0	< 0.5	160	2.35	0.09	0.47	< 0.05	1.00	< 0.04	80.4	0.01	0.03	< 1.0	nr
		11/02/04	3:20 PM	35.4 m	8.86	12.9	13.1	58.3	< 2.0	0.5	210	1.04	0.10	0.28	< 0.05	0.75	< 0.04	61.2	0.01	0.03	1.3	11.8
		11/03/04	8:20 AM	nr	8.33	11.5	11.0	61.8	< 2.0	1.5	180	1.41	0.14	0.21	< 0.05	0.78	< 0.04	165	< 0.01	0.02	2.7	nr
		11/29/04	2:25 PM	nr	7.86	8.9	11.5	29.9	< 2.0	9.5	97	10.9	0.88	0.14	< 0.05	0.66	< 0.04	64.1	0.01	0.05	< 1.0	nr
		11/30/04	1:20 PM	111.0 m	7.53	6.9	12.1	34.2	< 2.0	3.0	120	5.43	0.42	0.30	< 0.05	0.74	< 0.04	49.1	0.02	0.04	1.3	nr
		08/04/05	2:45 PM	7.3 m	8.66	30.8	9.91	81.8	< 2.0	6.0	190	1.21	0.54	0.62	< 0.05	0.95	< 0.04	199	< 0.01	0.07	< 1.0	8.7
		08/05/05	8:50 AM	nr	7.93	25.5	8.27	77.5	< 2.0	4.5	220	1.48	0.18	0.37	0.06	0.83	< 0.04	80.6	0.01	0.02	1.3	nr

Stream Sampling Results

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	LR5	06/03/04	8:50 AM	111.3 m	7.32	17.4	9.23	55.8	< 2.0	10.0	160	9.03	0.56	0.13	< 0.05	0.95	< 0.04	23.1	0.04	0.12	2.7	nr
		06/09/04	9:10 AM	n/a	7.69	21.0	9.22	62.5	< 2.0	7.0	210	4.55	0.25	0.30	< 0.05	0.94	< 0.04	28.1	0.04	0.06	2.0	nr
		06/16/04	9:25 AM	n/a	7.34	22.6	9.05	66.5	< 2.0	6.5	190	5.37	0.20	0.36	< 0.05	1.03	< 0.04	25	0.04	0.08	3.3	nr
		06/22/04	8:50 AM	49.4 m	7.41	19.7	8.58	70.5	< 2.0	8.5	210	4.62	0.21	0.33	< 0.05	1.15	< 0.04	16.1	0.07	0.12	4.5	nr
		07/07/04	12:30 PM	n/a	8.50	24.8	11.3	69.4	< 2.0	3.5	220	3.37	0.19	0.43	< 0.05	1.35	< 0.04	15	0.09	0.13	2.0	nr
		07/15/04	9:00 AM	219.4 m	6.84	19.5	8.19	40.4	< 2.0	13.0	120	35.7	1.32	0.56	0.05	0.56	< 0.04	8.67	0.07	0.16	2.7	nr
		07/16/04	8:15 AM	nr	7.21	18.7	8.39	48	< 2.0	12.0	140	10.4	0.49	0.72	< 0.05	0.69	< 0.04	9.93	0.07	0.10	1.3	nr
		07/28/04	9:00 AM	nr	6.75	19.4	8.26	29.7	< 2.0	69	94	47.0	3.26	0.65	< 0.05	0.62	< 0.04	10.6	0.06	0.25	< 1.0	nr
		07/29/04	9:00 AM	436.8 m	6.75	19.0	8.43	36.2	< 2.0	46	100	39.1	1.83	0.63	< 0.05	0.77	< 0.04	15.1	0.05	0.14	2.7	nr
		08/09/04	9:20 AM	66.9 m	7.87	18.4	10.2	65.3	< 2.0	1.0	210	1.18	0.13	0.06	< 0.05	1.07	< 0.04	37.2	0.03	0.06	1.3	nr
		08/10/04	7:05 AM	nr	7.63	18.9	7.76	68.1	< 2.0	3.0	190	1.34	0.12	0.62	< 0.05	1.09	< 0.04	103	0.01	0.06	< 1.0	64.0
		08/25/04	9:00 AM	82.1 m	7.42	25.0	7.52	68	< 2.0	2.0	200	1.04	0.15	0.24	< 0.05	1.16	< 0.04	22.3	0.05	0.07	< 1.0	nr
		09/16/04	10:08 AM	71.4 m	7.69	19.9	9.27	66.1	< 2.0	7.0	200	2.16	0.16	0.37	< 0.05	1.36	< 0.04	14.8	0.10	0.10	< 1.0	nr
		10/13/04	1:40 PM	71.4 m	8.30	12.8	13.7	58.1	< 2.0	< 0.5	140	1.46	0.10	0.29	< 0.05	1.21	< 0.04	29.2	0.04	0.06	8.0	nr
		11/02/04	11:05 AM	54.6 m	8.24	11.5	13.2	62.9	< 2.0	< 0.5	210	2.23	0.08	0.25	< 0.05	1.08	< 0.04	20.1	0.06	0.09	2.0	nr
		11/03/04	11:30 AM	nr	8.27	11.6	13.1	63	< 2.0	< 0.5	180	2.27	0.07	0.37	< 0.05	1.05	< 0.04	19.2	0.06	0.09	1.3	21.3
		11/29/04	11:45 AM	326.1 m	7.34	7.4	13.4	31.8	< 2.0	19.5	110	15.7	1.21	0.48	< 0.05	0.69	< 0.04	21.6	0.03	0.08	< 1.0	nr
		11/30/04	11:45 AM	326.1 m	7.67	6.4	14.5	37.8	< 2.0	5.5	120	8.33	0.46	0.44	< 0.05	0.86	< 0.04	34.8	0.03	0.04	< 1.0	nr
		08/04/05	9:50 AM	113.9 m	7.84	26.0	7.75	44.1	< 2.0	1.0	140	3.66	0.35	0.14	< 0.05	0.42	< 0.04	41.2	0.01	0.08	1.3	20.0
		08/05/05	9:15 AM	nr	7.83	26.3	6.31	42.1	< 2.0	14.5	230	3.51	0.31	0.20	0.09	0.39	< 0.04	99.6	< 0.01	0.05	< 1.0	nr

Stream Sampling Results

NOTES:
- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	MiB1	07/15/04	9:15 AM	13.3 m	7.18	19.6	8.91	nr	< 2.0	4.5	180	nr	0.41	0.44	0.11	0.70	< 0.04	22.3	0.04	0.09	nr	nr
		07/16/04	7:53 AM	nr	7.35	18.3	8.87	nr	< 2.0	3.0	210	nr	0.29	0.33	< 0.05	0.92	< 0.04	26.1	0.04	0.07	nr	nr
		07/28/04	9:40 AM	41.2 m	7.43	18.9	8.97	nr	< 2.0	14.5	140	nr	0.87	0.38	< 0.05	0.78	< 0.04	20.1	0.04	0.08	nr	nr
		07/29/04	9:12 AM	nr	7.54	18.7	9.15	nr	< 2.0	11.0	160	nr	0.70	0.29	< 0.05	0.80	< 0.04	21.7	0.04	0.08	nr	nr
		08/09/04	9:44 AM	nr	7.55	18.8	9.14	nr	< 2.0	2.5	220	nr	0.20	0.30	0.06	0.97	< 0.04	210	< 0.01	< 0.02	nr	nr
		08/10/04	9:10 AM	7.3 m	7.35	19.5	8.80	nr	< 2.0	3.0	210	nr	0.19	0.60	< 0.05	1.08	< 0.04	102	0.01	0.03	nr	nr
		11/02/04	10:36 AM	nr	7.77	12.0	12.2	nr	< 2.0	1.5	210	nr	0.17	0.87	0.06	1.04	< 0.04	112	0.01	0.04	nr	nr
		11/03/04	10:00 AM	3.0 m	7.84	12.1	11.8	nr	< 2.0	1.0	250	nr	0.16	0.16	< 0.05	1.10	< 0.04	71.6	0.02	0.04	nr	nr
		11/29/04	12:05 PM	nr	6.53	8.6	11.5	nr	< 2.0	< 0.5	150	nr	0.45	0.47	0.09	0.85	< 0.04	50.4	0.02	0.06	nr	nr
		11/30/04	11:05 AM	12.8 m	7.43	7.2	11.9	nr	< 2.0	1.5	160	nr	0.26	0.33	0.07	0.93	< 0.04	67.7	0.02	0.03	nr	nr
		08/04/05	10:00 AM	nr	7.80	24.4	7.84	nr	< 2.0	3.5	340	nr	0.21	0.10	< 0.05	1.40	< 0.04	76.9	0.02	0.08	nr	nr
		08/05/05	9:06 AM	0.0 m	7.78	24.6	7.46	nr	< 2.0	3.0	260	nr	0.13	0.10	< 0.05	1.39	< 0.04	95.7	0.02	0.08	nr	nr

Stream Sampling Results

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRC1	06/03/04	10:35 AM	n/a	7.39	17.9	9.00	44.8	< 2.0	4.0	120	3.42	0.26	0.25	< 0.05	1.02	< 0.04	96.8	0.01	0.03	2.0	nr
		06/09/04	10:30 AM	16.6 m	7.78	19.6	9.36	46.2	< 2.0	3.5	120	1.53	0.11	0.13	< 0.05	1.02	< 0.04	213	< 0.01	0.04	< 1.0	nr
		06/16/04	10:55 AM	12.6 m	6.50	22.1	9.64	47.1	< 2.0	2.5	120	1.48	0.07	0.18	< 0.05	0.98	< 0.04	205	< 0.01	< 0.02	< 1.0	nr
		06/22/04	10:05 AM	n/a	6.93	18.6	8.94	48.3	< 2.0	2.0	120	1.19	0.08	0.34	< 0.05	1.06	< 0.04	221	< 0.01	0.05	4.0	nr
		07/07/04	10:16 AM	8.8 m	7.83	20.7	10.1	50.8	< 2.0	1.5	140	0.82	0.05	0.38	< 0.05	0.98	< 0.04	205	< 0.01	< 0.02	2.7	nr
		07/15/04	9:30 AM	nr	6.72	19.7	8.60	44.9	< 2.0	8.5	120	13.1	0.68	0.26	< 0.05	0.83	< 0.04	36.5	0.02	0.06	2.0	nr
		07/16/04	9:40 AM	11.9 m	7.23	19.1	8.90	48.4	< 2.0	8.5	180	4.18	0.39	0.60	< 0.05	0.95	< 0.04	49.8	0.02	0.05	1.3	nr
		07/28/04	1:20 PM	nr	7.37	19.9	8.50	29.8	< 2.0	25.0	80	16.8	1.38	0.36	< 0.05	0.66	< 0.04	32	0.02	0.11	1.3	nr
		07/29/04	1:45 PM	nr	7.76	20.3	9.02	38.1	< 2.0	6.0	96	6.56	0.48	0.30	< 0.05	0.91	< 0.04	47.8	0.02	0.03	1.3	nr
		08/09/04	3:00 PM	20.5 m	8.47	20.0	10.4	46	< 2.0	4.5	130	2.15	0.06	0.22	< 0.05	1.30	< 0.04	269	< 0.01	< 0.02	1.3	nr
		08/10/04	1:25 PM	nr	8.64	19.7	10.6	46.4	< 2.0	1.5	110	0.76	0.07	0.23	0.06	1.18	< 0.04	252	< 0.01	< 0.02	< 1.0	10.3
		08/25/04	10:20 AM	15.7 m	7.74	19.0	9.34	50	< 2.0	< 0.5	110	0.41	0.05	0.55	< 0.05	1.16	< 0.04	241	< 0.01	< 0.02	< 1.0	nr
		09/16/04	12:05 PM	15.5 m	7.65	19.6	9.63	44.9	< 2.0	6.5	110	0.65	0.07	0.18	< 0.05	1.15	< 0.04	49.4	0.02	0.03	< 1.0	nr
		10/13/04	2:45 PM	21.0 m	8.30	13.1	11.2	42.5	< 2.0	< 0.5	170	0.73	0.05	0.07	< 0.05	1.24	< 0.04	117	0.01	< 0.02	< 1.0	nr
		11/02/04	2:50 PM	13.9 m	8.59	13.0	11.7	47.5	< 2.0	< 0.5	110	1.51	< 0.05	0.20	< 0.05	0.79	< 0.04	167	< 0.01	< 0.02	4.7	13.0
		11/03/04	9:20 AM	nr	8.25	11.5	10.3	46.4	< 2.0	2.0	110	1.10	0.07	0.13	< 0.05	0.84	< 0.04	177	< 0.01	< 0.02	< 1.0	nr
		11/29/04	1:45 PM	nr	7.75	8.1	11.3	31.1	< 2.0	5.0	96	7.17	0.47	0.07	< 0.05	0.84	< 0.04	177	< 0.01	0.04	< 1.0	nr
		11/30/04	1:00 PM	54.7 m	7.83	7.3	11.6	34	< 2.0	1.5	91	3.23	0.19	0.26	< 0.05	0.96	< 0.04	91.4	0.01	0.02	2.7	nr
		08/04/05	1:20 PM	3.5 m	8.35	26.6	9.46	56.1	< 2.0	1.0	160	0.77	0.26	0.31	< 0.05	0.88	< 0.04	185	< 0.01	0.06	< 1.0	9.1
		08/05/05	9:45 AM	nr	7.84	25.0	8.28	55.3	< 2.0	< 0.5	140	0.76	0.06	0.11	0.09	0.87	< 0.04	195	< 0.01	< 0.02	< 1.0	nr

Stream Sampling Results

NOTES:

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Periphyton:
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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR1	06/03/04	1:35 PM	25.9 m	7.53	19.0	9.72	48.8	< 2.0	1.0	190	1.23	0.14	0.31	< 0.05	1.59	< 0.04	182	0.01	0.04	2.7	nr
		06/09/04	11:30 AM	n/a	7.30	20.1	9.63	54.2	< 2.0	3.5	190	1.54	0.10	0.08	< 0.05	2.12	< 0.04	167	0.01	0.03	< 1.0	nr
		06/16/04	11:00 AM	n/a	7.39	20.0	9.34	55.6	< 2.0	3.5	210	2.28	0.09	0.05	< 0.05	2.28	< 0.04	122	0.02	0.03	2.0	nr
		06/22/04	11:40 AM	16.1 m	7.67	16.3	9.78	58.2	< 2.0	2.5	300	5.78	0.28	0.40	< 0.05	2.33	< 0.04	113	0.02	0.07	2.7	nr
		07/07/04	1:55 PM	n/a	7.81	22.0	9.57	56.5	< 2.0	3.5	240	1.24	0.22	0.33	< 0.05	3.06	< 0.04	621	< 0.01	0.02	2.7	nr
		07/15/04	11:42 AM	29.9 m	7.55	18.8	9.37	45.4	< 2.0	2.0	180	3.49	0.24	0.24	< 0.05	1.11	< 0.04	60.8	0.02	0.05	1.3	nr
		07/16/04	8:53 AM	nr	7.63	16.7	9.68	53.7	< 2.0	4.0	200	1.60	0.13	0.28	< 0.05	1.79	< 0.04	39.9	0.05	0.05	2.0	nr
		07/28/04	11:05 AM	77.1 m	7.33	19.4	9.12	36.1	< 2.0	14.0	150	8.90	0.84	0.45	< 0.05	0.86	< 0.04	181	< 0.01	0.08	3.3	nr
		07/29/04	10:40 AM	nr	7.68	19.0	9.43	49.0	< 2.0	5.0	150	3.02	0.27	0.32	< 0.05	1.16	< 0.04	110	0.01	0.04	2.0	nr
		08/09/04	10:40 AM	nr	7.67	17.0	10.1	63.1	< 2.0	2.5	210	1.32	0.07	0.06	< 0.05	1.48	< 0.04	305	< 0.01	0.04	1.3	nr
		08/10/04	10:30 AM	9.2 m	7.57	17.6	9.86	65.5	< 2.0	3.5	190	0.86	0.08	0.72	0.08	1.72	< 0.04	121	0.02	0.05	< 1.0	16.7
		08/25/04	1:15 PM	15.7 m	7.91	18.6	9.72	64.1	< 2.0	0.5	180	0.78	0.08	0.28	< 0.05	1.69	< 0.04	78.9	0.02	0.02	< 1.0	nr
		09/16/04	12:15 PM	15.5 m	7.87	18.4	9.91	50.3	< 2.0	7.0	170	5.05	0.25	0.21	< 0.05	1.48	< 0.04	76.3	0.02	0.05	< 1.0	nr
		10/13/04	2:16 PM	18.1 m	7.81	13.3	11.9	58.9	< 2.0	< 0.5	130	1.44	< 0.05	0.17	< 0.05	1.98	< 0.04	156	0.01	0.03	2.0	nr
		11/02/04	12:06 PM	nr	8.32	11.5	14.2	57.9	< 2.0	< 0.5	200	1.71	< 0.05	0.24	< 0.05	1.43	< 0.04	295	< 0.01	< 0.02	4.7	13.0
		11/03/04	11:35 AM	10.7 m	8.46	11.9	14.4	57.9	< 2.0	4.0	190	1.01	< 0.05	0.20	< 0.05	1.57	< 0.04	323	< 0.01	< 0.02	3.3	nr
		11/29/04	1:00 PM	nr	6.75	8.3	11.5	34.7	< 2.0	7.0	130	3.41	0.28	0.39	< 0.05	0.93	< 0.04	195	< 0.01	0.03	2.0	nr
		11/30/04	1:10 PM	42.3 m	6.84	7.5	11.8	41.8	< 2.0	1.5	140	1.59	0.15	0.24	< 0.05	1.10	< 0.04	229	< 0.01	< 0.02	< 1.0	nr
		08/04/05	11:40 AM	nr	8.14	22.6	9.30	67.6	< 2.0	2.5	230	1.05	< 0.05	0.19	< 0.05	1.43	< 0.04	35.6	0.04	0.08	< 1.0	31.3
		08/05/05	10:48 AM	5.0 m	8.05	22.5	8.94	58.7	< 2.0	2.5	230	0.89	0.15	0.24	< 0.05	2.62	< 0.04	65	0.04	0.05	< 1.0	nr

Stream Sampling Results

NOTES:

	Flow:	All:
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Periphyton:

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR2-RLi	06/03/04	1:20 PM	nr	7.87	19.1	10.1	nr	< 2.0	2.0	160	nr	0.22	0.37	< 0.05	1.05	< 0.04	219	< 0.01	0.04	nr	nr
		06/09/04	11:00 AM	nr	7.34	20.7	9.73	nr	< 2.0	5.5	190	nr	0.18	0.17	< 0.05	0.70	< 0.04	43.8	0.02	0.03	nr	nr
		06/16/04	10:38 AM	nr	7.46	21.1	9.31	nr	< 2.0	4.0	200	nr	0.14	0.28	< 0.05	1.08	< 0.04	225	< 0.01	0.03	nr	nr
		06/22/04	11:20 AM	nr	7.68	17.4	9.46	nr	< 2.0	3.0	180	nr	0.16	0.07	< 0.05	1.25	< 0.04	61.7	0.02	0.03	nr	nr
		07/07/04	1:30 PM	nr	7.82	23.3	9.73	nr	< 2.0	2.5	270	nr	0.13	0.27	< 0.05	1.31	< 0.04	71.3	0.02	0.06	nr	nr
		07/15/04	11:15 AM	nr	7.55	19.2	9.18	nr	< 2.0	7.5	160	nr	0.41	0.28	0.07	0.71	< 0.04	61.4	0.01	0.06	nr	nr
		07/16/04	8:30 AM	nr	7.57	17.5	9.50	nr	< 2.0	3.0	170	nr	0.20	0.27	< 0.05	0.77	< 0.04	40.8	0.02	0.05	nr	nr
		07/28/04	10:40 AM	nr	7.55	19.1	9.17	nr	< 2.0	16.5	130	nr	1.07	0.39	< 0.05	0.78	< 0.04	41.3	0.02	0.10	nr	nr
		07/29/04	10:17 AM	nr	7.62	19.5	9.39	nr	< 2.0	4.5	140	nr	0.38	0.18	< 0.05	0.86	< 0.04	53.2	0.02	0.10	nr	nr
		08/09/04	10:20 AM	nr	7.66	18.0	9.64	nr	< 2.0	3.0	160	nr	0.10	0.35	0.06	1.28	< 0.04	123	0.01	< 0.02	nr	nr
		08/10/04	10:10 AM	nr	7.49	18.9	9.65	nr	< 2.0	2.0	180	nr	0.11	0.59	< 0.05	1.12	< 0.04	233	< 0.01	0.03	nr	nr
		08/25/04	12:35 PM	nr	8.05	19.8	9.62	nr	< 2.0	2.0	170	nr	0.11	0.20	< 0.05	1.28	< 0.04	120	0.01	0.03	nr	nr
		09/16/04	11:59 AM	nr	7.93	18.8	10.1	nr	< 2.0	3.0	240	nr	0.22	0.40	0.05	1.06	< 0.04	75.5	0.02	0.06	nr	nr
		10/13/04	2:00 PM	nr	7.78	12.6	12.4	nr	< 2.0	< 0.5	160	nr	0.06	0.14	< 0.05	1.43	< 0.04	295	< 0.01	0.03	nr	nr
		11/02/04	11:51 AM	nr	8.21	11.6	14.0	nr	< 2.0	< 0.5	160	nr	< 0.05	0.20	0.06	1.17	< 0.04	250	< 0.01	< 0.02	nr	nr
		11/03/04	11:17 AM	nr	8.30	11.6	13.6	nr	< 2.0	< 0.5	170	nr	< 0.05	0.41	< 0.05	1.05	< 0.04	219	< 0.01	< 0.02	nr	nr
		11/29/04	12:45 PM	nr	6.68	7.9	11.8	nr	< 2.0	3.0	120	nr	0.49	0.39	0.09	0.78	< 0.40	214	< 0.01	0.03	nr	nr
		11/30/04	12:55 PM	nr	6.57	7.2	12.2	nr	< 2.0	3.0	140	nr	0.24	0.31	0.08	0.93	< 0.04	205	< 0.01	0.02	nr	nr
		08/04/05	11:25 AM	nr	8.36	24.8	9.31	nr	< 2.0	< 0.5	140	nr	0.23	0.33	< 0.05	1.52	< 0.04	138	0.01	0.06	nr	nr
		08/05/05	10:20 AM	nr	8.06	23.7	8.88	nr	< 2.0	4.0	190	nr	0.08	0.29	< 0.05	0.96	< 0.04	201	< 0.01	0.07	nr	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
m = measured flow
ug = USGS gage flow

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR4-RLo	07/15/04	11:00 AM	78 ug	7.26	20.1	8.66	nr	< 2.0	6.5	130	nr	0.54	0.40	0.10	0.62	< 0.04	148	< 0.01	0.06	5.3	nr
		07/16/04	8:15 AM	50 ug	7.39	19.7	8.73	nr	< 2.0	3.0	130	nr	0.42	0.47	0.10	0.65	< 0.04	59.1	0.01	0.07	6.7	nr
		07/28/04	10:15 AM	406 ug	7.61	19.6	9.28	nr	2.4	32.0	110	nr	2.10	0.51	< 0.05	0.75	< 0.04	53	0.02	0.12	3.3	nr
		07/29/04	10:00 AM	146 ug	7.61	20.4	8.95	nr	< 2.0	13.0	100	nr	1.01	0.47	< 0.05	0.74	< 0.04	157	< 0.01	0.07	< 1.0	nr
		08/09/04	10:05 AM	47 ug	7.43	21.1	8.15	nr	< 2.0	2.0	160	nr	0.42	0.18	0.05	0.90	< 0.04	194	< 0.01	0.04	< 1.0	nr
		08/10/04	9:55 AM	42 ug	7.20	21.2	8.14	nr	< 2.0	4.0	170	nr	0.35	0.47	0.09	0.90	< 0.04	202	< 0.01	0.05	< 1.0	nr
		11/02/04	11:35 AM	18 ug	7.80	12.4	12.3	nr	< 2.0	2.0	160	nr	0.26	0.30	0.05	1.06	< 0.04	226	< 0.01	0.03	4.0	nr
		11/03/04	11:03 AM	17 ug	7.92	11.9	12.5	nr	< 2.0	1.0	170	nr	0.29	0.34	< 0.05	1.08	< 0.04	225	< 0.01	0.03	2.7	nr
		11/29/04	12:30 PM	98 ug	6.73	9.5	11.3	nr	< 2.0	27.0	96	nr	1.91	0.24	< 0.05	0.62	< 0.04	133	< 0.01	0.09	1.3	nr
		11/30/04	12:35 PM	64 ug	7.61	8.2	11.6	nr	< 2.0	9.0	110	nr	1.04	0.52	< 0.05	0.71	< 0.04	68.6	0.01	0.04	< 1.0	nr
		08/04/05	11:13 AM	5 ug	8.63	28.0	6.62	nr	< 2.0	3.5	200	nr	0.45	0.80	0.08	0.63	< 0.04	146	< 0.01	0.08	1.3	nr
		08/05/05	10:10 AM	6 ug	8.62	27.8	6.40	nr	2.6	18.0	220	nr	0.33	0.97	0.06	0.62	< 0.04	141	< 0.01	0.05	3.3	nr

Stream Sampling Results

NOTES:

= High-Flow Event
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR5	06/03/04	11:40 AM	78.0 m	7.82	19.9	9.94	57.9	< 2.0	2.0	190	2.04	0.24	0.38	< 0.05	0.98	< 0.04	205	< 0.01	0.04	3.3	nr
		06/09/04	10:10 AM	n/a	7.43	20.6	9.70	57.1	< 2.0	5.0	210	1.82	0.15	0.19	< 0.05	0.99	< 0.04	207	< 0.01	0.06	< 1.0	nr
		06/16/04	10:05 AM	n/a	7.52	22.0	9.35	59.8	< 2.0	6.0	220	2.82	0.11	0.20	< 0.05	0.90	< 0.04	189	< 0.01	0.04	2.0	nr
		06/22/04	10:15 AM	61.7 m	7.64	19.1	9.04	61.6	< 2.0	3.0	210	1.70	0.15	0.49	< 0.05	0.97	< 0.04	203	< 0.01	0.04	1.3	nr
		07/07/04	1:05 PM	n/a	7.94	24.6	9.95	63.1	< 2.0	1.5	220	1.06	0.09	0.32	< 0.05	0.79	< 0.04	167	< 0.01	< 0.02	2.7	nr
		07/15/04	10:25 AM	91.6 m	7.47	19.9	8.73	45.7	< 2.0	6.0	180	6.86	0.40	0.36	< 0.05	0.71	< 0.04	39.7	0.02	0.06	3.3	nr
		07/16/04	9:05 AM	nr	7.51	18.9	8.92	54.2	< 2.0	6.5	180	2.58	0.25	0.24	< 0.05	0.80	< 0.04	42.3	0.02	0.05	2.0	nr
		07/28/04	9:45 AM	nr	7.03	19.2	8.66	37.6	< 2.0	33.0	120	27.3	1.84	0.38	< 0.05	0.77	< 0.04	27.2	0.03	0.12	1.3	nr
		07/29/04	10:20 AM	167.5 m	7.16	19.4	8.84	45.8	< 2.0	9.5	140	9.44	0.62	0.52	< 0.05	0.90	< 0.04	39.4	0.02	0.06	4.0	nr
		08/09/04	11:00 AM	39.3 m	8.12	19.6	10.7	61.2	< 2.0	2.5	220	1.28	0.14	0.19	< 0.05	0.92	< 0.04	193	< 0.01	< 0.02	1.3	nr
		08/10/04	8:30 AM	nr	7.57	19.1	9.09	62.9	< 2.0	3.5	180	0.74	0.14	0.27	< 0.05	0.92	< 0.04	193	< 0.01	0.03	2.0	34.8
		08/25/04	12:00 PM	47.5 m	7.81	20.5	9.58	65.6	< 2.0	2.0	200	0.75	0.14	0.44	< 0.05	1.06	< 0.04	221	< 0.01	0.03	< 1.0	nr
		09/16/04	1:26 PM	55.2 m	8.08	20.8	10.0	57.6	< 2.0	2.5	210	2.54	0.19	0.32	< 0.05	1.03	< 0.04	215	< 0.01	0.03	< 1.0	nr
		10/13/04	1:05 PM	37.2 m	7.98	13.5	13.1	58	< 2.0	< 0.5	190	1.32	0.16	< 0.05	< 0.05	1.08	< 0.04	225	< 0.01	0.02	< 1.0	nr
		11/02/04	3:57 PM	39.7 m	8.57	12.9	12.8	61.8	< 2.0	< 0.5	220	0.67	0.08	0.22	< 0.05	0.94	< 0.04	197	< 0.01	0.03	4.0	11.6
		11/03/04	4:50 PM	nr	8.14	11.9	12.1	61.8	< 2.0	< 0.5	180	1.23	0.09	0.18	< 0.05	0.99	< 0.04	207	< 0.01	0.03	2.0	13.3
		11/29/04	4:10 PM	147.0 m	7.52	8.7	12.4	37.7	< 2.0	12.0	130	12.0	0.95	0.39	< 0.05	0.80	< 0.04	60.4	0.01	0.06	1.3	nr
		11/30/04	4:00 PM	147.0 m	7.67	7.8	13.4	41.6	< 2.0	4.5	130	8.13	0.48	0.43	< 0.05	0.86	< 0.04	69.6	0.01	0.08	< 1.0	nr
		08/04/05	11:15 AM	12.7 m	8.24	26.8	7.93	70.9	< 2.0	1.5	270	1.50	0.31	0.32	< 0.05	0.78	< 0.04	165	< 0.01	0.07	< 1.0	15.8
		08/05/05	9:50 AM	nr	7.81	25.5	6.99	73.4	< 2.0	0.5	180	1.44	0.12	0.55	0.08	0.79	< 0.04	178	< 0.01	0.03	< 1.0	nr

Stream Sampling Results

NOTES:

= High-Flow Event
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Flow:
m = measured flow
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All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR6	06/03/04	9:50 AM	72.2 m	6.89	17.7	9.30	57.5	< 2.0	4.0	200	4.24	0.29	0.10	< 0.05	0.98	< 0.04	68.3	0.02	0.03	3.3	nr
		06/09/04	9:30 AM	n/a	7.25	20.1	9.39	59.7	< 2.0	5.5	200	3.13	0.18	0.24	< 0.05	0.91	< 0.04	191	< 0.01	0.03	2.0	nr
		06/16/04	9:40 AM	n/a	7.50	22.4	8.84	62	< 2.0	3.0	240	2.41	0.14	0.10	< 0.05	0.76	< 0.04	73.2	0.01	0.06	3.3	nr
		06/22/04	9:34 AM	33.5 m	7.48	19.9	8.88	65	< 2.0	5.5	240	2.39	0.14	0.38	< 0.05	1.01	< 0.04	211	< 0.01	0.06	< 1.0	nr
		07/07/04	12:50 PM	n/a	7.86	24.4	9.85	64.9	< 2.0	0.5	230	1.33	0.12	0.32	< 0.05	0.85	< 0.04	179	< 0.01	< 0.02	2.0	nr
		07/15/04	9:45 AM	nr	7.20	19.7	8.42	46.5	< 2.0	12.0	160	14.0	0.64	0.38	< 0.05	0.70	< 0.04	16.6	0.05	0.11	2.0	nr
		07/16/04	8:45 AM	nr	7.40	19.0	8.56	54.9	< 2.0	7.5	180	4.10	0.27	0.43	< 0.05	0.77	< 0.04	24.7	0.03	0.06	2.7	nr
		07/28/04	9:20 AM	nr	6.98	19.5	8.54	38.4	< 2.0	44	120	27.6	2.10	0.55	< 0.05	0.71	< 0.04	16.4	0.05	0.15	3.3	nr
		07/29/04	9:15 AM	258.9 m	7.00	19.0	8.60	43.7	< 2.0	15.5	130	18.5	0.99	0.53	< 0.05	0.80	< 0.04	19.7	0.04	0.10	< 1.0	nr
		08/09/04	10:10 AM	46.9 m	7.89	18.7	10.0	64.2	< 2.0	1.5	240	1.84	0.11	0.09	< 0.05	0.93	< 0.04	195	< 0.01	0.05	< 1.0	nr
		08/10/04	7:40 AM	nr	7.58	19.1	8.19	66.4	< 2.0	3.5	220	1.07	0.12	0.30	< 0.05	0.92	< 0.04	193	< 0.01	0.02	< 1.0	32.7
		08/25/04	10:35 AM	67.6 m	7.70	25.0	8.60	66.7	< 2.0	< 0.5	210	0.89	0.13	0.22	< 0.05	0.96	< 0.04	91.4	0.01	0.02	< 1.0	nr
		09/16/04	10:55 AM	60.1 m	7.82	20.1	9.35	65.1	< 2.0	5.0	220	1.57	0.16	0.23	< 0.05	1.11	< 0.04	67.9	0.02	0.02	< 1.0	nr
		10/13/04	2:15 PM	38.3 m	8.26	12.9	12.3	63.7	< 2.0	3.5	210	1.05	0.13	0.24	< 0.05	1.07	< 0.04	223	< 0.01	0.03	24.7	nr
		11/02/04	11:35 AM	37.1 m	8.26	11.8	13.3	66.8	< 2.0	< 0.5	240	1.76	0.07	0.30	< 0.05	0.90	< 0.04	189	< 0.01	0.03	2.0	nr
		11/03/04	12:02 PM	nr	8.25	12.4	13.2	66.6	< 2.0	0.5	220	1.14	0.06	0.40	< 0.05	1.00	< 0.04	209	< 0.01	0.02	< 1.0	13.4
		11/29/04	12:20 PM	226.3 m	7.44	8.2	13.1	37.6	< 2.0	11.0	130	13.6	1.01	0.46	0.09	0.75	< 0.04	12	0.07	0.12	1.3	nr
		11/30/04	12:10 PM	232.5 m	7.70	7.4	13.8	44.4	< 2.0	8.0	140	8.56	0.55	0.46	< 0.05	0.86	< 0.04	50.3	0.02	0.06	< 1.0	nr
		08/04/05	10:30 AM	12.2 m	7.76	25.2	6.78	79.2	< 2.0	3.0	310	1.27	0.41	0.39	< 0.05	0.84	< 0.04	177	< 0.01	0.08	< 1.0	25.1
		08/05/05	9:30 AM	nr	7.51	26.2	5.59	67.7	< 2.0	2.5	280	1.25	0.11	0.36	0.19	0.73	< 0.04	62.7	0.02	0.03	< 1.0	nr

Stream Sampling Results

NOTES:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	NBRR7	06/03/04	11:30 AM	205	ug	7.46	22.6	8.90	56.9	< 2.0	9.0	200	8.37	0.42	0.57	0.07	0.89	< 0.04	70.1	0.01	0.06	12.0	nr
		06/09/04	10:50 AM	133	ug	7.63	25.5	8.70	62.3	< 2.0	8.5	210	6.11	0.31	0.19	< 0.05	0.78	< 0.04	37.5	0.02	0.06	< 1.0	nr
		06/16/04	11:50 AM	111	ug	8.14	26.5	8.65	65.1	< 2.0	7.0	210	6.67	0.28	0.14	< 0.05	0.75	< 0.04	26.5	0.03	0.10	3.3	nr
		06/22/04	10:45 AM	123	ug	7.19	20.7	7.95	65.8	3.2	9.5	240	9.18	1.83	0.83	0.11	0.74	< 0.04	16.7	0.05	0.18	4.7	nr
		07/07/04	12:30 PM	69	ug	7.44	27.2	8.58	67.8	< 2.0	4.5	230	3.37	0.39	0.43	< 0.05	0.83	< 0.04	18.2	0.05	0.07	2.0	nr
		07/15/04	11:30 AM	623	ug	7.40	20.9	7.91	41.7	< 2.0	27.0	150	36.1	1.36	0.84	0.09	0.82	< 0.04	13.4	0.07	0.17	2.0	nr
		07/16/04	11:20 AM	231	ug	7.69	21.6	8.37	48.5	< 2.0	11.5	170	9.28	0.46	0.82	0.06	1.03	< 0.04	16	0.07	0.10	1.3	nr
		07/28/04	10:50 AM	2880	ug	7.09	19.8	7.80	32.1	< 2.0	66	100	65.3	3.27	0.77	< 0.05	0.79	< 0.04	14.4	0.06	0.21	4.0	nr
		07/29/04	12:00 PM	1160	ug	7.05	22.6	8.03	40.4	2.6	57	120	37.7	2.07	0.86	0.05	0.94	< 0.04	17.4	0.06	0.15	< 1.0	nr
		08/09/04	11:05 AM	140	ug	8.50	22.5	9.91	65.5	< 2.0	2.0	210	1.44	0.16	0.20	< 0.05	0.79	< 0.04	167	< 0.01	< 0.02	< 1.0	nr
		08/10/04	11:00 AM	133	ug	8.93	22.9	10.8	66.5	< 2.0	4.5	220	0.92	0.11	0.41	0.21	0.82	< 0.04	210	< 0.01	0.02	< 1.0	< 25.0
		08/25/04	12:15 PM	137	ug	7.83	21.4	9.03	68.6	< 2.0	14.0	220	1.66	0.20	0.90	< 0.05	0.91	< 0.04	22.2	0.04	0.06	1.3	nr
		09/16/04	1:40 PM	119	ug	8.14	21.9	7.79	66.2	< 2.0	3.5	200	1.94	0.14	0.22	< 0.05	1.25	< 0.04	21.2	0.06	0.07	1.3	nr
		10/13/04	11:20 AM	122	ug	8.13	12.5	12.7	50.6	< 2.0	< 0.5	200	1.92	0.09	< 0.05	< 0.05	1.10	< 0.04	47.7	0.02	0.03	3.3	nr
		11/02/04	11:15 AM	112	ug	7.88	12.5	11.1	66.6	< 2.0	< 0.5	200	0.93	0.09	0.29	0.06	0.88	< 0.04	39.8	0.02	0.05	16.0	11.1
		11/03/04	12:35 PM	111	ug	7.82	12.5	11.3	65.7	< 2.0	2.0	190	1.75	0.10	0.35	< 0.05	0.82	< 0.04	30.9	0.03	0.04	2.0	nr
		11/29/04	10:50 AM	910	ug	6.53	8.0	10.9	31.9	< 2.0	21.5	110	27.3	1.61	0.10	< 0.05	0.73	< 0.04	18	0.04	0.11	< 1.0	nr
		11/30/04	10:00 AM	497	ug	7.45	7.7	11.5	41.6	< 2.0	6.5	130	11.3	0.61	0.61	< 0.05	0.88	< 0.04	33	0.03	0.05	< 1.0	nr
		08/04/05	10:50 AM	139	ug	7.76	27.6	7.64	51.6	< 2.0	3.0	190	2.13	0.22	0.18	< 0.05	0.60	< 0.04	21.5	0.03	0.13	< 1.0	n/a
		08/05/05	10:50 AM	159	ug	8.12	27.6	8.21	45.5	< 2.0	2.5	150	2.69	0.14	0.42	< 0.05	0.47	< 0.04	19.8	0.03	0.04	< 1.0	n/a

Stream Sampling Results

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	PeB1	07/15/04	10:45 AM	19.5 m	7.37	18.2	9.02	nr	< 2.0	4.5	200	nr	0.27	0.33	0.07	1.09	< 0.04	39.3	0.03	0.07	nr	nr
		07/16/04	7:35 AM	nr	7.50	16.5	9.42	nr	< 2.0	3.0	210	nr	0.17	0.28	< 0.05	1.06	< 0.04	36.8	0.03	0.04	nr	nr
		07/28/04	9:15 AM	83.1 m	7.33	18.1	8.94	nr	< 2.0	23.5	140	nr	0.97	0.52	< 0.05	0.99	< 0.04	28	0.04	0.10	nr	nr
		07/29/04	8:50 AM	nr	7.59	17.3	9.53	nr	< 2.0	8.5	180	nr	0.41	0.33	< 0.05	1.11	< 0.04	38.5	0.03	0.05	nr	nr
		08/09/04	9:20 AM	nr	8.00	16.2	10.1	nr	< 2.0	3.5	270	nr	0.08	0.23	0.05	1.32	< 0.04	278	< 0.01	< 0.02	nr	nr
		08/10/04	8:45 AM	10.1 m	7.63	16.8	9.67	nr	< 2.0	0.5	260	nr	0.06	0.30	< 0.05	1.35	< 0.04	279	< 0.01	0.03	nr	nr
		11/02/04	10:46 AM	nr	8.13	11.7	13.7	nr	< 2.0	0.5	240	nr	< 0.05	0.38	0.06	1.14	< 0.04	244	< 0.01	0.03	nr	nr
		11/03/04	10:24 AM	5.7 m	8.10	11.5	13.2	nr	< 2.0	< 0.5	250	nr	< 0.05	< 0.05	< 0.05	1.18	< 0.04	245	< 0.01	0.03	nr	nr
		11/29/04	12:15 PM	nr	6.79	8.4	11.7	nr	< 2.0	< 0.5	180	nr	0.25	0.32	0.06	1.08	< 0.04	83.1	0.01	0.04	nr	nr
		11/30/04	12:00 PM	27.6 m	7.47	8.0	11.7	nr	< 2.0	0.5	200	nr	0.14	0.23	0.07	1.16	< 0.04	95.8	0.01	0.03	nr	nr
		08/04/05	10:35 AM	nr	8.06	21.7	8.87	nr	< 2.0	2.0	290	nr	0.09	0.52	< 0.05	1.15	< 0.04	239	< 0.01	0.06	nr	nr
		08/05/05	9:30 AM	2.5 m	7.94	21.9	8.28	nr	< 2.0	3.0	280	nr	0.06	0.41	< 0.05	1.44	< 0.04	297	< 0.01	0.05	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	RC1	06/03/04	10:00 AM	n/a	7.12	17.9	8.76	59.8	< 2.0	9.0	170	5.05	0.54	0.41	< 0.05	1.43	< 0.04	22.3	0.07	0.11	3.3	nr
		06/09/04	9:50 AM	15.4 m	7.87	21.1	9.10	66.7	< 2.0	7.0	180	6.04	0.25	0.38	< 0.05	1.45	< 0.04	21.1	0.07	0.13	4.7	nr
		06/16/04	10:20 AM	21.4 m	6.60	23.8	9.81	68	< 2.0	6.0	190	5.67	0.22	0.33	< 0.05	1.38	< 0.04	18.5	0.08	0.12	1.3	nr
		06/22/04	9:30 AM	n/a	7.20	19.9	8.62	73.8	< 2.0	4.5	190	5.21	0.22	0.32	< 0.05	1.58	< 0.04	10.6	0.15	0.18	4.7	nr
		07/07/04	9:47 AM	24.0 m	7.50	21.5	9.72	75.2	< 2.0	5.0	210	3.51	0.15	0.53	< 0.05	1.96	< 0.04	11.1	0.18	0.21	2.7	nr
		07/15/04	9:05 AM	n/a	6.80	20.2	7.07	44.7	< 2.0	40	140	43.5	1.33	0.55	0.05	0.81	< 0.04	8.46	0.10	0.18	2.0	nr
		07/16/04	9:15 AM	n/a	7.39	19.8	8.47	56	< 2.0	12.0	150	13.7	0.53	0.44	0.05	1.08	< 0.04	10.7	0.11	0.15	6.0	nr
		07/28/04	9:30 AM	n/a	7.14	19.5	8.27	34.3	< 2.0	62	99	59.4	2.94	0.41	< 0.05	0.70	< 0.04	11.8	0.06	0.20	3.3	nr
		07/29/04	1:55 PM	n/a	7.70	21.1	8.89	45.7	< 2.0	23.3	120	20.5	1.06	0.44	< 0.05	1.02	< 0.04	15.4	0.07	0.11	2.0	nr
		08/09/04	3:50 PM	n/a	8.73	22.7	11.5	65.6	< 2.0	1.0	190	3.13	0.12	< 0.05	< 0.05	2.11	< 0.04	11.2	0.19	0.20	< 1.0	nr
		08/10/04	1:45 PM	n/a	8.75	21.4	12.3	67.1	< 2.0	4.0	180	2.12	0.12	0.38	0.05	1.69	< 0.04	13.8	0.13	0.16	< 1.0	6.1
		08/25/04	9:50 AM	n/a	7.52	18.9	8.60	72	< 2.0	2.0	180	1.71	0.13	0.88	< 0.05	1.54	< 0.04	17	0.09	0.10	< 1.0	nr
		09/16/04	1:20 PM	n/a	7.62	17.7	9.64	66.3	< 2.0	9.0	170	2.03	0.13	0.38	< 0.05	2.20	< 0.04	11.2	0.20	0.20	< 1.0	nr
		10/13/04	3:00 PM	n/a	8.72	13.1	12.6	62.1	< 2.0	< 0.5	180	1.65	0.08	0.31	< 0.05	2.01	< 0.04	12.8	0.16	0.16	3.3	nr
		11/02/04	3:00 PM	n/a	8.78	13.1	14.4	67.7	< 2.0	1.0	190	2.01	0.11	0.25	< 0.05	1.97	< 0.04	10.4	0.19	0.23	1.3	12.1
		11/03/04	8:55 AM	n/a	8.25	11.5	10.3	67.6	< 2.0	1.5	150	1.92	0.07	0.29	< 0.05	1.21	< 0.04	15.3	0.08	0.12	< 1.0	nr
		11/29/04	2:05 PM	n/a	7.59	10.3	11.1	37.6	< 2.0	6.0	110	21.2	0.99	0.26	< 0.05	0.90	< 0.04	17.2	0.06	0.10	< 1.0	nr
		11/30/04	1:10 PM	n/a	7.57	7.3	12.0	45.4	< 2.0	7.0	120	10.0	0.46	0.35	< 0.05	1.16	< 0.04	23.2	0.05	0.08	< 1.0	nr
		08/04/05	2:10 PM	141.6 m	8.35	29.5	8.20	40.3	< 2.0	1.5	120	2.26	0.75	0.56	< 0.05	0.52	< 0.04	30.1	0.02	0.09	< 1.0	n/a
		08/05/05	9:15 AM	nr	7.97	27.3	8.10	41	< 2.0	6.0	150	2.65	0.21	0.17	0.07	0.49	< 0.04	34.4	0.02	0.04	1.3	n/a

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	CBOD$_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH$_3$-N (mg/l)	NO$_3$-N (mg/l)	NO$_2$-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO$_4$ (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	SBRC1-CLi	06/03/04	11:30 AM	nr	7.40	17.9	8.35	nr	< 2.0	15.0	220	nr	0.31	0.20	0.09	1.26	< 0.04	59.6	0.02	0.10	nr	nr
		06/09/04	11:15 AM	nr	7.80	20.0	8.56	nr	< 2.0	22.5	230	nr	0.45	0.45	< 0.05	1.31	< 0.04	84.7	0.02	0.06	nr	nr
		06/16/04	11:46 AM	nr	6.60	29.2	9.24	nr	< 2.0	11.5	210	nr	0.31	0.33	< 0.05	1.24	< 0.04	67.6	0.02	0.06	nr	nr
		06/22/04	10:40 AM	nr	7.40	18.2	8.67	nr	< 2.0	12.0	220	nr	0.26	0.19	< 0.05	1.31	< 0.04	56.5	0.02	0.06	nr	nr
		07/07/04	11:00 AM	nr	7.86	20.0	9.09	nr	< 2.0	8.0	240	nr	0.42	0.27	< 0.05	1.24	< 0.04	98.8	0.01	0.05	nr	nr
		07/15/04	9:50 AM	nr	6.70	19.0	8.39	nr	< 2.0	19.0	200	nr	0.74	0.70	0.08	0.82	< 0.04	22.4	0.04	0.13	nr	nr
		07/16/04	10:10 AM	nr	7.46	20.1	8.65	nr	< 2.0	14.0	230	nr	0.38	0.30	< 0.05	1.24	< 0.04	34.7	0.04	0.07	nr	nr
		07/28/04	10:30 AM	nr	7.28	19.2	8.51	nr	< 2.0	36.0	140	nr	1.79	0.60	< 0.05	0.89	< 0.04	20.3	0.05	0.13	nr	nr
		07/29/04	1:30 PM	nr	7.68	20.2	9.07	nr	< 2.0	13.0	170	nr	0.55	0.27	< 0.05	1.12	< 0.04	31.5	0.04	0.08	nr	nr
		08/09/04	2:22 PM	nr	8.54	20.2	11.0	nr	< 2.0	5.5	200	nr	0.09	0.09	< 0.05	1.31	< 0.04	271	< 0.01	< 0.02	nr	nr
		08/10/04	1:10 PM	nr	8.39	19.8	11.3	nr	< 2.0	2.0	230	nr	0.09	0.73	< 0.05	1.25	< 0.04	259	< 0.01	0.03	nr	nr
		08/25/04	10:40 AM	nr	7.81	18.6	8.92	nr	< 2.0	17.0	170	nr	0.10	0.47	< 0.05	1.30	< 0.04	122	0.01	0.05	nr	nr
		09/16/04	12:30 PM	nr	6.93	19.0	8.94	nr	< 2.0	6.0	220	nr	0.20	0.21	< 0.05	1.54	< 0.04	61	0.03	0.06	nr	nr
		10/13/04	2:16 PM	nr	8.22	12.6	12.2	nr	< 2.0	< 0.5	220	nr	0.09	0.19	< 0.05	1.41	< 0.04	112	0.01	0.04	nr	nr
		11/02/04	1:35 PM	nr	8.61	12.5	12.9	nr	< 2.0	0.5	200	nr	< 0.05	0.40	0.08	1.14	< 0.04	124	0.01	0.03	nr	nr
		11/03/04	9:45 AM	nr	8.08	11.0	10.0	nr	< 2.0	0.5	240	nr	0.08	0.09	< 0.05	1.14	< 0.04	108	0.01	0.03	nr	nr
		11/29/04	1:20 PM	nr	7.60	8.2	11.6	nr	< 2.0	< 0.5	170	nr	0.51	0.36	0.08	1.26	< 0.04	38.7	0.04	0.06	nr	nr
		11/30/04	12:05 PM	nr	7.90	7.3	12.1	nr	< 2.0	1.5	260	nr	0.19	0.57	0.07	1.51	< 0.04	61.5	0.03	0.06	nr	nr
		08/04/05	12:55 PM	nr	8.21	24.7	9.33	nr	< 2.0	8.0	230	nr	0.50	0.30	< 0.05	1.21	< 0.04	74.3	0.02	0.07	nr	nr
		08/05/05	10:35 AM	nr	8.02	24.4	7.99	nr	< 2.0	4.5	220	nr	0.12	0.34	< 0.05	1.34	< 0.04	82	0.02	0.06	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	SBRC3-CLo	07/15/04	10:10 AM	72 ug	6.68	20.8	7.92	nr	< 2.0	53	180	nr	2.19	0.60	0.12	0.66	< 0.04	17.7	0.05	0.19	2.0	nr
		07/16/04	10:40 AM	26 ug	7.43	21.7	7.58	nr	< 2.0	32.0	150	nr	1.40	0.86	0.23	0.64	< 0.04	18.5	0.05	0.14	1.3	nr
		07/28/04	9:45 AM	468 ug	7.33	18.9	8.81	nr	2.0	86	120	nr	3.38	0.61	< 0.05	0.71	< 0.04	13.5	0.06	0.16	< 1.0	nr
		07/29/04	1:15 PM	232 ug	7.72	22.5	8.55	nr	< 2.0	40	140	nr	1.71	0.71	0.07	0.90	< 0.04	26.8	0.04	0.11	2.7	nr
		08/09/04	2:40 PM	18 ug	8.17	26.1	8.29	nr	< 2.0	12.5	210	nr	0.56	0.18	0.05	0.94	< 0.04	67.1	0.02	0.06	< 1.0	nr
		08/10/04	12:50 PM	17 ug	8.07	23.3	8.35	nr	2.1	14.0	220	nr	0.66	0.76	0.14	0.98	< 0.04	228	< 0.01	0.10	< 1.0	nr
		11/02/04	1:50 PM	7 ug	8.29	13.4	10.3	nr	< 2.0	18.0	220	nr	0.54	0.35	0.05	0.85	< 0.04	185	< 0.01	0.05	< 1.0	nr
		11/03/04	10:20 AM	8 ug	8.26	12.1	10.3	nr	2.4	16.5	200	nr	0.76	0.34	< 0.05	0.83	< 0.04	175	< 0.01	0.07	1.3	nr
		11/29/04	1:00 PM	42 ug	7.51	9.1	10.7	nr	< 2.0	44	140	nr	2.13	0.34	0.06	0.88	< 0.04	19.2	0.05	0.14	< 1.0	nr
		11/30/04	12:25 PM	25 ug	7.74	6.7	11.2	nr	< 2.0	30.0	150	nr	1.30	0.38	0.07	1.12	< 0.04	36.8	0.03	0.09	2.0	nr
		08/04/05	12:45 PM	118 ug	8.40	31.1	6.07	nr	< 2.0	5.0	230	nr	0.60	0.28	0.14	0.34	< 0.04	100	< 0.01	0.15	4.0	nr
		08/05/05	10:15 AM	136 ug	8.03	29.3	5.74	nr	< 2.0	14.5	180	nr	0.52	0.86	0.19	< 0.02	< 0.04	44.8	< 0.01	0.16	< 1.0	nr

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	BvB1	06/03/04	2:40 PM	n/a	8.08	19.4	8.67	90.8	< 2.0	3.5	270	2.28	0.18	0.26	< 0.05	1.72	< 0.04	38.4	0.05	0.07	5.3	nr
		06/09/04	2:25 PM	n/a	8.22	22.8	9.13	100	< 2.0	10.0	290	4.20	0.17	0.19	< 0.05	1.92	< 0.04	44.7	0.04	0.09	5.3	nr
		06/16/04	2:30 PM	4.0 m	8.10	23.4	10.3	110	< 2.0	5.5	330	3.63	0.17	0.25	< 0.05	1.62	< 0.04	40.6	0.04	0.09	1.3	nr
		06/22/04	1:30 PM	n/a	6.98	20.1	8.49	53.3	3.0	58	200	54.4	2.89	0.91	0.15	1.14	< 0.04	22.6	0.06	0.24	4.7	nr
		07/07/04	1:32 PM	n/a	8.87	22.8	13.7	110	< 2.0	8.0	310	1.78	0.07	0.42	< 0.05	1.88	< 0.04	385	< 0.01	0.04	18.0	nr
		07/15/04	1:35 PM	7.5 m	7.95	19.5	9.32	86.5	< 2.0	4.5	290	13.1	0.44	0.61	< 0.05	1.61	< 0.04	23.3	0.07	0.10	9.4	nr
		07/16/04	12:45 PM	nr	8.22	19.4	10.1	97.5	< 2.0	3.5	310	5.34	0.17	0.36	< 0.05	1.66	< 0.04	34.1	0.05	0.08	8.0	nr
		07/28/04	11:45 AM	nr	7.37	19.0	8.89	69.9	< 2.0	23.0	230	20.1	1.23	0.58	< 0.05	1.46	< 0.04	22.5	0.07	0.12	4.0	nr
		07/29/04	11:25 AM	nr	7.75	18.3	9.21	84.8	< 2.0	9.0	240	9.63	0.46	0.40	< 0.05	1.66	< 0.04	41.6	0.04	0.07	2.7	nr
		08/09/04	12:50 PM	9.6 m	8.74	19.0	13.1	110	< 2.0	2.5	320	1.03	< 0.05	< 0.05	< 0.05	1.62	< 0.04	97.9	0.02	0.05	1.3	nr
		08/10/04	10:20 AM	nr	8.39	18.9	11.8	120	< 2.0	3.0	310	0.88	< 0.05	0.43	< 0.05	1.63	< 0.04	335	< 0.01	0.04	< 1.0	54.4
		08/25/04	11:30 AM	5.6 m	8.22	17.9	10.5	120	< 2.0	2.0	280	0.59	0.06	0.95	< 0.05	1.77	< 0.04	140	0.01	0.06	< 1.0	nr
		09/16/04	9:55 AM	3.2 m	7.73	18.8	9.90	98.1	< 2.0	4.0	250	1.42	0.06	0.59	0.06	1.55	< 0.04	27.1	0.06	0.07	< 1.0	nr
		10/13/04	12:05 PM	4.6 m	8.50	12.1	12.8	110	< 2.0	< 0.5	280	1.57	< 0.05	0.09	< 0.05	1.81	< 0.04	83.9	0.02	0.03	< 1.0	nr
		11/02/04	10:35 AM	3.2 m	8.21	11.4	11.7	110	< 2.0	< 0.5	280	0.73	< 0.05	0.25	< 0.05	2.06	< 0.04	95.7	0.02	0.04	3.3	19.3
		11/03/04	12:30 PM	nr	8.02	11.8	11.2	110	< 2.0	3.0	280	2.70	< 0.05	0.58	< 0.05	2.00	< 0.04	75.7	0.03	0.10	< 1.0	nr
		11/29/04	11:15 AM	nr	7.60	8.0	11.6	77.5	< 2.0	10.5	230	15.9	0.86	0.40	< 0.05	1.71	< 0.04	37.3	0.05	0.07	1.3	nr
		11/30/04	10:55 AM	20.7 m	7.78	7.6	11.8	85	< 2.0	4.5	240	8.08	0.32	0.24	< 0.05	1.78	< 0.04	46.8	0.04	0.05	< 1.0	nr
		08/04/05	11:20 AM	0.3 m	8.78	27.4	14.0	120	< 2.0	1.5	370	2.44	0.13	0.47	< 0.05	1.43	< 0.04	41	0.04	0.12	2.0	103.0
		08/05/05	12:45 PM	nr	8.76	26.7	12.2	120	< 2.0	8.5	290	2.45	0.82	0.37	< 0.05	1.45	< 0.04	36.5	0.04	0.07	< 1.0	nr

Stream Sampling Results

NOTES:

Yellow	= High-Flow Event
Green	= Low-Flow Event
White	= Ambient Event

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- m = measured flow
- ug = USGS gage flow

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- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	CC1	06/03/04	1:45 PM	n/a	7.52	20.1	8.91	42.4	< 2.0	2.0	120	0.68	0.08	0.21	< 0.05	2.38	< 0.04	89.8	0.03	0.05	3.3	nr
		06/09/04	1:00 PM	10.2 m	7.66	21.3	9.25	43.5	< 2.0	8.5	130	3.88	0.15	0.41	< 0.05	2.48	< 0.04	115	0.02	0.05	6.0	nr
		06/16/04	1:25 PM	8.7 m	7.70	23.3	10.1	45.6	< 2.0	1.5	130	1.81	0.08	0.24	< 0.05	2.33	< 0.04	95	0.03	0.08	2.7	nr
		06/22/04	12:45 PM	n/a	6.66	18.4	8.90	44.6	< 2.0	9.0	120	5.94	0.16	0.22	< 0.05	2.23	< 0.04	120	0.02	0.07	3.3	nr
		07/07/04	12:33 PM	5.2 m	7.80	22.2	9.68	49.7	< 2.0	2.0	130	1.33	0.09	0.22	< 0.05	2.36	< 0.04	481	< 0.01	< 0.02	2.7	nr
		07/15/04	2:00 PM	31.7 m	6.65	19.2	8.72	34.5	< 2.0	11.5	110	11.1	0.40	0.58	< 0.05	1.73	< 0.04	37	0.05	0.09	3.3	nr
		07/16/04	1:30 PM	nr	7.24	19.3	8.96	36.4	< 2.0	2.5	110	3.28	0.12	0.52	< 0.05	2.13	< 0.04	58.8	0.04	0.06	1.3	nr
		07/28/04	1:00 PM	nr	7.59	18.7	8.95	31.2	< 2.0	18.0	96	19.9	0.80	0.54	< 0.05	1.48	< 0.04	26.3	0.06	0.11	2.7	nr
		07/29/04	10:00 AM	nr	7.33	19.6	9.48	32.5	< 2.0	4.0	98	5.46	0.25	0.40	< 0.05	1.95	< 0.04	48.7	0.04	0.05	2.0	nr
		08/09/04	11:25 AM	17.5 m	7.88	17.8	10.1	41.8	< 2.0	1.5	140	1.71	< 0.05	0.21	< 0.05	2.29	< 0.04	212	0.01	0.03	3.3	nr
		08/10/04	9:45 AM	nr	8.16	18.1	10.0	41.6	< 2.0	5.5	120	0.94	< 0.05	0.42	< 0.05	2.30	< 0.04	469	< 0.01	0.02	< 1.0	9.0
		08/25/04	12:45 PM	11.0 m	6.48	19.6	9.77	47.1	< 2.0	0.5	120	0.43	< 0.05	0.95	0.05	2.33	< 0.04	481	< 0.01	0.04	< 1.0	nr
		09/16/04	11:00 AM	7.6 m	7.68	17.1	9.90	41.9	< 2.0	4.5	120	1.04	0.05	0.23	0.05	2.28	< 0.04	78.3	0.03	0.04	< 1.0	nr
		10/13/04	12:45 PM	8.8 m	7.26	11.8	11.1	41.8	< 2.0	< 0.5	100	0.76	< 0.05	0.07	< 0.05	2.52	< 0.04	151	0.02	0.02	< 1.0	nr
		11/02/04	10:20 AM	8.0 m	8.14	11.3	11.3	48.4	< 2.0	< 0.5	120	0.47	< 0.05	0.33	< 0.05	2.13	< 0.04	435	< 0.01	0.02	2.7	13.1
		11/03/04	1:10 PM	nr	8.36	11.8	11.8	46.7	< 2.0	2.5	130	1.24	0.05	0.36	< 0.05	2.10	< 0.04	123	0.02	0.02	< 1.0	nr
		11/29/04	10:45 AM	nr	7.89	7.9	11.4	27.1	< 2.0	7.5	95	14.7	0.64	0.52	< 0.05	1.83	< 0.04	50.7	0.04	0.07	< 1.0	nr
		11/30/04	10:25 AM	53.4 m	8.10	7.5	11.6	31.2	< 2.0	4.5	93	4.95	0.18	0.30	< 0.05	2.13	< 0.04	70.2	0.03	0.04	1.3	nr
		08/04/05	10:15 AM	5.1 m	7.83	23.0	8.60	56.4	< 2.0	< 0.5	150	0.73	< 0.05	0.43	< 0.05	2.12	< 0.04	192	0.01	0.06	< 1.0	81.6
		08/05/05	1:35 PM	nr	8.35	24.4	9.48	50.4	< 2.0	2.0	130	0.90	< 0.05	0.47	0.06	2.08	< 0.04	115	0.02	0.02	< 1.0	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	DkB1	06/03/04	3:00 PM	9.7 m	7.90	18.8	8.56	64.1	< 2.0	4.5	270	1.05	0.29	0.28	0.06	0.95	< 0.04	68.7	0.02	0.06	< 1.0	nr
		06/09/04	2:55 PM	5.2 m	7.70	22.9	8.26	67.5	< 2.0	3.0	300	2.58	0.26	0.23	< 0.05	1.18	< 0.04	94.2	0.01	0.02	2.0	nr
		06/16/04	11:40 AM	n/a	7.36	22.2	8.36	67.9	< 2.0	4.5	260	3.10	0.26	0.21	< 0.05	0.98	< 0.04	64.1	0.02	0.05	2.0	nr
		06/22/04	2:20 PM	14.5 m	7.45	18.4	7.69	65.4	< 2.0	26.0	280	13.5	1.24	0.82	0.06	0.91	< 0.04	47.1	0.02	0.14	2.0	nr
		07/07/04	5:15 PM	n/a	7.86	22.8	8.12	81.5	< 2.0	0.5	290	2.00	0.18	0.33	< 0.05	0.59	< 0.04	127	< 0.01	0.05	2.7	nr
		07/15/04	1:25 PM	7.5 m	7.73	20.0	8.78	61.8	< 2.0	2.0	230	4.22	0.39	0.31	< 0.05	0.68	< 0.04	33	0.02	0.06	1.3	nr
		07/16/04	11:20 AM	nr	7.54	18.9	8.79	68.4	< 2.0	4.5	270	2.61	0.27	0.20	< 0.05	0.64	< 0.04	34.3	0.02	0.05	< 1.0	nr
		07/28/04	11:55 AM	nr	7.35	19.3	8.62	49	< 2.0	10.5	170	6.28	0.82	0.42	< 0.05	0.76	< 0.04	40.3	0.02	0.06	3.3	nr
		07/29/04	1:20 PM	12.4 m	7.64	21.5	8.77	57.4	< 2.0	3.0	190	3.63	0.46	0.42	< 0.05	0.72	< 0.04	40.3	0.02	0.03	3.3	nr
		08/09/04	2:15 PM	nr	7.99	20.7	9.50	75.5	< 2.0	1.0	310	1.63	0.20	0.24	< 0.05	0.83	< 0.04	175	< 0.01	0.03	< 1.0	nr
		08/10/04	1:05 PM	1.2 m	8.01	21.9	9.81	77.4	< 2.0	3.5	300	1.42	0.23	0.40	0.06	0.90	< 0.04	196	< 0.01	0.05	< 1.0	41.8
		08/25/04	2:35 PM	4.8 m	8.10	20.1	9.37	63.6	< 2.0	< 0.5	260	1.10	0.26	0.39	< 0.05	0.86	< 0.04	60.3	0.02	0.02	< 1.0	nr
		09/16/04	3:45 PM	5.6 m	7.95	20.2	9.08	58.9	< 2.0	2.5	200	3.28	0.35	0.27	< 0.05	0.82	< 0.04	173	< 0.01	0.04	< 1.0	nr
		10/13/04	10:30 AM	3.7 m	7.59	10.9	10.7	59	< 2.0	< 0.5	260	1.53	0.16	0.26	< 0.05	1.28	< 0.04	265	< 0.01	0.03	8.7	nr
		11/02/04	1:45 PM	4.2 m	7.82	11.2	11.6	72.5	< 2.0	0.5	230	1.85	0.28	0.27	< 0.05	0.93	< 0.04	195	< 0.01	0.03	< 1.0	nr
		11/03/04	2:45 PM	nr	8.09	11.2	11.4	68.8	< 2.0	1.5	250	1.56	0.23	0.25	< 0.05	0.97	< 0.04	203	< 0.01	0.02	< 1.0	12.7
		11/29/04	2:30 PM	61.3 m	7.46	7.4	12.7	28.1	< 2.0	9.0	130	8.17	0.86	0.50	< 0.05	0.70	< 0.04	149	< 0.01	0.05	1.3	nr
		11/30/04	2:25 PM	61.3 m	7.66	6.7	13.8	36.7	< 2.0	3.5	150	5.36	0.54	0.36	< 0.05	1.02	< 0.04	107	0.01	0.04	< 1.0	nr
		08/04/05	1:30 PM	0.9 m	8.22	26.6	7.66	73.3	< 2.0	3.0	310	1.12	0.17	0.22	< 0.05	0.71	< 0.04	151	< 0.01	0.06	1.3	42.1
		08/05/05	11:35 AM	nr	7.88	25.6	7.16	68.2	< 2.0	1.5	360	1.25	0.21	0.25	< 0.05	0.68	< 0.04	145	< 0.01	0.02	2.7	nr

Stream Sampling Results

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	HB1	07/15/04	12:10 PM	n/a	7.11	21.3	8.13	nr	< 2.0	30.7	130	nr	0.95	0.84	0.06	6.99	< 0.04	77.7	0.09	0.16	nr	nr
		07/16/04	1:55 PM	n/a	7.49	20.1	8.49	nr	< 2.0	13.0	160	nr	0.30	0.31	< 0.05	2.15	< 0.04	22.6	0.10	0.12	nr	nr
		07/28/04	11:15 AM	n/a	7.51	18.4	8.51	nr	< 2.0	32.0	120	nr	1.20	0.69	0.05	1.67	< 0.04	20	0.09	0.17	nr	nr
		07/29/04	12:50 PM	n/a	6.94	24.2	8.45	nr	< 2.0	17.0	140	nr	0.57	0.43	< 0.05	1.75	< 0.04	18.1	0.10	0.12	nr	nr
		08/09/04	11:50 AM	n/a	8.53	20.9	12.1	nr	< 2.0	10.5	220	nr	0.11	0.30	0.06	1.14	< 0.04	38.3	0.03	0.07	nr	nr
		08/10/04	11:30 AM	n/a	7.01	21.5	11.8	nr	< 2.0	4.0	210	nr	0.05	0.64	< 0.05	1.05	< 0.04	33.2	0.03	0.07	nr	nr
		11/02/04	11:45 AM	n/a	8.49	12.7	13.8	nr	< 2.0	2.0	200	nr	< 0.05	0.47	0.07	0.92	< 0.04	31.4	0.03	0.05	nr	nr
		11/03/04	11:00 AM	n/a	8.69	12.4	13.3	nr	< 2.0	1.5	190	nr	< 0.05	0.09	< 0.05	0.82	< 0.04	21.1	0.04	0.07	nr	nr
		11/29/04	11:15 AM	n/a	6.45	8.9	11.2	nr	< 2.0	4.0	120	nr	0.43	0.50	0.10	1.90	< 0.04	21.7	0.09	0.12	nr	nr
		11/30/04	10:15 AM	n/a	7.41	8.1	11.4	nr	< 2.0	4.0	130	nr	0.19	0.53	0.07	1.95	< 0.04	26.4	0.08	0.10	nr	nr
		08/04/05	11:10 AM	nr	8.56	23.8	11.5	nr	< 2.0	2.5	200	nr	0.09	0.11	< 0.05	0.79	< 0.04	20.2	0.04	0.10	nr	nr
		08/05/05	11:15 AM	0.1 m	8.62	24.0	11.6	nr	< 2.0	2.5	160	nr	< 0.05	0.36	< 0.05	0.78	< 0.04	21.2	0.04	0.09	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	NR1	06/03/04	2:25 PM	24 ug	8.78	24.2	12.0	67.5	< 2.0	4.0	240	4.44	0.18	0.09	< 0.05	0.92	< 0.04	31.1	0.03	0.07	7.3	nr
		06/09/04	1:30 PM	13 ug	7.95	28.1	11.3	69.4	< 2.0	10.0	230	6.18	0.27	0.22	< 0.05	0.69	< 0.04	26.3	0.03	0.07	1.3	nr
		06/16/04	2:55 PM	10 ug	8.49	28.7	10.8	74.8	< 2.0	7.0	230	6.39	0.20	0.37	0.05	0.61	< 0.04	15.8	0.04	0.11	1.3	nr
		06/22/04	1:15 PM	8 ug	7.42	21.5	8.75	81.6	< 2.0	6.0	210	3.53	0.12	0.36	< 0.05	0.38	< 0.04	10.4	0.04	0.08	1.3	nr
		07/07/04	3:00 PM	3 ug	7.61	27.9	13.8	81.8	< 2.0	1.0	240	1.87	0.16	0.36	< 0.05	< 0.02	< 0.04	1.34	0.04	0.06	4.7	nr
		07/15/04	2:15 PM	216 ug	7.37	21.8	7.94	51.4	< 2.0	14.0	150	19.4	0.69	0.88	0.06	1.45	< 0.04	15.5	0.10	0.19	1.0	nr
		07/16/04	12:30 PM	60 ug	7.89	23.1	8.95	57.9	< 2.0	7.0	180	6.25	0.19	0.65	< 0.05	1.54	< 0.04	18.9	0.08	0.12	1.3	30.9
		07/28/04	12:30 PM	1038 ug	7.38	20.1	7.87	43.9	< 2.0	18.7	130	27.3	1.08	1.02	0.06	1.31	< 0.04	13.4	0.10	0.20	2.7	nr
		07/29/04	2:35 PM	170 ug	7.46	22.9	8.34	45.5	< 2.0	8.5	140	7.51	0.38	0.54	< 0.05	1.51	< 0.04	19	0.08	0.10	2.0	nr
		08/09/04	1:35 PM	30 ug	7.93	23.6	13.7	61.6	< 2.0	9.0	200	1.52	0.17	0.21	< 0.05	0.97	< 0.04	203	< 0.01	0.06	< 1.0	nr
		08/10/04	3:10 PM	26 ug	9.74	25.4	17.8	61.1	2.5	19.0	190	2.77	0.17	0.56	0.07	0.82	< 0.04	69.8	0.01	0.07	< 1.0	12.0
		08/25/04	2:25 PM	17 ug	n/a	21.9	12.1	72	< 2.0	< 0.5	210	1.21	0.08	1.23	< 0.05	0.93	< 0.04	21.2	0.05	0.06	< 1.0	nr
		09/16/04	2:50 PM	9 ug	8.85	21.9	11.1	80.9	< 2.0	4.0	200	1.47	0.07	0.19	< 0.05	0.65	< 0.04	23.2	0.03	0.04	< 1.0	nr
		10/13/04	9:35 AM	7 ug	8.00	9.7	11.8	67.6	< 2.0	1.0	210	2.38	0.06	0.16	< 0.05	1.13	< 0.04	235	< 0.01	< 0.02	< 1.0	nr
		11/02/04	9:10 AM	8 ug	7.61	10.6	11.2	74.6	< 2.0	< 0.5	210	1.59	< 0.05	0.25	< 0.05	0.78	< 0.04	55	0.02	0.04	< 1.0	nr
		11/03/04	9:30 AM	8 ug	7.38	12.0	11.0	78.3	< 2.0	0.6	210	1.24	< 0.05	0.30	< 0.05	0.72	< 0.04	45	0.02	0.06	1.3	12.3
		11/29/04	10:40 AM	130 ug	6.82	7.5	12.8	40.7	< 2.0	14.0	140	20.1	0.85	0.60	< 0.05	1.85	< 0.04	21.5	0.09	0.13	2.0	nr
		11/30/04	9:30 AM	75 ug	7.49	6.6	13.6	44.4	< 2.0	5.0	140	10.1	0.35	0.34	< 0.05	1.97	< 0.04	30.1	0.07	0.07	< 1.0	nr
		08/04/05	8:10 AM	0 ug	7.35	25.4	2.92	91.6	< 2.0	4.5	320	3.88	0.12	< 0.05	< 0.05	< 0.02	< 0.04	1.12	0.05	0.12	< 1.0	21.4
		08/05/05	8:05 AM	0 ug	7.39	26.4	3.08	88.2	< 2.0	5.5	250	3.07	0.13	0.71	0.08	< 0.02	< 0.04	2.56	0.04	0.10	5.3	nr

Stream Sampling Results

NOTES:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	NR2	06/03/04	1:20 PM	n/a	7.65	22.8	9.20	64.2	< 2.0	5.0	190	3.99	0.18	0.15	0.05	0.73	< 0.04	30.8	0.03	0.08	6.7	nr
		06/09/04	11:45 AM	n/a	7.67	25.4	9.75	66.3	2.6	6.0	190	3.21	0.14	0.26	< 0.05	0.55	< 0.04	18.6	0.03	0.07	< 1.0	nr
		06/16/04	1:10 PM	10.2 m	7.87	27.7	8.65	72.7	< 2.0	3.5	190	2.41	0.11	0.32	0.06	0.37	< 0.04	13.9	0.03	0.09	1.3	nr
		06/22/04	11:40 AM	8.7 m	5.56	21.1	8.19	70.3	< 2.0	13.5	230	8.30	0.24	0.60	0.06	0.07	< 0.04	1.41	0.11	0.12	12.0	nr
		07/07/04	1:40 PM	7.6 m	7.22	28.5	6.76	64.6	< 2.0	3.5	220	3.10	0.23	0.41	< 0.05	0.07	< 0.04	2.21	0.05	0.07	3.0	nr
		07/15/04	2:00 PM	nr	7.41	21.3	7.74	46	< 2.0	21.0	160	20.7	0.62	0.82	0.06	1.43	< 0.04	13.8	0.11	0.19	2.0	nr
		07/16/04	1:05 PM	62.9 m	7.47	20.7	8.15	64.2	< 2.0	14.0	180	7.35	0.27	0.59	< 0.05	1.76	< 0.04	19.8	0.09	0.15	2.0	nr
		07/28/04	12:05 PM	nr	7.37	20.1	7.76	39.1	2.0	21.3	110	34.6	1.32	0.97	0.08	1.46	< 0.04	13.5	0.12	0.25	2.0	nr
		07/29/04	1:30 PM	nr	7.47	22.6	8.35	52.4	< 2.0	7.5	130	7.85	0.33	4.00	< 0.05	1.74	< 0.04	21.3	0.08	0.12	1.3	nr
		08/09/04	1:50 PM	nr	8.15	22.9	10.7	65.5	< 2.0	3.5	200	1.32	0.07	0.26	< 0.05	0.88	< 0.04	185	< 0.01	0.02	< 1.0	nr
		08/10/04	2:50 PM	19.2 m	8.96	24.7	12.3	65.8	< 2.0	2.0	210	1.20	0.05	0.46	0.08	0.73	< 0.04	167	< 0.01	0.04	< 1.0	58.5
		08/25/04	1:25 PM	n/a	7.58	22.0	8.40	68.8	< 2.0	4.5	210	0.97	0.09	0.97	0.06	0.85	< 0.04	15.9	0.06	0.07	< 1.0	nr
		09/16/04	2:15 PM	n/a	8.10	21.8	8.67	71.5	< 2.0	0.5	200	1.15	0.08	0.52	< 0.05	0.43	< 0.04	12.8	0.04	0.06	< 1.0	nr
		10/13/04	9:38 AM	n/a	7.92	10.6	10.1	67.6	< 2.0	< 0.5	190	1.04	0.06	0.22	< 0.05	0.85	< 0.04	179	< 0.01	< 0.02	< 1.0	nr
		11/02/04	1:30 PM	n/a	8.03	13.2	11.2	68.7	< 2.0	0.5	210	1.50	< 0.05	0.43	0.06	0.64	< 0.04	144	< 0.01	0.03	16.0	< 25.0
		11/03/04	2:00 PM	n/a	7.88	12.8	10.9	69.7	< 2.0	2.5	210	1.29	< 0.05	0.30	< 0.05	0.50	< 0.04	49.5	0.01	0.04	< 1.0	nr
		11/29/04	10:00 AM	266.8 m	6.76	7.1	12.5	38.9	< 2.0	14.5	130	20.9	0.93	0.79	< 0.05	1.81	< 0.04	18.6	0.10	0.13	< 1.0	nr
		11/30/04	9:10 AM	nr	7.40	6.3	13.6	41.7	< 2.0	4.5	130	11.3	0.32	0.49	< 0.05	2.00	< 0.04	28.4	0.07	0.11	< 1.0	nr
		08/04/05	1:30 PM	nr	8.68	29.3	10.4	72.9	< 2.0	3.5	240	1.56	0.08	0.17	< 0.05	< 0.02	< 0.04	1.54	0.04	0.09	< 1.0	60.1
		08/05/05	12:15 PM	1.2 m	8.64	28.6	10.1	67.3	< 2.0	1.0	240	1.97	0.09	0.20	< 0.05	0.50	< 0.04	15.1	0.04	0.06	1.3	nr

Stream Sampling Results

NOTES:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	NR2Unk	06/22/04	11:55 AM	0.1 m	6.25	22.0	7.12	n/a	< 2.0	< 0.5	240	n/a	< 0.05	0.43	0.20	0.80	< 0.04	20.4	0.05	0.05	n/a	n/a

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBR4	08/04/05	1:55 PM	n/a	8.98	25.9	13.8	97.7	< 2.0	1.0	260	2.03	0.97	0.25	< 0.05	1.61	< 0.04	35.2	0.05	0.12	1.3	n/a
		08/05/05	1:25 PM	n/a	8.87	24.6	12.7	98	< 2.0	4.0	260	1.86	0.18	0.33	< 0.05	1.58	< 0.04	34.6	0.05	0.07	1.3	n/a

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Study Area	Station ID	Date	Time	Flow (cfs)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	CBOD$_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR1	07/15/04	12:45 PM	10.9	m	7.56	18.3	9.08	nr	< 2.0	4.0	180	nr	0.59	0.25	0.06	1.00	< 0.04	54	0.02	0.05	nr	nr
		07/16/04	10:50 AM	nr		7.67	17.6	9.31	nr	< 2.0	3.0	170	nr	0.52	0.60	< 0.05	1.14	< 0.04	42.3	0.03	0.04	nr	nr
		07/28/04	11:05 AM	nr		7.35	18.0	9.09	nr	< 2.0	12.0	170	nr	1.00	0.75	< 0.05	0.84	< 0.04	46.6	0.02	0.08	nr	nr
		07/29/04	12:50 PM	13.5	m	7.52	19.5	9.09	nr	< 2.0	5.5	160	nr	0.68	0.31	< 0.05	1.13	< 0.04	53.4	0.02	0.06	nr	nr
		08/09/04	5:00 PM	7.7	m	7.76	18.5	9.10	nr	< 2.0	5.5	180	nr	0.48	0.37	< 0.05	1.27	< 0.04	101	0.01	0.04	nr	nr
		08/10/04	11:00 AM	nr		7.62	17.6	9.60	nr	< 2.0	4.5	160	nr	0.49	0.36	< 0.05	1.30	< 0.04	269	< 0.01	0.04	nr	nr
		11/02/04	1:20 PM	10.4	m	7.37	10.7	11.5	nr	< 2.0	2.5	150	nr	0.22	0.45	0.06	1.61	< 0.04	77	0.02	0.05	nr	nr
		11/03/04	2:25 PM	nr		7.62	10.9	11.4	nr	< 2.0	< 0.5	150	nr	0.20	0.31	< 0.05	1.64	< 0.04	67.4	0.03	0.04	nr	nr
		11/29/04	1:50 PM	56.3	m	7.56	7.0	13.7	nr	< 2.0	7.5	120	nr	0.77	0.49	0.07	0.82	< 0.04	182	< 0.01	0.06	nr	nr
		11/30/04	2:10 PM	nr		7.60	6.6	13.9	nr	< 2.0	5.5	120	nr	0.53	0.74	0.10	0.86	< 0.04	196	< 0.01	0.05	nr	nr
		08/04/05	12:45 PM	1.9	m	8.02	26.0	7.14	nr	< 2.0	2.5	160	nr	0.46	0.16	< 0.05	1.69	< 0.04	347	< 0.01	0.06	nr	nr
		08/05/05	11:15 AM	nr		7.85	24.8	7.29	nr	< 2.0	2.0	200	nr	0.53	0.36	< 0.05	1.68	< 0.04	345	< 0.01	0.07	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR2	06/03/04	2:20 PM	76 ug	7.70	18.4	8.99	52.9	< 2.0	6.0	230	2.42	0.36	0.29	0.10	1.31	< 0.04	102	0.01	0.05	1.0	nr
		06/09/04	1:56 PM	54 ug	7.80	21.4	8.95	57.9	< 2.0	4.0	240	2.93	0.29	0.34	< 0.05	1.52	< 0.04	313	< 0.01	0.02	1.3	nr
		06/16/04	3:40 PM	42 ug	7.90	22.9	9.05	57.1	< 2.0	3.0	240	2.93	0.28	0.33	< 0.05	1.43	< 0.04	33.5	0.04	0.04	2.7	nr
		06/22/04	1:10 PM	46 ug	7.63	16.7	8.49	59.4	< 2.0	6.5	240	3.20	0.32	0.43	< 0.05	1.62	< 0.04	128	0.01	0.04	2.7	nr
		07/07/04	5:00 PM	26 ug	8.40	22.2	9.32	61.4	< 2.0	2.5	230	1.98	0.21	0.46	< 0.05	2.02	< 0.04	159	0.01	0.04	< 1.0	nr
		07/15/04	12:30 PM	60 ug	7.57	19.0	8.94	52	< 2.0	5.0	220	5.04	0.51	0.29	0.06	1.16	< 0.04	51.5	0.02	0.05	2.0	nr
		07/16/04	10:30 AM	46 ug	7.67	18.0	8.98	57.7	< 2.0	8.0	240	4.10	0.44	0.41	< 0.05	1.31	< 0.04	16.9	0.08	0.05	1.3	nr
		07/28/04	10:50 AM	184 ug	7.35	18.6	8.94	39.9	< 2.0	16.7	160	6.47	1.04	0.16	< 0.05	0.91	< 0.04	56.2	0.02	0.10	4.0	nr
		07/29/04	12:35 PM	80 ug	7.52	20.5	8.99	47.8	< 2.0	10.5	180	3.19	0.50	0.41	< 0.05	1.13	< 0.04	69.1	0.02	0.05	1.3	nr
		08/09/04	4:39 PM	30 ug	8.22	20.4	9.79	62.6	< 2.0	1.0	270	1.64	0.29	0.21	< 0.05	1.55	< 0.04	319	< 0.01	0.05	< 1.0	nr
		08/10/04	10:30 AM	28 ug	7.73	17.4	9.28	62	< 2.0	6.0	220	2.31	0.31	0.48	< 0.05	1.90	< 0.04	389	< 0.01	0.02	< 1.0	52.2
		08/25/04	2:10 PM	48 ug	7.95	19.7	9.19	56.3	< 2.0	4.0	190	3.33	0.42	0.56	< 0.05	1.43	< 0.04	295	< 0.01	0.03	1.3	nr
		09/16/04	3:28 PM	52 ug	7.89	19.0	9.29	48.2	< 2.0	5.5	190	3.67	0.35	0.59	< 0.05	1.53	< 0.04	143	0.01	0.04	< 1.0	nr
		10/13/04	10:05 AM	22 ug	7.56	10.8	10.6	51.3	< 2.0	2.5	190	4.90	0.24	0.43	< 0.05	1.71	< 0.04	351	< 0.01	0.03	1.3	nr
		11/02/04	12:55 PM	20 ug	7.55	11.6	11.5	n/a	n/a	n/a	n/a	n/a	0.23	0.26	0.05	n/a	n/a	n/a	n/a	0.04	n/a	nr
		11/03/04	2:03 PM	20 ug	7.89	11.8	11.3	61.8	< 2.0	2.0	200	3.16	0.19	0.29	< 0.05	1.73	< 0.04	355	< 0.01	0.03	< 1.0	11.8
		11/29/04	1:40 PM	176 ug	7.50	7.5	13.4	26.4	< 2.0	10.5	120	9.12	0.82	0.59	0.06	0.82	< 0.04	180	< 0.01	0.06	< 1.0	nr
		11/30/04	1:46 PM	106 ug	7.70	6.9	13.8	30.9	< 2.0	5.5	140	6.34	0.56	0.52	< 0.05	0.97	< 0.04	203	< 0.01	0.03	< 1.0	nr
		08/04/05	12:30 PM	5 ug	7.76	23.9	7.17	63.4	< 2.0	1.5	180	3.08	0.39	0.40	< 0.05	2.60	< 0.04	128	0.02	0.06	< 1.0	82.8
		08/05/05	10:40 AM	5 ug	7.88	23.4	6.94	64.6	< 2.0	4.5	250	3.55	0.42	0.35	0.08	2.23	< 0.04	465	< 0.01	< 0.02	1.3	nr

Stream Sampling Results

NOTES:

Notes	Flow:		All:		Periphyton:
(yellow) = High-Flow Event	m	= measured flow	n/a	= Data Not Available	If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan
(green) = Low-Flow Event	ug	= USGS gage flow	nr	= Data Not Required, per Sampling Plan	
(white) = Ambient Event			NF	= No Flow	

Study Area	Station ID	Date	Time	Flow (cfs)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR3-SLi	06/03/04	3:20 PM	164	ug	8.37	19.1	8.66	nr	< 2.0	6.0	190	nr	0.28	0.13	0.06	1.34	< 0.04	48.8	0.03	0.09	nr	nr
		06/09/04	2:45 PM	123	ug	8.54	23.1	8.57	nr	< 2.0	8.0	190	nr	0.25	0.36	< 0.05	1.55	< 0.04	63.8	0.03	0.05	nr	nr
		06/16/04	3:03 PM	108	ug	8.20	23.6	9.90	nr	< 2.0	7.0	230	nr	0.16	0.35	< 0.05	1.49	< 0.04	61.4	0.03	0.05	nr	nr
		06/22/04	2:00 PM	102	ug	7.61	18.9	9.38	nr	< 2.0	18.5	220	nr	0.38	0.31	< 0.05	1.49	< 0.04	80.8	0.02	0.06	nr	nr
		07/07/04	1:55 PM	75	ug	8.72	23.7	9.17	nr	< 2.0	3.5	230	nr	0.20	0.44	< 0.05	1.50	< 0.04	46.8	0.03	0.07	nr	nr
		07/15/04	11:05 AM	147	ug	6.72	19.0	9.18	nr	< 2.0	9.5	200	nr	0.31	0.42	0.07	1.28	< 0.04	39	0.04	0.08	nr	nr
		07/16/04	12:20 PM	111	ug	8.02	19.6	8.98	nr	< 2.0	4.5	190	nr	0.25	0.37	< 0.05	1.30	< 0.04	34.5	0.04	0.07	nr	nr
		07/28/04	2:00 PM	593	ug	6.39	19.2	8.94	nr	< 2.0	36.7	150	nr	1.78	0.60	< 0.05	0.83	< 0.04	23.6	0.04	0.15	nr	nr
		07/29/04	12:30 PM	233	ug	7.97	19.7	9.35	nr	< 2.0	13.0	170	nr	0.64	0.31	< 0.05	1.06	< 0.04	31.6	0.04	0.09	nr	nr
		08/09/04	1:40 PM	86	ug	8.62	20.0	9.65	nr	< 2.0	2.5	210	nr	0.14	0.26	< 0.05	1.42	< 0.04	86.2	0.02	0.04	nr	nr
		08/10/04	11:40 AM	82	ug	8.47	19.3	9.53	nr	< 2.0	3.0	230	nr	0.12	0.62	< 0.05	1.45	< 0.04	87.9	0.02	0.05	nr	nr
		08/25/04	11:10 AM	101	ug	8.10	17.2	9.58	nr	< 2.0	4.0	190	nr	0.20	0.36	< 0.05	1.37	< 0.04	44.2	0.03	0.06	nr	nr
		09/16/04	9:35 AM	104	ug	8.27	18.0	9.65	nr	< 2.0	1.5	230	nr	0.15	0.33	< 0.05	1.61	< 0.04	44.7	0.04	0.07	nr	nr
		10/13/04	1:41 PM	63	ug	8.23	11.9	10.8	n/a	n/a	n/a	n/a	n/a	n/	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		11/02/04	12:55 PM	55	ug	8.35	11.7	11.1	nr	< 2.0	0.5	160	nr	0.09	0.41	< 0.05	1.41	< 0.04	97	0.02	0.04	nr	nr
		11/03/04	11:00 AM	52	ug	7.79	11.2	11.3	nr	< 2.0	1.0	210	nr	0.08	< 0.05	< 0.05	1.45	< 0.04	107	0.01	0.04	nr	nr
		11/29/04	11:50 AM	459	ug	8.24	7.9	11.6	nr	< 2.0	1.0	110	nr	1.05	0.34	0.09	0.80	< 0.04	47.7	0.02	0.06	nr	nr
		11/30/04	11:30 AM	229	ug	8.11	6.9	12.1	nr	< 2.0	5.0	130	nr	0.44	0.52	0.07	1.04	< 0.04	75	0.02	0.05	nr	nr
		08/04/05	11:50 AM	26	ug	8.52	24.5	9.13	nr	< 2.0	1.5	230	nr	0.20	0.22	< 0.05	1.34	< 0.04	66.9	0.02	0.08	nr	nr
		08/05/05	12:15 PM	25	ug	8.66	24.8	9.22	nr	< 2.0	6.0	190	nr	0.24	0.07	< 0.05	1.17	< 0.04	243	< 0.01	0.08	nr	nr

Stream Sampling Results

NOTES:

= High-Flow Event	Flow:	All:	Periphyton:
= Low-Flow Event	m = measured flow	n/a = Data Not Available	If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan
= Ambient Event	ug = USGS gage flow	nr = Data Not Required, per Sampling Plan	
		NF = No Flow	

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR5-SLo	07/15/04	10:50 AM	nr	6.91	19.9	8.93	nr	< 2.0	7.0	200	nr	0.37	0.43	< 0.05	1.11	< 0.04	38.5	0.03	0.09	1.3	nr
		07/16/04	12:00 PM	nr	7.42	20.6	9.02	nr	< 2.0	5.0	190	nr	0.30	0.65	< 0.05	1.27	< 0.04	32.1	0.04	0.08	1.3	nr
		07/28/04	1:45 PM	nr	7.53	19.8	9.08	nr	< 2.0	26.7	120	nr	1.78	0.41	< 0.05	0.80	< 0.04	13	0.07	0.15	1.3	nr
		07/29/04	12:00 PM	nr	7.80	20.2	9.27	nr	< 2.0	12.0	130	nr	0.70	0.48	< 0.05	1.06	< 0.04	33.5	0.03	0.06	4.0	nr
		08/09/04	1:20 PM	nr	8.08	20.8	9.40	nr	< 2.0	5.5	230	nr	0.30	< 0.05	< 0.05	1.38	< 0.04	83.8	0.02	0.06	< 1.0	nr
		08/10/04	11:15 AM	nr	8.27	20.1	9.16	nr	< 2.0	8.5	220	nr	0.39	0.52	0.12	1.42	< 0.04	312	< 0.01	0.06	< 1.0	nr
		11/02/04	12:30 PM	nr	8.10	11.6	11.1	nr	< 2.0	3.0	170	nr	0.19	0.24	0.05	1.41	< 0.04	87.1	0.02	0.05	< 1.0	nr
		11/03/04	11:20 AM	nr	8.08	11.5	11.1	nr	< 2.0	4.0	190	nr	0.19	0.33	< 0.05	1.48	< 0.04	109	0.01	0.04	2.0	nr
		11/29/04	12:10 PM	nr	8.13	7.9	11.9	nr	< 2.0	22.0	110	nr	1.25	0.29	< 0.05	0.77	< 0.04	50.9	0.02	0.08	< 1.0	nr
		11/30/04	11:20 AM	nr	7.97	6.2	12.2	nr	< 2.0	7.0	130	nr	0.51	0.34	< 0.05	1.00	< 0.04	65.3	0.02	0.05	1.3	nr
		08/04/05	11:30 AM	nr	8.24	26.2	8.41	nr	< 2.0	1.5	240	nr	0.36	0.31	0.06	1.20	< 0.04	49.2	0.03	0.09	2.0	nr
		08/05/05	12:30 PM	nr	8.30	26.2	8.51	nr	< 2.0	4.0	300	nr	0.34	0.46	0.06	1.24	< 0.04	35.2	0.04	0.05	4.7	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
m = measured flow
ug = USGS gage flow

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:
If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR6	06/03/04	2:15 PM	n/a	8.16	20.9	8.32	58	< 2.0	5.5	210	3.64	0.32	0.33	< 0.05	0.83	< 0.04	79.5	0.01	0.05	4.7	nr
		06/09/04	1:55 PM	113.3 m	8.16	24.7	9.10	66.5	< 2.0	8.0	210	4.92	0.23	0.30	< 0.05	0.97	< 0.04	78.1	0.01	0.08	< 1.0	nr
		06/16/04	1:56 PM	79.7 m	8.00	25.2	9.86	71.4	< 2.0	4.5	220	3.20	0.19	0.36	< 0.05	1.05	< 0.04	219	< 0.01	0.05	2.0	nr
		06/22/04	1:10 PM	n/a	7.46	21.2	8.59	51	< 2.0	13.0	180	12.5	0.62	0.43	< 0.05	0.52	< 0.04	43.5	0.01	0.09	4.0	nr
		07/07/04	12:58 PM	119.3 m	8.17	24.8	8.98	57.1	< 2.0	4.0	190	2.54	0.20	0.38	< 0.05	0.54	< 0.04	117	< 0.01	< 0.02	2.0	nr
		07/15/04	1:10 PM	113.9 m	7.40	20.2	8.94	63.5	< 2.0	8.5	190	5.91	0.38	0.68	< 0.05	0.99	< 0.04	32.3	0.03	0.07	2.0	nr
		07/16/04	1:00 PM	nr	6.66	21.4	9.00	66.3	< 2.0	5.0	190	2.43	0.21	0.37	0.06	0.95	< 0.04	32.2	0.03	0.06	2.0	nr
		07/28/04	12:41 PM	nr	7.53	20.7	8.46	44.6	< 2.0	56	140	32.0	2.54	0.59	< 0.05	1.03	< 0.04	16.5	0.07	0.18	< 1.0	nr
		07/29/04	10:30 AM	nr	7.58	20.7	9.06	55.4	< 2.0	9.0	150	6.91	0.64	0.44	0.06	1.12	< 0.04	37.5	0.03	0.06	1.0	nr
		08/09/04	12:05 PM	64.1 m	8.49	21.4	11.6	85.2	< 2.0	3.5	230	1.35	0.15	0.09	< 0.05	1.15	< 0.04	239	< 0.01	0.04	< 1.0	nr
		08/10/04	10:55 AM	nr	8.44	21.2	10.7	89.5	< 2.0	2.5	220	1.29	0.14	0.36	< 0.05	1.25	< 0.04	259	< 0.01	< 0.02	2.0	28.4
		08/25/04	11:50 AM	n/a	8.02	21.7	9.06	48.2	< 2.0	6.5	160	2.75	0.21	1.30	< 0.05	0.49	< 0.04	107	< 0.01	0.04	< 1.0	nr
		09/16/04	10:15 AM	60.7 m	7.62	17.3	9.40	79.9	< 2.0	6.5	220	1.27	0.23	0.26	< 0.05	1.26	< 0.04	46.6	0.03	0.07	2.0	nr
		10/13/04	11:40 AM	n/a	7.94	14.9	10.0	52.3	< 2.0	2.5	170	4.55	0.13	0.33	0.06	0.68	< 0.04	152	< 0.01	< 0.02	3.3	nr
		11/02/04	11:10 AM	69.9 m	8.21	11.8	10.8	75.5	< 2.0	2.0	200	1.84	0.15	0.35	< 0.05	1.24	< 0.04	257	< 0.01	0.04	3.3	14.8
		11/03/04	1:30 PM	nr	8.16	13.4	11.0	74.7	< 2.0	3.5	180	1.57	0.14	0.32	< 0.05	1.14	< 0.04	108	0.01	0.04	1.3	nr
		11/29/04	10:50 AM	n/a	8.05	7.8	11.7	29.1	< 2.0	27.0	100	20.4	1.57	0.31	< 0.05	0.75	< 0.04	44.2	0.02	0.11	< 1.0	nr
		11/30/04	10:40 AM	n/a	7.87	6.9	12.0	44.7	< 2.0	7.0	150	8.43	0.58	0.23	< 0.05	1.05	< 0.04	73	0.02	0.04	2.0	nr
		08/04/05	9:25 AM	121.3 m	7.89	25.7	7.92	55.4	< 2.0	4.5	180	1.74	0.16	0.51	< 0.05	0.50	< 0.04	109	< 0.01	0.07	2.0	12.2
		08/05/05	1:15 PM	nr	8.19	27.0	8.43	53	< 2.0	2.5	170	3.22	0.13	0.09	0.05	0.46	< 0.04	107	< 0.01	0.14	7.3	nr

Stream Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Ambient Event

Flow:
m = measured flow
ug = USGS gage flow

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR7	06/03/04	1:15 PM	n/a	8.38	21.5	9.49	56.9	< 2.0	6.5	190	3.72	0.30	0.29	< 0.05	1.02	< 0.04	96.8	0.01	0.04	5.3	nr
		06/09/04	12:15 PM	142.9 m	8.34	24.5	9.50	67.7	< 2.0	5.0	220	4.07	0.22	0.36	< 0.05	1.28	< 0.04	49.1	0.03	0.09	< 1.0	nr
		06/16/04	12:54 PM	115.9 m	8.40	25.1	10.3	69.9	< 2.0	6.5	210	4.25	0.20	0.36	< 0.05	1.12	< 0.04	89.6	0.01	0.05	2.7	nr
		06/22/04	12:15 PM	n/a	7.47	20.7	8.66	55.1	< 2.0	5.5	190	6.39	0.31	0.40	< 0.05	0.72	< 0.04	153	< 0.01	0.06	1.3	nr
		07/07/04	12:01 PM	141.4 m	7.75	25.2	9.01	56.3	< 2.0	4.5	200	2.26	0.16	0.35	< 0.05	0.58	< 0.04	125	< 0.01	0.02	1.3	nr
		07/15/04	2:25 PM	169.9 m	7.50	20.6	8.75	56.4	< 2.0	31.5	180	6.59	0.34	0.33	0.05	1.14	< 0.04	32.7	0.04	0.07	2.0	nr
		07/16/04	1:45 PM	nr	7.44	21.1	9.04	62.7	< 2.0	5.5	180	3.33	0.23	0.40	0.05	1.29	< 0.04	36.8	0.04	0.07	1.3	nr
		07/28/04	10:10 AM	nr	7.13	19.9	8.30	41.5	< 2.0	39.0	120	33.6	2.22	0.67	0.06	1.08	< 0.04	25.8	0.05	0.22	1.3	nr
		07/29/04	9:45 AM	nr	7.33	19.6	8.91	51.3	< 2.0	15.0	140	10.4	0.68	0.36	< 0.05	1.29	< 0.04	36.1	0.04	0.07	1.3	nr
		08/09/04	10:45 AM	103.7 m	8.46	19.9	10.2	76.3	< 2.0	2.0	250	1.70	0.12	< 0.05	< 0.05	1.35	< 0.04	279	< 0.01	< 0.02	< 1.0	nr
		08/10/04	9:25 AM	nr	7.91	20.3	9.32	75.8	< 2.0	4.5	200	1.32	0.12	0.27	0.07	1.35	< 0.04	287	< 0.01	0.04	< 1.0	52.5
		08/25/04	1:05 PM	n/a	7.34	22.2	9.31	50.5	< 2.0	7.5	160	3.46	0.20	0.83	< 0.05	0.62	< 0.04	133	< 0.01	0.04	< 1.0	nr
		09/16/04	11:25 AM	78.7 m	7.70	20.4	8.82	74.6	< 2.0	1.0	170	1.60	0.15	0.21	< 0.05	1.49	< 0.04	54.8	0.03	0.06	< 1.0	nr
		10/13/04	12:25 PM	n/a	8.16	14.9	10.5	53.3	< 2.0	3.5	160	4.73	0.14	0.29	0.05	0.88	< 0.04	190	< 0.01	0.03	< 1.0	nr
		11/02/04	9:50 AM	102.5 m	8.21	11.7	11.0	67.8	< 2.0	0.5	200	1.71	0.14	0.38	< 0.05	1.41	< 0.04	291	< 0.01	0.03	4.0	11.4
		11/03/04	12:50 PM	nr	8.14	12.5	11.8	75.5	< 2.0	2.5	200	1.74	0.14	0.27	< 0.05	1.40	< 0.04	111	0.01	0.04	1.3	nr
		11/29/04	10:30 AM	n/a	7.86	8.1	11.2	30	< 2.0	22.5	100	27.9	1.68	0.25	< 0.05	0.90	< 0.04	39.4	0.02	0.12	< 1.0	nr
		11/30/04	9:55 AM	n/a	8.16	6.8	11.8	41.8	< 2.0	6.5	150	8.85	0.56	0.46	< 0.05	1.24	< 0.04	55.9	0.02	0.05	1.3	nr
		08/04/05	10:50 AM	138.3 m	7.88	27.3	7.89	62.3	< 2.0	1.5	190	3.08	0.18	0.51	< 0.05	0.67	< 0.04	143	< 0.01	0.07	< 1.0	12.6
		08/05/05	2:00 PM	nr	8.19	27.4	8.91	55.2	< 2.0	5.0	170	2.81	0.16	0.44	0.05	0.60	< 0.04	134	< 0.01	0.04	< 1.0	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR8	06/03/04	12:30 PM	362 ug	8.43	22.1	7.73	56.5	< 2.0	6.0	180	6.20	0.49	0.40	< 0.05	0.93	< 0.04	108	0.01	0.04	6.0	nr
		06/09/04	11:50 AM	244 ug	8.33	23.3	9.70	66.9	< 2.0	5.0	200	4.59	0.23	0.40	< 0.05	1.18	< 0.04	245	< 0.01	0.09	< 1.0	nr
		06/16/04	12:20 PM	208 ug	7.70	25.0	10.3	70.9	< 2.0	4.0	190	2.41	0.16	0.32	< 0.05	1.27	< 0.04	263	< 0.01	0.04	2.0	nr
		06/22/04	11:30 AM	372 ug	7.40	21.0	8.44	55.2	< 2.0	12.0	180	6.61	0.29	0.30	< 0.05	0.61	< 0.04	131	< 0.01	0.07	2.7	nr
		07/07/04	11:23 AM	320 ug	7.77	23.7	9.09	53.5	< 2.0	6.5	190	2.81	0.29	0.32	< 0.05	0.43	< 0.04	95	< 0.01	< 0.02	1.3	nr
		07/15/04	2:45 PM	416 ug	6.72	21.2	8.95	51.7	< 2.0	14.5	140	13.2	0.55	0.44	< 0.05	1.09	< 0.04	14.6	0.08	0.09	3.3	nr
		07/16/04	2:15 PM	260 ug	7.66	21.7	9.19	59.1	< 2.0	7.5	180	3.50	0.24	0.40	< 0.05	1.23	< 0.04	31.1	0.04	0.07	1.0	nr
		07/28/04	2:25 PM	2440 ug	6.80	20.3	8.37	42.9	< 2.0	45	120	38.1	2.16	0.54	< 0.05	1.09	< 0.04	23.6	0.05	0.18	2.7	nr
		07/29/04	9:10 AM	624 ug	7.18	19.6	8.67	48.9	< 2.0	18.7	140	11.7	0.74	0.58	0.05	1.28	< 0.04	31.3	0.04	0.07	4.7	nr
		08/09/04	10:15 AM	188 ug	7.87	18.8	9.49	76.7	< 2.0	1.0	230	1.82	0.13	0.17	< 0.05	1.33	< 0.04	275	< 0.01	0.02	< 1.0	nr
		08/10/04	8:50 AM	178 ug	7.57	20.3	8.88	78.2	< 2.0	2.5	210	0.98	0.09	0.52	0.07	1.29	< 0.04	276	< 0.01	< 0.02	< 1.0	2.3
		08/25/04	1:40 PM	634 ug	7.34	22.2	9.23	49.7	< 2.0	5.5	160	2.41	0.18	0.91	< 0.05	0.86	< 0.04	181	< 0.01	0.03	< 1.0	nr
		09/16/04	11:50 AM	326 ug	7.67	21.8	9.04	53.1	< 2.0	2.0	140	1.22	0.18	0.18	< 0.05	0.83	< 0.04	58.3	0.02	0.04	< 1.0	nr
		10/13/04	10:50 AM	268 ug	7.88	13.4	10.1	56.1	< 2.0	0.5	170	3.57	0.12	0.30	< 0.05	0.85	< 0.04	179	< 0.01	0.02	< 1.0	nr
		11/02/04	9:05 AM	99 ug	8.31	10.9	11.4	74.4	< 2.0	0.5	220	2.48	0.09	0.29	< 0.05	1.36	< 0.04	281	< 0.01	0.02	4.7	11.3
		11/03/04	1:45 PM	97 ug	8.26	13.1	12.0	75.6	< 2.0	2.0	200	1.71	0.14	0.49	< 0.05	1.29	< 0.04	95.4	0.01	0.07	2.0	nr
		11/29/04	9:40 AM	970 ug	7.90	9.1	10.9	26.1	< 2.0	42	92	34.9	2.19	0.32	< 0.05	0.81	< 0.04	29.5	0.03	0.14	< 1.0	nr
		11/30/04	9:35 AM	393 ug	8.40	6.8	11.6	41.6	< 2.0	7.5	130	10.5	0.61	0.25	< 0.05	1.20	< 0.04	54.1	0.02	0.06	< 1.0	nr
		08/04/05	8:20 AM	146 ug	7.48	24.9	7.36	58.4	< 2.0	3.5	190	2.65	0.18	0.96	< 0.05	0.65	< 0.04	139	< 0.01	0.07	< 1.0	7.4
		08/05/05	2:20 PM	149 ug	8.55	28.2	9.50	53.4	< 2.0	3.0	180	2.06	0.19	0.70	0.07	0.58	< 0.04	134	< 0.01	0.03	< 1.0	nr

Stream Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Ambient Event

Flow:

m = measured flow
ug = USGS gage flow

All:

n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR9	06/03/04	1:55 PM	n/a	8.32	21.5	11.0	59.7	< 2.0	5.5	220	3.51	0.24	0.13	< 0.05	1.11	< 0.04	46.2	0.03	0.06	4.0	nr
		06/09/04	12:20 PM	n/a	7.77	25.2	11.1	71.7	< 2.0	8.0	240	3.53	0.20	0.23	< 0.05	2.26	< 0.04	18.3	0.13	0.17	1.7	nr
		06/16/04	2:00 PM	190.1 m	6.79	27.3	9.03	76.9	< 2.0	9.5	240	4.76	0.27	0.52	0.05	2.35	< 0.04	14.8	0.16	0.27	< 1.0	nr
		06/22/04	12:30 PM	222.8 m	7.23	21.3	8.29	60	< 2.0	14.5	220	7.77	0.25	0.46	< 0.05	1.73	< 0.04	11	0.16	0.23	4.0	nr
		07/07/04	2:10 PM	149.5 m	7.23	26.2	8.14	56.9	< 2.0	5.0	210	2.63	0.26	0.51	< 0.05	1.13	< 0.04	11.1	0.11	0.13	2.7	nr
		07/15/04	1:25 PM	n/a	7.44	21.1	8.12	45.9	< 2.0	28.0	160	27.2	1.38	0.70	0.07	1.52	< 0.04	19.7	0.08	0.17	1.3	nr
		07/16/04	11:40 AM	n/a	7.66	20.9	8.99	58.4	< 2.0	9.0	190	6.26	0.26	0.60	0.06	1.77	< 0.04	18.5	0.10	0.14	< 1.0	nr
		07/28/04	1:30 PM	n/a	7.21	20.5	8.61	45.6	2.2	56	130	50.5	2.68	0.80	0.07	1.25	< 0.04	20	0.07	0.24	1.3	nr
		07/29/04	2:00 PM	n/a	7.72	24.0	8.53	53.2	< 2.0	12.0	160	10.0	0.64	0.54	0.05	1.37	< 0.04	32	0.05	0.09	2.0	nr
		08/09/04	12:45 PM	nr	8.76	24.2	11.7	74.3	< 2.0	3.0	220	0.87	0.13	0.29	< 0.05	1.17	< 0.04	243	< 0.01	0.04	1.3	n/a
		08/10/04	2:10 PM	155.0 m	8.95	24.7	10.6	78	< 2.0	2.0	240	0.86	0.11	0.49	0.06	1.66	< 0.04	28.9	0.06	0.09	< 1.0	n/a
		08/25/04	1:55 PM	n/a	7.77	23.5	10.1	52.9	< 2.0	4.5	170	1.71	0.19	0.89	< 0.05	0.87	< 0.04	28.6	0.03	0.06	< 1.0	nr
		09/16/04	11:10 AM	n/a	7.81	21.9	8.79	55.6	< 2.0	< 0.5	180	1.62	0.13	0.40	< 0.05	1.18	< 0.04	20.1	0.06	0.07	< 1.0	nr
		10/13/04	10:15 AM	n/a	7.78	12.8	10.2	59.9	< 2.0	< 0.5	190	3.33	0.10	0.24	< 0.05	1.39	< 0.04	17.9	0.08	0.12	< 1.0	nr
		11/02/04	9:45 AM	98.0 m	7.79	12.0	11.7	75.6	< 2.0	1.0	230	1.61	0.11	0.36	< 0.05	2.02	< 0.04	16.4	0.13	0.15	1.3	nr
		11/03/04	10:40 AM	nr	7.90	12.5	11.8	75.6	< 2.0	< 0.5	220	1.62	0.14	0.21	< 0.05	1.81	< 0.04	19.1	0.10	0.12	< 1.0	13.8
		11/29/04	11:00 AM	nr	7.20	8.3	13.0	29.1	< 2.0	55	110	37.0	2.48	0.54	< 0.05	0.97	< 0.04	19.9	0.05	0.15	< 1.0	nr
		11/30/04	10:30 AM	550.6 m	7.62	6.8	13.8	43.6	< 2.0	6.0	140	9.75	0.57	0.42	< 0.05	1.32	< 0.04	37.9	0.04	0.09	< 1.0	nr
		08/04/05	8:50 AM	139.1 m	7.61	26.3	7.14	60.9	< 2.0	1.5	230	1.66	0.15	0.32	< 0.05	1.08	< 0.04	10.3	0.11	0.17	< 1.0	19.6
		08/05/05	8:20 AM	nr	7.59	26.8	5.73	60.3	< 2.0	1.5	220	2.26	0.18	0.42	0.05	1.19	< 0.04	13.7	0.09	0.11	1.3	nr

Stream Sampling Results

NOTES:

(yellow) = High-Flow Event
(green) = Low-Flow Event
(white) = Ambient Event

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Periphyton:

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	CBOD$_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	SBRR10	06/03/04	12:30 PM	n/a	8.15	22.9	10.2	50.7	< 2.0	10.5	220	7.55	0.32	0.20	< 0.05	1.05	< 0.04	54.8	0.02	0.07	2.0	nr
		06/09/04	11:25 AM	n/a	7.87	25.7	10.8	70.5	< 2.0	11.5	220	7.02	0.27	0.33	< 0.05	1.19	< 0.04	51.5	0.02	0.06	1.3	nr
		06/16/04	12:35 PM	n/a	8.04	28.2	8.98	71.6	< 2.0	8.5	230	6.58	0.25	0.33	< 0.05	1.24	< 0.04	25.7	0.05	0.13	1.3	nr
		06/22/04	11:15 AM	n/a	7.36	20.6	8.14	62.7	3.8	12.5	210	11.3	0.35	0.55	< 0.05	0.84	< 0.04	22.7	0.04	0.13	2.7	nr
		07/07/04	1:10 PM	n/a	7.49	27.9	8.11	57.3	< 2.0	5.5	200	3.33	0.15	0.44	< 0.05	0.47	< 0.04	13.9	0.04	0.04	2.0	nr
		07/15/04	12:30 PM	n/a	7.31	21.2	7.50	36.5	< 2.0	53	130	59.6	2.09	1.07	0.10	1.45	< 0.04	15.1	0.10	0.22	2.7	nr
		07/16/04	2:10 PM	n/a	7.77	22.1	8.59	50.6	< 2.0	8.0	170	8.47	0.33	0.70	0.05	1.69	< 0.04	20.5	0.09	0.12	< 2.0	nr
		07/28/04	11:30 AM	n/a	7.27	20.6	7.04	31.8	2.1	64	92	83.0	3.38	0.98	0.08	1.18	< 0.04	11.6	0.11	0.29	< 1.0	nr
		07/29/04	1:15 PM	n/a	7.31	22.3	8.54	47.8	< 2.0	15.0	140	13.7	0.84	0.59	< 0.05	1.53	< 0.04	21.6	0.07	0.12	1.3	nr
		08/09/04	12:05 PM	n/a	8.85	23.0	11.2	70.9	< 2.0	< 0.5	210	0.95	0.09	0.28	< 0.05	1.09	< 0.04	227	< 0.01	0.03	< 1.0	nr
		08/10/04	12:05 PM	n/a	9.02	24.3	9.03	74.3	< 2.0	3.0	220	1.19	0.09	0.48	0.11	1.08	< 0.04	243	< 0.01	0.06	< 1.0	25.0
		08/25/04	12:50 PM	n/a	7.71	23.1	8.62	52.5	< 2.0	3.5	170	1.57	0.15	0.89	< 0.05	0.78	< 0.04	29.5	0.03	0.04	< 1.0	nr
		09/16/04	12:00 PM	n/a	7.88	21.9	8.75	55.4	< 2.0	3.0	180	2.27	0.12	0.26	< 0.05	0.98	< 0.04	18.3	0.06	0.07	< 1.0	nr
		10/13/04	11:50 AM	n/a	8.19	12.9	12.5	69.6	< 2.0	1.0	200	3.46	0.11	0.14	< 0.05	1.44	< 0.04	42.4	0.04	0.05	< 1.0	nr
		11/02/04	12:30 PM	n/a	8.28	14.7	11.5	74.4	< 2.0	0.5	210	1.11	0.13	0.32	0.06	1.37	< 0.04	42.5	0.03	0.06	16.7	13.3
		11/03/04	11:30 AM	n/a	7.93	12.7	11.5	73.5	< 2.0	2.5	200	1.49	0.13	0.44	< 0.05	1.41	< 0.04	36.4	0.04	0.06	2.0	nr
		11/29/04	12:01 PM	n/a	6.49	8.6	11.0	26.3	< 2.0	57	100	97.0	2.67	0.69	< 0.05	1.08	< 0.04	19.1	0.06	0.20	1.3	nr
		11/30/04	10:30 AM	n/a	7.42	7.2	11.3	40.6	< 2.0	9.5	130	13.7	0.63	0.70	< 0.05	1.58	< 0.04	33.2	0.05	0.08	< 1.0	nr
		08/04/05	11:25 AM	n/a	8.79	28.6	8.83	62.1	< 2.0	1.5	220	1.86	0.16	0.48	< 0.05	0.93	< 0.04	19.1	0.05	0.12	< 1.0	39.6
		08/05/05	11:50 AM	n/a	8.42	28.6	8.12	58.7	< 2.0	3.0	200	1.62	0.33	0.36	< 0.05	0.72	< 0.04	14.5	0.05	0.08	1.3	nr

Stream Sampling Results

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Mainstem Raritan River	RR1	06/03/04	10:40 AM	1018 ug	7.76	22.8	9.05	57.1	< 2.0	16.0	200	14.6	0.70	0.23	0.05	0.93	< 0.04	50	0.02	0.09	8.7	nr
		06/09/04	9:45 AM	637 ug	7.91	24.2	8.95	65.9	< 2.0	10.5	230	7.12	0.35	0.28	< 0.05	0.98	< 0.04	38	0.03	0.08	< 1.0	nr
		06/16/04	10:30 AM	537 ug	7.95	26.3	8.94	68.4	< 2.0	9.0	230	6.95	0.28	0.67	0.07	0.94	< 0.04	36.7	0.03	0.65	1.3	nr
		06/22/04	9:45 AM	693 ug	7.76	22.7	8.81	72	< 2.0	8.0	250	6.96	0.27	0.43	< 0.05	0.74	< 0.04	14.5	0.05	0.10	3.3	nr
		07/07/04	10:45 AM	528 ug	7.24	26.8	7.94	61.1	< 2.0	7.0	210	2.89	0.26	0.36	< 0.05	0.46	< 0.04	12.6	0.04	0.04	2.7	nr
		07/15/04	10:20 AM	5150 ug	6.28	22.6	8.12	18	2.1	99	130	92.7	2.65	1.10	0.12	1.05	< 0.04	11.2	0.11	0.30	1.3	nr
		07/16/04	10:20 AM	1357 ug	7.52	22.1	8.63	46.4	< 2.0	16.0	230	14.0	0.67	0.67	0.08	1.31	< 0.04	17.2	0.08	0.15	1.3	nr
		07/28/04	9:50 AM	18000 ug	7.33	20.7	7.05	26.4	2.4	130	87	130	4.50	0.45	< 0.05	0.82	< 0.04	7.15	0.12	0.34	1.3	nr
		07/29/04	10:50 AM	5990 ug	7.41	21.4	8.31	40.8	2.2	75	120	59.8	2.86	0.75	0.06	1.09	< 0.04	17	0.07	0.21	< 1.0	nr
		08/09/04	10:00 AM	659 ug	8.49	22.0	8.84	71.2	< 2.0	2.5	250	1.47	0.16	0.26	< 0.05	0.96	< 0.04	201	< 0.01	0.03	2.0	nr
		08/10/04	9:45 AM	613 ug	8.87	24.7	9.53	98.7	< 2.0	2.5	220	1.12	0.12	0.34	0.06	0.87	< 0.04	190	< 0.01	0.04	< 1.0	14.4
		08/25/04	11:05 AM	1023 ug	7.67	22.3	9.43	57.4	< 2.0	6.0	180	2.00	0.24	0.88	0.06	0.82	< 0.04	20.8	0.04	0.07	1.3	nr
		09/16/04	9:45 AM	626 ug	7.61	21.1	8.20	59.7	< 2.0	9.0	170	4.69	0.25	0.32	< 0.05	1.00	< 0.04	26.8	0.04	0.08	< 1.0	nr
		10/13/04	10:03 AM	453 ug	8.08	12.5	11.8	65.9	< 2.0	< 0.5	210	1.68	0.14	0.26	< 0.05	1.28	< 0.04	55.2	0.02	0.04	3.3	nr
		11/02/04	9:40 AM	267 ug	7.81	12.7	12.5	70.8	< 2.0	1.0	210	2.11	0.11	0.23	0.05	1.15	< 0.04	48.8	0.03	0.05	< 1.0	14.1
		11/03/04	8:56 AM	256 ug	7.93	12.5	12.8	69.8	< 2.0	1.5	210	2.05	0.08	0.38	< 0.05	1.09	< 0.04	47.3	0.02	0.05	< 1.0	11.2
		11/29/04	9:45 AM	5330 ug	6.35	8.5	10.4	27.1	< 2.0	59	100	36.5	3.21	0.49	< 0.05	0.91	< 0.04	11.9	0.08	0.21	< 1.0	nr
		11/30/04	9:07 AM	1620 ug	6.56	7.1	11.1	39.9	< 2.0	15.5	130	19.5	0.85	1.74	< 0.05	1.28	< 0.04	24.5	0.05	0.10	< 1.0	nr
		08/04/05	8:20 AM	289 ug	7.75	27.3	6.55	55.8	< 2.0	2.5	180	2.06	0.16	0.09	< 0.05	0.50	< 0.04	14.5	0.04	0.10	< 1.0	11.6
		08/05/05	7:55 AM	318 ug	7.48	27.6	6.26	53.6	< 2.0	6.0	180	1.96	0.13	0.48	< 0.05	0.50	< 0.04	14	0.04	0.06	3.3	nr

Stream Sampling Results

NOTES:

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Flow:

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All:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	R4	08/04/05	10:10 AM	n/a	7.54	27.6	7.06	50.9	< 2.0	2.5	330	3.12	0.24	0.47	0.08	2.74	< 0.04	5.66	0.50	0.59	< 1.0	131.0
		08/05/05	10:15 AM	n/a	7.56	27.4	7.21	58.3	< 2.0	2.0	310	2.77	0.23	0.51	0.08	3.22	< 0.04	6.15	0.54	0.24	< 1.0	n/a

Stream Sampling Results

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	GB1	06/03/04	10:00 AM	116 ug	6.92	20.1	6.95	53.5	< 2.0	10.0	210	10.3	0.69	0.52	0.10	0.99	< 0.04	39.5	0.03	0.10	6.7	nr
		06/09/04	10:25 AM	46 ug	7.32	25.4	7.25	86.7	< 2.0	8.5	280	4.63	0.51	0.37	0.08	1.10	< 0.04	48.1	0.03	0.08	1.3	nr
		06/16/04	11:10 AM	36 ug	7.27	24.1	7.75	95.3	< 2.0	6.0	320	5.12	0.33	0.19	0.06	0.91	< 0.04	27.4	0.04	0.08	2.7	nr
		06/22/04	10:15 AM	118 ug	6.87	20.1	7.04	95.2	< 2.0	6.5	330	3.89	0.38	0.48	0.07	1.03	< 0.04	27.3	0.04	0.10	2.0	nr
		07/07/04	11:50 AM	34 ug	7.21	24.6	7.71	68	< 2.0	4.5	280	2.26	0.38	0.45	< 0.05	0.65	< 0.04	12	0.06	0.06	1.3	nr
		07/15/04	10:50 AM	388 ug	7.14	22.2	6.66	43.9	< 2.0	30.0	170	21.4	1.13	0.90	0.13	0.85	< 0.04	17.2	0.06	0.14	2.0	nr
		07/16/04	10:55 AM	136 ug	6.96	21.6	6.85	52.2	< 2.0	12.0	190	8.64	0.51	0.64	0.12	0.80	< 0.04	12.8	0.07	0.13	2.7	nr
		07/28/04	10:25 AM	2260 ug	7.43	20.7	8.08	54.3	< 2.0	21.3	160	26.9	1.54	0.68	0.05	1.25	< 0.04	40	0.03	0.11	2.0	nr
		07/29/04	11:20 AM	546 ug	7.00	22.7	6.92	48	< 2.0	12.5	150	23.6	1.87	0.55	0.08	1.07	< 0.04	23.4	0.05	0.16	< 1.0	nr
		08/09/04	10:30 AM	48 ug	7.64	20.2	8.38	96.5	< 2.0	2.0	320	1.74	0.25	0.30	< 0.05	1.13	< 0.04	90.4	0.01	0.05	< 1.0	nr
		08/10/04	10:25 AM	50 ug	7.40	21.0	7.65	100	< 2.0	2.0	320	1.91	0.26	0.56	0.28	1.12	< 0.04	83.3	0.02	0.05	< 1.0	24.5
		08/25/04	11:35 AM	38 ug	7.39	21.1	8.89	83.2	< 2.0	1.5	290	1.52	0.31	0.95	< 0.05	1.07	< 0.04	30.1	0.04	0.05	< 1.0	nr
		09/16/04	10:15 AM	56 ug	7.27	19.7	7.02	81	< 2.0	7.5	300	4.38	0.34	0.41	0.05	1.23	< 0.04	43.3	0.03	0.07	< 1.0	nr
		10/13/04	10:40 AM	15 ug	7.57	11.8	10.4	96.9	< 2.0	0.5	330	2.21	0.18	0.20	< 0.05	1.34	< 0.04	66	0.02	0.04	< 1.0	nr
		11/02/04	10:00 AM	16 ug	7.47	12.2	10.5	110	< 2.0	< 0.5	310	2.29	0.20	0.41	0.05	1.15	< 0.04	81.3	0.02	0.03	< 1.0	13.0
		11/03/04	9:20 AM	16 ug	7.45	12.0	9.57	110	< 2.0	2.0	290	1.52	0.22	0.51	< 0.05	0.92	< 0.04	46	0.02	0.05	2.7	11.4
		11/29/04	10:10 AM	306 ug	6.75	8.6	10.0	34.8	< 2.0	24.5	140	28.5	1.85	0.38	< 0.05	0.74	< 0.04	12.9	0.06	0.15	< 1.0	nr
		11/30/04	9:29 AM	93 ug	7.10	7.7	10.5	50.3	< 2.0	10.0	180	10.9	0.78	0.53	< 0.05	1.12	< 0.04	26.5	0.04	0.10	< 1.0	nr
		08/04/05	9:07 AM	7 ug	7.43	24.1	6.08	99.6	< 2.0	2.0	370	2.44	0.50	0.22	< 0.05	0.80	< 0.04	19.5	0.04	0.11	< 1.0	60.2
		08/05/05	8:25 AM	7 ug	7.21	24.4	5.66	99.7	< 2.0	10.0	340	2.57	0.57	0.42	0.05	0.77	< 0.04	22.2	0.04	0.11	2.7	nr

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	SMR1	06/02/04	8:30 AM	6.4 m	6.60	15.4	8.38	46	< 2.0	4.0	210	4.28	0.34	0.23	< 0.05	1.07	< 0.04	17.2	0.07	0.09	1.3	nr
		06/10/04	7:40 AM	3.6 m	6.80	21.1	7.41	48.1	< 2.0	4.0	210	4.27	0.23	0.35	0.06	1.13	< 0.04	13	0.09	0.12	2.7	nr
		06/15/04	8:00 AM	n/a	7.00	19.6	7.86	49.1	< 2.0	6.0	230	4.49	0.18	0.38	< 0.05	1.12	< 0.04	21.6	0.05	0.12	3.3	nr
		06/23/04	8:57 AM	1.6 m	7.12	19.1	7.01	54.2	< 2.0	5.0	240	4.36	0.15	0.24	< 0.05	0.90	< 0.04	9.17	0.10	0.12	1.3	nr
		07/08/04	12:45 PM	nr	7.59	24.2	8.83	48.8	< 2.0	3.5	240	2.28	0.12	0.48	< 0.05	1.24	< 0.04	14.1	0.09	0.09	< 1.0	nr
		07/09/04	10:00 AM	3.1 m	7.27	21.5	7.61	53.6	< 2.0	8.0	230	3.44	0.15	0.31	< 0.05	0.74	< 0.04	6.95	0.11	0.15	< 1.0	< 1.0
		07/13/04	12:45 PM	nr	6.89	20.3	7.79	32.2	< 2.0	11.0	160	15.3	0.62	0.66	0.05	0.79	< 0.04	11.3	0.08	0.15	2.7	nr
		07/14/04	12:30 PM	16.4 m	7.31	21.2	8.28	42	< 2.0	6.0	210	5.28	0.38	0.76	0.06	1.07	< 0.04	13.4	0.09	0.15	2.0	nr
		07/20/04	10:50 AM	13.4 m	7.05	20.5	8.21	42.8	< 2.0	4.5	190	5.84	0.27	0.34	< 0.05	1.13	< 0.04	15.5	0.08	0.09	3.3	nr
		08/06/04	8:22 AM	9.8 m	7.13	17.6	8.78	45.1	< 2.0	3.5	190	3.30	0.27	0.67	0.10	1.27	< 0.04	16.9	0.08	0.11	6.7	nr
		08/16/04	9:25 AM	nr	7.09	20.3	8.13	47.8	< 2.0	3.0	170	2.45	0.25	0.58	0.07	1.10	< 0.04	15.7	0.08	0.10	2.7	nr
		08/17/04	8:50 AM	25.3 m	6.91	19.1	8.36	35.6	< 2.0	18.0	140	9.42	0.61	0.72	0.09	0.98	< 0.04	12.7	0.09	0.14	< 1.0	nr
		08/24/04	8:42 AM	5.6 m	7.29	18.9	8.43	52.2	< 2.0	1.0	190	1.31	0.14	0.65	< 0.05	1.24	< 0.04	21.1	0.06	0.11	< 1.0	nr
		09/07/04	11:20 AM	1.8 m	6.93	19.4	8.62	56.4	< 2.0	0.5	220	1.61	0.15	0.30	0.05	0.89	< 0.04	8.08	0.12	0.14	2.7	15.4
		09/08/04	10:10 AM	nr	7.14	21.4	7.71	46.1	< 2.0	7.0	160	32.1	1.91	0.93	0.08	0.94	< 0.04	8.56	0.12	0.28	< 1.0	nr
		09/22/04	9:10 AM	3.2 m	7.10	14.8	8.91	54.7	< 2.0	< 0.5	200	1.22	0.11	0.49	0.05	0.91	< 0.04	9.9	0.10	0.12	1.3	nr
		10/11/04	9:40 AM	2.5 m	7.31	12.1	9.51	49.3	< 2.0	1.5	190	1.28	0.07	0.12	< 0.05	1.11	< 0.04	15.8	0.07	0.08	< 1.0	nr
		11/10/04	8:56 AM	5.7 m	6.99	2.8	13.0	45.5	< 2.0	1.5	160	4.31	0.17	0.27	< 0.05	1.33	< 0.04	29.3	0.05	0.05	< 1.0	14.4
		11/11/04	9:13 AM	nr	7.34	5.3	12.7	45.6	< 2.0	1.0	160	3.90	0.16	0.24	0.05	1.20	< 0.04	26.5	0.05	0.06	1.3	nr
		11/12/04	10:47 AM	nr	6.90	6.6	11.9	45.7	< 2.0	0.5	180	3.56	0.16	0.37	0.06	1.21	< 0.04	29.3	0.04	0.06	< 1.0	nr
		11/13/04	8:55 AM	67.1 m	7.02	6.0	11.3	28.2	< 2.0	7.0	110	19.2	0.79	0.45	0.05	0.75	< 0.04	12.8	0.06	0.16	< 1.0	nr

Stream Sampling Results

NOTES:

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	M7	08/04/05	9:30 AM	n/a	6.91	26.8	5.53	65	< 2.0	2.5	240	1.85	0.25	0.47	< 0.05	2.36	< 0.04	5.78	0.42	0.49	< 1.0	63.1
Mainstem Raritan River	M7	08/05/05	9:50 AM	n/a	6.94	27.6	4.24	48.3	< 2.0	1.5	240	1.83	0.21	0.66	0.11	2.68	< 0.04	7.36	0.38	0.41	< 1.0	n/a

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	BBB1-GMPi	06/02/04	4:25 PM	nr	6.20	21.1	11.2	nr	< 2.0	8.5	130	nr	0.76	0.50	0.07	2.95	< 0.04	117	0.03	0.09	nr	nr
		06/10/04	2:20 PM	nr	6.60	22.4	11.7	nr	< 2.0	10.7	130	nr	0.66	0.64	< 0.05	3.83	< 0.04	204	0.02	0.07	nr	nr
		06/15/04	4:15 PM	nr	6.50	22.5	12.6	nr	< 2.0	10.5	150	nr	0.47	0.29	< 0.05	3.69	< 0.04	220	0.02	0.06	nr	nr
		06/23/04	2:45 PM	nr	6.48	21.3	12.6	nr	< 2.0	5.5	160	nr	0.36	0.26	< 0.05	4.15	< 0.04	323	0.01	0.03	nr	nr
		07/08/04	4:10 PM	nr	6.46	25.6	7.67	nr	< 2.0	4.5	200	nr	0.80	0.67	0.14	2.39	< 0.04	51	0.05	0.15	nr	nr
		07/09/04	11:00 AM	nr	6.19	21.1	6.44	nr	< 2.0	4.5	120	nr	0.72	0.71	0.13	2.76	< 0.04	58.1	0.05	0.11	nr	nr
		07/13/04	1:01 PM	nr	6.14	20.6	5.97	nr	< 2.0	8.0	99	nr	1.10	0.76	0.07	1.03	< 0.04	11.2	0.10	0.19	nr	nr
		07/14/04	10:43 AM	nr	6.13	20.2	6.76	nr	< 2.0	8.0	96	nr	0.70	0.90	0.10	1.28	< 0.04	18	0.08	0.15	nr	nr
		07/20/04	11:35 AM	nr	6.31	21.5	7.11	nr	< 2.0	3.5	120	nr	0.62	0.59	0.10	3.05	< 0.04	85.7	0.04	0.08	nr	nr
		08/06/04	12:00 PM	nr	6.30	19.9	7.76	nr	< 2.0	3.0	120	nr	0.50	0.33	< 0.05	2.93	< 0.04	76.3	0.04	0.07	nr	nr
		08/16/04	1:35 PM	nr	6.21	20.9	7.03	nr	< 2.0	1.0	200	nr	0.74	0.75	0.09	1.88	< 0.04	48.6	0.04	0.11	nr	nr
		08/17/04	2:58 PM	nr	6.39	22.4	9.20	nr	< 2.0	3.0	130	nr	0.60	0.90	0.12	1.95	< 0.04	50.9	0.04	0.10	nr	nr
		08/24/04	1:40 PM	nr	6.35	20.2	10.5	nr	< 2.0	1.0	140	nr	0.25	0.64	< 0.05	3.33	< 0.04	260	0.01	0.04	nr	nr
		09/07/04	4:30 PM	nr	6.30	19.8	10.2	nr	< 2.0	2.0	140	nr	0.12	0.39	0.07	4.20	< 0.04	390	0.01	0.04	nr	nr
		09/08/04	3:30 PM	nr	6.31	20.8	9.84	nr	< 2.0	4.5	110	nr	0.13	0.55	< 0.05	3.90	< 0.04	208	0.02	0.03	nr	nr
		09/22/04	1:49 PM	nr	6.25	17.4	9.39	nr	< 2.0	< 0.5	120	nr	0.13	0.33	< 0.05	4.04	< 0.04	817	< 0.01	0.06	nr	nr
		10/11/04	2:15 PM	nr	6.32	14.0	9.63	nr	< 2.0	2.0	140	nr	0.21	0.71	< 0.05	4.26	< 0.04	431	0.01	0.05	nr	nr
		11/10/04	1:05 PM	nr	6.36	6.9	9.64	nr	< 2.0	4.5	110	nr	0.61	0.21	0.06	2.89	< 0.04	119	0.03	0.06	nr	nr
		11/11/04	11:42 AM	nr	6.03	7.9	9.50	nr	< 2.0	4.5	120	nr	0.47	0.33	0.06	3.08	< 0.04	166	0.02	0.05	nr	nr
		11/12/04	1:32 PM	nr	6.20	8.1	8.98	nr	< 2.0	1.0	120	nr	0.55	0.46	0.08	3.15	< 0.04	181	0.02	0.05	nr	nr
		11/13/04	1:08 PM	nr	6.39	6.7	9.87	nr	4.3	8.0	80	nr	1.58	0.72	0.11	0.70	< 0.04	10.7	0.08	0.22	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	BBB3-GMPo	06/15/04	3:45 PM	5.1	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		06/23/04	3:00 PM	3.8	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		07/08/04	3:30 PM	4.2	m	6.87	27.3	9.53	nr	< 2.0	2.0	130	nr	0.31	0.47	< 0.05	0.39	< 0.04	87	< 0.01	0.02	6.0	nr
		07/09/04	10:40 AM	nr		6.59	25.4	8.24	nr	< 2.0	1.5	120	nr	0.35	0.43	< 0.05	0.23	< 0.04	24.8	0.01	0.06	4.0	nr
		07/13/04	12:37 PM	nr		5.99	20.8	4.77	nr	< 2.0	5.0	71	nr	1.01	0.68	0.11	0.83	< 0.04	18.4	0.05	0.15	4.0	nr
		07/14/04	9:45 AM	19.7	m	6.42	21.0	1.57	nr	2.3	9.0	96	nr	0.72	0.75	0.11	0.79	< 0.04	19.9	0.05	0.13	10.7	nr
		07/20/04	11:20 AM	4.9	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/06/04	2:45 PM	4.9	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/16/04	1:15 PM	nr		6.23	22.6	7.75	nr	< 2.0	5.0	130	nr	0.58	0.60	< 0.05	1.05	< 0.04	99.5	0.01	0.06	< 1.0	nr
		08/17/04	2:25 PM	8.7	m	6.36	22.8	4.77	nr	< 2.0	3.0	130	nr	0.58	0.45	0.19	1.09	< 0.04	65.2	0.02	0.07	< 1.0	nr
		08/24/04	12:45 PM	4.4	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		09/07/04	3:56 PM	2.4	m	6.46	21.3	2.75	nr	< 2.0	3.5	150	nr	0.62	0.52	0.09	0.84	< 0.04	63.5	0.02	0.06	1.3	nr
		09/08/04	3:14 PM	nr		6.49	21.1	3.64	nr	< 2.0	4.5	250	nr	0.69	0.39	0.08	0.89	< 0.04	198	< 0.01	0.03	1.3	nr

Stream Sampling Results

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	CB1-PPi	06/02/04	3:15 PM	nr	6.30	22.8	8.17	nr	< 2.0	5.5	160	nr	0.67	0.31	< 0.05	0.96	< 0.04	112	0.01	0.07	nr	nr
		06/10/04	1:20 PM	nr	6.70	26.3	7.56	nr	< 2.0	7.0	150	nr	0.83	0.46	0.06	0.53	< 0.04	36.1	0.02	0.07	nr	nr
		06/15/04	5:05 PM	nr	6.60	26.1	8.37	nr	< 2.0	6.5	160	nr	0.69	0.29	< 0.05	0.56	< 0.04	31.8	0.02	0.08	nr	nr
		06/23/04	1:45 PM	nr	6.27	24.7	8.14	nr	< 2.0	8.0	170	nr	1.13	0.29	0.11	0.42	< 0.04	19.6	0.03	0.09	nr	nr
		07/08/04	4:30 PM	nr	6.75	27.8	7.23	nr	< 2.0	5.5	180	nr	0.87	0.50	< 0.05	0.05	< 0.04	2.44	0.04	0.13	nr	nr
		07/09/04	11:15 AM	nr	6.32	26.0	5.41	nr	< 2.0	12.7	150	nr	1.18	0.64	0.08	0.21	< 0.04	5.9	0.05	0.15	nr	nr
		07/13/04	1:27 PM	nr	6.23	22.2	6.35	nr	< 2.0	3.0	110	nr	1.00	0.46	0.13	0.22	< 0.04	12.3	0.03	0.12	nr	nr
		07/14/04	11:08 AM	nr	6.25	21.1	5.63	nr	< 2.0	5.0	92	nr	0.89	0.63	0.13	0.27	< 0.04	9.09	0.05	0.12	nr	nr
		07/20/04	10:35 AM	nr	6.23	22.8	5.23	nr	< 2.0	1.0	110	nr	0.94	0.53	0.09	0.30	< 0.04	11.1	0.04	0.08	nr	nr
		08/06/04	12:56 PM	nr	6.58	22.9	5.78	nr	< 2.0	1.5	120	nr	0.82	0.33	0.05	0.44	< 0.04	15.5	0.03	0.07	nr	nr
		08/16/04	2:10 PM	nr	6.33	23.1	4.51	nr	< 2.0	2.0	130	nr	0.80	0.37	0.09	0.54	< 0.04	18.4	0.04	0.11	nr	nr
		08/17/04	4:00 PM	nr	6.71	24.1	8.89	nr	< 2.0	5.0	130	nr	0.68	1.44	0.08	0.50	< 0.04	13.9	0.04	0.13	nr	nr
		08/24/04	2:30 PM	nr	6.67	23.6	6.29	nr	< 2.0	1.0	150	nr	0.69	0.43	0.11	0.57	< 0.04	32	0.02	0.07	nr	nr
		09/07/04	5:24 PM	nr	6.42	23.7	7.25	nr	< 2.0	3.0	92	nr	0.91	0.44	0.09	0.51	< 0.04	25.9	0.02	0.09	nr	nr
		09/08/04	4:11 PM	nr	6.47	23.3	6.29	nr	< 2.0	1.5	120	nr	0.93	0.45	0.10	0.60	< 0.04	42.3	0.02	0.05	nr	nr
		09/22/04	2:50 PM	nr	6.59	19.4	7.07	nr	< 2.0	3.5	150	nr	0.64	0.26	0.07	0.75	< 0.04	169	< 0.01	0.06	nr	nr
		10/11/04	3:05 PM	nr	6.71	16.3	8.11	nr	< 2.0	7.0	120	nr	0.88	0.46	< 0.05	1.27	< 0.04	263	< 0.01	0.02	nr	nr
		11/10/04	2:00 PM	nr	6.46	6.3	8.02	nr	< 2.0	15.0	86	nr	2.03	0.69	0.24	1.13	< 0.04	73.1	0.02	0.12	nr	nr
		11/11/04	12:25 PM	nr	6.21	8.0	7.30	nr	< 2.0	15.5	89	nr	2.07	0.83	0.28	1.40	< 0.04	77.1	0.02	0.12	nr	nr
		11/12/04	2:03 PM	nr	6.24	7.4	7.93	nr	< 2.0	13.0	92	nr	1.92	0.48	0.26	1.01	< 0.04	68	0.02	0.13	nr	nr
		11/13/04	1:30 PM	nr	6.37	7.3	10.6	nr	< 2.0	14.0	81	nr	1.30	0.37	0.12	0.95	< 0.04	109	0.01	0.10	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	CB3-PPo	06/02/04	2:15 PM	n/a	6.30	20.8	8.17	22.7	< 2.0	5.5	160	2.14	1.02	0.51	0.06	1.34	< 0.04	158	0.01	0.05	16.7	nr
		06/10/04	12:15 PM	n/a	6.80	25.5	9.41	21	< 2.0	1.5	140	4.99	0.43	0.56	0.05	1.23	< 0.04	260	< 0.01	0.05	< 1.0	nr
		06/15/04	3:05 PM	4.3 m	6.80	24.8	10.8	14.2	2.0	8.0	160	3.81	0.35	0.52	< 0.05	0.76	< 0.04	161	< 0.01	0.08	3.3	nr
		06/23/04	12:30 PM	4.7 m	7.32	24.3	10.4	26.5	< 2.0	4.5	180	3.20	0.35	0.62	< 0.05	0.64	< 0.04	137	< 0.01	0.05	7.3	nr
		07/08/04	3:05 PM	11.2 m	6.97	27.0	10.2	nr	< 2.0	5.5	140	nr	0.55	0.59	< 0.05	0.36	< 0.04	36.8	0.01	0.05	16.7	nr
		07/09/04	10:15 AM	nr	6.55	26.1	9.05	nr	< 2.0	2.0	160	nr	0.54	0.36	< 0.05	0.38	< 0.04	85	< 0.01	0.07	9.4	nr
		07/13/04	11:10 AM	116.0 m	6.43	23.0	5.31	nr	< 2.0	7.5	140	nr	1.11	0.57	0.21	0.38	< 0.04	25.3	0.02	0.09	6.7	nr
		07/14/04	8:45 AM	nr	6.27	21.4	4.64	nr	< 2.0	3.0	130	nr	1.04	0.71	0.14	0.32	< 0.04	14.8	0.03	0.09	4.7	nr
		08/06/04	2:30 PM	12.9 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/16/04	11:40 AM	nr	6.31	22.5	6.78	nr	< 2.0	3.0	110	nr	0.92	0.47	0.14	0.55	< 0.04	41.9	0.02	0.08	< 1.0	nr
		08/17/04	1:15 PM	37.8 m	6.23	23.2	7.43	nr	< 2.0	4.0	130	nr	0.99	0.49	0.16	0.71	< 0.04	27.7	0.03	0.10	2.0	nr
		09/07/04	3:57 PM	4.4 m	6.83	23.9	10.3	nr	< 2.0	4.5	160	nr	0.74	0.63	0.07	0.79	< 0.04	68	0.01	0.06	2.0	nr
		09/08/04	2:55 PM	nr	7.09	24.1	10.7	nr	< 2.0	4.0	130	nr	0.62	0.73	0.10	0.92	< 0.04	207	< 0.01	0.03	2.0	nr
		09/22/04	1:05 PM	5.3 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		10/11/04	1:35 PM	7.9 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		11/10/04	11:42 AM	5.3 m	6.31	7.9	9.57	nr	< 2.0	5.5	84	nr	1.31	0.61	0.13	0.85	< 0.04	40	0.03	0.11	3.3	nr
		11/11/04	11:08 AM	nr	6.49	8.0	9.19	nr	< 2.0	10.5	94	nr	1.18	0.60	0.15	0.87	< 0.04	49.6	0.02	0.07	7.3	nr
		11/12/04	1:05 PM	nr	6.44	7.6	9.86	nr	< 2.0	4.5	91	nr	1.23	0.54	0.24	0.94	< 0.04	44.3	0.03	0.08	< 1.0	nr
		11/13/04	11:37 AM	66.9 m	6.73	7.0	10.1	nr	< 2.0	5.0	95	nr	1.23	0.44	0.18	1.24	< 0.04	90.3	0.02	0.09	< 1.0	nr

Stream Sampling Results

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	CB4	06/10/04	11:50 AM	10.5 m	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	nr
		07/20/04	10:20 AM	n/a	6.40	23.0	7.07	16.4	< 2.0	4.0	120	5.51	1.48	0.59	0.17	0.58	< 0.04	16.7	0.05	0.10	9.4	nr
		08/06/04	11:37 AM	n/a	6.21	23.6	7.41	18.1	< 2.0	5.0	140	5.78	1.28	0.71	0.07	0.63	< 0.04	19.5	0.04	0.12	< 1.0	nr
		08/24/04	12:30 PM	9.1 m	6.43	24.1	8.56	18.9	< 2.0	3.5	130	1.98	0.77	0.41	0.06	0.52	< 0.04	35.1	0.02	0.09	< 1.0	nr
		09/22/04	1:05 PM	n/a	6.75	20.4	8.74	25.1	< 2.0	4.5	170	3.86	0.63	1.06	0.11	1.28	< 0.04	282	< 0.01	0.05	2.0	nr
		10/11/04	1:35 PM	n/a	6.60	16.0	9.73	13.6	< 2.0	12.0	100	5.64	1.23	0.50	< 0.05	0.96	< 0.04	52.9	0.02	0.08	8.7	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro./Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	DB1-GPi	06/02/04	10:40 AM	nr	6.40	16.6	6.61	nr	< 2.0	18.0	92	nr	3.89	0.73	0.08	1.24	< 0.04	33.6	0.04	0.05	nr	nr
		06/10/04	8:40 AM	nr	6.30	20.3	5.99	nr	< 2.0	6.5	120	nr	2.14	1.00	0.07	2.05	< 0.04	56.3	0.04	0.07	nr	nr
		06/15/04	5:50 PM	6.5 m	6.70	22.0	6.29	nr	< 2.0	5.5	140	nr	1.23	0.40	< 0.05	2.44	< 0.04	118	0.02	0.07	nr	nr
		06/23/04	10:30 AM	nr	6.65	18.8	5.96	nr	< 2.0	30.0	150	nr	0.77	0.28	< 0.05	2.46	< 0.04	114	0.02	0.03	nr	nr
		07/08/04	2:10 PM	nr	6.36	23.5	5.80	nr	< 2.0	1.0	180	nr	0.89	0.34	< 0.05	1.35	< 0.04	58.1	0.02	0.06	nr	nr
		07/09/04	9:30 AM	nr	6.49	20.9	5.89	nr	< 2.0	4.0	130	nr	0.95	0.48	< 0.05	1.30	< 0.04	56	0.02	0.05	nr	nr
		07/13/04	9:13 AM	21.1 m	6.55	19.4	5.92	nr	< 2.0	3.0	99	nr	1.38	0.47	0.07	0.75	< 0.04	32.3	0.03	0.10	nr	nr
		07/14/04	8:23 AM	nr	6.47	18.9	6.15	nr	< 2.0	4.0	100	nr	1.48	0.59	< 0.05	0.41	< 0.04	19	0.02	0.08	nr	nr
		07/20/04	7:55 AM	nr	6.19	20.0	5.54	nr	< 2.0	6.0	89	nr	1.75	0.60	0.06	0.44	< 0.04	17.3	0.03	0.07	nr	nr
		08/06/04	9:25 AM	nr	6.83	18.2	6.29	nr	< 2.0	2.0	89	nr	2.36	0.48	0.08	1.49	< 0.04	34.6	0.05	0.09	nr	nr
		08/16/04	10:10 AM	nr	6.44	20.3	6.20	nr	< 2.0	9.0	97	nr	1.95	0.69	0.07	0.79	< 0.04	18.3	0.05	0.10	nr	nr
		08/17/04	9:55 AM	nr	6.39	19.5	6.12	nr	< 2.0	6.0	85	nr	1.93	0.65	0.06	0.70	< 0.04	24.3	0.03	0.09	nr	nr
		08/24/04	9:25 AM	nr	6.69	19.1	6.36	nr	< 2.0	3.5	97	nr	2.05	1.52	0.08	1.37	< 0.04	45.9	0.03	0.08	nr	nr
		09/07/04	12:25 PM	nr	6.77	19.3	6.62	nr	< 2.0	4.0	93	nr	1.27	0.64	0.05	1.72	< 0.04	55.9	0.03	0.08	nr	nr
		09/08/04	12:25 PM	nr	6.82	21.1	6.41	nr	< 2.0	< 0.5	98	nr	1.08	0.69	< 0.05	1.64	< 0.04	112	0.02	0.04	nr	nr
		09/22/04	10:11 AM	nr	7.06	15.4	7.69	nr	< 2.0	1.5	99	nr	0.86	0.40	0.06	1.69	< 0.04	93.1	0.02	0.06	nr	nr
		10/11/04	10:40 AM	nr	6.74	13.3	7.46	nr	< 2.0	2.5	93	nr	0.92	0.56	< 0.05	1.64	< 0.04	99.1	0.02	0.09	nr	nr
		11/10/04	9:55 AM	nr	7.11	4.7	9.49	nr	< 2.0	2.0	68	nr	1.35	0.20	< 0.05	0.98	< 0.04	64.1	0.02	0.04	nr	nr
		11/11/04	9:50 AM	nr	6.81	6.1	9.52	nr	< 2.0	3.5	81	nr	1.22	0.30	< 0.05	1.10	< 0.04	81.8	0.01	0.04	nr	nr
		11/12/04	11:20 AM	nr	6.67	6.9	9.13	nr	< 2.0	3.5	84	nr	1.14	0.28	0.05	1.18	< 0.04	83.3	0.02	0.04	nr	nr
		11/13/04	9:45 AM	nr	6.82	5.9	8.98	nr	< 2.0	2.0	65	nr	1.56	0.36	0.09	0.73	< 0.04	52.4	0.02	0.06	nr	nr

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	DB3-GPo	06/23/04	9:55 AM	1.7 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		07/08/04	2:45 PM	2.0 m	7.01	28.3	9.18	nr	< 2.0	7.5	200	nr	0.49	0.64	< 0.05	0.79	< 0.04	167	< 0.01	0.03	9.4	nr
		07/09/04	10:00 AM	nr	6.82	26.3	8.08	nr	< 2.0	4.5	170	nr	0.48	0.37	< 0.05	0.73	< 0.04	155	< 0.01	0.07	4.7	nr
		07/13/04	10:40 AM	n/a	6.54	20.9	6.12	nr	2.1	9.0	130	nr	1.04	0.57	0.10	0.77	< 0.04	46.7	0.02	0.13	16.0	nr
		07/14/04	7:40 AM	n/a	6.55	20.3	5.02	nr	< 2.0	9.0	110	nr	1.20	0.64	0.06	0.65	< 0.04	33.1	0.02	0.09	6.7	nr
		07/20/04	8:40 AM	19.6 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/06/04	2:15 PM	3.6 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/16/04	12:55 PM	nr	6.36	27.7	7.57	nr	< 2.0	5.0	77	nr	1.67	0.58	0.06	0.77	< 0.04	56.7	0.02	0.10	< 1.0	nr
		08/17/04	10:55 AM	29.5 m	6.47	22.3	6.63	nr	< 2.0	5.0	92	nr	1.90	0.47	0.09	0.78	< 0.04	29.6	0.03	0.12	< 1.0	nr
		08/24/04	10:00 AM	6.6 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		09/07/04	1:08 PM	2.2 m	7.10	24.9	9.24	nr	2.3	6.5	120	nr	1.43	0.78	0.05	0.95	< 0.04	46.4	0.02	0.11	1.3	nr
		09/08/04	12:50 PM	nr	6.88	24.9	9.09	nr	< 2.0	4.5	110	nr	1.35	0.59	< 0.05	0.91	< 0.04	191	< 0.01	0.07	< 1.0	nr
		10/11/04	11:10 AM	1.8 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		11/10/04	10:30 AM	8.1 m	6.97	7.7	7.53	nr	< 2.0	6.0	92	nr	1.48	0.36	< 0.05	0.60	< 0.04	46.1	0.01	0.05	< 1.0	nr
		11/11/04	10:38 AM	nr	6.57	7.1	8.41	nr	< 2.0	4.0	76	nr	1.37	0.45	0.06	0.71	< 0.04	43.9	0.02	0.07	6.7	nr
		11/12/04	12:28 PM	nr	6.74	6.3	9.63	nr	< 2.0	1.0	77	nr	1.34	0.33	0.08	0.85	< 0.04	52.6	0.02	0.06	2.0	nr
		11/13/04	9:28 AM	34.6 m	6.65	6.3	9.62	nr	< 2.0	5.0	79	nr	1.34	0.43	0.06	0.85	< 0.04	51.9	0.02	0.09	< 1.0	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
m = measured flow
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All:
n/a = Data Not Available
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	RB1-PLi	06/02/04	7:10 PM	nr	6.00	20.0	7.23	nr	< 2.0	6.0	140	nr	1.69	0.38	< 0.05	0.88	< 0.04	40.2	0.02	0.07	nr	nr
		06/10/04	4:15 PM	nr	6.70	25.1	6.94	nr	< 2.0	5.5	110	nr	1.26	0.54	0.08	0.72	< 0.04	43.1	0.02	0.05	nr	nr
		06/15/04	9:25 AM	nr	6.60	22.0	6.81	nr	< 2.0	6.0	150	nr	0.89	0.28	0.07	0.79	< 0.04	62.9	0.01	0.06	nr	nr
		06/23/04	5:45 PM	nr	6.87	24.0	6.22	nr	< 2.0	26.7	170	nr	0.75	0.41	0.08	0.69	< 0.04	41.4	0.02	0.03	nr	nr
		07/08/04	6:20 PM	nr	7.22	26.7	6.02	nr	< 2.0	7.5	300	nr	1.42	0.50	0.08	0.35	< 0.04	20.4	0.02	0.12	nr	nr
		07/09/04	12:40 PM	nr	6.70	28.1	5.83	nr	< 2.0	10.0	140	nr	1.06	0.51	0.09	0.35	< 0.04	23.1	0.02	0.08	nr	nr
		07/13/04	3:07 PM	nr	6.45	21.3	6.88	nr	2.2	21.0	94	nr	3.09	0.71	0.13	0.40	< 0.04	19.6	0.03	0.21	nr	nr
		07/14/04	2:15 PM	nr	6.46	21.7	7.22	nr	< 2.0	7.0	98	nr	1.54	0.66	0.07	0.23	< 0.04	11.5	0.03	0.10	nr	nr
		07/20/04	1:15 PM	nr	6.63	24.2	8.15	nr	3.5	9.0	170	nr	1.34	0.65	< 0.05	0.38	< 0.04	38.6	0.01	0.08	nr	nr
		08/06/04	2:00 PM	nr	6.86	22.5	7.71	nr	< 2.0	4.0	140	nr	0.83	0.64	0.24	0.86	< 0.04	66	0.02	0.06	nr	nr
		08/16/04	12:20 PM	nr	6.66	21.8	6.94	nr	< 2.0	30.0	120	nr	1.15	0.46	0.09	0.82	< 0.04	84.5	0.01	0.10	nr	nr
		08/17/04	12:45 PM	nr	7.01	23.1	7.97	nr	3.3	11.0	110	nr	1.42	0.94	0.07	0.80	< 0.04	37.2	0.02	0.11	nr	nr
		08/24/04	10:57 AM	6.1 m	6.89	22.9	6.44	nr	< 2.0	8.0	120	nr	0.75	0.31	0.20	0.63	< 0.04	42.7	0.02	0.03	nr	nr
		09/07/04	3:55 PM	nr	6.98	23.4	6.79	nr	< 2.0	4.5	120	nr	1.46	0.44	0.09	0.75	< 0.04	26.8	0.03	0.07	nr	nr
		09/08/04	12:22 PM	nr	6.81	23.9	5.84	nr	< 2.0	0.5	120	nr	1.46	0.59	0.10	0.70	< 0.04	34.3	0.02	0.06	nr	nr
		09/22/04	12:15 PM	nr	7.05	19.5	6.90	nr	< 2.0	2.0	150	nr	1.72	0.35	0.07	0.71	< 0.04	47.3	0.02	0.04	nr	nr
		10/11/04	11:50 AM	nr	6.38	14.6	8.55	nr	2.6	7.0	120	nr	1.34	0.64	< 0.05	1.02	< 0.04	76.1	0.01	0.07	nr	nr
		11/10/04	3:45 PM	nr	6.60	8.0	10.5	nr	< 2.0	6.0	100	nr	1.84	0.39	0.06	0.72	< 0.04	57.2	0.01	0.07	nr	nr
		11/11/04	1:40 PM	nr	6.50	8.5	10.6	nr	< 2.0	7.0	110	nr	1.85	0.39	0.09	0.77	< 0.04	62.9	0.01	0.07	nr	nr
		11/12/04	3:08 PM	nr	6.99	7.3	10.5	nr	5.4	12.5	150	nr	2.29	0.58	0.15	0.78	< 0.04	39.5	0.02	0.14	nr	nr
		11/13/04	11:15 AM	nr	6.45	6.7	10.9	nr	< 2.0	12.0	100	nr	2.40	0.44	0.11	0.96	< 0.04	77.9	0.01	0.12	nr	nr

Stream Sampling Results

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	RB3-PLo	06/23/04	5:10 PM	6.1	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		07/08/04	5:40 PM	7.3	m	9.05	29.3	11.4	nr	< 2.0	9.0	150	nr	0.54	0.72	< 0.05	0.55	< 0.04	119	< 0.01	0.04	18.0	nr
		07/09/04	12:15 PM	nr		7.04	25.9	9.23	nr	< 2.0	9.0	160	nr	0.91	0.76	< 0.05	0.65	< 0.04	63.2	0.01	0.10	28.0	nr
		07/13/04	2:21 PM	92.7	m	6.33	27.9	5.71	nr	< 2.0	5.0	120	nr	1.72	0.67	0.18	0.72	< 0.04	41.6	0.02	0.13	6.7	nr
		07/14/04	1:15 PM	nr		6.54	23.3	7.72	nr	2.2	7.0	120	nr	1.54	0.77	0.09	0.68	< 0.04	32.8	0.02	0.10	13.4	nr
		07/20/04	1:30 PM	20.5	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/16/04	12:35 PM	17.4	m	6.82	22.3	8.02	nr	< 2.0	5.0	150	nr	0.47	0.62	0.13	1.04	< 0.04	239	< 0.01	0.07	< 1.0	nr
		08/17/04	1:30 PM	nr		6.92	23.9	7.81	nr	< 2.0	7.0	160	nr	0.91	0.57	0.13	0.98	< 0.04	226	< 0.01	0.06	1.3	nr
		09/07/04	4:10 PM	5.9	m	7.01	24.4	8.16	nr	< 2.0	5.0	140	nr	1.06	0.66	0.06	0.92	< 0.04	66.3	0.02	0.07	5.3	nr
		09/08/04	12:40 PM	nr		7.02	24.8	8.24	nr	< 2.0	5.5	97	nr	0.97	0.67	< 0.05	0.85	< 0.04	179	< 0.01	0.04	< 1.0	nr
		09/22/04	1:10 PM	4.5	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		10/11/04	12:10 PM	7.0	m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		11/10/04	3:18 PM	10.1	m	6.76	9.4	11.0	nr	3.6	8.0	100	nr	1.61	0.90	< 0.05	0.84	< 0.04	52.1	0.02	0.11	3.3	nr
		11/11/04	1:22 PM	nr		6.62	9.2	10.7	nr	< 2.0	8.0	100	nr	1.62	0.75	< 0.05	0.86	< 0.04	37.7	0.02	0.12	3.3	nr
		11/12/04	3:15 PM	23.2	m	6.83	7.3	10.7	nr	4.6	22.0	110	nr	2.51	0.28	0.06	0.85	< 0.04	27.3	0.03	0.14	7.3	nr
		11/13/04	11:35 AM	57.6	m	6.72	6.9	11.4	nr	< 2.0	8.5	120	nr	1.53	0.68	0.06	0.90	< 0.04	54.6	0.02	0.11	1.3	nr

Stream Sampling Results

NOTES:

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Periphyton:

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Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	RB4	06/02/04	6:20 PM	17.1 m	6.10	20.8	7.02	26.1	< 2.0	5.0	190	2.17	0.97	0.59	0.08	2.44	< 0.04	102	0.03	0.09	8.7	nr
		06/10/04	3:35 PM	11.0 m	6.70	23.0	6.97	27.1	< 2.0	3.0	160	3.88	0.75	0.55	0.11	2.58	< 0.04	63	0.04	0.08	< 1.0	nr
		06/15/04	10:25 AM	22.4 m	6.90	22.2	6.87	31.1	< 2.0	6.5	200	3.03	0.38	0.61	0.07	3.44	< 0.04	321	0.01	0.05	1.3	nr
		06/23/04	4:30 PM	6.9 m	6.92	24.2	6.10	32.8	< 2.0	2.5	230	2.53	0.34	0.55	0.08	3.31	< 0.04	83.2	0.04	0.07	2.0	nr
		07/08/04	4:50 PM	8.7 m	6.51	26.5	5.78	22.2	< 2.0	2.0	170	3.33	0.45	0.67	0.11	2.76	< 0.04	70.6	0.04	0.07	2.7	n/a
		07/09/04	11:45 AM	nr	6.59	24.2	5.89	21	< 2.0	2.5	170	2.71	0.36	0.68	0.10	2.45	< 0.04	65.8	0.04	0.09	2.0	n/a
		07/13/04	1:50 PM	nr	6.44	22.0	7.52	22.2	< 2.0	9.0	130	13.0	1.62	0.69	0.20	0.92	< 0.04	44	0.03	0.13	5.3	nr
		07/14/04	11:35 AM	63.4 m	6.39	21.1	7.45	15.3	< 2.0	11.0	120	12.9	1.53	0.49	0.14	0.93	< 0.04	28	0.04	0.14	6.7	nr
		07/20/04	1:50 PM	n/a	6.74	24.3	6.98	16.2	< 2.0	2.0	130	3.47	0.81	0.78	0.11	1.72	< 0.04	61.5	0.03	0.06	2.0	nr
		08/06/04	12:45 PM	17.1 m	6.71	22.6	6.82	17.7	2.8	9.0	170	5.70	0.83	1.03	0.25	2.63	< 0.04	58.1	0.05	0.14	< 1.0	nr
		08/16/04	1:10 PM	20.1 m	6.77	23.0	6.69	17.9	< 2.0	5.0	170	3.23	0.60	0.59	0.20	1.83	< 0.04	68.3	0.03	0.08	1.3	nr
		08/17/04	12:01 PM	nr	7.04	23.9	6.81	21.9	< 2.0	8.0	160	2.72	0.76	0.64	0.13	1.48	< 0.04	54.4	0.03	0.07	< 1.0	nr
		08/24/04	11:45 AM	10.3 m	7.06	23.2	6.26	23	< 2.0	5.0	170	1.40	0.64	0.79	0.18	2.73	< 0.04	69.8	0.04	0.07	1.3	nr
		09/07/04	4:25 PM	8.9 m	6.82	23.0	5.87	24.7	< 2.0	3.5	80	2.08	0.82	0.84	0.13	2.60	< 0.04	42.2	0.07	0.10	1.3	56.7
		09/08/04	1:15 PM	nr	6.97	24.9	5.84	26.7	< 2.0	2.5	150	3.64	0.88	0.60	0.11	2.92	< 0.04	74.3	0.04	0.09	< 1.0	nr
		09/22/04	1:40 PM	5.7 m	7.00	21.8	7.65	27.1	4.5	3.5	160	3.50	0.70	2.10	0.12	5.74	< 0.04	163	0.04	0.13	7.5	nr
		10/11/04	12:40 PM	8.8 m	6.34	13.1	7.90	18.5	< 2.0	3.0	160	3.72	0.93	0.85	0.08	2.70	< 0.04	75.7	0.04	0.08	8.0	nr
		11/10/04	2:50 PM	10.5 m	6.80	9.3	10.5	32.8	< 2.0	7.0	130	9.59	1.51	0.50	0.06	1.84	< 0.04	87.3	0.02	0.07	4.0	13.0
		11/11/04	1:01 PM	nr	6.48	10.1	10.6	19.4	< 2.0	14.0	160	10.0	1.41	0.66	0.09	2.29	< 0.04	92.3	0.03	0.09	1.7	nr
		11/12/04	3:10 PM	nr	6.52	8.1	10.4	16.9	8.9	28.0	110	33.8	2.94	0.85	0.10	1.73	< 0.04	35.6	0.05	0.22	< 1.0	nr
		11/13/04	11:50 AM	55.9 m	6.82	7.2	11.3	15.6	< 2.0	7.5	130	13.7	1.57	0.45	0.07	1.30	< 0.04	77.3	0.02	0.11	< 1.0	nr

Stream Sampling Results

NOTES:

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If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	UMR1	06/02/04	5:00 PM	15.3 m	6.00	22.7	7.01	11.5	< 2.0	7.5	130	3.82	2.51	0.41	0.06	0.89	< 0.04	30.4	0.03	0.09	3.3	nr
		06/10/04	3:00 PM	8.9 m	6.60	24.8	7.26	11.5	< 2.0	3.5	110	12.6	1.86	0.49	0.08	0.90	< 0.04	41.6	0.02	0.09	< 1.0	nr
		06/15/04	12:35 PM	3.1 m	6.20	22.2	7.13	12.3	< 2.0	8.5	130	12.3	1.58	0.36	0.07	1.00	< 0.04	77.5	0.01	0.09	1.3	nr
		06/23/04	4:00 PM	3.5 m	6.48	23.5	6.52	13.5	< 2.0	10.5	130	12.2	1.46	0.41	0.08	0.91	< 0.04	38.8	0.03	0.08	2.0	nr
		07/08/04	2:50 PM	nr	6.81	26.4	6.06	11.5	< 2.0	5.5	130	9.03	1.46	0.57	0.08	0.93	< 0.04	47	0.02	0.07	< 1.0	n/a
		07/09/04	12:40 PM	7.1 m	6.39	23.8	5.78	12.2	< 2.0	10.5	120	9.58	3.43	0.15	0.08	0.85	< 0.04	36.5	0.03	0.11	2.0	n/a
		07/13/04	2:45 PM	nr	5.86	20.5	5.56	9.74	< 2.0	15.0	94	31.2	2.67	0.64	0.06	0.92	< 0.04	20.9	0.05	0.16	1.3	nr
		07/14/04	3:00 PM	n/a	5.91	21.9	6.18	6.5	< 2.0	7.0	99	17.1	2.20	0.52	0.06	0.84	< 0.04	19.2	0.05	0.14	2.7	nr
		07/20/04	12:00 PM	n/a	6.19	22.4	6.61	7.31	< 2.0	4.5	100	11.3	1.62	0.56	< 0.05	0.77	< 0.04	23.3	0.04	0.09	5.3	nr
		08/06/04	1:30 PM	9.3 m	6.57	21.5	6.76	17.8	< 2.0	1.5	130	8.33	1.65	0.64	< 0.05	1.02	< 0.04	27.3	0.04	0.06	< 1.0	nr
		08/16/04	2:30 PM	nr	6.44	21.9	6.42	12.9	< 2.0	2.0	120	8.15	1.59	0.31	0.06	0.64	< 0.04	25.6	0.03	0.07	2.7	nr
		08/17/04	4:25 PM	29.2 m	6.63	23.5	6.75	16.1	< 2.0	5.0	120	7.28	1.62	0.33	0.07	0.74	< 0.04	19.3	0.04	0.11	1.3	nr
		08/24/04	2:51 PM	2.7 m	6.80	22.2	6.24	15.6	< 2.0	1.5	130	4.85	1.27	0.29	< 0.05	0.69	< 0.04	33.4	0.02	0.07	4.0	nr
		09/07/04	6:20 PM	6.3 m	6.30	22.4	6.36	18.3	< 2.0	3.0	120	3.89	0.78	0.49	0.05	0.67	< 0.04	33.8	0.02	0.06	< 1.0	102.0
		09/08/04	4:48 PM	nr	6.41	23.6	5.92	15.9	< 2.0	8.5	110	2.04	0.92	0.73	0.06	0.67	< 0.04	150	< 0.01	0.05	1.3	nr
		09/22/04	3:10 PM	3.8 m	6.57	19.2	7.25	15	< 2.0	2.0	130	4.86	1.21	0.17	0.05	0.86	< 0.04	54.9	0.02	0.03	< 1.0	nr
		10/11/04	3:24 PM	n/a	6.41	13.9	8.44	5.21	< 2.0	5.0	140	4.47	0.61	0.26	0.06	1.35	< 0.04	286	< 0.01	0.03	< 1.0	nr
		11/10/04	2:20 PM	14.8 m	6.41	5.9	11.1	17.5	< 2.0	4.0	110	5.73	0.79	0.20	0.05	0.98	< 0.04	95.8	0.01	0.04	2.0	< 25.0
		11/11/04	12:42 PM	n/a	6.20	6.6	11.0	8.78	< 2.0	4.5	100	6.69	0.88	0.50	0.10	1.04	< 0.04	105	0.01	0.03	5.3	nr
		11/12/04	2:56 PM	n/a	6.25	6.2	10.2	6.19	< 2.0	1.5	94	8.67	1.01	0.23	0.08	1.06	< 0.04	106	0.01	0.05	< 1.0	nr
		11/13/04	2:00 PM	n/a	6.30	6.9	10.1	12.8	2.7	10.0	110	21.8	1.96	0.50	< 0.05	0.85	< 0.04	34.4	0.03	0.13	< 1.0	nr

Stream Sampling Results

NOTES:

= High-Flow Event
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Flow:
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All:
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	UMR2	06/02/04	3:40 PM	45.9 m	6.40	21.9	8.05	22.3	< 2.0	4.5	170	2.75	1.10	0.40	0.08	2.52	< 0.04	39.7	0.07	0.10	5.3	nr
		06/10/04	1:45 PM	24.6 m	6.30	24.3	8.24	31.6	< 2.0	7.0	150	5.38	0.72	0.44	0.06	3.41	< 0.04	37.5	0.09	0.12	< 1.0	nr
		06/15/04	4:35 PM	16.0 m	6.90	24.5	9.83	35.5	< 2.0	7.0	180	5.98	0.55	0.69	< 0.05	3.07	< 0.04	45.8	0.07	0.14	< 1.0	nr
		06/23/04	2:00 PM	20.7 m	6.93	23.0	9.97	35.7	< 2.0	5.5	200	3.31	0.35	0.42	< 0.05	4.19	< 0.04	36.5	0.12	0.14	1.3	nr
		07/08/04	2:20 PM	n/a	7.04	26.8	7.79	27.4	< 2.0	4.5	170	4.89	0.69	0.79	< 0.05	2.78	< 0.04	94.2	0.03	0.04	1.3	n/a
		07/09/04	12:15 PM	n/a	6.72	24.0	7.23	30.7	< 2.0	3.5	180	3.43	0.67	0.49	0.06	3.68	< 0.04	61.6	0.06	0.11	1.3	n/a
		07/13/04	2:20 PM	n/a	6.19	21.4	5.43	15.2	< 2.0	11.0	97	16.1	1.51	0.79	0.09	0.78	< 0.04	12.9	0.07	0.18	1.3	nr
		07/14/04	2:30 PM	n/a	6.19	22.5	5.64	11.8	< 2.0	9.0	120	12.8	1.47	0.65	0.07	0.93	< 0.04	14.4	0.07	0.17	6.0	nr
		07/20/04	10:55 AM	n/a	6.60	22.9	6.60	14.7	< 2.0	10.0	110	10.7	1.39	0.51	0.06	1.24	< 0.04	33.7	0.04	0.10	< 1.0	nr
		08/06/04	12:37 PM	n/a	6.71	22.4	8.87	26.8	< 2.0	1.5	170	3.76	0.75	0.10	0.10	2.96	< 0.04	61.5	0.05	0.07	< 1.0	nr
		08/16/04	1:50 PM	nr	6.49	22.4	7.89	24.2	< 2.0	3.0	160	3.75	0.73	0.53	0.12	1.85	< 0.04	60.2	0.03	0.08	1.3	nr
		08/17/04	3:20 PM	69.2 m	6.53	23.7	8.50	22.2	< 2.0	9.0	140	4.96	0.91	0.48	0.11	1.36	< 0.04	38.2	0.04	0.10	< 1.0	nr
		08/24/04	1:50 PM	29.1 m	6.93	22.8	11.3	33.1	< 2.0	1.0	180	1.73	0.43	0.44	< 0.05	3.23	< 0.04	88.5	0.04	0.07	< 1.0	nr
		09/07/04	4:45 PM	19.7 m	6.97	23.1	9.14	29.8	< 2.0	< 0.5	200	1.99	0.46	0.54	0.05	4.00	< 0.04	78.3	0.05	0.09	< 1.0	19.7
		09/08/04	3:51 PM	nr	6.92	23.4	8.48	32	< 2.0	0.5	160	0.57	0.47	0.46	0.06	3.79	< 0.04	77.4	0.05	0.07	< 1.0	nr
		09/22/04	1:58 PM	19.9 m	6.92	20.3	10.3	35.2	< 2.0	1.5	190	1.68	0.35	0.41	0.05	4.39	< 0.04	131	0.03	0.04	< 1.0	nr
		10/11/04	2:32 PM	26.8 m	6.80	16.1	10.1	19.5	< 2.0	3.5	160	1.94	0.39	0.52	< 0.05	3.58	< 0.04	151	0.02	0.04	< 1.0	nr
		11/10/04	1:25 PM	33.3 m	6.57	7.9	11.3	17.6	< 2.0	8.0	140	7.90	0.84	0.53	< 0.05	2.75	< 0.04	175	0.02	0.06	1.3	12.6
		11/11/04	12:04 PM	n/a	6.45	8.6	11.1	17.6	< 2.0	5.5	150	5.90	1.09	0.45	0.06	3.28	< 0.04	187	0.02	0.06	6.0	nr
		11/12/04	1:40 PM	n/a	6.49	8.1	10.8	18.1	< 2.0	4.0	130	6.86	0.76	0.35	0.07	3.72	< 0.04	347	0.01	0.06	< 1.0	nr
		11/13/04	1:18 PM	n/a	6.41	7.5	10.4	14.8	< 2.0	15.0	100	22.2	1.89	0.64	0.05	1.34	< 0.04	48.6	0.03	0.15	< 1.0	nr

Stream Sampling Results

NOTES:

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Flow:

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	UMR3	06/02/04	12:20 PM	80.8 m	6.50	19.9	7.78	25.5	< 2.0	5.0	190	2.28	0.87	0.81	0.39	2.65	< 0.04	63.8	0.05	0.09	13.9	nr
		06/10/04	9:45 AM	49.8 m	6.50	23.1	7.03	26.3	< 2.0	2.5	160	4.55	0.61	0.86	0.38	2.86	< 0.04	54.4	0.06	0.10	2.0	nr
		06/15/04	2:25 PM	55.1 m	6.80	23.4	8.93	32.4	< 2.0	0.5	190	3.64	0.36	1.26	0.84	3.10	< 0.04	147	0.03	0.11	< 1.0	nr
		06/23/04	11:15 AM	39.4 m	6.71	21.0	6.53	38.5	< 2.0	3.0	210	2.33	0.25	1.13	0.81	3.61	< 0.04	57.6	0.08	0.09	< 1.0	nr
		07/08/04	1:40 PM	37.9 m	6.96	27.1	7.21	26.3	< 2.0	4.5	170	3.51	0.53	1.58	0.75	1.78	< 0.04	106	0.02	0.07	2.0	nr
		07/09/04	11:30 AM	nr	6.61	25.1	5.94	25.4	< 2.0	1.0	160	2.92	0.50	1.19	0.73	2.09	< 0.04	59.2	0.05	0.11	2.7	5.9
		07/13/04	1:45 PM	n/a	6.22	22.2	5.67	19.5	< 2.0	18.0	150	13.6	1.98	0.79	0.19	0.52	< 0.04	17.7	0.04	0.19	5.3	nr
		07/14/04	2:00 PM	n/a	6.19	23.0	5.73	12.2	< 2.0	5.0	110	11.5	1.33	0.51	0.05	0.82	< 0.04	12.6	0.07	0.17	< 1.0	nr
		07/20/04	9:20 AM	128.8 m	6.57	22.1	6.49	18.2	< 2.0	1.0	120	5.04	1.14	1.15	0.56	0.97	< 0.04	33.8	0.05	0.10	2.7	nr
		08/06/04	9:50 AM	31.6 m	6.89	21.4	7.52	24.4	< 2.0	1.5	130	3.87	0.86	0.97	0.10	1.87	< 0.04	43.2	0.05	0.10	5.3	nr
		08/16/04	11:10 AM	nr	6.59	21.7	6.23	24.8	< 2.0	1.5	150	3.20	0.56	1.05	1.01	1.62	< 0.04	102	0.03	0.06	< 1.0	nr
		08/17/04	11:40 AM	126.5 m	6.58	21.8	7.25	21	< 2.0	3.0	130	3.96	0.89	0.30	0.40	1.31	< 0.04	38.4	0.05	0.09	< 1.0	nr
		08/24/04	10:59 AM	51.4 m	6.98	21.8	7.13	31.2	< 2.0	1.0	180	1.44	0.42	1.32	0.93	2.18	< 0.04	131	0.02	0.07	< 1.0	nr
		09/07/04	2:20 PM	33.7 m	6.87	21.8	8.38	30.7	< 2.0	1.0	190	1.68	0.34	1.70	1.37	3.31	< 0.04	147	0.03	0.06	1.3	141.0
		09/08/04	1:41 PM	28.7 m	6.91	23.2	7.62	47.2	< 2.0	6.0	160	1.27	0.31	2.13	1.55	3.13	< 0.04	277	0.02	0.05	< 1.0	nr
		09/22/04	11:22 AM	25.9 m	7.02	17.9	7.74	31.7	< 2.0	< 0.5	180	1.54	0.28	0.66	0.32	3.22	< 0.04	162	0.02	0.02	< 1.0	nr
		10/11/04	12:25 PM	38.4 m	6.53	14.6	9.50	18.3	< 2.0	3.5	150	2.84	0.54	1.07	0.53	2.96	< 0.04	206	0.02	0.06	< 1.0	nr
		11/10/04	10:57 AM	65.0 m	6.90	6.7	10.4	13.8	< 2.0	4.5	120	7.49	0.79	0.62	0.34	2.30	< 0.04	156	0.02	0.06	< 1.0	12.7
		11/11/04	10:16 AM	nr	6.78	7.7	10.4	16.5	< 2.0	7.5	140	5.77	0.81	0.94	0.37	2.84	< 0.04	170	0.02	0.04	1.3	nr
		11/12/04	12:46 PM	nr	6.66	7.7	10.4	16.4	< 2.0	2.5	130	4.59	0.72	0.42	0.28	3.44	< 0.04	249	0.02	0.06	2.0	nr
		11/13/04	10:50 AM	174.6 m	6.86	6.5	10.4	14.7	< 2.0	14.0	100	16.5	1.52	0.68	0.17	1.43	< 0.04	85.1	0.02	0.14	< 1.0	nr

Stream Sampling Results

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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	BaB1	06/02/04	11:20 AM	3.2 m	3.42	17.6	8.45	< 2	< 2.0	2.0	140	1.55	5.11	0.65	0.49	0.06	< 0.04	113	< 0.01	< 0.02	14.0	nr
		06/10/04	7:55 AM	n/a	3.47	21.6	6.50	< 2	< 2.0	9.0	140	8.55	4.62	0.95	0.92	0.04	< 0.04	196	< 0.01	0.02	3.3	nr
		06/15/04	8:57 AM	1.1 m	3.40	20.4	7.39	< 2	< 2.0	11.5	160	3.14	4.55	1.14	0.82	0.04	< 0.04	176	< 0.01	0.05	1.3	nr
		06/23/04	8:10 AM	0.5 m	3.23	20.3	6.10	< 2	< 2.0	4.0	200	2.44	6.86	1.38	1.18	< 0.02	< 0.04	241	< 0.01	0.03	1.3	nr
		07/08/04	8:50 AM	1.5 m	3.46	21.8	6.60	< 2	< 2.0	5.0	170	2.46	3.07	1.33	0.61	0.07	< 0.04	140	< 0.01	< 0.02	< 1.0	nr
		07/09/04	10:00 AM	nr	3.39	21.0	6.26	< 2	< 2.0	3.0	180	1.37	3.17	1.01	0.70	0.08	< 0.04	161	< 0.01	0.04	2.0	7.2
		07/13/04	10:35 AM	133.9 m	3.52	20.0	7.24	< 2	< 2.0	5.0	110	5.02	2.69	0.39	0.22	0.20	< 0.04	88.4	< 0.01	0.05	2.3	nr
		07/14/04	10:15 AM	nr	3.75	19.7	8.03	< 2	< 2.0	3.5	140	2.65	2.62	0.36	0.30	0.07	< 0.04	77.6	< 0.01	0.04	2.0	nr
		07/20/04	12:24 PM	4.1 m	3.56	21.5	7.95	< 2	< 2.0	3.0	130	1.92	2.71	0.58	0.47	0.09	< 0.04	116	< 0.01	< 0.02	< 1.0	nr
		08/06/04	8:47 AM	3.5 m	3.47	18.9	7.85	< 2	< 2.0	4.0	150	2.48	3.81	0.96	0.48	0.41	< 0.04	181	< 0.01	0.03	2.0	nr
		08/16/04	10:45 AM	7.4 m	3.58	16.9	7.86	< 2	< 2.0	7.0	120	4.50	3.02	0.71	0.30	0.39	< 0.04	142	< 0.01	0.07	< 1.0	nr
		08/17/04	10:55 AM	nr	3.69	19.7	8.00	< 2	< 2.0	11.0	120	2.05	3.17	0.46	0.44	0.36	< 0.04	163	< 0.01	0.05	< 1.0	nr
		08/24/04	9:15 AM	1.3 m	3.53	18.6	7.97	< 2	< 2.0	3.0	130	1.34	2.72	0.69	1.49	< 0.02	< 0.04	138	0.01	< 0.02	1.3	nr
		09/07/04	12:30 PM	0.6 m	3.39	16.2	7.66	< 2	< 2.0	4.0	180	1.37	3.52	0.70	0.70	0.41	< 0.04	226	< 0.01	0.05	1.3	134.0
		09/08/04	10:35 AM	nr	3.52	21.5	7.52	< 2	< 2.0	5.0	130	3.17	2.54	0.86	0.61	0.39	< 0.04	203	< 0.01	< 0.02	< 1.0	nr
		09/21/04	10:10 AM	1.3 m	3.59	15.4	8.65	< 2	< 2.0	4.0	130	2.08	2.87	0.96	0.50	0.44	< 0.04	192	< 0.01	< 0.02	2.0	nr
		10/11/04	9:55 AM	1.7 m	3.61	12.3	8.69	< 2	< 2.0	10.0	150	2.64	3.30	0.45	0.32	< 0.02	< 0.04	69.8	< 0.01	< 0.02	2.0	nr
		11/10/04	10:00 AM	1.3 m	4.04	4.4	13.0	< 2	< 2.0	7.5	94	10.4	3.62	0.43	0.19	0.32	< 0.04	105	< 0.01	0.04	2.7	12.1
		11/11/04	10:00 AM	nr	3.89	5.9	12.7	< 2	< 2.0	8.0	92	4.08	3.93	0.49	0.18	0.30	< 0.04	100	< 0.01	< 0.02	2.0	nr
		11/12/04	12:30 PM	4.6 m	3.99	6.5	10.4	< 2	< 2.0	5.0	110	4.61	3.69	0.20	0.20	0.32	< 0.04	108	< 0.01	< 0.02	4.3	nr
		11/13/04	8:30 AM	nr	4.07	6.4	10.1	< 2	< 2.0	14.0	71	15.7	2.46	0.51	0.07	0.38	< 0.04	94.4	< 0.01	0.06	< 1.0	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	MGB1	06/02/04	3:50 PM	14.5 m	6.32	20.6	8.37	20.1	< 2.0	4.0	150	4.53	1.95	0.34	0.16	0.59	< 0.04	45.2	0.02	0.09	< 1.0	nr
		06/10/04	11:40 AM	n/a	6.53	22.5	7.41	18.1	< 2.0	7.5	160	12.3	1.99	0.41	0.23	0.56	< 0.04	47.6	0.02	0.09	2.7	nr
		06/15/04	1:50 PM	9.7 m	6.30	21.9	8.15	19.1	< 2.0	10.5	170	11.0	1.62	0.35	0.10	0.60	< 0.04	8.04	0.09	0.09	1.3	nr
		06/23/04	11:20 AM	7.1 m	6.55	20.8	8.01	19.9	< 2.0	8.5	150	11.1	1.65	0.35	0.12	0.56	< 0.04	41.1	0.02	0.08	< 1.0	nr
		07/08/04	11:57 AM	7.4 m	6.51	22.9	7.23	21.1	< 2.0	4.0	160	7.16	1.30	0.48	0.14	0.43	< 0.04	31.2	0.02	0.05	1.3	nr
		07/09/04	10:25 AM	nr	6.20	20.9	7.27	17.9	< 2.0	5.0	150	7.88	1.41	0.46	0.11	0.48	< 0.04	30.7	0.02	0.07	< 1.0	< 1.0
		07/13/04	11:45 AM	n/a	6.22	20.6	6.92	10.6	< 2.0	13.0	91	17.7	4.22	0.66	0.08	0.52	< 0.04	7.11	0.09	0.21	< 1.0	nr
		07/14/04	9:45 AM	n/a	6.60	19.8	7.65	16.1	< 2.0	11.0	130	11.2	3.88	1.06	0.13	0.48	< 0.04	19.1	0.03	0.15	7.3	nr
		07/20/04	1:45 PM	12.3 m	6.34	21.7	7.77	18.5	< 2.0	7.0	150	9.64	1.85	0.46	0.13	0.50	< 0.04	32.3	0.02	0.07	4.0	nr
		08/06/04	9:21 AM	8.5 m	6.32	18.5	7.88	20.1	< 2.0	6.5	130	8.48	1.80	0.78	0.09	0.77	< 0.04	34	0.03	0.14	1.3	nr
		08/16/04	11:11 AM	nr	6.08	20.3	7.65	14.2	< 2.0	34.0	93	22.7	6.03	0.78	0.14	0.70	< 0.04	30.6	0.03	0.26	< 1.0	nr
		08/17/04	11:40 AM	15.9 m	6.36	20.9	7.77	16.7	< 2.0	5.0	130	6.00	2.16	0.38	0.14	0.72	< 0.04	23.8	0.04	0.14	< 1.0	nr
		08/24/04	10:08 AM	5.8 m	6.55	19.5	8.15	20.2	< 2.0	4.5	150	5.07	1.19	0.66	0.15	0.69	< 0.04	42.8	0.02	0.05	< 1.0	nr
		09/07/04	1:00 PM	5.8 m	6.29	20.5	8.16	15.4	< 2.0	0.5	160	6.33	1.01	0.46	0.12	0.76	< 0.04	69.3	0.01	0.08	< 1.0	13.9
		09/08/04	10:20 AM	nr	7.29	21.0	7.53	17.3	< 2.0	3.0	140	3.20	1.21	0.53	0.10	0.73	< 0.04	171	< 0.01	0.04	< 1.0	nr
		09/22/04	10:35 AM	5.7 m	6.15	15.6	8.70	18	< 2.0	3.5	140	5.69	0.95	0.71	0.08	0.69	< 0.04	66.1	0.01	0.06	1.3	nr
		10/11/04	10:47 AM	4.7 m	6.29	12.6	8.73	16.5	< 2.0	3.0	160	5.74	0.91	0.32	0.08	0.68	< 0.04	155	< 0.01	0.03	2.7	nr
		11/10/04	12:15 PM	7.2 m	6.64	6.5	13.2	14.8	< 2.0	6.5	150	9.89	1.44	0.27	0.06	0.64	< 0.04	145	< 0.01	0.05	1.3	11.0
		11/11/04	11:15 AM	nr	6.87	6.9	12.8	13.8	< 2.0	6.0	130	7.75	1.52	0.33	0.07	0.63	< 0.04	143	< 0.01	0.03	1.3	nr
		11/12/04	2:10 PM	n/a	7.11	7.7	10.8	12.3	6.6	16.5	120	36.6	4.40	0.41	0.19	0.60	< 0.04	31.1	0.03	0.19	4.7	nr
		11/13/04	10:00 AM	n/a	6.50	6.0	10.3	9.75	3.9	15.0	79	25.4	4.11	0.31	0.09	0.63	< 0.04	21.1	0.04	0.26	2.0	nr

Stream Sampling Results

NOTES:

	Flow:	All:
= High-Flow Event	m = measured flow	n/a = Data Not Available
= Low-Flow Event	ug = USGS gage flow	nr = Data Not Required, per Sampling Plan
= Ambient Event		NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	MnB1-DLi	06/02/04	9:58 AM	42 ug	6.02	18.2	9.05	nr	< 2.0	3.0	100	nr	1.97	0.25	0.15	0.61	< 0.04	155	< 0.01	0.08	nr	nr
		06/10/04	6:40 AM	33 ug	5.88	22.0	8.34	nr	< 2.0	5.0	100	nr	1.57	0.50	0.13	0.62	< 0.04	69.7	0.01	0.04	nr	nr
		06/15/04	7:47 AM	27 ug	6.40	20.4	8.79	nr	< 2.0	6.0	130	nr	1.53	0.34	0.11	0.68	< 0.04	42.5	0.02	0.06	nr	nr
		06/23/04	7:35 AM	18 ug	6.20	19.4	8.58	nr	< 2.0	8.5	100	nr	1.21	0.34	0.10	0.70	< 0.04	164	< 0.01	< 0.02	nr	nr
		07/08/04	12:15 PM	28 ug	6.30	23.8	7.98	nr	< 2.0	5.0	180	nr	1.63	0.43	0.12	0.46	< 0.04	120	< 0.01	0.05	nr	nr
		07/09/04	8:00 AM	21 ug	7.96	22.1	6.10	nr	< 2.0	7.5	100	nr	1.70	0.40	0.12	0.48	< 0.04	123	< 0.01	0.06	nr	nr
		07/13/04	9:25 AM	208 ug	6.12	21.0	7.67	nr	< 2.0	9.0	100	nr	2.99	0.56	0.10	0.30	< 0.04	22.3	0.02	0.12	nr	nr
		07/14/04	11:00 AM	270 ug	5.82	20.6	7.63	nr	< 2.0	13.0	110	nr	2.44	0.84	0.13	0.42	< 0.04	26.1	0.02	0.12	nr	nr
		07/20/04	12:05 PM	83 ug	6.27	22.8	8.34	nr	< 2.0	12.0	120	nr	2.18	0.62	0.12	0.43	< 0.04	43.5	0.01	0.05	nr	nr
		08/06/04	7:45 AM	30 ug	6.34	20.4	7.96	nr	< 2.0	6.0	97	nr	2.53	0.12	0.12	0.77	< 0.04	70	0.01	0.04	nr	nr
		08/16/04	9:27 AM	65 ug	10.02	20.0	9.03	nr	< 2.0	10.0	87	nr	3.89	0.40	0.13	0.55	< 0.04	139	< 0.01	0.09	nr	nr
		08/17/04	9:45 AM	106 ug	6.18	21.1	8.07	nr	< 2.0	7.0	90	nr	2.34	0.70	0.13	0.63	< 0.04	70.5	0.01	0.07	nr	nr
		08/24/04	8:51 AM	29 ug	7.23	19.9	8.41	nr	< 2.0	10.0	100	nr	2.48	0.40	0.20	0.62	< 0.04	64.9	0.01	0.03	nr	nr
		09/07/04	11:00 AM	22 ug	7.53	19.8	8.11	nr	< 2.0	5.5	110	nr	1.76	0.39	0.08	0.74	< 0.04	76.7	0.01	0.03	nr	nr
		09/08/04	11:40 AM	26 ug	6.48	20.4	8.17	nr	< 2.0	4.5	91	nr	1.42	0.36	0.08	0.77	< 0.04	173	< 0.01	0.02	nr	nr
		09/22/04	9:15 AM	16 ug	6.89	15.9	8.86	nr	< 2.0	2.0	93	nr	0.94	0.33	0.10	0.84	< 0.04	192	< 0.01	< 0.02	nr	nr
		10/11/04	9:02 AM	25 ug	5.67	13.5	8.84	nr	< 2.0	12.0	100	nr	1.97	0.45	0.09	0.75	< 0.04	171	< 0.01	0.03	nr	nr
		11/10/04	8:55 AM	37 ug	5.82	6.1	12.6	nr	< 2.0	10.0	100	nr	2.44	0.38	0.07	0.71	< 0.04	160	< 0.01	0.05	nr	nr
		11/11/04	8:15 AM	35 ug	6.06	7.0	12.3	nr	< 2.0	9.0	84	nr	2.40	0.12	0.09	0.76	< 0.04	174	< 0.01	0.03	nr	nr
		11/12/04	11:20 AM	44 ug	6.99	7.5	10.6	nr	< 2.0	11.0	93	nr	2.56	0.39	0.10	0.74	< 0.04	171	< 0.01	0.04	nr	nr
		11/13/04	7:30 AM	173 ug	7.05	6.2	11.3	nr	< 2.0	10.0	79	nr	2.46	0.38	0.15	0.65	< 0.04	163	< 0.01	0.04	nr	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
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Flow:
m = measured flow
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All:
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	MnB3-DLo	07/08/04	11:55 AM	n/a	6.59	27.2	8.60	nr	< 2.0	4.0	140	nr	0.49	0.64	< 0.05	1.25	< 0.04	259	< 0.01	0.02	6.7	nr
		07/09/04	7:30 AM	n/a	6.30	24.9	5.33	nr	< 2.0	3.0	140	nr	0.49	0.54	0.07	1.29	< 0.04	276	< 0.01	0.05	6.0	nr
		07/13/04	10:05 AM	n/a	6.23	21.1	7.55	nr	< 2.0	9.0	110	nr	1.72	0.59	0.16	1.61	< 0.04	358	< 0.01	0.09	3.3	nr
		07/14/04	11:45 AM	n/a	5.96	21.3	7.70	nr	< 2.0	7.0	110	nr	1.89	0.90	0.12	1.01	< 0.04	41.1	0.03	0.09	3.3	nr
		08/16/04	10:23 AM	n/a	6.22	20.5	7.07	nr	< 2.0	4.0	100	nr	1.46	0.57	0.12	1.52	< 0.04	333	< 0.01	0.06	< 1.0	nr
		08/17/04	10:25 AM	n/a	6.22	21.5	7.33	nr	< 2.0	5.0	110	nr	2.45	0.24	0.15	1.67	< 0.04	108	0.02	0.07	1.3	nr
		09/07/04	11:40 AM	n/a	7.08	21.0	8.14	nr	< 2.0	2.5	130	nr	0.89	0.72	0.05	3.54	< 0.04	190	0.02	0.05	< 1.0	nr
		09/08/04	11:00 AM	nr	6.20	22.6	7.99	nr	< 2.0	5.5	58	nr	0.80	0.37	0.07	3.89	< 0.04	795	< 0.01	0.03	< 1.0	nr
		11/10/04	9:30 AM	n/a	6.67	7.1	12.5	nr	< 2.0	7.0	120	nr	1.55	0.34	0.07	1.99	< 0.04	416	< 0.01	0.05	2.0	nr
		11/11/04	9:30 AM	nr	6.61	7.1	12.3	nr	< 2.0	6.0	140	nr	1.39	1.31	0.07	2.15	< 0.04	449	< 0.01	0.03	2.0	nr
		11/12/04	12:00 PM	nr	7.04	6.1	11.3	nr	< 2.0	3.5	120	nr	1.34	0.47	0.07	2.26	< 0.04	471	< 0.01	0.03	7.3	nr
		11/13/04	8:00 AM	n/a	6.61	6.8	10.9	nr	< 2.0	6.0	110	nr	1.47	0.56	0.08	2.35	< 0.04	490	< 0.01	0.05	< 1.0	nr

Stream Sampling Results

NOTES:

	Flow:	All:
(yellow) = High-Flow Event	m = measured flow	n/a = Data Not Available
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	MtB1	06/02/04	10:30 AM	43.3 m	6.57	18.0	8.05	21.1	< 2.0	7.5	190	4.10	2.29	1.49	0.85	4.04	< 0.04	223	0.02	0.22	3.3	nr
		06/10/04	7:10 AM	n/a	6.37	22.2	7.64	23.8	< 2.0	10.0	250	9.53	1.65	1.13	0.91	9.20	< 0.04	483	0.02	0.21	4.0	nr
		06/15/04	8:20 AM	n/a	6.50	19.9	7.91	13.9	< 2.0	9.5	240	7.32	0.91	0.56	0.09	11.80	< 0.04	2,390	< 0.01	0.13	1.3	nr
		06/23/04	7:50 AM	n/a	6.35	19.7	7.40	8.99	< 2.0	6.5	270	5.61	0.73	0.71	0.11	13.40	< 0.04	452	0.03	0.16	1.3	nr
		07/08/04	8:30 AM	3.9 m	6.72	22.4	6.82	13	< 2.0	3.0	190	4.45	0.69	0.83	0.09	7.54	< 0.04	588	0.01	0.06	1.3	nr
		07/09/04	9:05 AM	nr	6.96	21.7	6.74	13.1	< 2.0	3.0	230	3.34	0.52	0.57	0.07	12.10	< 0.04	2,440	< 0.01	0.07	< 1.0	12.3
		07/13/04	9:10 AM	n/a	6.28	20.5	7.11	16.5	< 2.0	29.0	100	48.0	7.80	0.80	0.14	1.42	< 0.04	60.7	0.03	0.41	2.0	nr
		07/14/04	10:45 AM	n/a	5.47	20.1	7.04	5.58	< 2.0	4.0	120	15.6	3.66	0.86	0.09	1.63	< 0.04	52.8	0.03	0.16	2.0	nr
		07/20/04	11:15 AM	n/a	6.46	21.3	7.77	9.34	< 2.0	6.5	160	7.46	1.23	0.65	0.12	4.35	< 0.04	898	< 0.01	0.09	< 1.0	nr
		08/06/04	8:20 AM	n/a	6.46	20.5	7.59	15.4	< 2.0	5.5	180	7.31	1.20	0.70	0.08	3.28	< 0.04	153	0.02	0.09	2.3	nr
		08/16/04	9:31 AM	n/a	6.47	21.1	7.41	10.9	< 2.0	13.0	130	14.8	2.84	0.94	0.12	2.82	< 0.04	89.8	0.03	0.18	< 1.0	nr
		08/17/04	10:05 AM	nr	6.18	20.5	7.58	12.7	< 2.0	5.0	130	7.84	3.44	0.25	0.12	2.76	< 0.04	64.5	0.05	0.25	< 1.0	nr
		08/24/04	9:03 AM	n/a	6.86	19.3	7.74	21.6	< 2.0	5.5	200	3.40	0.90	0.61	0.17	8.78	< 0.04	280	0.03	0.10	< 1.0	nr
		09/07/04	11:20 AM	n/a	7.11	17.9	7.64	12.8	< 2.0	2.5	260	3.51	0.62	0.69	0.09	13.80	< 0.04	535	0.03	0.17	< 1.0	13.3
		09/08/04	11:20 AM	nr	6.50	21.0	7.03	14.3	< 2.0	1.5	280	2.81	0.88	1.07	0.09	14.70	< 0.04	989	0.02	0.16	< 1.0	nr
		09/22/04	9:28 AM	n/a	6.58	16.9	8.19	11.8	< 2.0	3.0	200	2.95	0.52	1.10	0.06	12.70	< 0.04	307	0.04	0.11	< 1.0	nr
		10/11/04	9:30 AM	n/a	6.29	14.8	8.19	16.8	< 2.0	5.0	230	3.60	0.49	0.40	0.07	8.21	< 0.04	1660	< 0.01	0.04	1.3	nr
		11/10/04	9:08 AM	n/a	6.60	6.6	11.6	13.6	< 2.0	6.0	170	8.60	0.96	0.37	0.07	3.83	< 0.04	784	< 0.01	0.04	2.7	n/a
		11/11/04	8:45 AM	nr	6.61	7.2	11.5	13.9	< 2.0	5.5	170	6.08	0.95	0.51	0.09	4.84	< 0.04	990	< 0.01	< 0.02	2.7	n/a
		11/12/04	11:30 AM	nr	6.63	8.0	10.4	11.7	< 2.0	2.5	170	4.20	0.92	0.53	0.08	4.26	< 0.04	872	< 0.01	0.06	< 1.0	nr
		11/13/04	7:10 AM	n/a	6.60	6.4	10.1	10.6	3.7	48	140	44.2	9.34	0.75	0.09	1.41	< 0.04	72.6	0.02	0.37	< 1.0	nr

Stream Sampling Results

NOTES:
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Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	WC1-WLi	06/02/04	3:50 PM	nr	6.61	24.7	7.61	nr	< 2.0	7.5	150	nr	2.51	0.37	0.15	0.53	< 0.04	27.8	0.03	0.12	nr	nr
		06/10/04	12:15 PM	nr	6.89	25.2	8.50	nr	< 2.0	7.0	160	nr	1.68	0.67	0.06	0.59	< 0.04	60.5	0.01	0.08	nr	nr
		06/15/04	2:22 PM	nr	6.40	22.3	8.23	nr	< 2.0	10.0	150	nr	2.35	0.26	0.06	0.77	< 0.04	33.8	0.03	0.09	nr	nr
		06/23/04	12:00 PM	nr	6.78	19.6	8.17	nr	< 2.0	14.0	180	nr	1.91	0.27	0.06	0.88	< 0.04	27.3	0.04	0.07	nr	nr
		07/08/04	12:35 PM	nr	6.71	22.7	7.50	nr	< 2.0	5.0	320	nr	1.63	0.51	< 0.05	0.66	< 0.04	22	0.03	0.06	nr	nr
		07/09/04	11:30 AM	nr	6.77	20.4	8.08	nr	< 2.0	8.5	160	nr	1.66	0.59	< 0.05	0.75	< 0.04	24.8	0.03	0.05	nr	nr
		07/13/04	12:30 PM	nr	6.22	20.1	6.34	nr	< 2.0	8.0	110	nr	2.98	0.36	< 0.05	0.15	< 0.04	5.57	0.04	0.17	nr	nr
		07/14/04	8:15 AM	nr	6.86	19.3	7.76	nr	< 2.0	7.0	160	nr	2.88	0.94	0.10	0.43	< 0.04	14.9	0.04	0.13	nr	nr
		07/20/04	4:50 PM	nr	6.71	22.7	7.76	nr	< 2.0	7.0	360	nr	1.98	0.25	0.07	0.63	< 0.04	25.6	0.03	0.07	nr	nr
		08/06/04	9:47 AM	nr	6.53	17.8	8.47	nr	< 2.0	6.5	190	nr	2.11	0.11	0.11	0.92	< 0.04	32.7	0.03	0.07	nr	nr
		08/16/04	11:58 AM	nr	6.68	19.6	7.39	nr	< 2.0	31.0	130	nr	6.16	0.43	0.11	0.57	< 0.04	18.1	0.04	0.25	nr	nr
		08/17/04	12:20 PM	nr	6.72	20.0	7.78	nr	< 2.0	3.0	150	nr	2.29	0.47	0.15	0.63	< 0.04	24.9	0.03	0.09	nr	nr
		08/24/04	10:34 AM	nr	6.75	22.8	8.28	nr	< 2.0	11.0	140	nr	1.59	0.30	0.12	0.81	< 0.04	28.6	0.03	0.06	nr	nr
		09/07/04	2:00 PM	nr	6.87	19.9	8.11	nr	< 2.0	5.0	180	nr	1.78	0.21	0.05	0.88	< 0.04	28.9	0.03	0.09	nr	nr
		09/08/04	9:55 AM	nr	7.31	20.4	7.62	nr	< 2.0	< 0.5	150	nr	2.32	0.62	< 0.05	0.82	< 0.04	27	0.03	0.08	nr	nr
		09/22/04	11:20 AM	nr	6.47	15.5	9.17	nr	< 2.0	2.0	180	nr	1.51	0.18	0.07	0.85	< 0.04	49.3	0.02	0.03	nr	nr
		10/11/04	11:25 AM	nr	6.17	12.1	9.08	nr	< 2.0	4.5	180	nr	1.96	0.28	< 0.05	0.67	< 0.04	32.5	0.02	0.05	nr	nr
		11/10/04	1:10 PM	nr	6.95	5.9	13.1	nr	< 2.0	5.0	150	nr	2.27	0.26	0.16	0.65	< 0.04	51.8	0.02	0.07	nr	12.6
		11/11/04	12:10 PM	nr	6.94	7.5	12.4	nr	< 2.0	6.0	160	nr	2.01	0.20	0.16	0.68	< 0.04	171	< 0.01	0.06	nr	nr
		11/12/04	2:38 PM	nr	6.98	6.9	10.6	nr	< 2.0	6.0	160	nr	4.28	0.62	0.17	0.64	< 0.04	39.6	0.02	0.10	nr	nr
		11/13/04	12:01 PM	nr	6.68	5.5	10.0	nr	3.0	15.0	86	nr	4.21	0.21	0.15	0.49	< 0.04	25.5	0.03	0.15	nr	nr

Stream Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

Flow:
- m = measured flow
- ug = USGS gage flow

All:
- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix	WC3-WLo	06/23/04	8:10 AM	5.1 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		07/08/04	12:11 PM	4.9 m	6.66	25.0	7.79	nr	< 2.0	7.0	160	nr	1.60	0.59	0.06	0.31	< 0.04	23	0.02	0.06	10.0	nr
		07/09/04	11:00 AM	nr	6.64	23.6	8.23	nr	< 2.0	7.0	150	nr	1.73	0.40	0.06	0.39	< 0.04	5.57	0.08	0.10	11.3	nr
		07/13/04	12:15 PM	n/a	6.29	20.4	7.58	nr	< 2.0	5.0	93	nr	2.74	0.40	0.05	0.23	< 0.04	6.04	0.05	0.17	< 1.0	nr
		07/14/04	8:45 AM	n/a	6.59	20.0	7.38	nr	< 2.0	7.0	120	nr	2.12	0.71	0.11	0.24	< 0.04	7.93	0.05	0.13	2.0	nr
		07/20/04	4:20 PM	6.1 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		08/16/04	11:30 AM	14.9 m	6.80	20.9	7.85	nr	< 2.0	4.0	130	nr	2.27	0.55	0.17	0.72	< 0.04	45.4	0.02	0.10	< 1.0	nr
		08/17/04	12:00 PM	nr	6.52	21.2	7.72	nr	< 2.0	15.0	140	nr	2.36	0.38	0.14	0.64	< 0.04	22.8	0.04	0.09	< 1.0	nr
		08/24/04	10:15 AM	3.8 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		09/07/04	1:35 PM	2.5 m	6.56	21.3	8.37	nr	< 2.0	2.5	160	nr	1.56	0.46	< 0.05	0.71	< 0.04	31.5	0.02	0.09	2.0	nr
		09/08/04	10:10 AM	nr	7.63	22.3	8.43	nr	< 2.0	4.5	120	nr	1.34	0.52	< 0.05	0.68	< 0.04	145	< 0.01	0.06	< 1.0	nr
		09/22/04	11:10 AM	16.9 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		10/11/04	11:05 AM	3.3 m	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr	nr
		11/10/04	12:50 PM	4.4 m	6.92	8.3	11.5	nr	< 2.0	5.5	120	nr	1.45	0.31	0.10	0.63	< 0.04	34.1	0.02	0.06	2.7	nr
		11/11/04	11:45 AM	nr	7.06	7.5	11.9	nr	< 2.0	5.0	150	nr	1.26	0.55	0.11	0.63	< 0.04	69	0.01	0.03	3.3	nr
		11/12/04	2:25 PM	n/a	6.93	6.3	11.1	nr	< 2.0	13.5	150	nr	2.10	0.23	0.11	0.67	< 0.04	72.5	0.01	0.07	7.3	nr
		11/13/04	10:20 AM	n/a	6.60	5.6	10.8	nr	3.1	10.0	96	nr	2.82	0.53	0.14	0.60	< 0.04	29.2	0.03	0.14	1.3	nr

APPENDIX C

STP Sampling Results

STP Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	Environmental Disposal Corp.	07/16/04	6:20 AM	1.5	7.50	21.8	n/a	81	< 2.0	0.5	360	nr	nr	1.03	0.08	1.96	< 0.04	22.9	0.09	0.13	nr	nr
		07/29/04	6:10 AM	2.1	7.40	22.0	n/a	84	< 2.0	1.0	580	nr	nr	1.05	0.12	1.93	< 0.04	69	0.03	0.16	nr	nr
		08/10/04	6:00 AM	1.3	7.60	22.1	n/a	71.8	< 2.0	2.0	390	nr	nr	0.16	0.14	4.44	< 0.04	63	0.07	0.13	nr	nr
		11/03/04	6:30 AM	1.3	7.40	19.1	9.20	84	< 2.0	< 0.5	400	nr	nr	0.92	0.10	2.63	< 0.04	212	0.01	0.06	nr	nr
		11/30/04	6:00 AM	1.5	7.60	15.5	10.8	100	2.1	8.5	340	nr	nr	7.21	4.68	0.94	< 0.04	3.09	1.83	2.17	nr	nr
		08/05/05	6:30 AM	1.3	7.30	24.7	8.20	70.9	< 2.0	1.0	330	nr	nr	1.80	0.15	2.70	< 0.04	20.3	0.14	0.23	nr	nr

STP Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	Mendham Borough STP	07/16/04	10:20 AM	0.3	6.87	21.0	7.80	68	< 2.0	3.5	450	nr	nr	1.26	0.17	20.20	< 0.04	170	0.12	0.22	nr	nr
		07/28/04	11:30 AM	0.5	6.70	21.0	6.40	30	2.5	12.5	160	nr	nr	0.80	0.14	3.75	< 0.04	48.9	0.08	0.43	nr	nr
		08/09/04	Blank	n/a	nr	nr	nr	< 2	< 2.0	< 0.5	17	nr	nr	0.12	0.09	< 0.02	< 0.04	24	< 0.01	0.04	nr	nr
		08/10/04	11:25 AM	0.3	6.90	20.0	7.00	51.8	2.5	34.0	410	nr	nr	0.29	0.29	15.70	< 0.04	110	0.15	0.81	nr	nr
		11/03/04	7:00 AM	0.3	7.00	16.0	7.10	31	2.0	8.5	420	nr	nr	1.26	0.14	18.70	< 0.04	377	0.05	0.07	nr	nr
		11/30/04	2:00 PM	0.4	6.75	14.0	8.86	64	< 2.0	12.0	390	nr	nr	2.03	0.29	14.50	< 0.04	197	0.08	0.36	nr	nr
		08/05/05	11:49 AM	0.3	7.67	27.4	7.45	46.1	< 2.0	27.0	510	nr	nr	2.49	0.16	19.90	< 0.04	93.1	0.22	1.08	nr	nr

STP Sampling Results

NOTES:

	Flow:	All:
= High-Flow Event (yellow)	Provided by STP	n/a = Data Not Available
= Low-Flow Event (green)		nr = Data Not Required, per Sampling Plan
= Sampler Blank Event (white)		NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	RLSA	07/15/04	Blank	nr	7.61	22.0	nr	< 2	< 2.0	< 0.5	55	nr	nr	0.10	< 0.05	0.03	< 0.04	2.5	0.03	0.03	nr	nr
		07/16/04	8:54 AM	0.6	n/a	n/a	n/a	110	< 2.0	3.0	420	nr	nr	1.37	0.08	11.60	< 0.04	3.19	3.67	3.96	nr	nr
		07/29/04	8:45 AM	1.0	7.34	21.9	8.47	98	2.5	2.5	380	nr	nr	1.27	0.20	10.40	< 0.04	5.5	1.93	2.25	nr	nr
		08/10/04	8:33 AM	0.7	7.47	22.6	n/a	100	< 2.0	2.5	710	nr	nr	0.20	0.15	30.20	< 0.04	6.39	4.75	4.30	nr	nr
		11/03/04	10:20 AM	0.7	7.20	18.8	8.35	82.3	< 2.0	5.0	710	nr	nr	1.58	0.17	31.60	< 0.04	5.93	5.36	5.78	nr	nr
		11/30/04	2:00 PM	1.5	7.41	15.9	n/a	110	< 2.0	2.0	420	nr	nr	1.12	0.10	8.93	< 0.04	4.53	2.00	2.02	nr	nr
		08/05/05	10:03 AM	0.6	7.25	25.9	n/a	86.6	< 2.0	3.0	610	nr	nr	1.94	0.12	32.10	< 0.04	8.58	3.75	3.61	nr	nr

STP Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan	Roxbury Township STP	07/15/04	Blank	nr	nr	nr	nr	< 2	< 2.0	< 0.5	65	nr	nr	0.29	< 0.05	< 0.02	< 0.04	11	< 0.01	< 0.02	nr	nr
		07/16/04	7:21 AM	1.6	6.89	19.0	n/a	31	< 2.0	3.5	390	nr	nr	0.93	0.15	15.10	< 0.04	117	0.13	0.28	nr	nr
		07/29/04	10:32 AM	1.6	7.13	20.0	8.71	57	< 2.0	6.5	440	nr	nr	0.98	0.19	10.20	< 0.04	49.7	0.21	0.51	nr	nr
		08/10/04	10:58 AM	1.5	7.11	20.0	n/a	62.3	< 2.0	3.5	450	nr	nr	0.89	0.27	11.00	< 0.04	58.1	0.20	0.41	nr	nr
		11/02/04	10:50 AM	1.4	6.87	15.0	9.25	53.2	< 2.0	3.0	420	nr	nr	1.34	0.19	13.40	< 0.04	89	0.15	0.43	nr	nr
		11/30/04	10:45 AM	2.2	6.99	13.0	n/a	66.7	< 2.0	8.0	410	nr	nr	1.80	0.32	11.80	< 0.04	32	0.38	0.70	nr	nr
		08/05/05	7:05 AM	1.4	n/a	n/a	n/a	98	< 2.0	1.0	510	nr	nr	2.40	0.30	14.00	< 0.04	7.09	2.02	2.33	nr	nr

STP Sampling Results

NOTES:

	Flow:	All:
= High-Flow Event	Provided by STP	n/a = Data Not Available
= Low-Flow Event		nr = Data Not Required, per Sampling Plan
= Sampler Blank Event		NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	Bernardsville STP	07/14/04	10:40 AM	0.7	7.10	17.0	7.20	37	< 2.0	< 0.5	260	nr	nr	0.33	0.11	0.83	< 0.04	96	0.01	0.04	nr	nr
		07/29/04	9:00 AM	0.9	7.10	19.0	7.30	29	< 2.0	2.0	240	nr	nr	0.42	0.15	1.17	< 0.04	134	0.01	0.05	nr	nr
		08/09/04	3:00 PM	0.6	7.10	20.0	7.30	18	< 2.0	1.0	240	nr	nr	1.20	0.21	1.12	< 0.04	56.3	0.02	0.07	nr	nr
		11/02/04	1:00 PM	0.6	7.10	14.0	7.30	23.2	< 2.0	0.5	240	nr	nr	1.22	0.64	1.75	< 0.04	483	< 0.01	0.07	nr	nr
		11/30/04	12:27 PM	0.8	7.10	14.0	7.30	36.9	< 2.0	3.0	350	nr	nr	2.96	1.39	3.27	< 0.04	83.5	0.06	0.12	nr	nr
		08/05/05	9:56 AM	0.6	7.11	24.7	7.93	51.7	< 2.0	< 0.5	250	nr	nr	8.48	3.28	3.30	< 0.04	141	0.05	0.09	nr	nr

STP Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	Flemington Borough STP	07/28/04	8:30 AM	1.2	6.60	21.0	n/a	130	30.0	12.0	410	nr	nr	6.81	2.74	2.28	< 0.04	19.4	0.26	0.91	nr	nr
		12/02/04	10:00 AM	1.2	6.60	17.0	6.50	95.8	8.0	11.0	340	nr	nr	4.28	1.13	1.95	< 0.04	51.7	0.06	0.38	nr	nr

STP Sampling Results

NOTES:
= High-Flow Event (yellow)
= Low-Flow Event (green)
= Sampler Blank Event (white)

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	Mt. Olive Township - Clover Hill STP	07/15/04	Blank	nr	nr	nr	nr	4.88	2.2	< 0.5	90	nr	nr	0.71	0.61	< 0.02	< 0.04	128	< 0.01	< 0.02	nr	nr
		07/16/04	9:00 AM	0.3	6.75	20.2	n/a	26	< 2.0	13.0	350	nr	nr	8.87	6.30	15.20	< 0.04	2,150	0.01	0.44	nr	nr
		07/29/04	9:00 AM	0.3	6.88	20.2	n/a	33	< 2.0	2.5	340	nr	nr	5.05	4.36	12.20	< 0.04	831	0.02	0.15	nr	nr
		08/10/04	11:00 AM	0.4	6.55	20.4	6.40	< 2	< 2.0	11.5	360	nr	nr	2.29	0.74	15.20	< 0.04	1450	0.01	0.26	nr	nr
		11/03/04	12:00 PM	0.3	6.96	16.9	6.41	58	4.1	7.0	330	nr	nr	8.85	8.62	10.60	< 0.04	1,370	0.01	0.29	nr	nr
		11/30/04	12:00 PM	0.6	6.78	13.9	6.29	38.7	< 2.0	12.5	310	nr	nr	8.53	5.98	9.78	< 0.04	343	0.05	0.36	nr	nr
		08/05/05	9:00 AM	0.3	n/a	n/a	n/a	25.8	< 2.0	8.5	370	nr	nr	8.38	4.04	16.10	< 0.04	4,040	< 0.01	0.31	nr	nr

STP Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	NJDC Youth Correctional - Mountain View STP	07/14/04	Blank	nr	nr	nr	nr	17.4	< 2.0	< 0.7	37	nr	nr	0.09	< 0.05	0.07	< 0.04	5.61	0.02	0.04	nr	nr
		07/16/04	11:30 AM	0.2	7.35	21.4	n/a	110	< 2.0	1.0	350	nr	nr	0.47	0.05	3.09	< 0.04	105	0.03	0.06	nr	nr
		07/29/04	11:45 AM	0.2	7.30	22.3	10.0	120	2.6	0.5	380	nr	nr	0.40	0.08	3.30	< 0.04	170	0.02	0.06	nr	nr
		08/10/04	12:00 PM	0.2	7.28	22.5	n/a	130	2.7	0.5	410	nr	nr	0.15	0.14	2.85	< 0.04	177	0.02	0.08	nr	nr
		11/03/04	2:00 PM	0.2	7.51	18.8	n/a	64.9	4.3	< 0.5	410	nr	nr	0.52	0.08	13.80	< 0.04	634	0.02	0.04	nr	nr
		11/30/04	12:00 PM	0.2	7.16	15.8	n/a	40.5	< 2.0	0.5	430	nr	nr	0.62	0.11	16.40	< 0.04	690	0.02	0.03	nr	nr
		08/05/05	11:45 AM	0.2	7.40	25.6	10.0	120	3.0	< 0.5	370	nr	nr	2.13	0.08	0.89	< 0.04	26.4	0.04	0.11	nr	nr

STP Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	Raritan Township MUA	07/15/04	Blank	nr	7.00	22.0	nr	3.35	< 2.0	< 0.5	33	nr	nr	< 0.05	< 0.05	< 0.02	< 0.04	1.06	0.05	0.11	nr	nr
		07/16/04	7:35 AM	3.5	n/a	n/a	n/a	99	< 2.0	1.5	430	nr	nr	0.95	0.09	8.31	< 0.04	11.4	0.74	0.86	nr	nr
		07/29/04	7:30 AM	4.0	6.90	22.0	n/a	90	2.2	1.0	370	nr	nr	0.66	0.13	6.71	< 0.04	12	0.57	0.61	nr	nr
		08/10/04	1:30 PM	2.7	7.00	23.0	8.94	87.7	2.3	7.5	540	nr	nr	1.37	0.26	15.10	< 0.04	15.6	0.98	1.25	nr	nr
		11/03/04	7:30 AM	3.0	7.00	19.0	n/a	91.9	< 2.0	< 0.5	550	nr	nr	1.07	0.11	14.30	< 0.04	7.58	1.91	1.93	nr	nr
		11/30/04	7:30 AM	4.7	6.95	17.0	n/a	90.9	2.5	11.0	370	nr	nr	1.94	0.18	7.27	< 0.04	12.6	0.59	0.78	nr	nr
		08/05/05	7:30 AM	2.1	n/a	n/a	n/a	63.1	< 2.0	2.5	470	nr	nr	2.55	0.21	14.30	< 0.04	386	0.04	0.15	nr	nr

STP Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Sampler Blank Event

Flow: Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	Town of Clinton WTP	07/15/04	Blank	nr	7.22	22.4	nr	< 2	< 2.0	0.5	79	nr	nr	< 0.05	< 0.05	< 0.02	< 0.04	11	< 0.01	< 0.02	nr	nr
		07/16/04	8:15 AM	1.2	n/a	n/a	n/a	120	< 2.0	< 0.5	480	nr	nr	0.87	0.08	7.33	< 0.04	124	0.06	0.11	nr	nr
		07/29/04	7:30 AM	1.4	7.02	22.2	n/a	110	< 2.0	4.0	420	nr	nr	0.70	0.11	5.52	< 0.04	188	0.03	0.15	nr	nr
		08/10/04	8:25 AM	1.1	7.24	23.9	n/a	130	< 2.0	0.5	530	nr	nr	0.21	0.15	7.45	< 0.04	104	0.07	0.14	nr	nr
		11/03/04	7:30 AM	1.1	7.38	19.7	n/a	140	< 2.0	< 0.5	540	nr	nr	1.19	0.09	8.15	< 0.04	275	0.03	0.09	nr	nr
		11/30/04	10:00 AM	1.3	7.17	16.5	n/a	120	< 2.0	2.0	400	nr	nr	0.81	0.13	5.79	< 0.04	106	0.06	0.10	nr	nr
		08/05/05	8:10 AM	1.1	7.10	26.0	n/a	110	< 2.0	2.5	450	nr	nr	1.62	0.14	10.40	< 0.04	13	0.81	0.98	nr	nr

STP Sampling Results

NOTES:

(yellow) = High-Flow Event	Flow:	All:		
(green) = Low-Flow Event	Provided by STP	n/a	=	Data Not Available
(white) = Sampler Blank Event		nr	=	Data Not Required, per Sampling Plan
		NF	=	No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan	WMUA	11/10/04	8:00 AM	5.1	7.60	15.3	n/a	61.9	2.7	7.0	390	nr	nr	0.88	0.20	21.60	< 0.04	28.7	0.76	1.06	nr	nr
South Branch Raritan	WMUA	11/12/04	12:00 PM	5.6	7.16	12.0	n/a	45.5	4.8	3.0	450	nr	nr	1.05	0.15	23.40	< 0.04	29.1	0.81	0.90	nr	nr

STP Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	East Winsor Township MUA	07/09/04	8:00 AM	2.7	7.54	23.0	n/a	120	< 2.0	0.5	320	nr	nr	0.75	0.10	7.54	< 0.04	40.7	0.19	0.33	nr	nr
		07/13/04	8:00 AM	3.0	7.18	21.8	n/a	84.6	< 2.0	< 0.5	320	nr	nr	0.59	0.11	8.21	< 0.04	24.2	0.34	0.45	nr	nr
		07/13/04	Blank	nr	nr	nr	nr	< 2	< 2.0	< 0.5	52	nr	nr	< 0.05	< 0.05	< 0.02	< 0.04	11	< 0.01	< 0.02	nr	nr
		08/17/04	7:55 AM	2.8	7.28	22.4	n/a	96.5	< 2.0	2.0	300	nr	nr	0.65	0.15	6.62	< 0.04	78.9	0.09	0.14	nr	nr
		09/08/04	8:00 AM	2.7	7.39	23.0	7.80	92.4	< 2.0	1.0	330	nr	nr	0.75	0.17	9.14	< 0.04	35.1	0.27	0.28	nr	nr
		11/11/04	8:00 AM	2.7	7.20	16.4	n/a	61.8	< 2.0	< 0.5	320	nr	nr	0.69	0.15	15.90	< 0.04	3,200	< 0.01	0.05	nr	nr
		11/12/04	2:05 PM	2.9	7.17	16.4	8.70	65.6	< 2.0	1.0	330	nr	nr	0.58	0.11	15.70	< 0.04	1440	0.01	0.06	nr	nr

STP Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	Hightstown Advanced WTP	07/06/04	Blank	nr	nr	nr	nr	< 2	< 2.0	< 0.5	55	nr	nr	< 0.05	< 0.05	< 0.02	< 0.04	4.23	0.01	0.03	nr	nr
		07/09/04	2:54 PM	0.7	7.35	24.2	n/a	56.4	< 2.0	0.5	360	nr	nr	0.78	0.12	15.30	< 0.04	103	0.15	0.21	nr	nr
		07/14/04	9:10 AM	1.0	6.96	22.8	n/a	58	< 2.0	0.5	380	nr	nr	1.68	0.91	17.00	0.70	116	0.16	0.22	nr	nr
		08/17/04	9:15 AM	0.7	6.89	23.4	n/a	62	< 2.0	2.0	350	nr	nr	0.91	0.32	15.50	< 0.04	75.6	0.21	0.29	nr	nr
		09/08/04	11:30 AM	0.8	6.84	24.4	n/a	58.3	< 2.0	4.0	330	nr	nr	0.91	0.18	13.10	< 0.04	60.1	0.22	0.25	nr	nr
		11/10/04	9:15 AM	0.7	7.26	15.8	n/a	55	< 2.0	1.5	310	nr	nr	0.73	0.15	14.90	< 0.04	176	0.09	0.15	nr	nr
		11/12/04	10:00 AM	0.9	7.13	16.3	9.63	34.7	< 2.0	0.5	320	nr	nr	0.77	0.32	17.20	< 0.04	107	0.16	0.21	nr	nr

STP Sampling Results

NOTES:

- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Sampler Blank Event

Flow:
Provided by STP

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Flow (mgd)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone	UWPM	07/06/04	Blank	nr	nr	nr	nr	< 2	< 2.0	< 0.5	180	nr	nr	< 0.05	< 0.05	0.04	< 0.04	6.54	0.01	0.03	nr	nr
		07/09/04	9:50 AM	1.3	7.30	24.0	7.48	96.4	< 2.0	8.0	330	nr	nr	20.50	18.80	0.35	< 0.04	64.8	0.30	0.51	nr	nr
		07/14/04	9:00 AM	1.4	7.40	22.0	n/a	100	5.5	13.0	260	nr	nr	21.00	19.10	0.20	< 0.04	66.6	0.29	0.49	nr	nr
		08/17/04	8:45 AM	1.4	7.30	23.0	n/a	100	< 2.0	3.5	320	nr	nr	21.10	20.00	0.58	< 0.04	156	0.13	0.20	nr	nr
		09/08/04	8:45 AM	1.4	7.40	24.0	8.49	120	2.2	< 0.5	350	nr	nr	29.80	26.30	0.73	< 0.04	251	0.11	0.30	nr	nr
		11/11/04	8:30 AM	1.3	n/a	n/a	n/a	56.2	< 2.0	6.0	330	nr	nr	8.66	7.52	7.83	< 0.04	366	0.04	0.28	nr	nr
		11/12/04	8:45 AM	1.4	7.30	14.0	n/a	53.3	< 2.0	2.5	340	nr	nr	8.58	7.36	8.69	< 0.04	374	0.04	0.37	nr	nr

APPENDIX D

Background Sampling Results

Background Sampling Results

NOTES:

= High-Flow Event (yellow)
= Low-Flow Event (green)
= Ambient Event (white)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
North Branch Raritan River	IBB	08/09/04	1:00 PM	nr	7.39	18.1	9.95	nr	< 2.0	2.0	370	nr	0.33	0.12	< 0.05	2.00	< 0.04	409	< 0.01	< 0.02	nr	nr
		08/10/04	2:20 PM	nr	7.58	19.2	9.98	nr	< 2.0	1.0	250	nr	0.13	0.64	< 0.05	1.84	< 0.04	189	0.01	0.02	nr	4.4
		11/02/04	2:57 PM	nr	7.70	11.8	12.4	nr	< 2.0	0.5	200	nr	0.23	0.33	0.05	1.25	< 0.04	264	< 0.01	< 0.02	nr	nr
		11/03/04	1:50 PM	nr	6.76	11.3	11.3	nr	< 2.0	1.0	240	nr	0.09	0.18	< 0.05	1.43	< 0.04	295	< 0.01	< 0.02	nr	10.9
		08/04/05	1:10 PM	nr	7.89	23.6	9.14	nr	< 2.0	1.5	360	nr	0.23	0.13	< 0.05	1.59	< 0.04	327	< 0.01	0.05	nr	9.8
		08/05/05	12:45 PM	nr	7.85	23.1	9.09	nr	< 2.0	3.0	290	nr	0.19	0.07	< 0.05	1.63	< 0.04	335	< 0.01	0.05	nr	nr

Background Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Ambient Event

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:
If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	AgCrop	08/09/04	1:10 PM	nr	7.52	23.4	8.34	nr	< 2.0	8.0	260	nr	0.42	1.17	0.88	1.54	< 0.04	30.5	0.08	0.13	nr	nr
		08/10/04	3:30 PM	nr	7.63	26.1	7.56	nr	< 2.0	18.0	250	nr	0.74	0.94	< 0.05	1.27	< 0.04	12	0.11	0.19	nr	< 25
		11/02/04	2:30 PM	nr	7.88	14.3	12.4	nr	< 2.0	0.5	230	nr	0.37	1.13	0.07	1.20	< 0.04	27.4	0.05	0.08	nr	11.9
		11/03/04	1:20 PM	nr	7.69	13.2	10.7	nr	< 2.0	4.5	240	nr	0.33	0.45	< 0.05	1.12	< 0.04	19.7	0.06	0.11	nr	nr
		08/04/05	2:20 PM	nr	7.83	27.5	7.22	nr	< 2.0	2.5	290	nr	0.89	0.63	< 0.05	1.25	< 0.04	7.4	0.17	0.27	nr	nr
		08/05/05	1:45 PM	nr	7.91	27.7	7.87	nr	< 2.0	7.5	580	nr	0.58	0.47	0.07	1.12	< 0.04	9.46	0.13	0.22	nr	< 25

Background Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

All:

n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	AgPast	08/09/04	12:20 PM	nr	8.99	22.3	13.5	nr	< 2.0	23.0	190	nr	0.31	1.55	0.12	0.74	< 0.04	36.8	0.02	0.10	nr	nr
		08/10/04	12:30 PM	nr	9.08	23.6	13.2	nr	2.9	69	180	nr	0.49	1.14	0.14	0.66	< 0.04	43.3	0.02	0.13	nr	< 25
		11/02/04	1:00 PM	nr	8.88	14.7	15.2	nr	< 2.0	2.0	180	nr	0.16	1.17	0.12	0.48	< 0.04	32.5	0.02	0.23	nr	14.2
		11/03/04	12:00 PM	nr	8.38	13.0	14.7	nr	< 2.0	2.0	180	nr	0.08	0.21	< 0.05	0.42	< 0.04	19.4	0.02	0.06	nr	nr
		08/04/05	12:40 PM	nr	9.12	30.3	13.0	nr	< 2.0	2.5	240	nr	0.35	0.81	0.05	< 0.02	< 0.04	2.24	0.04	0.18	nr	nr
		08/05/05	12:15 PM	nr	9.04	30.7	13.2	nr	2.5	9.0	200	nr	0.31	1.10	0.13	< 0.02	< 0.04	31.2	< 0.01	0.15	nr	< 25

Background Sampling Results

NOTES:

- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Ambient Event

All:

- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	Rural	08/09/04	2:30 PM	nr	7.35	21.9	7.38	nr	< 2.0	0.5	230	nr	0.05	0.34	0.10	2.62	< 0.04	48.9	0.06	0.06	nr	nr
		08/10/04	2:30 PM	nr	7.12	21.9	8.15	nr	< 2.0	1.0	250	nr	< 0.05	0.45	< 0.05	2.54	< 0.04	51.7	0.05	0.09	nr	< 25
		11/02/04	2:00 PM	nr	7.36	13.6	10.5	nr	< 2.0	< 0.5	240	nr	0.11	0.25	0.05	2.09	< 0.04	72.1	0.03	0.05	nr	19.1
		11/03/04	2:30 PM	nr	7.09	12.5	10.3	nr	< 2.0	< 0.5	260	nr	< 0.05	0.63	< 0.05	2.04	< 0.04	59.6	0.04	0.05	nr	nr
		08/04/05	2:45 PM	nr	NF	NF	NF	nr	NF	NF	NF	nr	NF	NF	NF	NF	NF	NF	NF	NF	nr	NF
		08/05/05	12:00 PM	nr	NF	NF	NF	nr	NF	NF	NF	nr	NF	NF	NF	NF	NF	NF	NF	NF	nr	NF

Background Sampling Results

NOTES:

- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Ambient Event

All:

- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	OldUrb	08/09/04	11:30 AM	nr	7.63	21.4	8.38	nr	< 2.0	0.5	630	nr	0.07	0.51	0.07	1.64	< 0.04	32.1	0.05	0.06	nr	n/a
		08/10/04	11:45 AM	nr	7.58	21.7	8.32	nr	< 2.0	0.5	560	nr	0.08	0.59	< 0.05	1.53	< 0.04	31.5	0.05	0.07	nr	n/a
		11/02/04	10:25 AM	nr	7.47	14.1	10.4	nr	< 2.0	0.5	380	nr	< 0.05	0.40	0.05	0.42	< 0.04	7.92	0.06	0.08	nr	< 25
		11/03/04	10:30 AM	nr	7.15	14.1	7.89	nr	< 2.0	1.5	470	nr	0.09	1.06	< 0.05	0.46	< 0.04	6.16	0.08	0.12	nr	nr
		08/04/05	12:05 PM	nr	7.51	24.7	9.02	nr	< 2.0	3.0	480	nr	0.17	0.19	< 0.05	0.55	< 0.04	10.5	0.06	0.14	nr	nr
		08/05/05	11:30 AM	nr	7.44	24.4	9.11	nr	< 2.0	5.0	660	nr	0.07	0.18	< 0.05	0.99	< 0.04	14.2	0.07	0.08	nr	< 25

Background Sampling Results

NOTES:

- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Ambient Event

All:

n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone River	AgWet	07/08/04	3:22 PM	nr	6.18	25.6	4.56	nr	< 2.0	20.0	140	nr	2.74	2.09	0.09	0.03	< 0.04	7.21	0.02	0.10	nr	nr
		07/09/04	1:55 PM	nr	6.27	23.4	4.87	nr	< 2.0	48	99	nr	3.90	2.07	0.15	0.09	< 0.04	15.4	0.02	0.20	nr	< 1.0
		11/10/04	2:50 PM	nr	6.84	8.6	16.1	nr	< 2.0	4.5	130	nr	0.45	0.32	< 0.05	5.82	< 0.04	1170	< 0.01	0.04	nr	< 25
		11/11/04	1:45 PM	nr	6.96	10.9	15.6	nr	< 2.0	5.5	140	nr	0.33	0.35	< 0.05	6.30	< 0.04	1270	< 0.01	0.03	nr	nr

Background Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

All:

n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone River	DWW	07/08/04	1:30 PM	nr	6.02	23.8	5.08	nr	< 2.0	4.0	210	nr	1.12	0.42	0.07	0.10	< 0.04	37.2	< 0.01	0.05	nr	n/a
		07/09/04	8:40 AM	nr	5.82	19.9	4.93	nr	< 2.0	7.5	170	nr	1.41	0.49	0.09	0.14	< 0.04	14.9	0.02	0.06	nr	n/a
		09/07/04	5:50 PM	nr	6.08	22.0	3.69	nr	< 2.0	13.5	110	nr	2.75	0.81	0.19	< 0.02	< 0.04	7.93	0.03	0.10	nr	< 25
		09/08/04	4:32 PM	nr	6.24	22.8	4.69	nr	< 2.0	4.0	80	nr	3.05	0.62	0.09	< 0.02	< 0.04	24.8	< 0.01	0.06	nr	nr
		11/10/04	4:00 PM	nr	5.81	7.9	5.34	nr	< 2.0	4.5	72	nr	2.45	0.24	< 0.05	< 0.02	< 0.04	11	< 0.01	0.04	nr	< 25
		11/11/04	2:50 PM	nr	5.90	7.9	5.45	nr	4.0	13.0	89	nr	2.92	0.68	< 0.05	< 0.02	< 0.04	11	< 0.01	0.05	nr	nr

Background Sampling Results

NOTES:

- (yellow) = High-Flow Event
- (green) = Low-Flow Event
- (white) = Ambient Event

All:

- n/a = Data Not Available
- nr = Data Not Required, per Sampling Plan
- NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone River	MRB	07/08/04	6:50 PM	nr	7.05	25.1	8.34	nr	< 2.0	4.0	150	nr	2.00	0.42	0.07	1.40	< 0.04	67.6	0.02	0.07	nr	nr
		07/09/04	1:45 PM	nr	6.61	25.3	8.53	nr	< 2.0	6.0	85	nr	2.25	1.17	0.09	1.22	< 0.04	88.9	0.02	0.07	nr	23.9
		09/07/04	3:35 PM	nr	6.89	22.1	8.76	nr	< 2.0	< 0.5	79	nr	1.44	0.56	0.07	1.34	< 0.04	71.4	0.02	0.06	nr	13.2
		09/08/04	9:00 AM	nr	7.18	20.0	6.85	nr	< 2.0	2.0	140	nr	2.14	0.42	0.08	1.26	< 0.04	272	< 0.01	0.05	nr	nr
		11/10/04	2:15 PM	nr	6.66	7.6	11.7	nr	< 2.0	9.0	57	nr	2.83	0.23	0.08	1.21	< 0.04	119	0.01	0.06	nr	< 25
		11/11/04	12:45 PM	nr	6.79	8.5	11.6	nr	< 2.0	8.0	72	nr	2.49	0.29	0.06	1.17	< 0.04	251	< 0.01	0.04	nr	nr

Background Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(white)	= Ambient Event

All:

n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Periphyton:

If periphyton data shows "< 25", all substrate samples were free from any visible attached algae, therefore periphton density is less than 25 mg/m^2, per sampling plan

Study Area	Station ID	Date	Time	Flow (cfs)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Matchaponix Brooks	MGBB	07/08/04	1:00 PM	nr	6.91	19.7	7.87	nr	< 2.0	8.0	260	nr	1.71	0.30	0.07	4.03	< 0.04	824	< 0.01	0.06	nr	nr
		07/09/04	11:50 AM	nr	6.65	18.4	8.27	nr	< 2.0	5.0	94	nr	1.95	0.37	0.09	3.94	< 0.04	311	0.01	0.07	nr	< 1.0
		09/07/04	2:25 PM	nr	6.73	18.3	8.06	nr	< 2.0	0.5	110	nr	2.58	0.34	0.09	3.46	< 0.04	238	0.02	0.10	nr	53.0
		09/08/04	9:40 AM	nr	7.14	14.1	7.77	nr	< 2.0	2.0	88	nr	2.89	0.93	0.08	3.07	< 0.04	633	< 0.01	0.06	nr	nr
		11/10/04	1:45 PM	nr	6.44	8.8	10.6	nr	< 2.0	6.5	77	nr	1.93	0.11	< 0.05	3.32	< 0.04	673	< 0.01	0.04	nr	< 25
		11/11/04	12:40 PM	nr	6.50	9.0	10.2	nr	< 2.0	6.5	89	nr	1.93	0.21	< 0.05	3.41	< 0.04	691	< 0.01	0.03	nr	nr

APPENDIX E

Stormwater Sampling Results

Stormwater Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Depth* (inches)		pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	CBOD$_5$ (mg/l)		TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH$_3$-N (mg/l)		NO$_3$-N (mg/l)	NO$_2$-N (mg/l)		Avail. Nitro. / Avail. Phos. (ratio)	D-OPO$_4$ (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	AgCrop	09/18/04	4:45 AM	3"	m	7.22	21.4	6.69	nr	<	2.0	15.0	270	nr	0.63	0.64		0.07	1.08	<	0.04	7.93	0.15	0.25	nr	nr
		09/18/04	7:00 AM	4"	m	7.42	21.1	6.95	nr	<	2.0	13.0	260	nr	0.88	0.54		0.06	1.00	<	0.04	8.14	0.13	0.29	nr	nr
		09/18/04	10:40 AM	7.5"	m	7.47	20.6	7.21	nr	<	2.0	100	230	nr	3.12	0.79		0.05	1.05	<	0.04	4.96	0.23	0.58	nr	nr
		09/18/04	2:30 PM	6"	m	7.42	18.8	6.95	nr	<	2.0	13.5	220	nr	0.69	0.64		0.09	3.07	<	0.04	30	0.11	0.34	nr	nr
		09/19/04	10:20 AM	1.5"	m	7.67	14.1	10.5	nr	<	2.0	5.0	240	nr	0.33	0.30		0.10	1.34	<	0.04	19.2	0.08	0.19	nr	nr
		09/28/04	4:46 AM	1.5"	m	7.52	18.7	n/a	nr	<	2.0	7.0	230	nr	0.53	0.63		0.07	0.97	<	0.04	11.8	0.09	0.17	nr	nr
		09/28/04	10:40 AM	7.2"	m	7.43	19.4	6.97	nr	<	2.0	6.5	180	nr	0.45	0.41		0.06	0.93	<	0.04	7.13	0.14	0.17	nr	nr
		09/28/04	4:40 PM	13.2"	m	6.99	20.7	6.55	nr	<	2.0	29.5	220	nr	0.81	0.83		0.07	0.84	<	0.04	2.96	0.31	0.41	nr	nr
		09/28/04	6:45 PM	21.6"	m	7.27	20.1	6.63	nr		3.9	230	160	nr	5.03	1.97		0.14	1.02	<	0.04	1.58	0.74	1.13	nr	nr
		09/28/04	10:35 PM	36"	m	7.14	19.9	n/a	nr		2.3	120	110	nr	0.81	1.10		0.11	1.00	<	0.04	2.15	0.52	0.69	nr	nr
		09/29/04	7:00 AM	25"	m	7.21	18.9	n/a	nr	<	2.0	20.5	150	nr	0.82	0.88		0.08	2.24	<	0.04	7.95	0.30	0.36	nr	nr
		09/29/04	5:45 PM	12"	m	7.19	18.8	n/a	nr	<	2.0	20.5	180	nr	0.71	0.67		0.08	2.87	<	0.04	12.9	0.23	0.28	nr	nr
		04/22/05	12:10 PM	2"	m	7.46	12.9	n/a	nr	<	2.0	3.5	220	nr	0.31	0.40	<	0.05	0.94	<	0.04	23.5	0.04	0.09	nr	nr
		04/27/05	6:50 AM	2.5"	m	7.87	11.0	n/a	nr	<	2.0	3.0	150	nr	0.38	0.36		0.05	0.88	<	0.04	17	0.06	0.11	nr	nr
		04/30/05	11:05 AM	3"	m	7.76	12.3	n/a	nr	<	2.0	2.5	260	nr	0.39	0.57		0.06	0.98	<	0.04	14.1	0.08	0.13	nr	nr
		04/30/05	6:05 PM	4"	m	7.67	12.6	n/a	nr	<	2.0	5.0	260	nr	0.40	0.75		0.06	0.97	<	0.04	17	0.06	0.13	nr	nr
		04/30/05	8:50 PM	4.5"	m	7.29	11.6	n/a	nr	<	2.0	5.5	260	nr	1.59	0.93		0.09	0.97	<	0.04	9.33	0.12	0.24	nr	nr
		05/01/05	8:30 AM	3"	m	7.64	12.6	n/a	nr	<	2.0	7.0	270	nr	0.51	0.78		0.08	0.95	<	0.04	8.64	0.12	0.20	nr	nr

Stormwater Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Depth* (inches)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	AgPast	09/18/04	8:30 AM	1.9 e	7.45	20.4	7.66	nr	< 2.0	130	160	nr	2.71	1.34	0.05	0.86	< 0.04	8.12	0.12	0.25	nr	nr
		09/18/04	9:45 AM	11.3 e	7.78	19.3	8.08	nr	3.9	280	80	nr	7.86	2.54	0.07	0.68	< 0.04	2.45	0.31	0.48	nr	nr
		09/18/04	11:30 AM	13.2 e	7.11	18.6	7.83	nr	2.4	65	65	nr	2.94	0.84	0.05	0.81	< 0.04	5.82	0.15	0.39	nr	nr
		09/18/04	4:55 PM	4.6 e	7.22	18.1	8.30	nr	< 2.0	17.0	110	nr	1.10	1.42	0.05	1.46	< 0.04	10.7	0.14	0.27	nr	nr
		09/19/04	11:35 AM	1.1 e	7.58	14.9	9.21	nr	< 2.0	7.0	130	nr	0.38	1.12	0.07	1.89	< 0.04	22.7	0.09	0.10	nr	nr
		09/28/04	4:30 AM	0.3 e	6.50	18.5	n/a	nr	< 2.0	2.5	200	nr	0.10	0.29	0.06	0.90	< 0.04	57.5	0.02	0.07	nr	nr
		09/28/04	11:50 AM	0.6 e	7.49	19.4	n/a	nr	< 2.0	13.0	150	nr	0.32	0.30	0.07	0.85	< 0.04	12.2	0.08	0.12	nr	nr
		09/28/04	4:30 PM	2.8 e	7.26	19.2	n/a	nr	< 2.0	11.5	130	nr	0.29	0.42	0.06	0.88	< 0.04	10.9	0.09	0.14	nr	nr
		09/28/04	7:00 PM	42.7 e	7.13	19.0	n/a	nr	3.0	120	97	nr	1.97	0.69	0.06	0.76	< 0.04	4.69	0.18	0.34	nr	nr
		09/29/04	11:10 AM	28.9 e	6.93	17.2	n/a	nr	< 2.0	25.5	97	nr	0.86	0.48	0.05	1.91	< 0.04	14.3	0.14	0.18	nr	nr
		09/30/04	9:00 AM	7.6 e	7.20	16.1	n/a	nr	< 2.0	8.5	120	nr	0.28	0.19	< 0.05	1.93	< 0.04	21.9	0.09	0.12	nr	nr
		04/22/05	11:35 AM	1.2 e	7.72	14.1	n/a	nr	< 2.0	0.5	150	nr	0.10	0.16	< 0.05	< 0.02	< 0.04	5.5	0.01	0.03	nr	nr
		04/27/05	7:55 AM	1.4 e	7.77	12.0	n/a	nr	< 2.0	1.0	140	nr	0.18	0.09	< 0.05	0.44	< 0.04	97	< 0.01	0.04	nr	nr
		04/30/05	10:40 AM	1.3 e	7.34	12.1	n/a	nr	< 2.0	1.5	190	nr	0.11	0.29	0.06	0.61	< 0.04	40.4	0.02	0.05	nr	nr
		04/30/05	6:35 PM	1.9 e	7.39	12.7	n/a	nr	< 2.0	1.5	190	nr	0.12	0.54	0.06	0.61	< 0.04	139	< 0.01	0.05	nr	nr
		04/30/05	8:20 PM	3.6 e	7.29	11.9	n/a	nr	< 2.0	14.0	180	nr	1.49	0.61	0.09	0.98	< 0.04	90.4	0.01	0.11	nr	nr
		05/01/05	9:00 AM	2.3 e	7.21	12.1	n/a	nr	< 2.0	4.5	190	nr	0.17	0.44	0.08	0.94	< 0.04	74.6	0.01	0.04	nr	nr

Stormwater Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Depth* (inches)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
South Branch Raritan River	Rural	09/18/04	4:25 AM	2.5" m	6.96	21.9	8.56	nr	2.0	53	380	nr	1.35	0.50	0.09	0.55	< 0.04	15	0.04	0.19	nr	nr
		09/18/04	6:45 AM	4" m	7.07	21.7	7.54	nr	< 2.0	28.5	74	nr	1.85	0.59	0.07	0.62	< 0.04	20.2	0.04	0.18	nr	nr
		09/18/04	11:05 AM	5.5" m	7.12	18.9	7.40	nr	< 2.0	9.0	150	nr	0.68	0.91	0.09	1.83	< 0.04	17.5	0.11	0.25	nr	nr
		09/18/04	4:10 PM	4" m	7.14	20.9	7.22	nr	< 2.0	10.0	180	nr	0.34	1.46	0.08	3.21	< 0.04	30.4	0.11	0.16	nr	nr
		09/19/04	10:50 AM	2" m	7.18	14.3	9.12	nr	< 2.0	0.5	320	nr	0.08	0.17	0.08	0.89	< 0.04	15	0.07	0.09	nr	nr
		09/28/04	5:20 AM	1" m	7.15	17.8	n/a	nr	< 2.0	7.0	280	nr	0.39	0.32	0.06	1.88	< 0.04	38.4	0.05	0.12	nr	nr
		09/28/04	10:17 AM	3" m	6.91	18.6	7.15	nr	4.5	29.5	250	nr	1.34	1.41	0.50	1.82	< 0.04	3.31	0.71	0.73	nr	nr
		09/28/04	4:15 PM	10.8" m	6.99	20.3	7.97	nr	2.8	77	130	nr	2.01	0.85	0.12	1.08	< 0.04	6.77	0.18	0.30	nr	nr
		09/28/04	6:00 PM	26.4" m	6.40	19.5	8.35	nr	2.9	250	55	nr	4.97	1.36	0.11	0.91	< 0.04	3.94	0.26	0.52	nr	nr
		09/28/04	11:15 PM	33" m	6.54	19.2	n/a	nr	2.0	210	72	nr	3.56	1.91	0.16	1.82	< 0.04	7.96	0.25	0.46	nr	nr
		09/29/04	7:35 AM	18" m	6.75	18.9	n/a	nr	< 2.0	19.5	160	nr	0.71	1.00	0.06	5.47	< 0.04	31.3	0.18	0.22	nr	nr
		09/29/04	5:10 PM	7" m	6.88	18.7	n/a	nr	< 2.0	10.0	190	nr	0.33	0.62	< 0.05	5.22	< 0.04	42.1	0.13	0.18	nr	nr
		04/22/05	11:55 AM	2" m	7.54	13.1	n/a	nr	< 2.0	< 0.5	270	nr	0.05	0.32	< 0.05	2.33	< 0.04	88	0.03	0.06	nr	nr
		04/27/05	6:20 AM	2" m	7.91	11.7	n/a	nr	4.0	29.5	79	nr	0.98	1.63	0.23	1.05	< 0.04	16	0.08	0.21	nr	nr
		04/27/05	7:30 AM	3" m	7.84	11.4	n/a	nr	2.1	11.0	200	nr	0.55	0.90	0.12	1.73	< 0.04	30.1	0.06	0.13	nr	nr
		04/30/05	9:45 AM	2.5" m	7.81	12.7	n/a	nr	< 2.0	5.0	340	nr	0.16	1.08	< 0.05	2.23	< 0.04	73.4	0.03	0.05	nr	nr
		05/01/05	10:45 AM	1.5" m	7.88	11.3	n/a	nr	< 2.0	2.0	350	nr	0.09	0.56	< 0.05	2.67	< 0.04	129	0.02	0.04	nr	nr

Stormwater Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Depth* (inches)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone River	AgWet	09/18/04	4:45 AM	1" m	6.46	22.3	4.58	nr	< 2.0	19.0	180	nr	2.39	1.41	0.86	0.41	< 0.04	29.2	0.04	0.22	nr	nr
		09/18/04	10:30 AM	2.5" m	7.27	20.3	6.25	nr	< 2.0	210	140	nr	8.39	0.88	0.58	0.44	< 0.04	13.5	0.08	0.18	nr	nr
		09/18/04	3:00 PM	1" m	7.39	18.2	7.02	nr	< 2.0	170	170	nr	9.19	1.80	0.83	0.44	< 0.04	23.4	0.06	0.40	nr	nr
		09/28/04	3:50 AM	1" m	6.73	19.3	n/a	nr	3.3	55	160	nr	12.90	2.06	0.40	0.44	< 0.04	7.79	0.11	0.63	nr	nr
		09/28/04	8:30 AM	2" m	7.03	20.2	n/a	nr	3.9	8.0	160	nr	1.83	1.26	0.36	0.45	< 0.04	2.81	0.30	0.47	nr	nr
		09/28/04	4:00 PM	6" m	7.04	21.9	n/a	nr	5.1	200	96	nr	8.38	1.99	0.34	1.41	< 0.04	5.55	0.32	0.60	nr	nr
		09/28/04	9:00 PM	10" m	6.85	19.7	n/a	nr	5.1	100	98	nr	6.27	1.55	0.24	0.81	< 0.04	3.81	0.28	0.62	nr	nr
		09/29/04	7:45 AM	5" m	6.98	17.7	n/a	nr	4.1	20.5	150	nr	2.27	1.31	0.08	1.66	< 0.04	11	0.16	0.31	nr	nr
		09/29/04	5:40 PM	2" m	6.05	19.5	5.89	nr	< 2.0	21.0	130	nr	1.78	0.83	0.14	3.03	< 0.04	53.2	0.06	0.18	nr	nr
		04/22/05	3:30 PM	1.5" m	6.33	14.0	n/a	nr	< 2.0	4.0	97	nr	1.43	0.85	0.06	1.06	< 0.04	84.4	0.01	0.06	nr	nr
		04/27/05	4:45 AM	2" m	5.95	12.3	n/a	nr	< 2.0	41	84	nr	1.37	0.51	0.09	1.03	< 0.04	114	0.01	0.06	nr	nr
		04/27/05	9:00 AM	3" m	6.86	13.1	n/a	nr	< 2.0	14.0	760	nr	1.21	0.59	< 0.05	1.02	< 0.04	213	< 0.01	0.07	nr	nr
		04/30/05	7:30 PM	3" m	5.87	15.2	n/a	nr	< 2.0	21.0	83	nr	1.83	0.88	0.09	1.02	< 0.04	94.2	0.01	0.10	nr	nr
		05/01/05	3:00 AM	5" m	5.36	13.7	n/a	nr	< 2.0	17.0	56	nr	1.69	1.38	< 0.05	0.44	< 0.04	21.1	0.02	0.11	nr	nr
		05/01/05	9:05 AM	8" m	n/a	n/a	n/a	nr	< 2.0	15.0	57	nr	1.95	1.40	0.07	0.41	< 0.04	26.2	0.02	0.12	nr	nr

Stormwater Sampling Results

NOTES:

(yellow)	= High-Flow Event
(green)	= Low-Flow Event
(orange)	= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

Study Area	Station ID	Date	Time	Depth* (inches)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Mainstem Raritan River	OldUrb	09/18/04	8:00 AM	4" m	6.52	21.3	7.48	nr	< 2.0	3.5	160	nr	0.30	0.75	< 0.05	0.81	< 0.04	11.1	0.08	0.13	nr	nr
		09/18/04	9:25 AM	5" m	7.71	20.6	7.66	nr	< 2.0	3.0	140	nr	0.29	0.79	< 0.05	0.70	< 0.04	10.5	0.07	0.11	nr	nr
		09/18/04	12:05 PM	3" m	7.47	19.7	7.94	nr	< 2.0	1.5	140	nr	0.41	0.15	< 0.05	0.87	< 0.04	32.7	0.03	0.13	nr	nr
		09/18/04	4:35 PM	2" m	7.39	18.8	8.17	nr	< 2.0	1.0	190	nr	0.18	0.83	< 0.05	0.78	< 0.04	11.1	0.07	0.11	nr	nr
		09/19/04	12:00 PM	0.75" m	7.69	16.5	9.59	nr	< 2.0	< 0.5	210	nr	0.12	0.14	0.06	0.93	< 0.04	5.94	0.17	0.11	nr	nr
		09/28/04	5:00 AM	1" m	6.80	18.3	n/a	nr	< 2.0	4.0	530	nr	0.12	0.85	0.06	0.89	< 0.04	14.9	0.07	0.13	nr	nr
		09/28/04	11:25 AM	3" m	7.39	19.3	n/a	nr	2.9	16.0	340	nr	0.33	0.70	< 0.05	1.01	< 0.04	11.5	0.09	0.16	nr	nr
		09/28/04	4:00 PM	6" m	7.31	20.8	n/a	nr	< 2.0	< 0.5	220	nr	0.51	0.27	0.06	0.63	< 0.04	8.79	0.08	0.13	nr	nr
		09/28/04	6:30 PM	14" m	7.07	20.0	n/a	nr	2.0	100	80	nr	2.87	0.52	0.07	0.63	< 0.04	6.42	0.11	0.27	nr	nr
		09/29/04	10:25 AM	50" m	7.23	18.8	n/a	nr	5.0	20.0	200	nr	0.56	1.20	0.43	1.93	< 0.04	12.3	0.19	0.29	nr	nr
		09/30/04	8:40 AM	5" m	7.56	17.0	n/a	nr	< 2.0	4.0	290	nr	0.11	0.30	0.06	2.23	< 0.04	54.9	0.04	0.08	nr	nr
		04/22/05	11:10 AM	1" m	5.89	14.4	n/a	nr	< 2.0	< 0.5	850	nr	0.08	0.20	< 0.05	0.50	< 0.04	54.5	0.01	0.03	nr	nr
		04/23/05	6:05 AM	1" m	6.82	11.2	n/a	nr	< 2.0	< 0.5	810	nr	0.06	< 0.05	< 0.05	0.77	< 0.04	163	< 0.01	< 0.02	nr	nr
		04/27/05	6:25 AM	1.75" m	6.90	11.8	n/a	nr	< 2.0	< 0.5	850	nr	0.08	0.51	< 0.05	0.70	< 0.04	149	< 0.01	0.03	nr	nr
		04/30/05	10:15 AM	3.5" m	7.75	12.9	n/a	nr	< 2.0	2.5	900	nr	0.07	0.45	< 0.05	1.00	< 0.04	209	< 0.01	0.04	nr	nr
		04/30/05	8:00 PM	6" m	7.21	11.7	n/a	nr	< 2.0	2.5	870	nr	0.35	0.56	0.08	1.20	< 0.04	259	< 0.01	0.04	nr	nr
		05/01/05	9:20 AM	2" m	7.64	12.7	n/a	nr	< 2.0	2.0	590	nr	0.20	0.90	0.06	1.35	< 0.04	119	0.01	0.04	nr	nr

Stormwater Sampling Results

NOTES:

= High-Flow Event
= Low-Flow Event
= Stormflow Event

Depth*:
m = Measured depth (inches)
e = Estimated Flow (cfs)

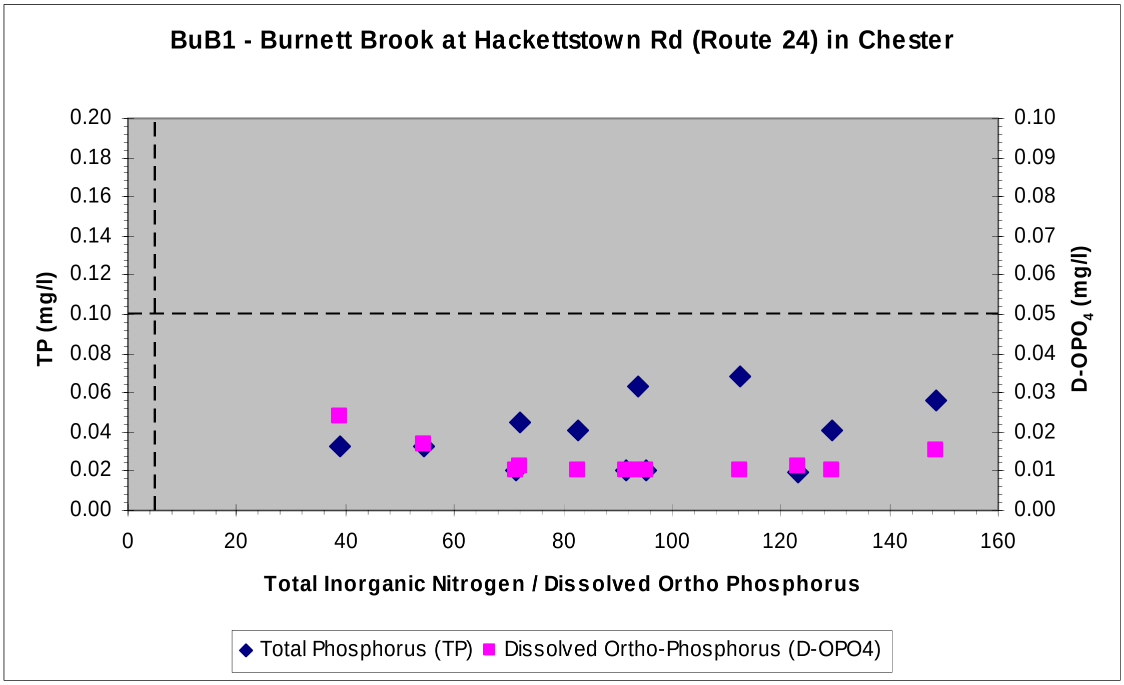
All:
n/a = Data Not Available
nr = Data Not Required, per Sampling Plan
NF = No Flow

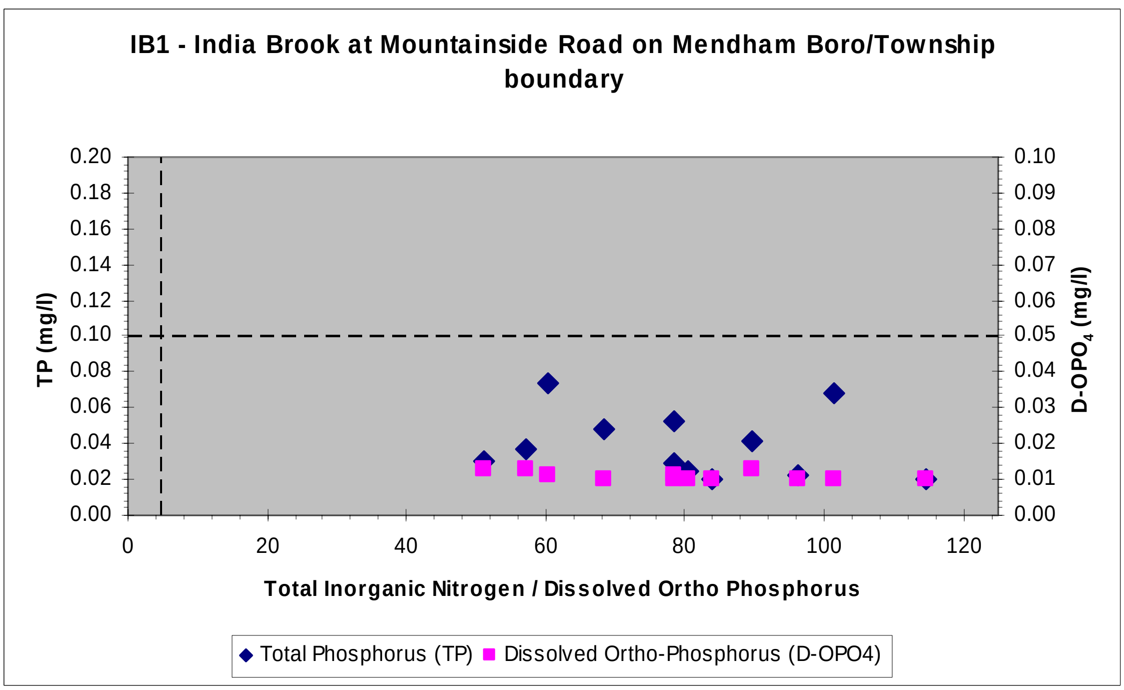
Study Area	Station ID	Date	Time	Depth* (inches)	pH (s.u.)	Temp. (°C)	DO (mg/L)	Alk. (mg/l)	$CBOD_5$ (mg/l)	TSS (mg/l)	TDS (mg/l)	Turbidity (NTUs)	Iron (mg/l)	TKN (mg/l)	NH_3-N (mg/l)	NO_3-N (mg/l)	NO_2-N (mg/l)	Avail. Nitro. / Avail. Phos. (ratio)	D-OPO_4 (mg/l)	TP (mg/l)	Phyto-plankton Chl-a (mg/m^3)	Avg. Peri-phyton Chl-a (mg/m^2)
Upper Millstone River	DWW	09/18/04	4:15 AM	2" m	6.43	21.1	3.71	nr	< 2.0	3.0	96	nr	5.13	0.74	0.58	< 0.02	< 0.04	16.1	0.04	0.09	nr	nr
		09/18/04	11:10 AM	4" m	6.72	19.0	9.22	nr	< 2.0	16.0	93	nr	6.00	1.05	0.66	< 0.02	< 0.04	36.4	0.02	0.11	nr	nr
		09/18/04	3:30 PM	6" m	6.78	17.2	7.05	nr	< 2.0	5.0	80	nr	4.56	0.69	0.41	< 0.02	< 0.04	17	0.03	0.09	nr	nr
		09/19/04	7:00 AM	2" m	7.10	14.5	5.08	nr	< 2.0	8.0	88	nr	4.64	0.46	0.41	< 0.02	< 0.04	19	0.02	0.07	nr	nr
		09/28/04	7:45 AM	2" m	6.87	19.2	n/a	nr	< 2.0	9.0	98	nr	3.60	0.59	0.10	0.38	< 0.04	35.8	0.01	0.07	nr	nr
		09/28/04	11:40 AM	4" m	6.80	15.2	n/a	nr	< 2.0	24.0	100	nr	5.38	0.79	0.12	0.46	< 0.04	60.3	0.01	0.10	nr	nr
		09/28/04	5:00 PM	8" m	7.01	19.1	n/a	nr	< 2.0	26.0	51	nr	2.22	0.61	0.06	0.44	< 0.04	105	< 0.01	0.09	nr	nr
		09/28/04	9:45 PM	10" m	6.94	19.6	n/a	nr	< 2.0	6.5	50	nr	2.07	0.83	0.05	0.35	< 0.04	84.6	< 0.01	0.10	nr	nr
		09/29/04	8:30 AM	12" m	6.65	18.9	n/a	nr	< 2.0	3.0	55	nr	0.88	0.54	< 0.05	< 0.02	< 0.04	11	< 0.01	0.05	nr	nr
		09/30/04	10:00 AM	8" m	6.04	17.3	7.96	nr	< 2.0	5.5	55	nr	1.22	0.73	0.06	< 0.02	< 0.04	18.4	< 0.01	0.07	nr	nr
		04/22/05	2:45 PM	3" m	7.44	13.5	n/a	nr	< 2.0	3.5	140	nr	2.33	0.50	0.12	0.59	< 0.04	146	< 0.01	0.04	nr	nr
		04/27/05	5:25 AM	2.5" m	6.17	12.3	n/a	nr	< 2.0	11.0	120	nr	2.82	0.53	0.08	0.39	< 0.04	98.4	< 0.01	0.05	nr	nr
		04/27/05	9:30 AM	3" m	6.60	12.1	n/a	nr	2.0	11.0	90	nr	2.74	0.56	0.10	0.42	< 0.04	107	< 0.01	0.06	nr	nr
		04/30/05	8:00 PM	4" m	5.79	15.0	n/a	nr	< 2.0	5.5	100	nr	2.16	0.90	0.10	0.42	< 0.04	108	< 0.01	0.05	nr	nr
		05/01/05	3:35 AM	6" m	5.45	14.2	n/a	nr	< 2.0	4.5	57	nr	1.02	0.83	0.10	0.43	< 0.04	110	< 0.01	0.05	nr	nr
		05/01/05	8:30 AM	8" m	5.60	13.9	n/a	nr	< 2.0	1.5	80	nr	1.44	0.97	0.19	0.38	< 0.04	119	< 0.01	0.04	nr	nr

APPENDIX F

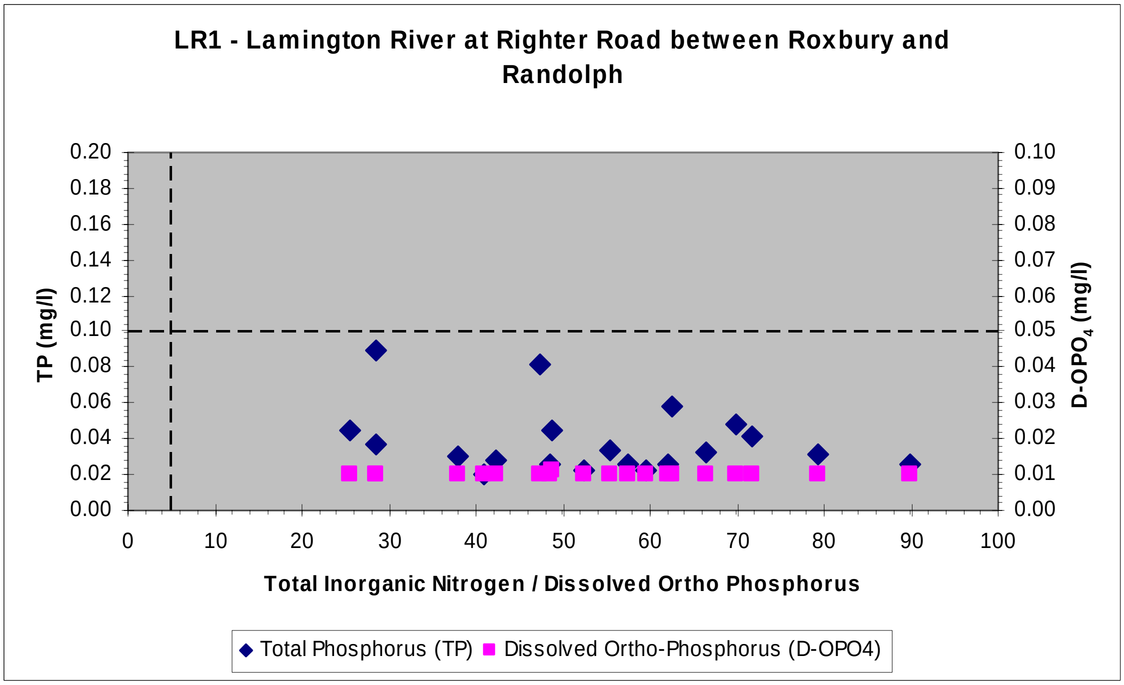
Nutrient Chemistry Data Graphs

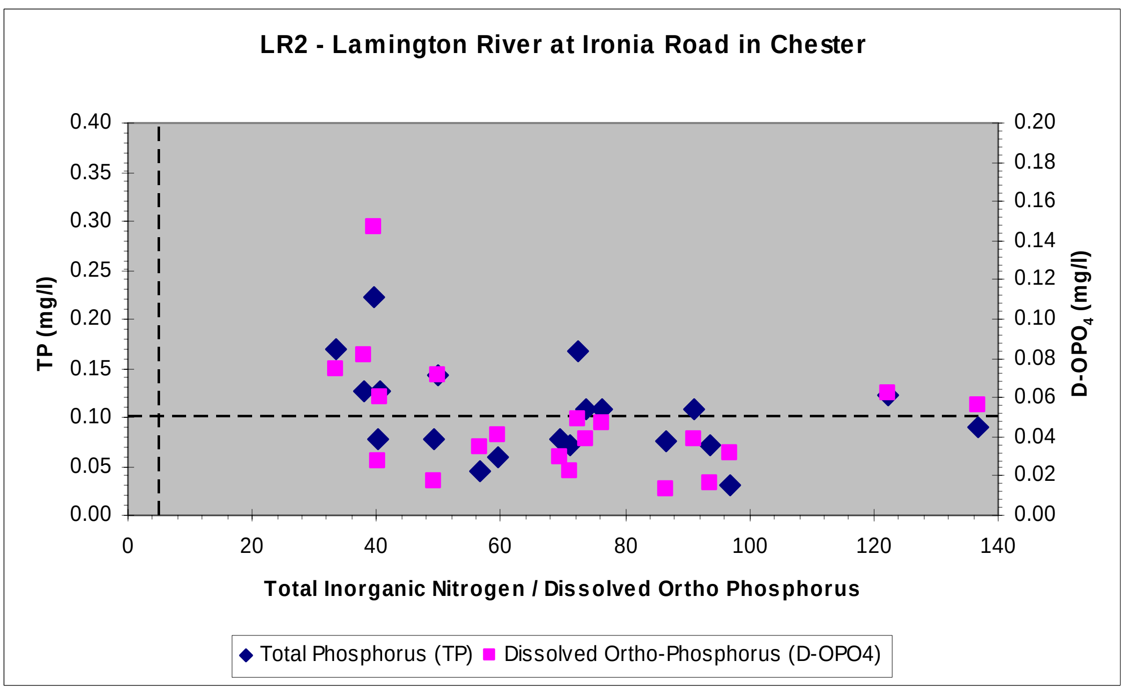
North Branch Raritan River Study Area



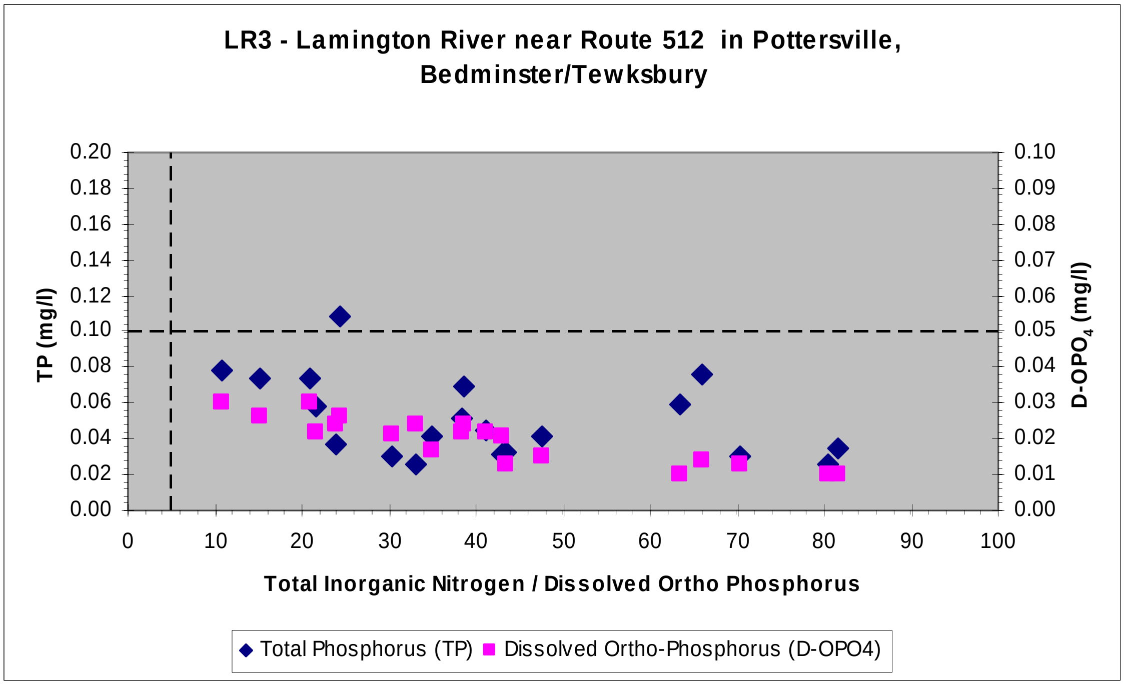


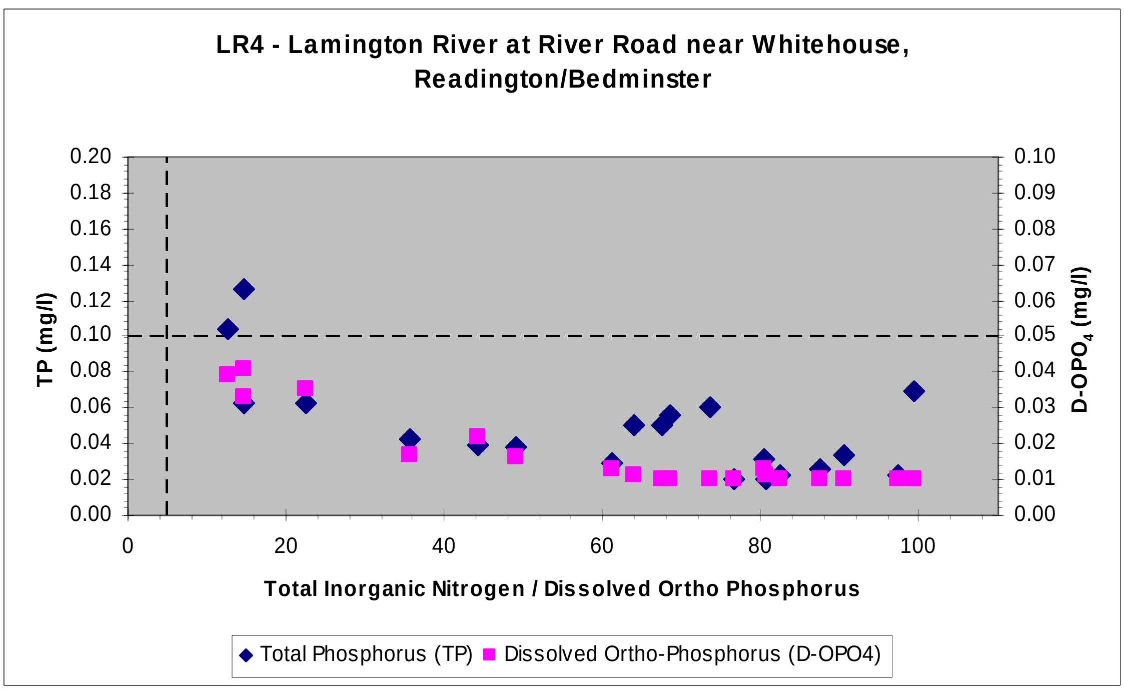
North Branch Raritan River Study Area



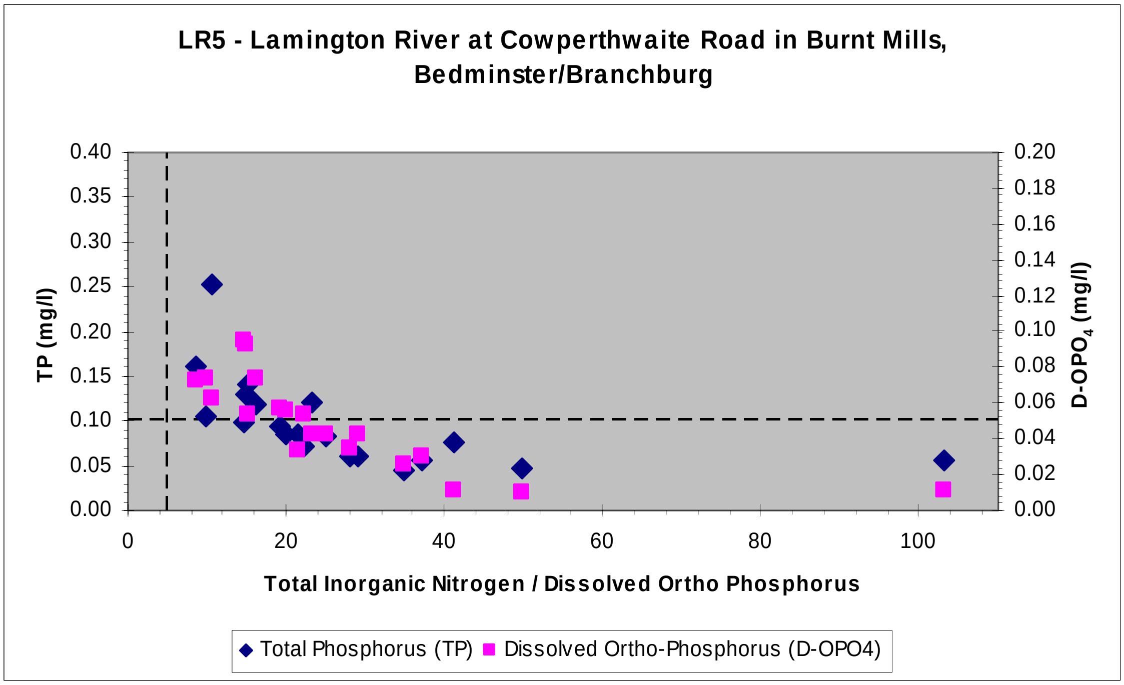


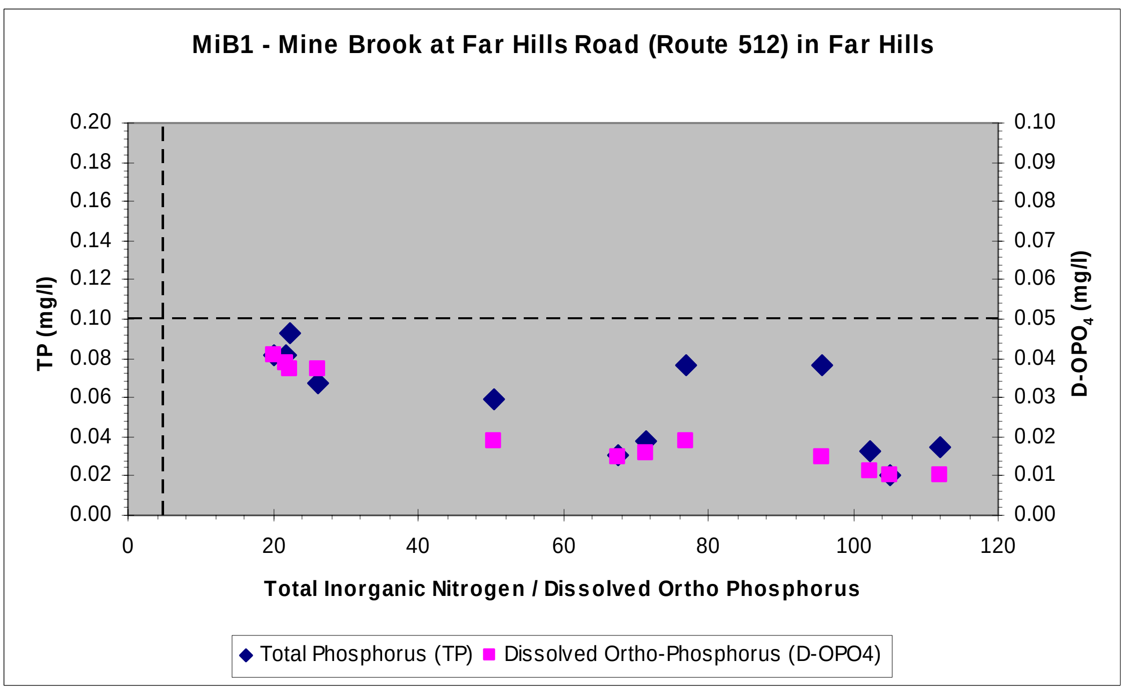
North Branch Raritan River Study Area



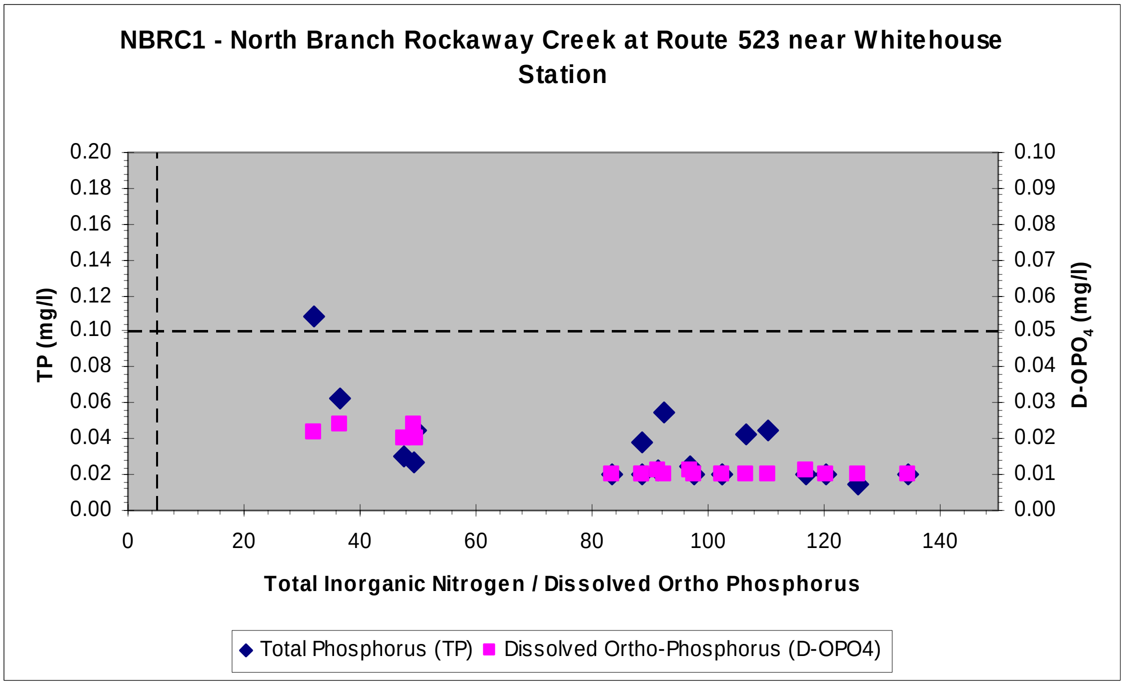


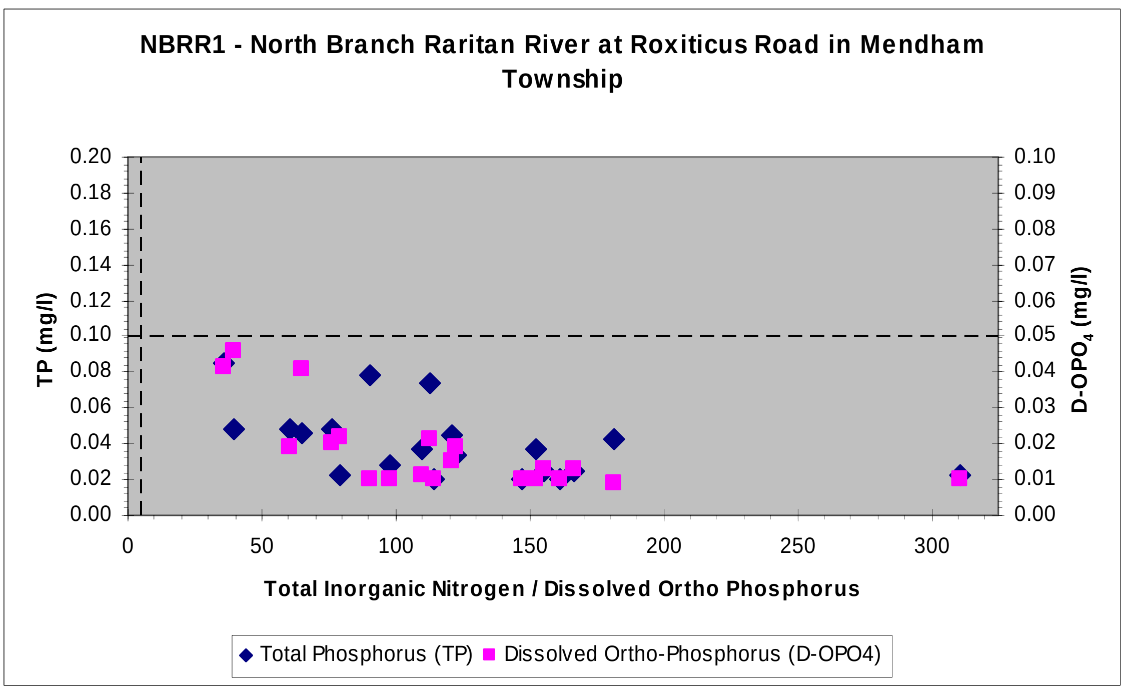
North Branch Raritan River Study Area





North Branch Raritan River Study Area





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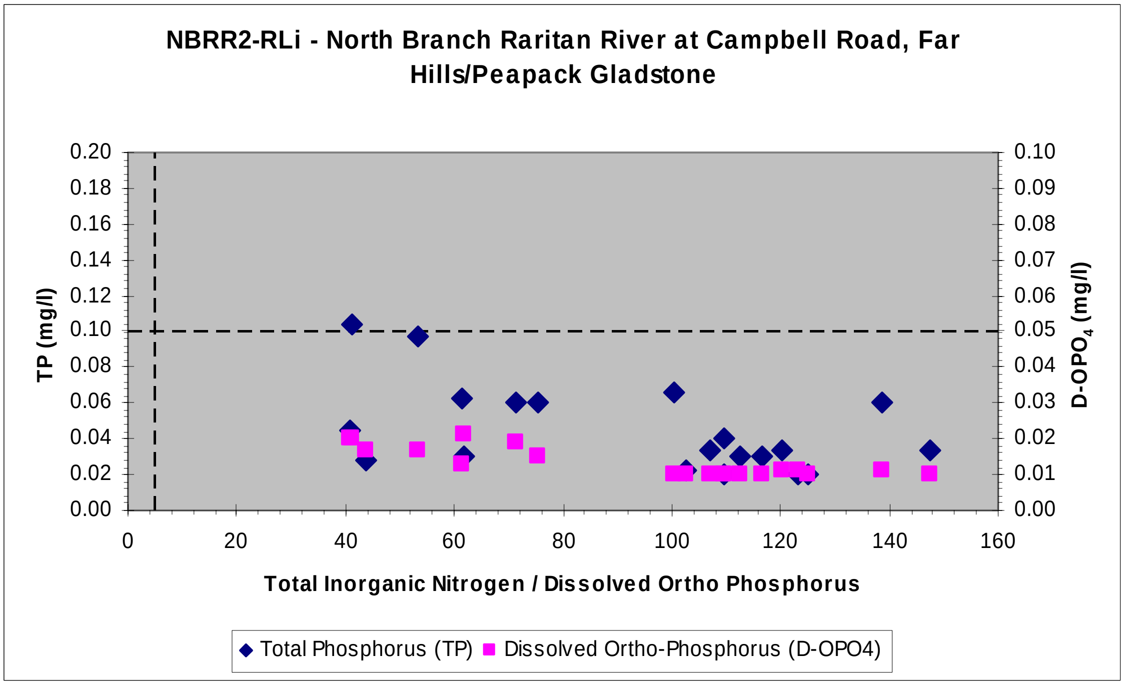

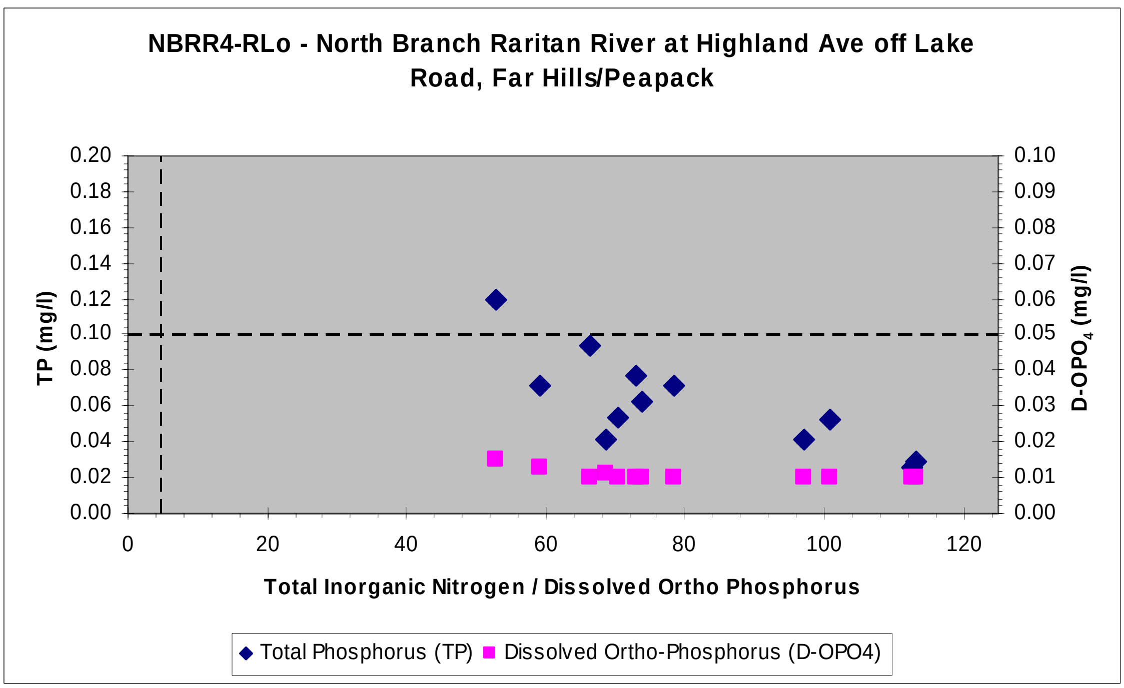

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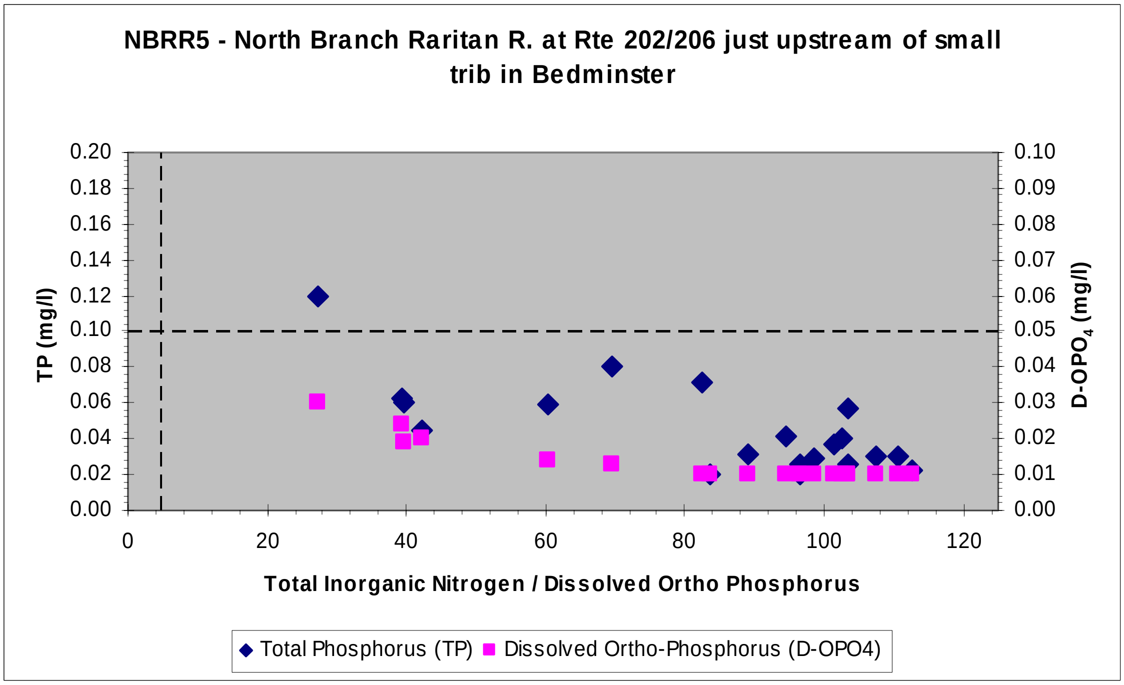

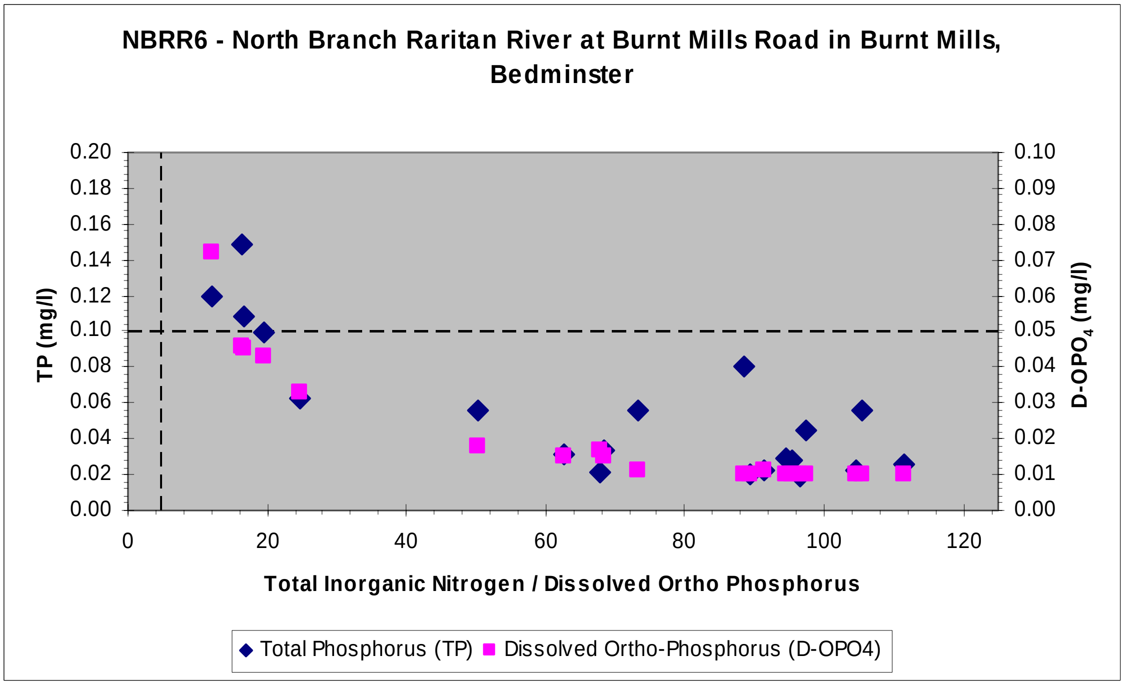

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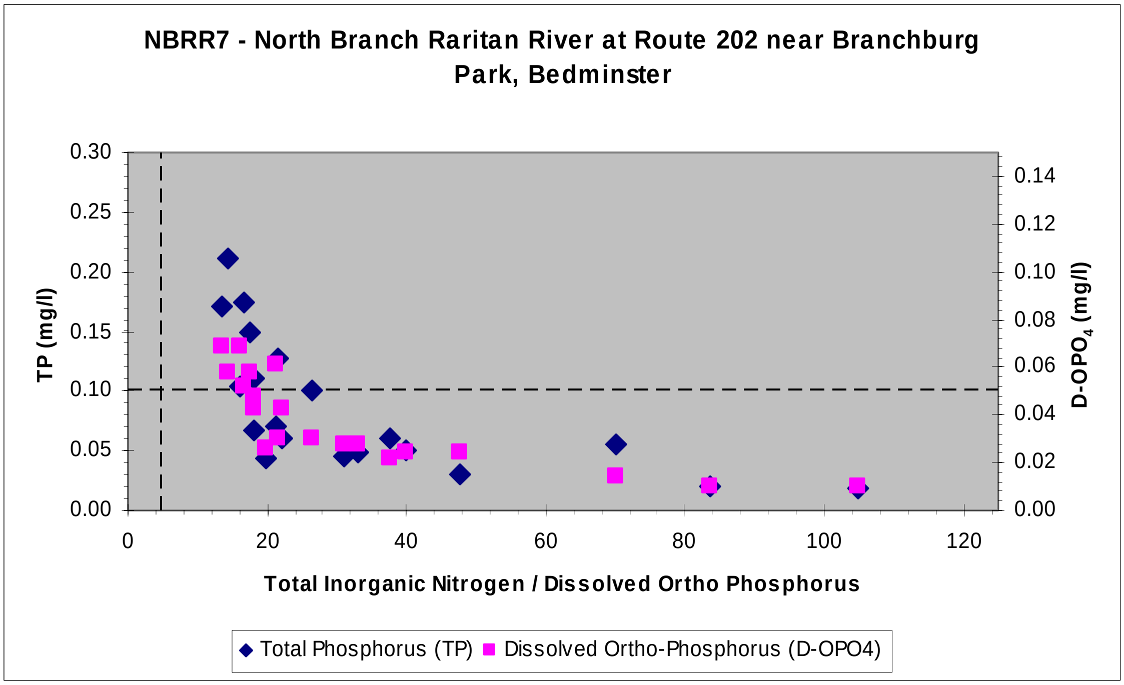

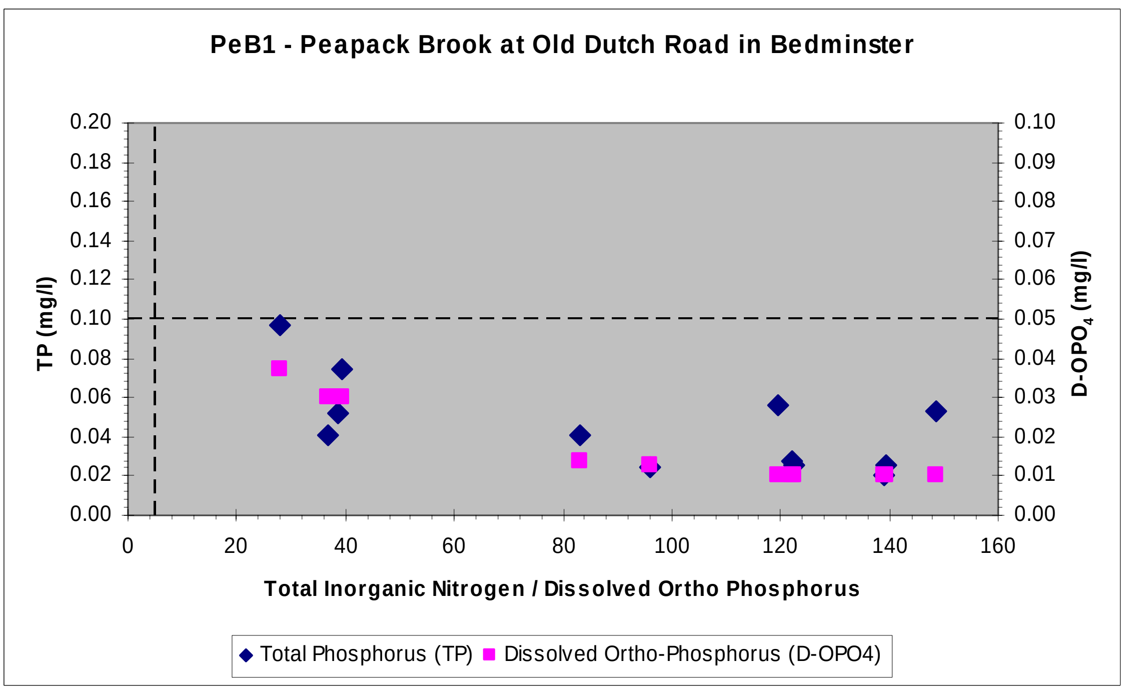

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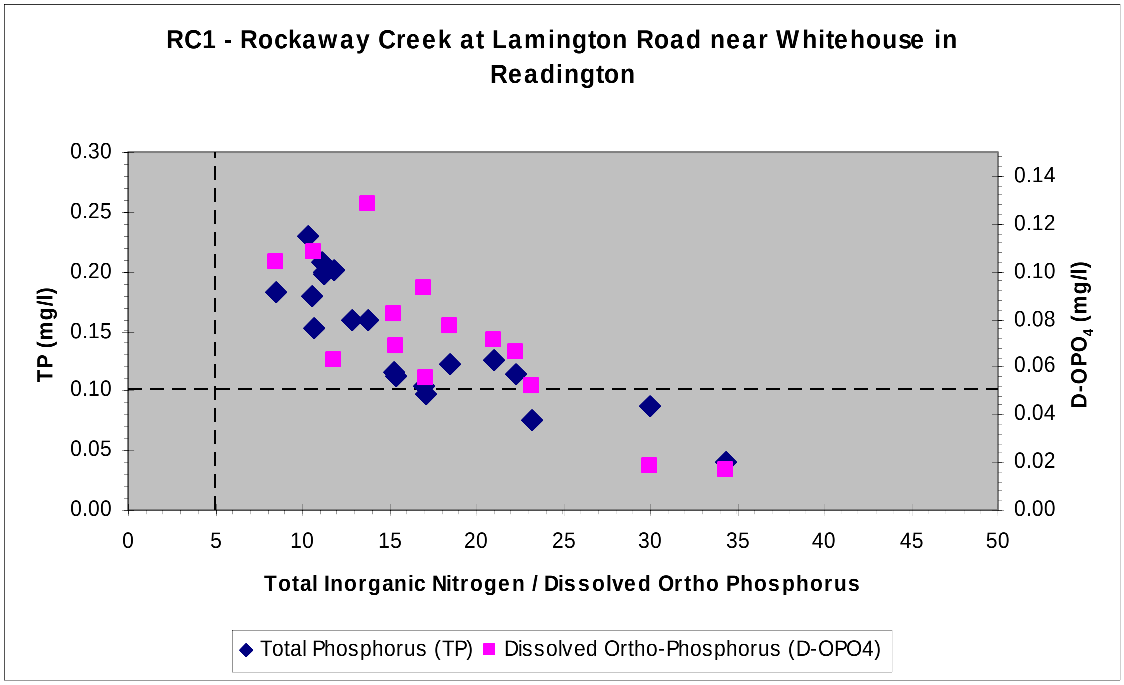
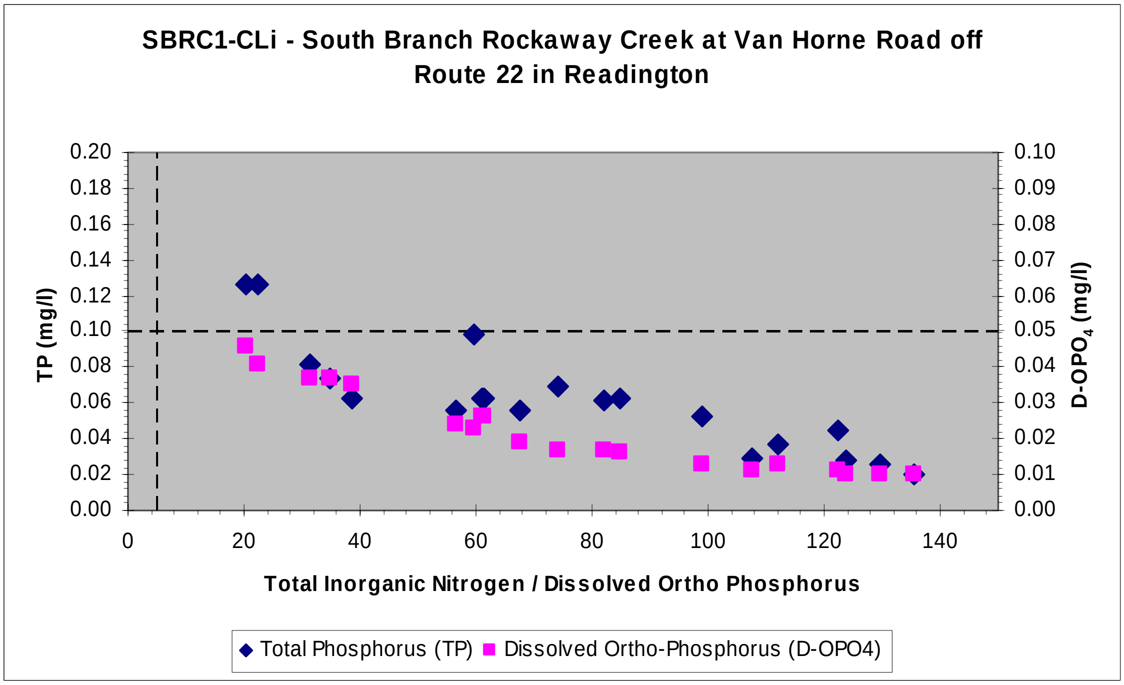
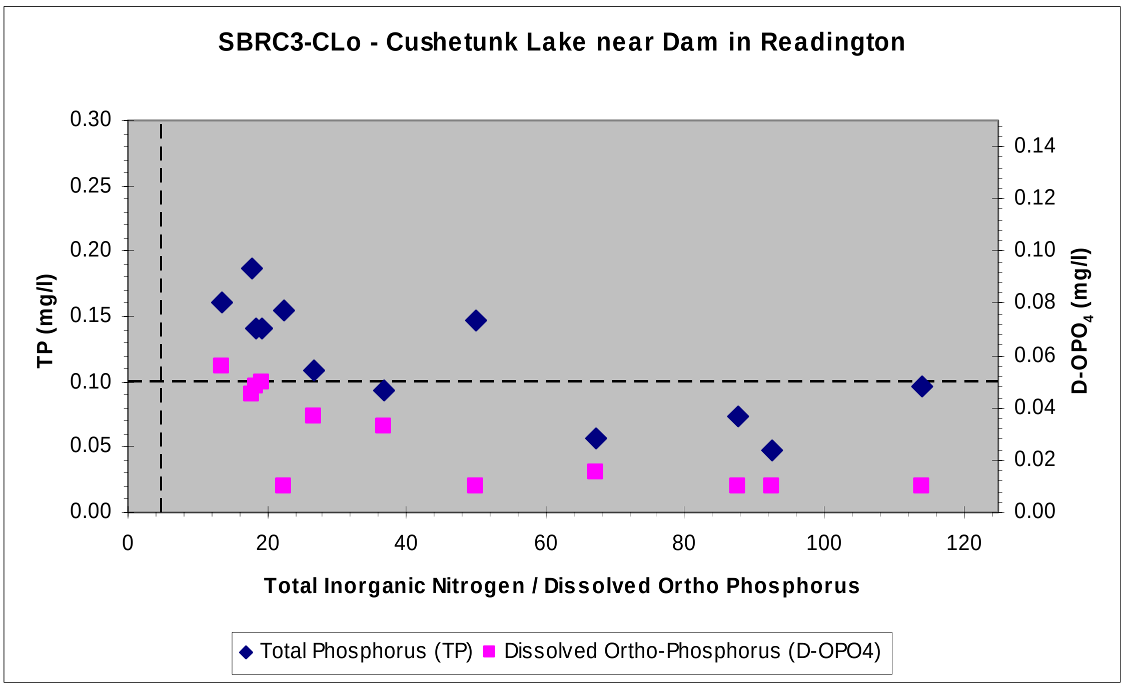
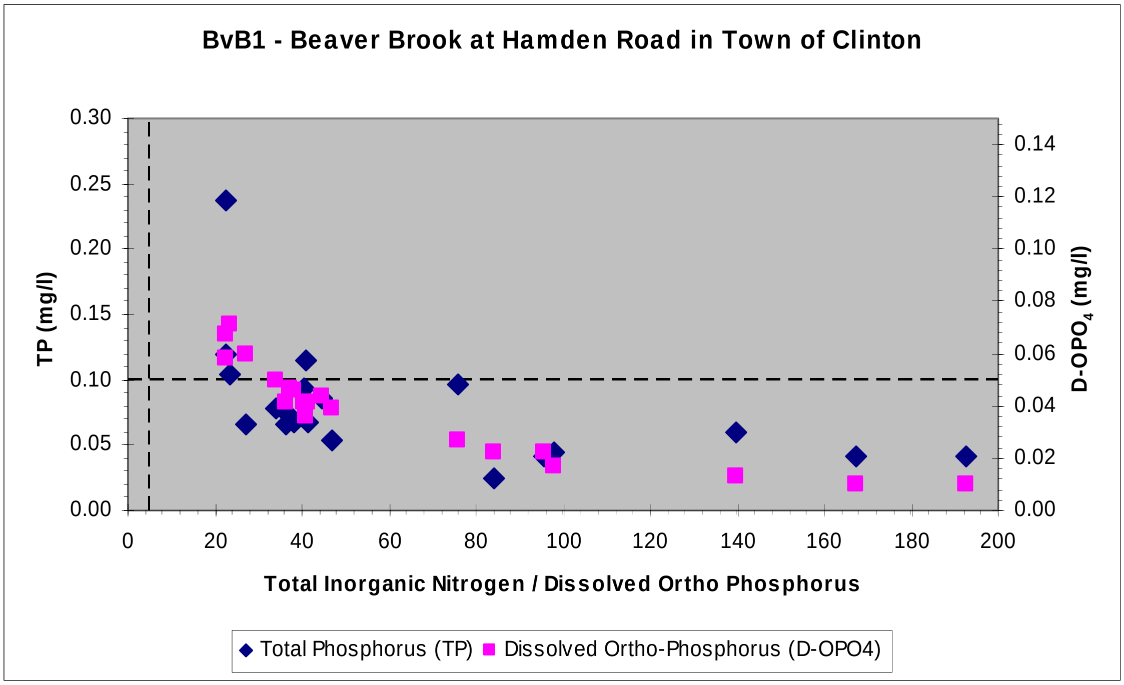


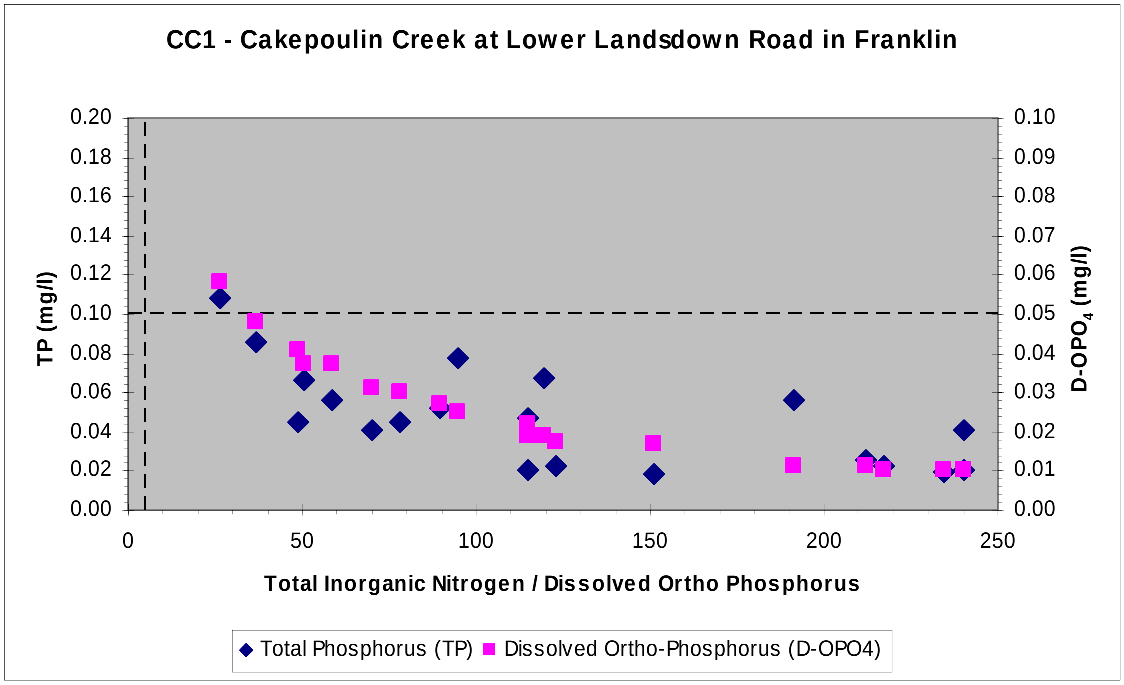


North Branch Raritan River Study Area



South Branch Raritan River Study Area





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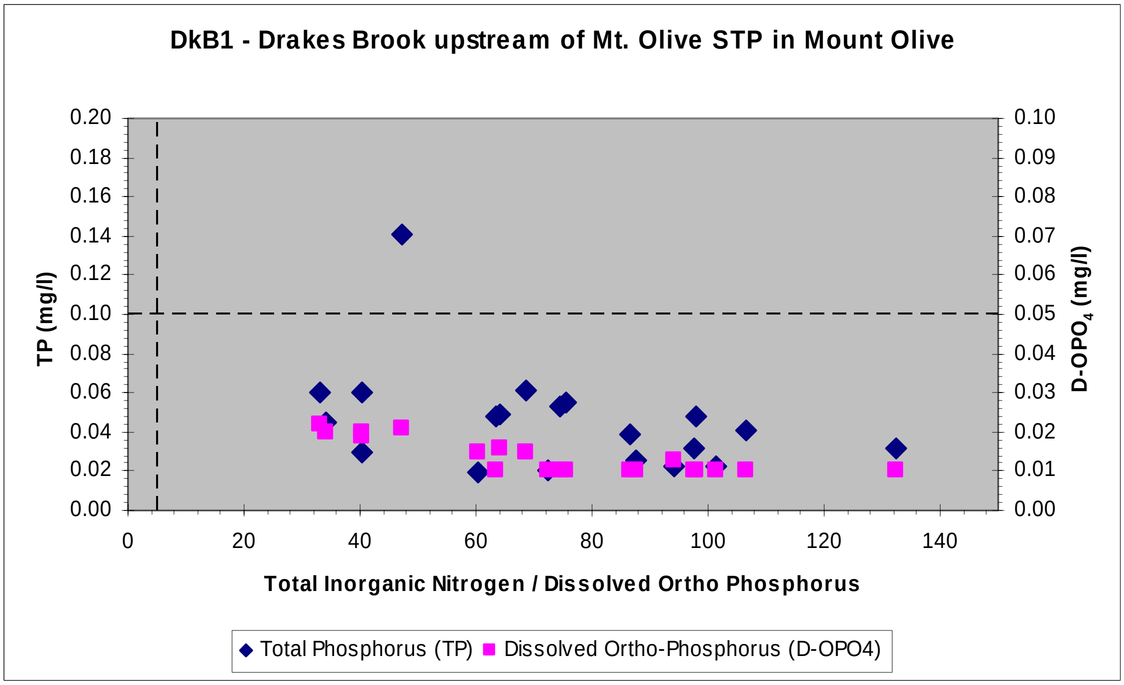

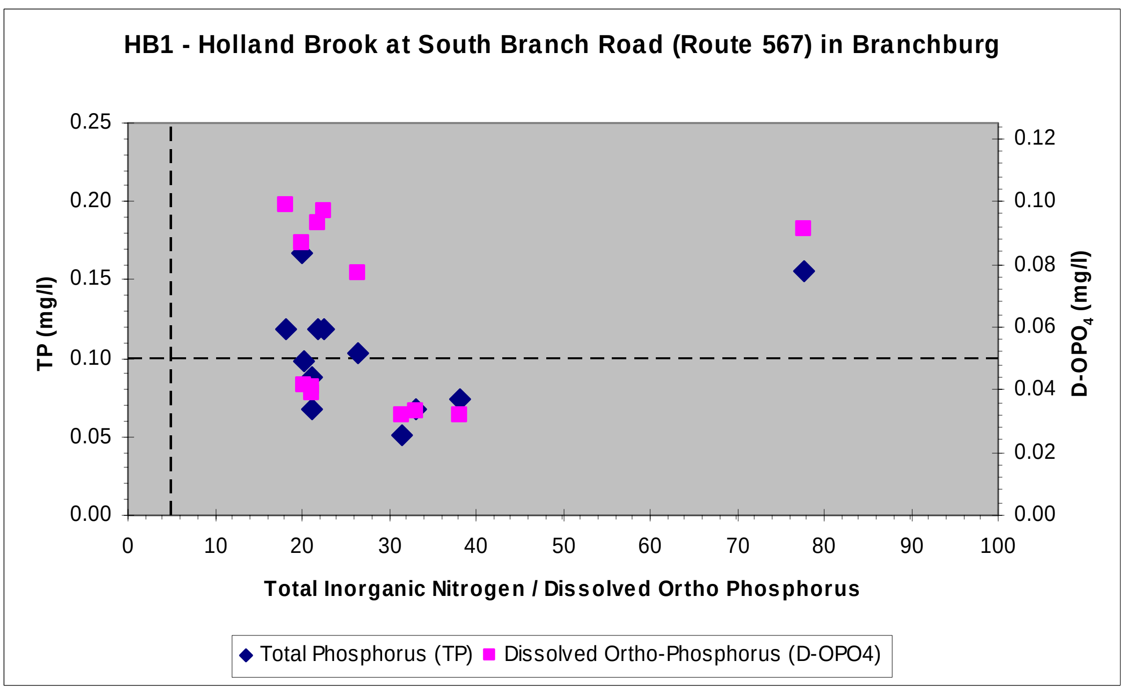

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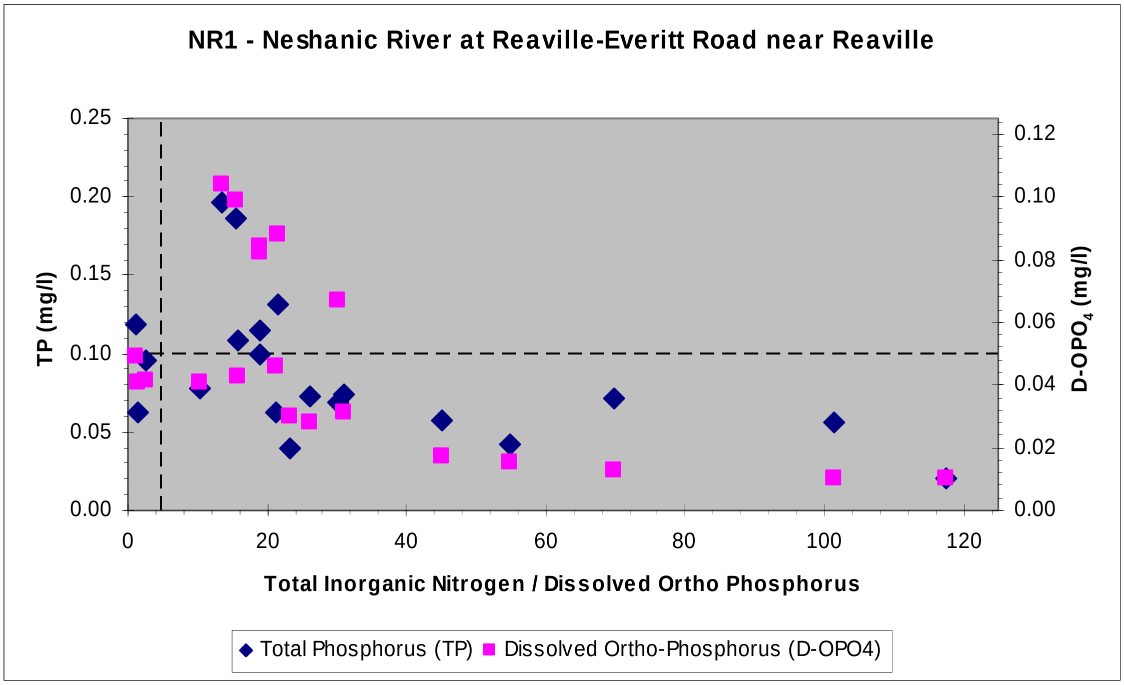

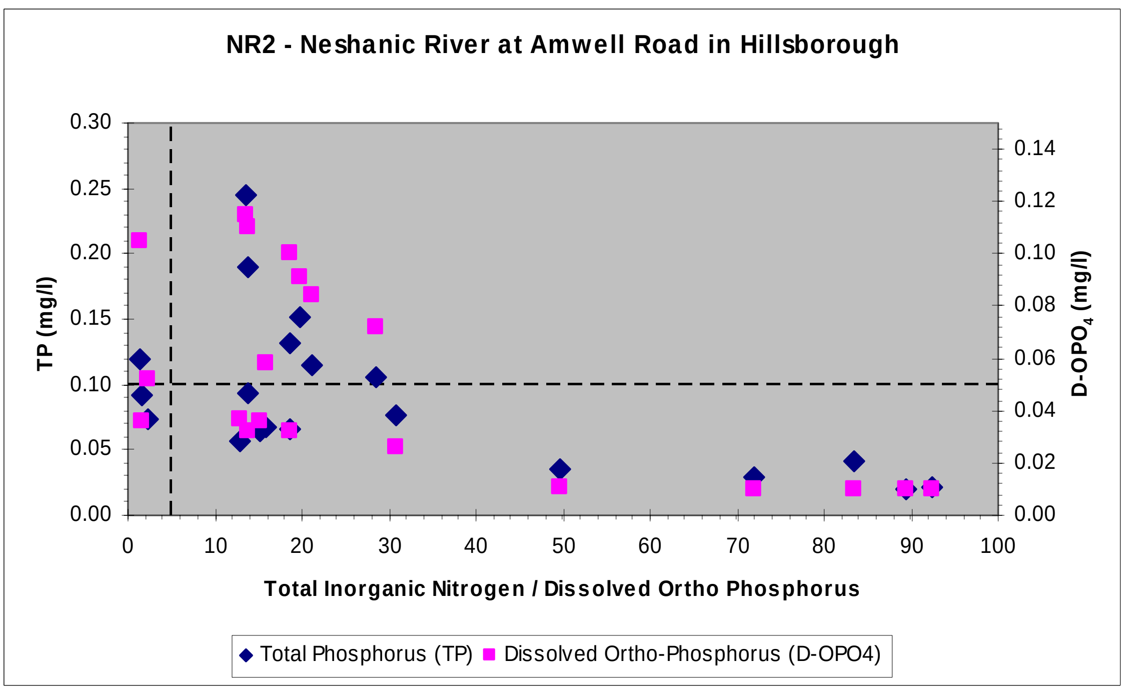

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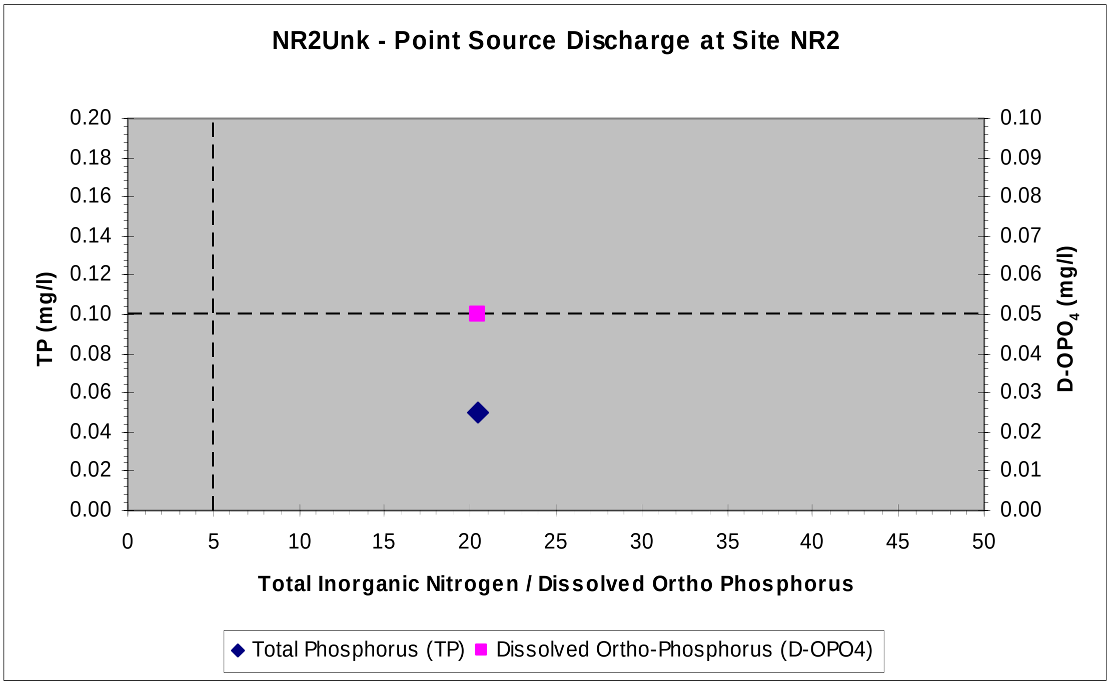

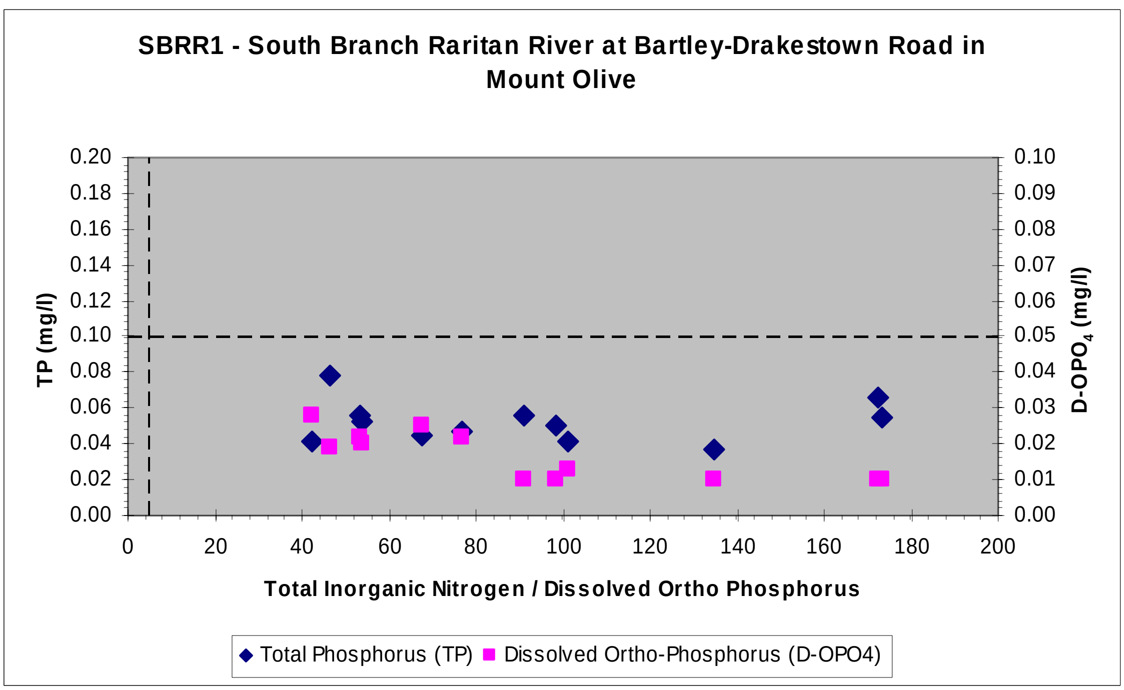

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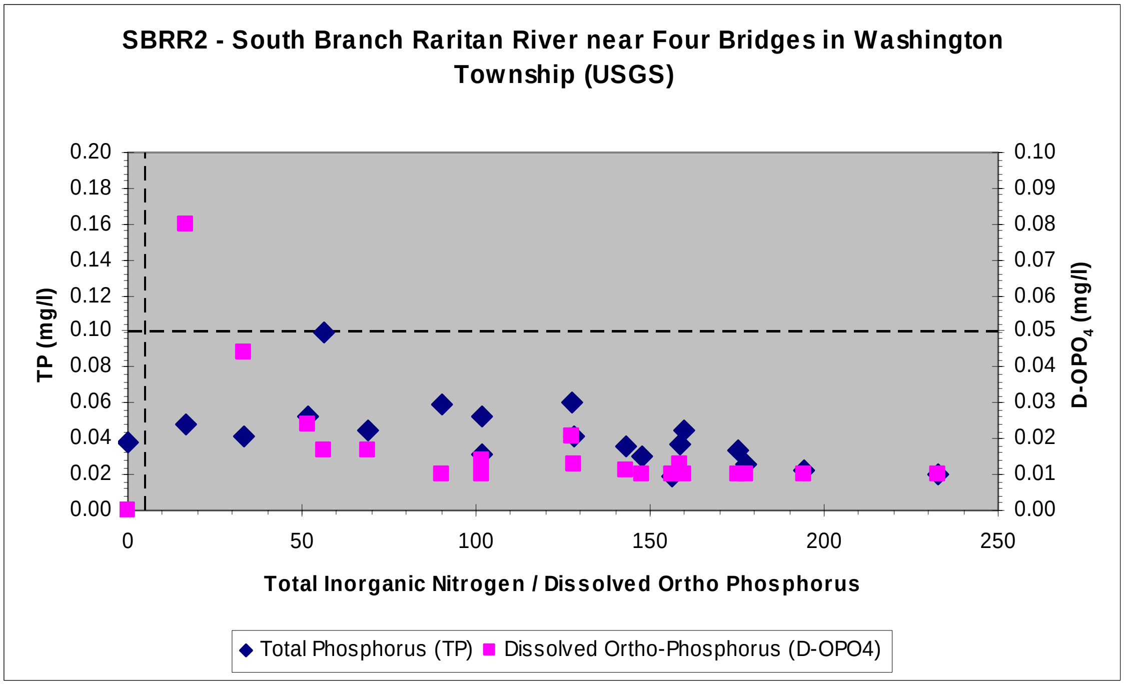

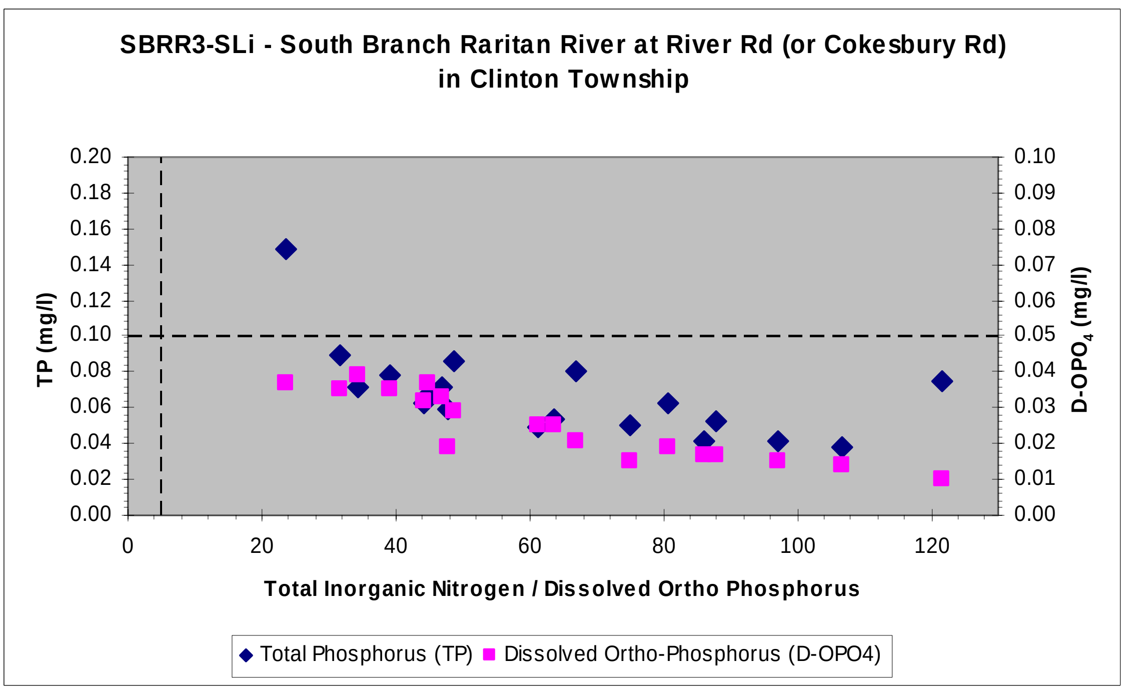

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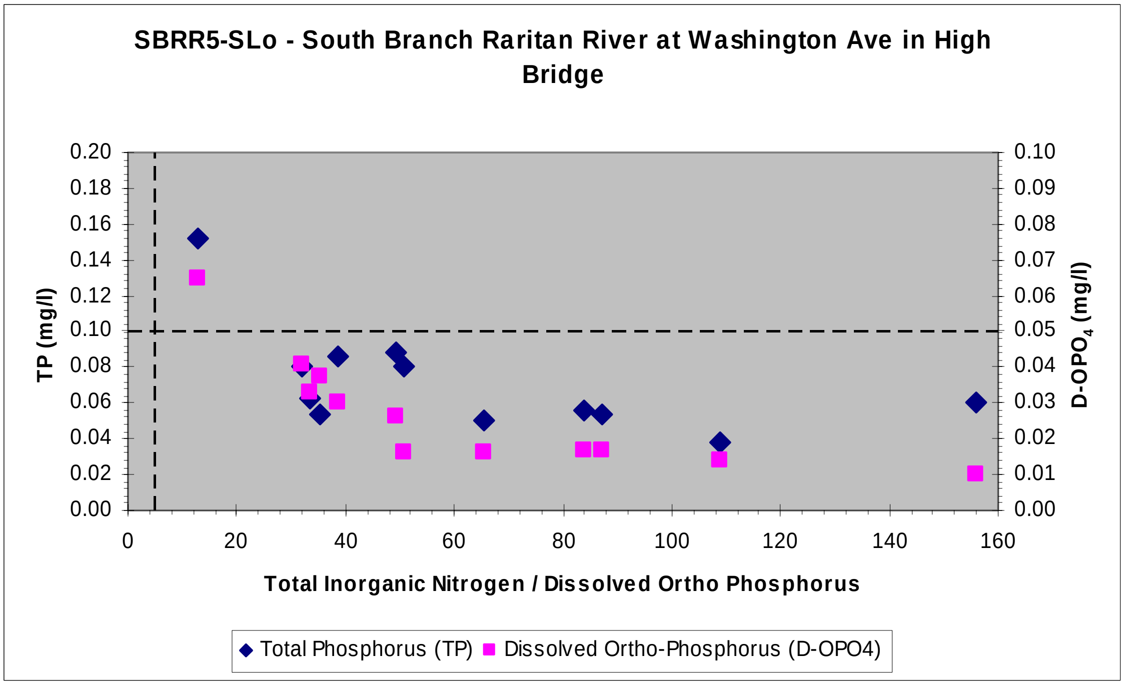

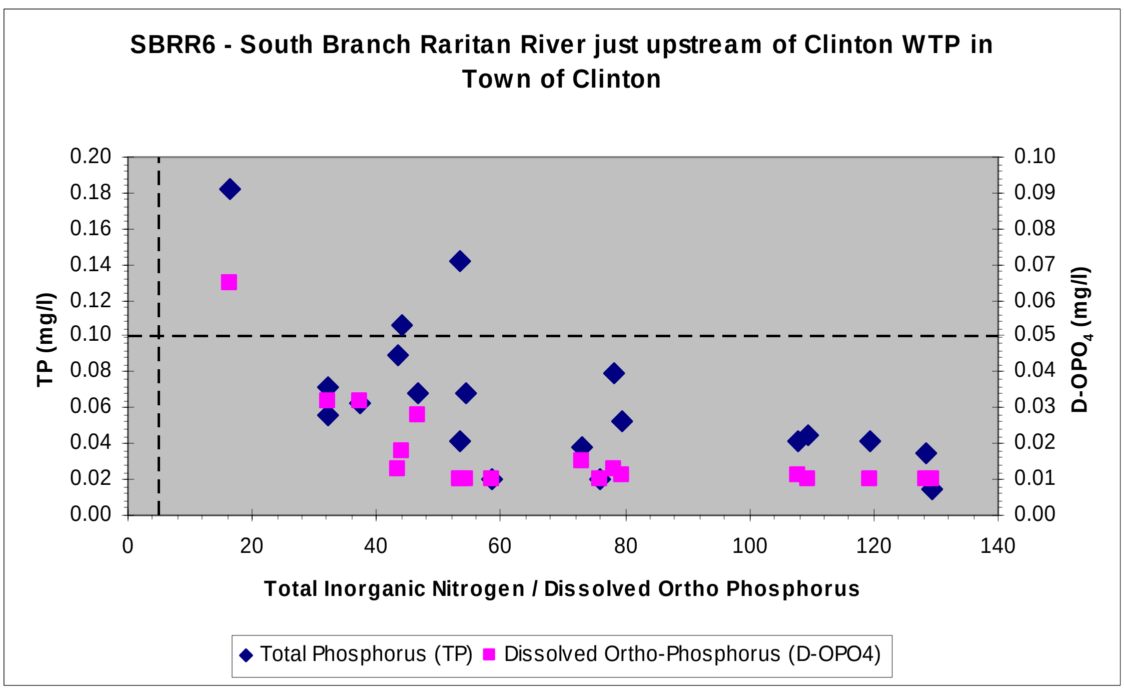

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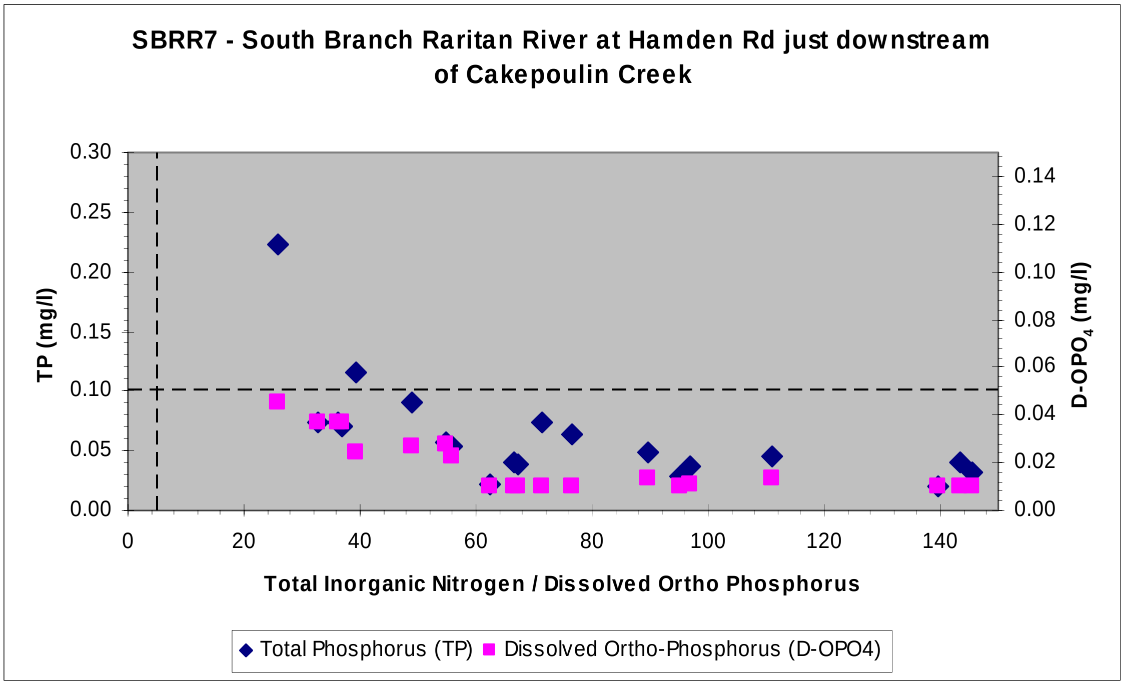
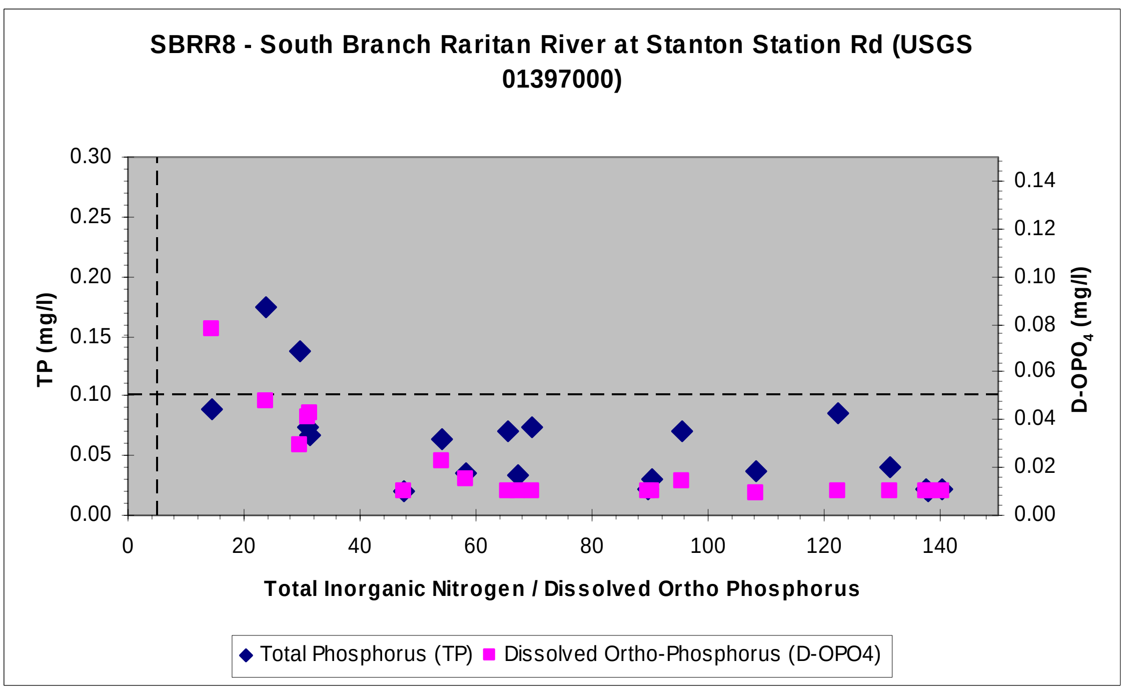
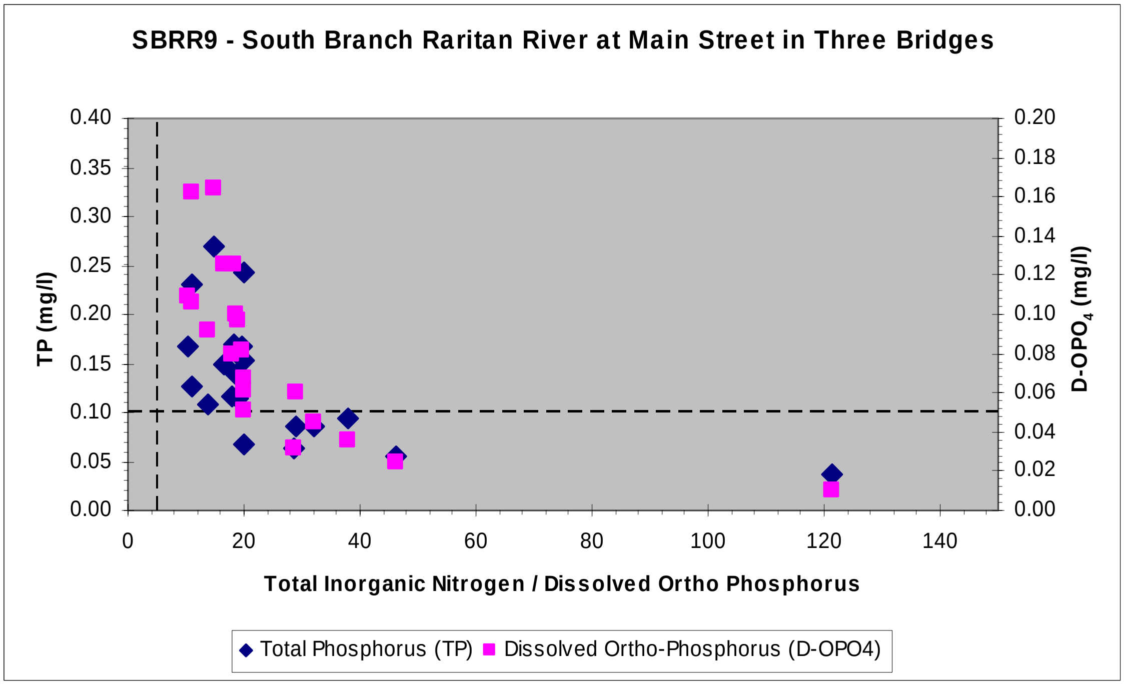
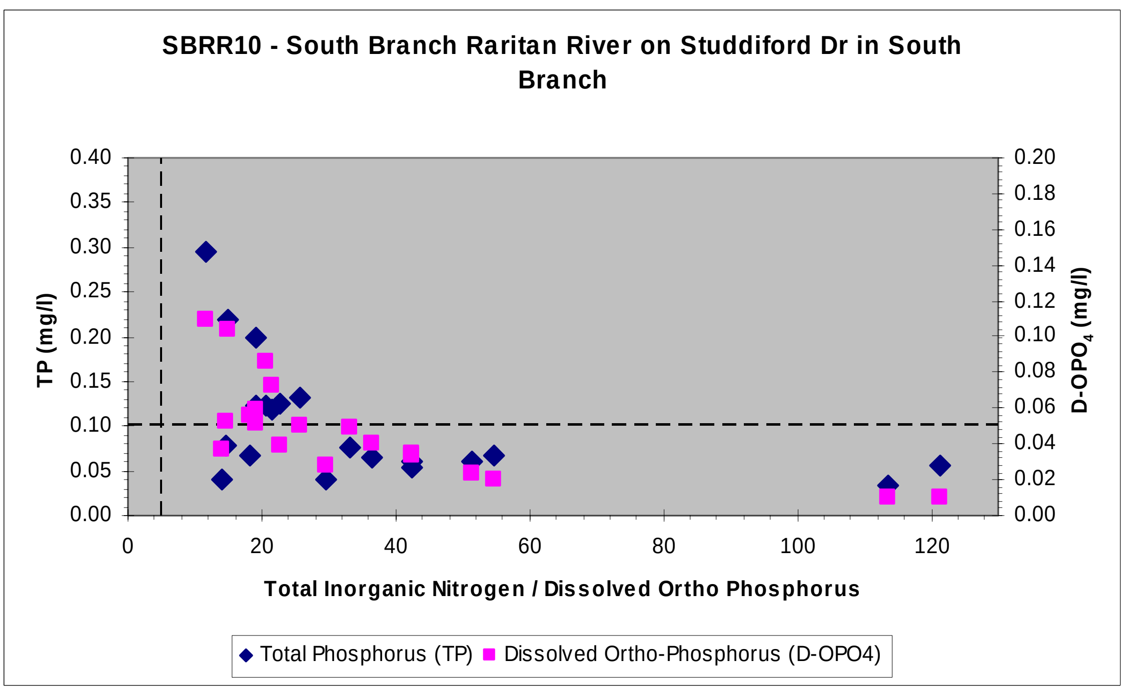


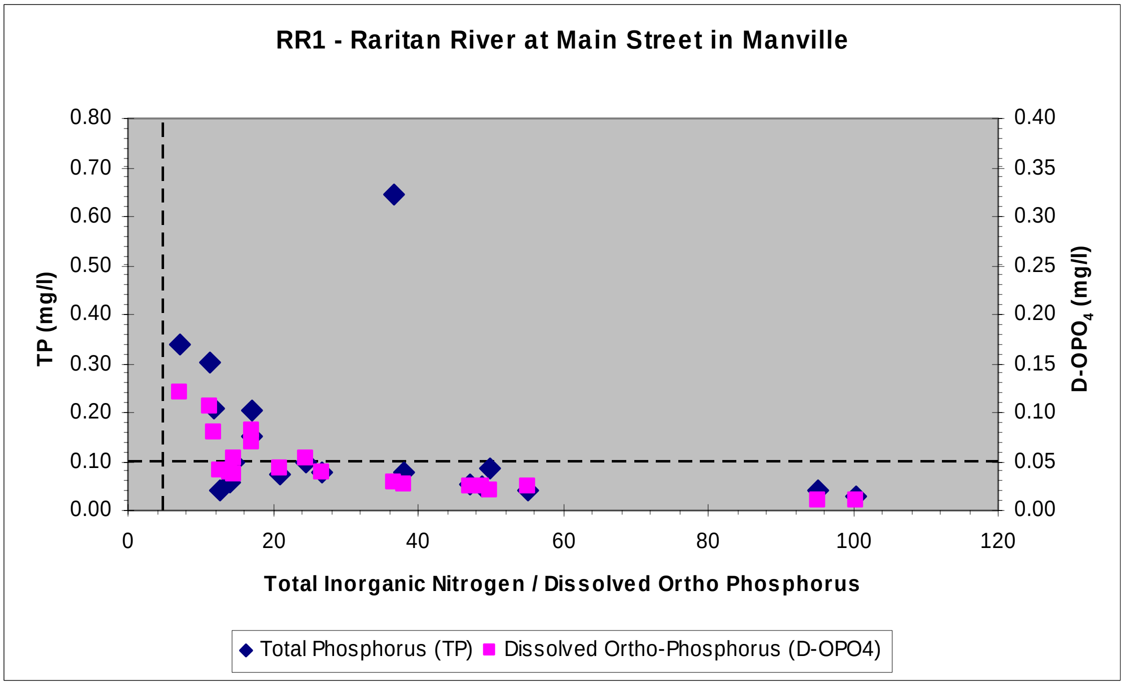


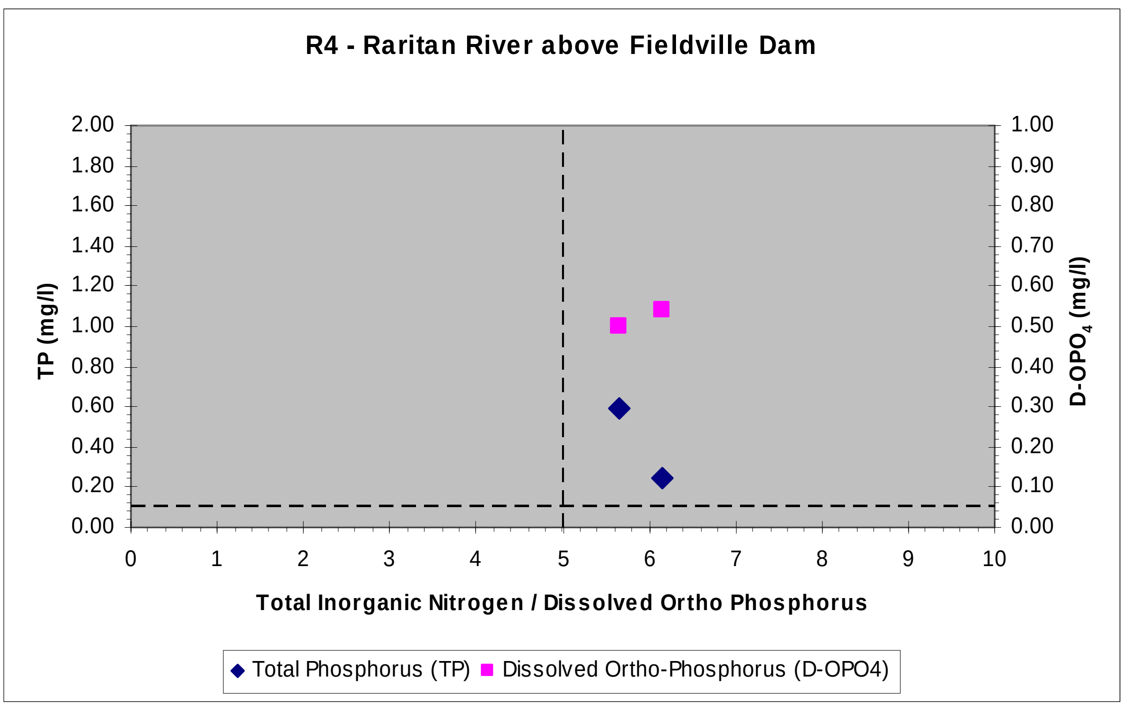
South Branch Raritan River Study Area



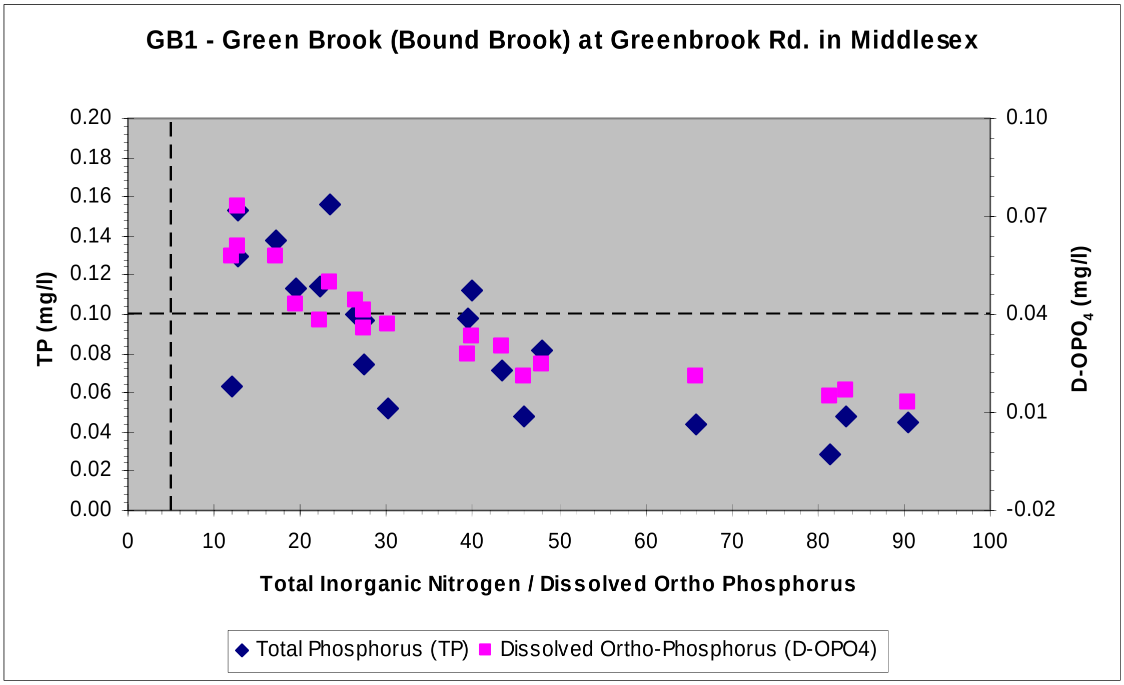


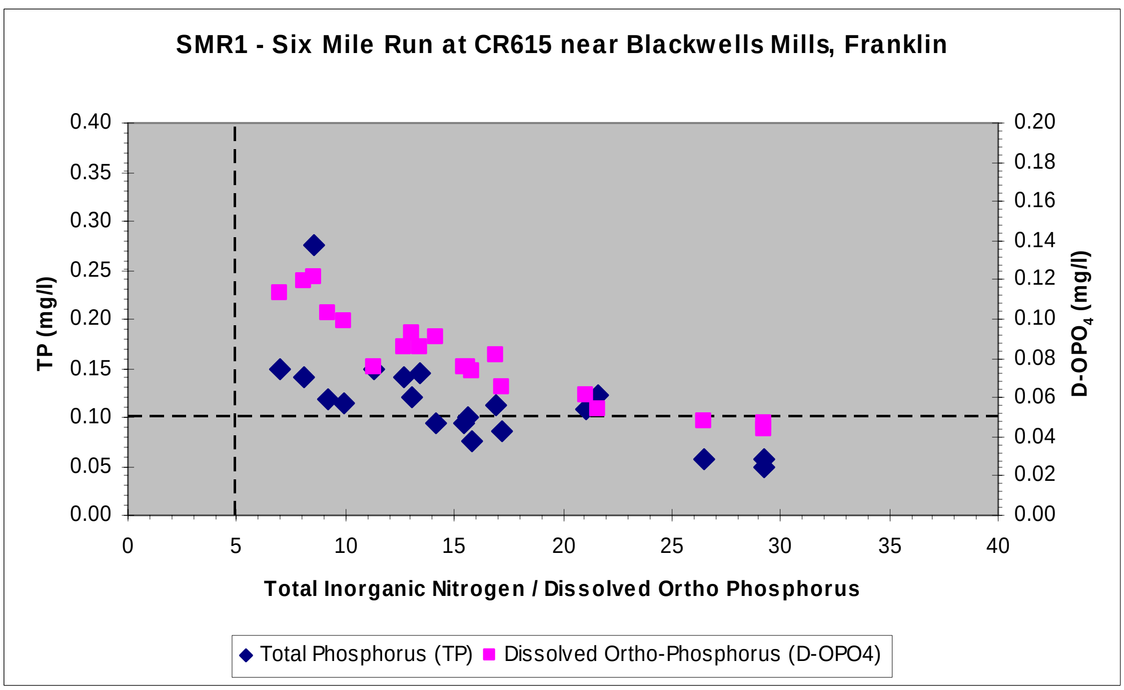
Mainstem Raritan River Study Area



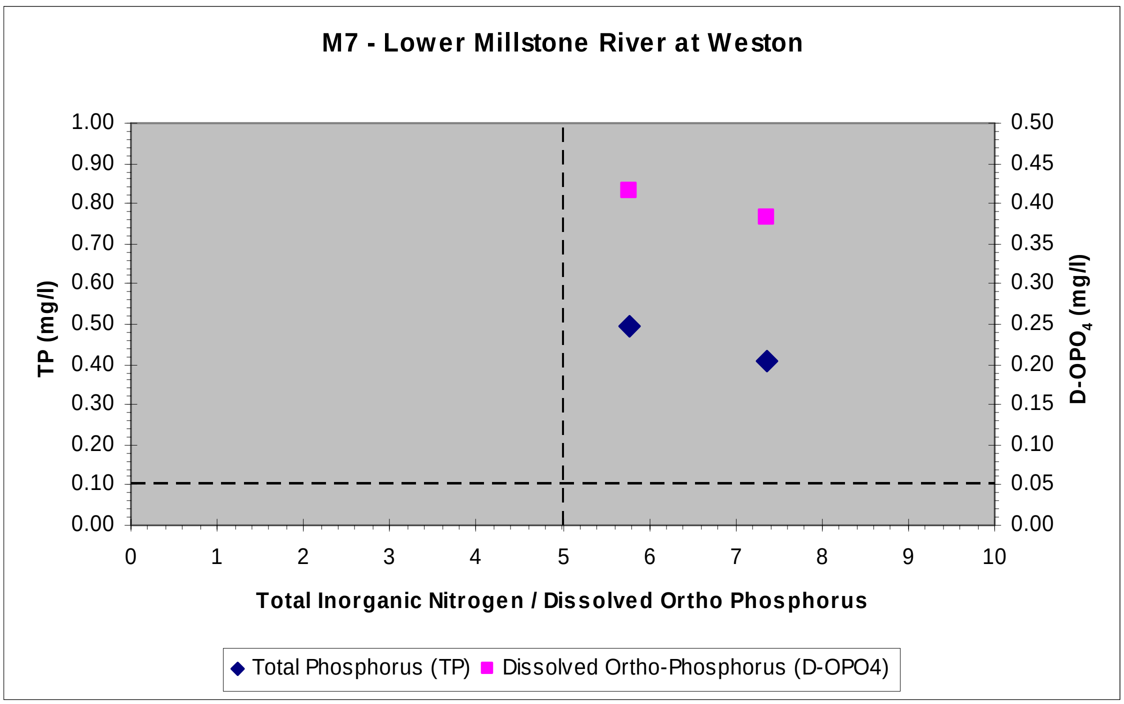


Mainstem Raritan River Study Area

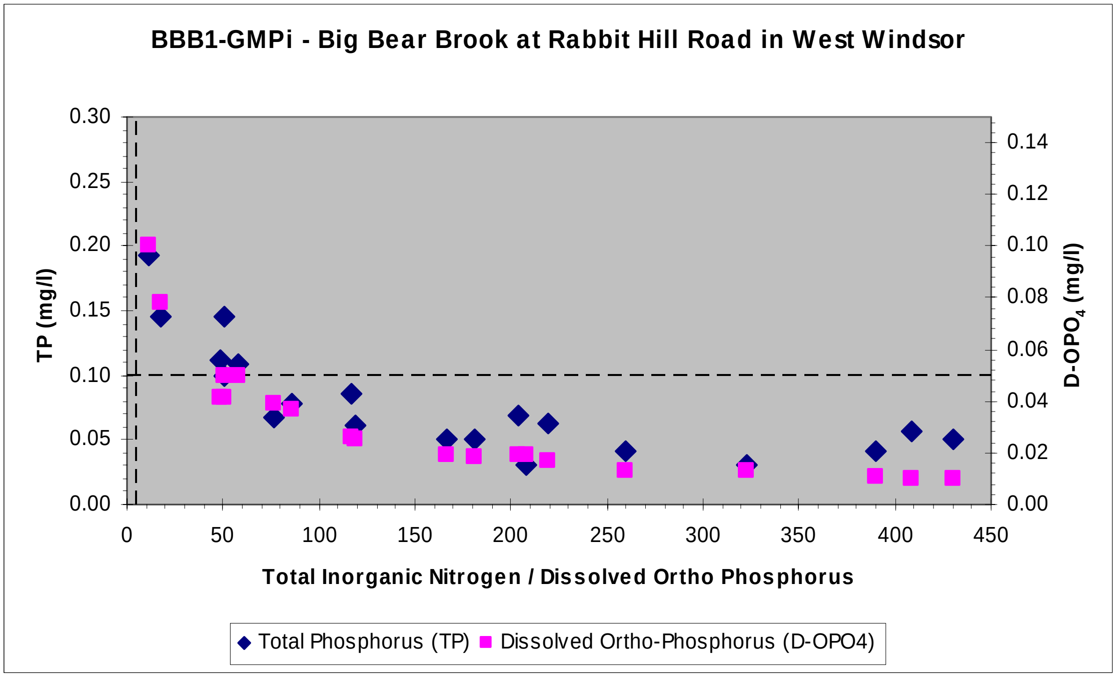


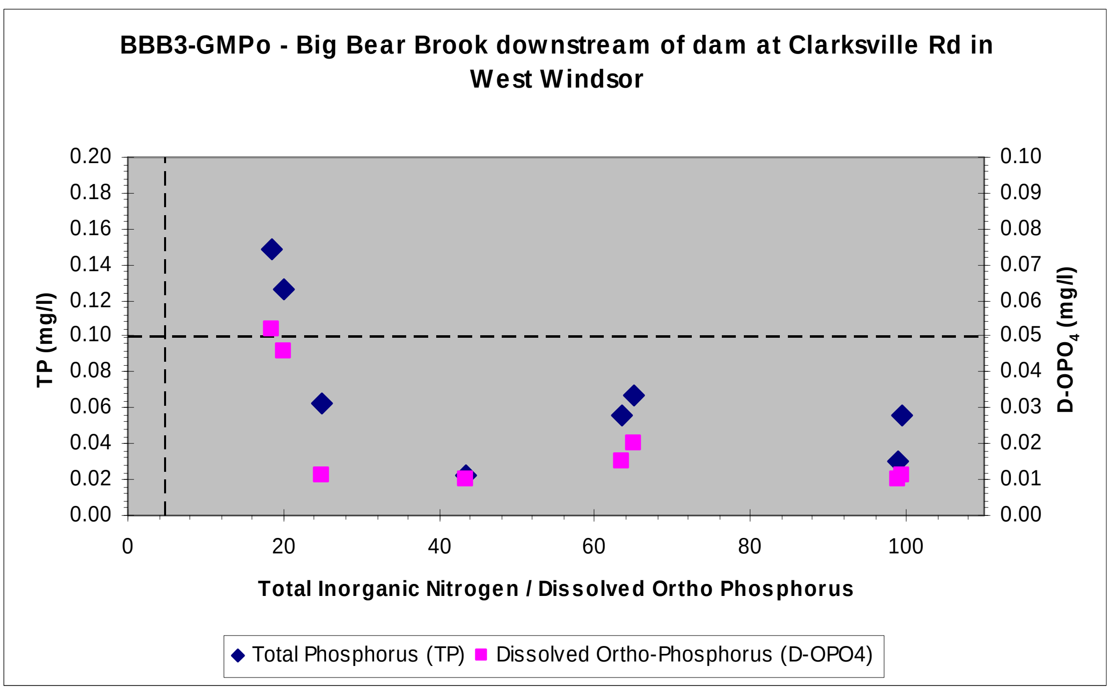


Mainstem Raritan River Study Area

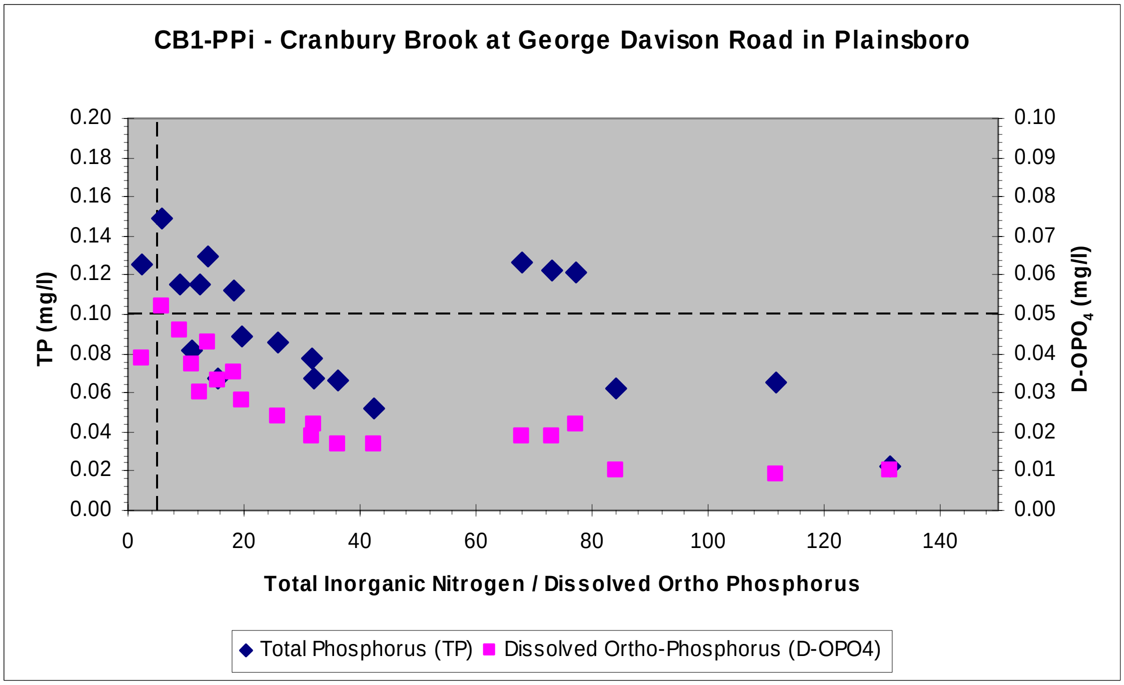


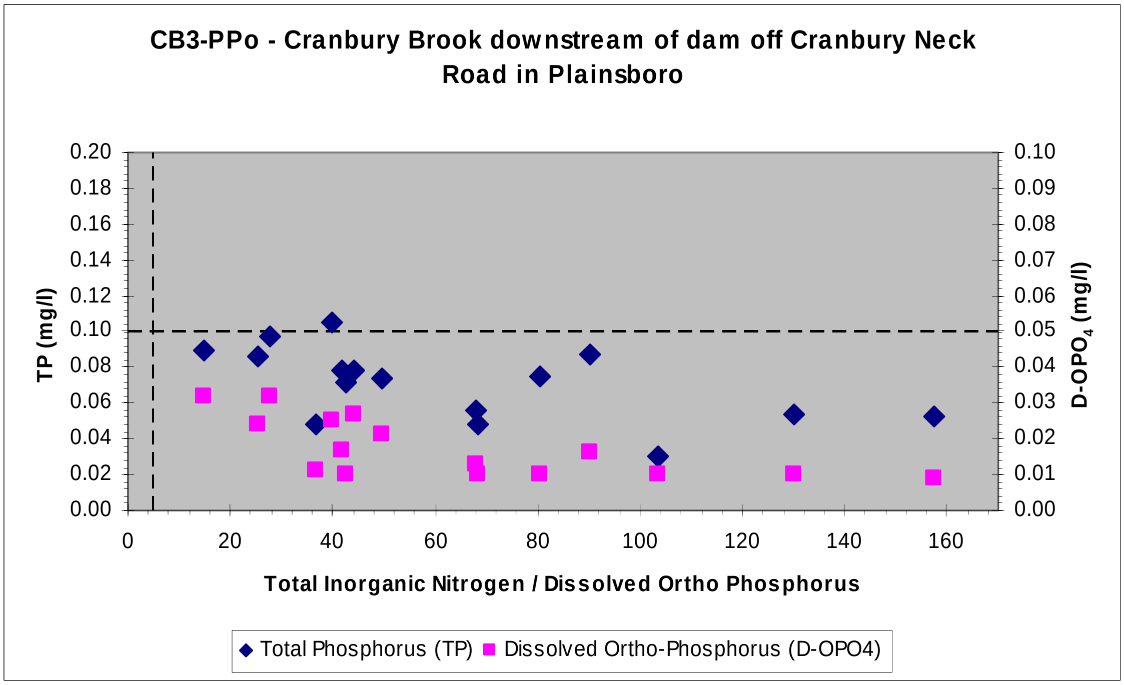
Upper Millstone River Study Area





Upper Millstone River Study Area





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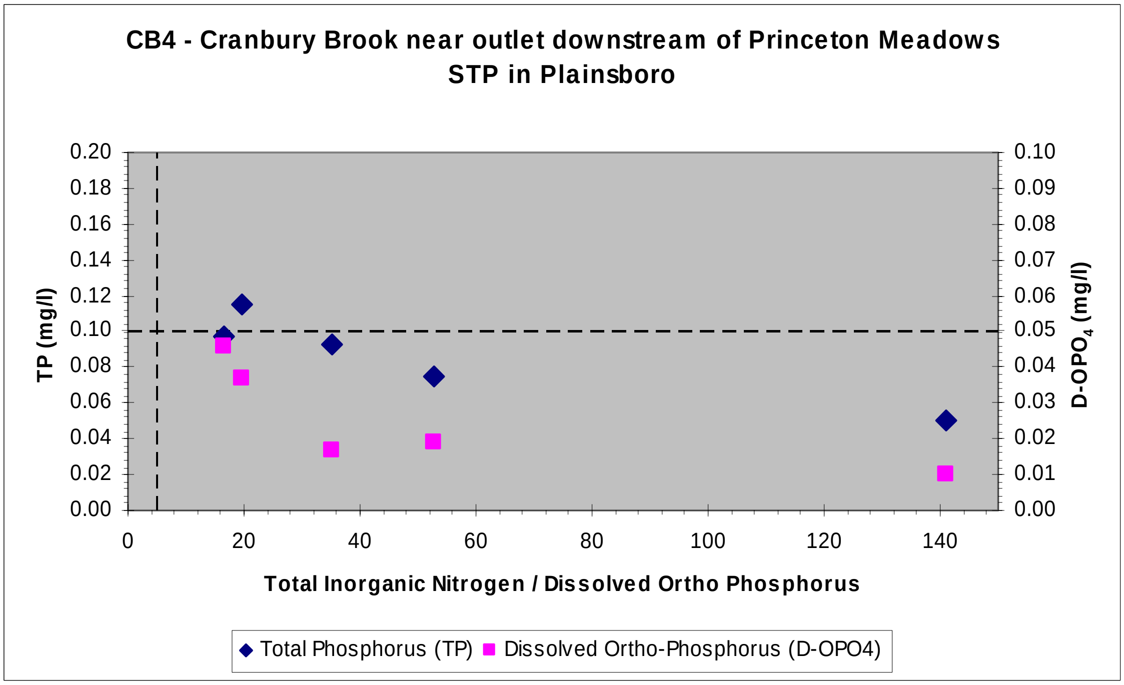

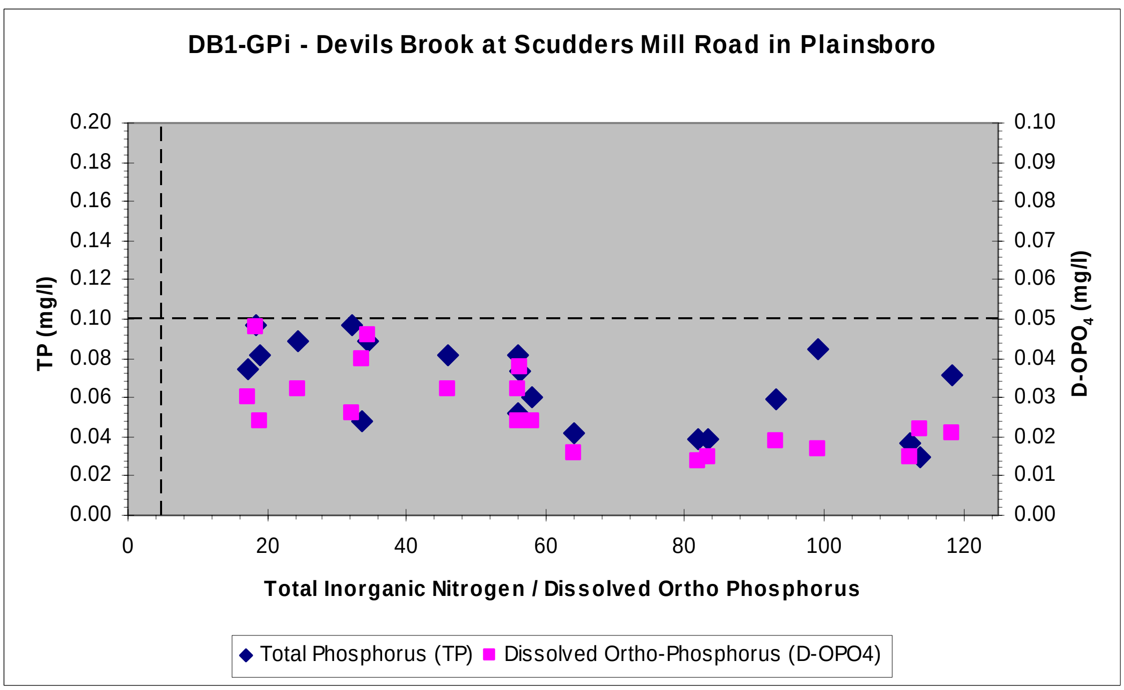

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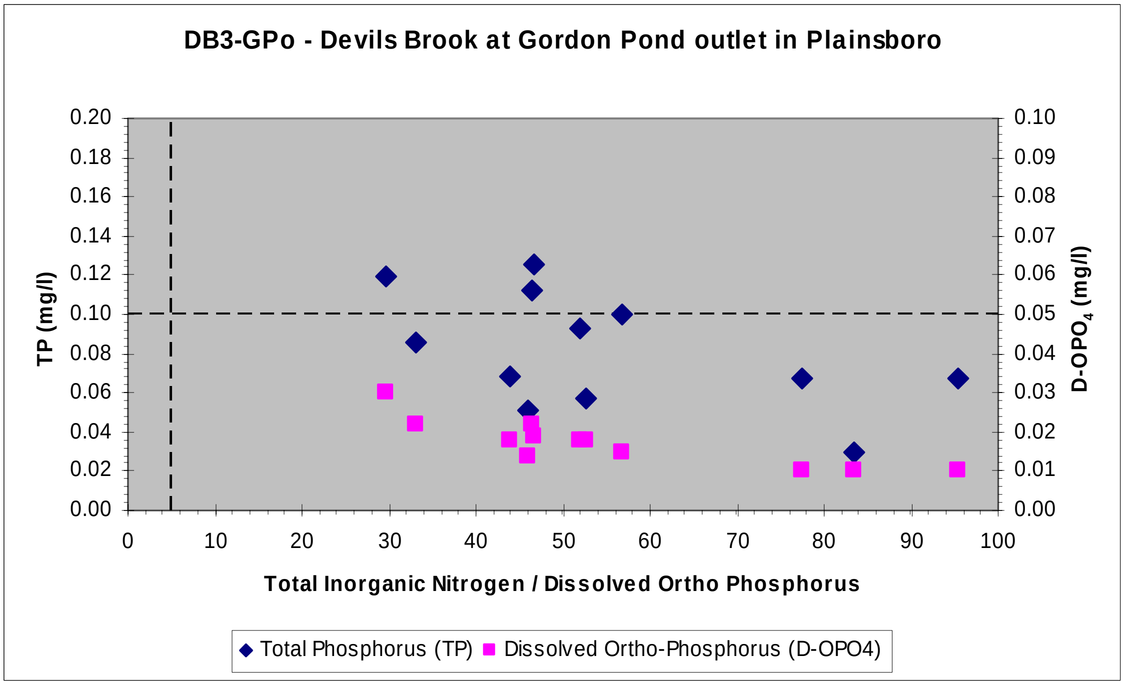

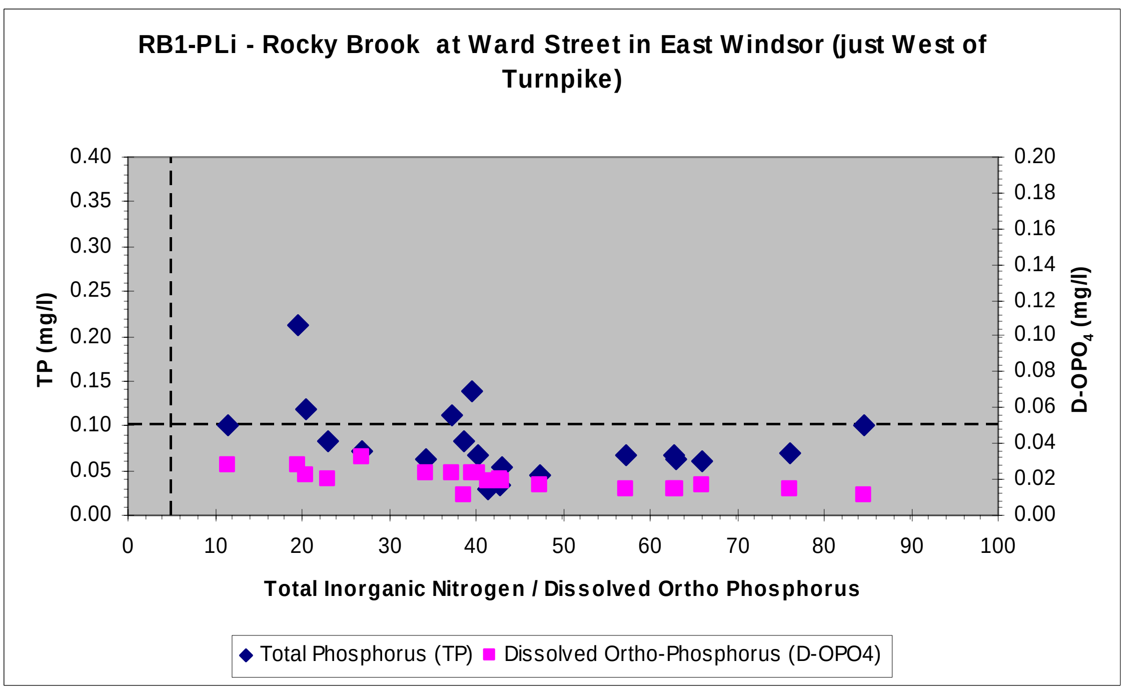

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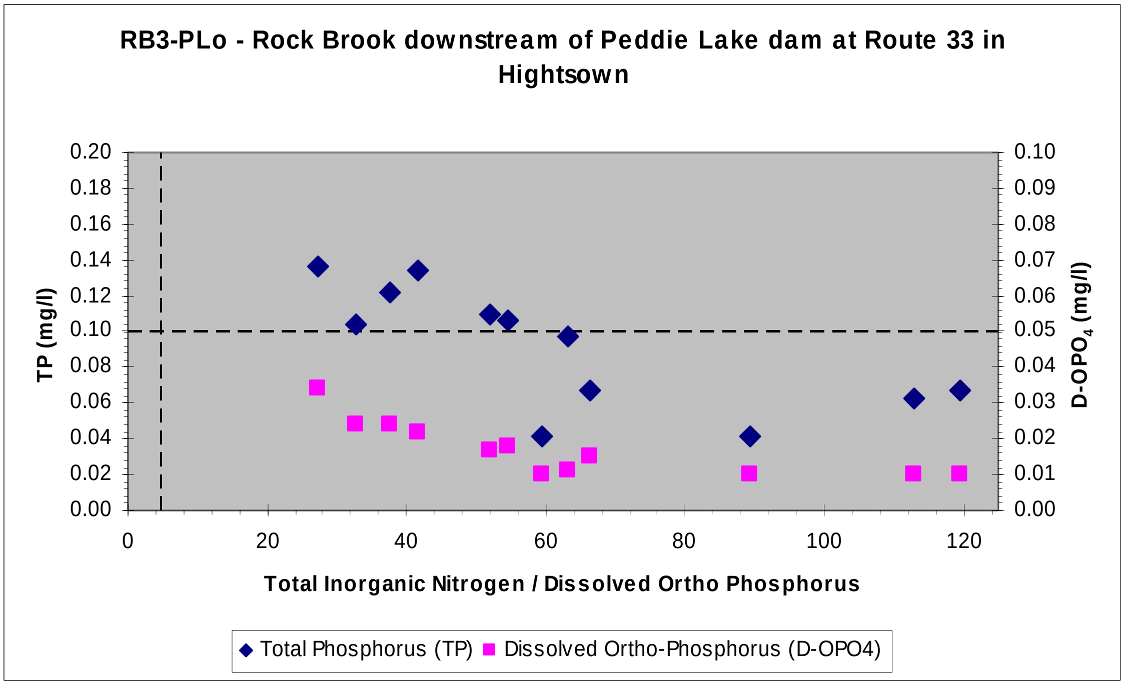
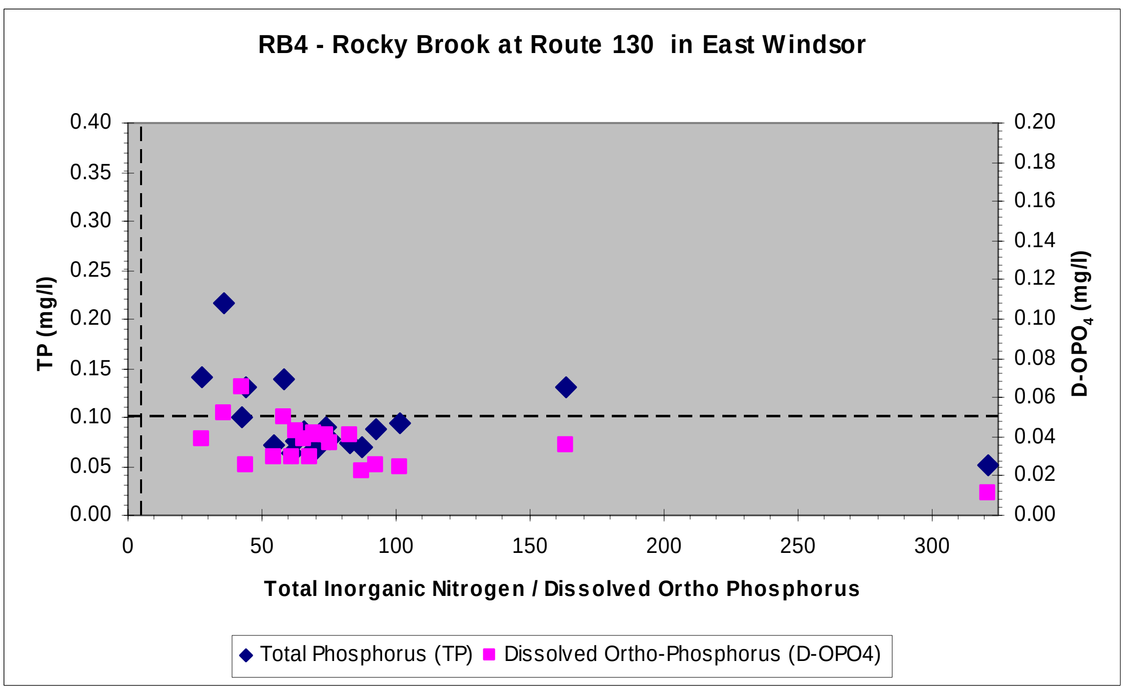
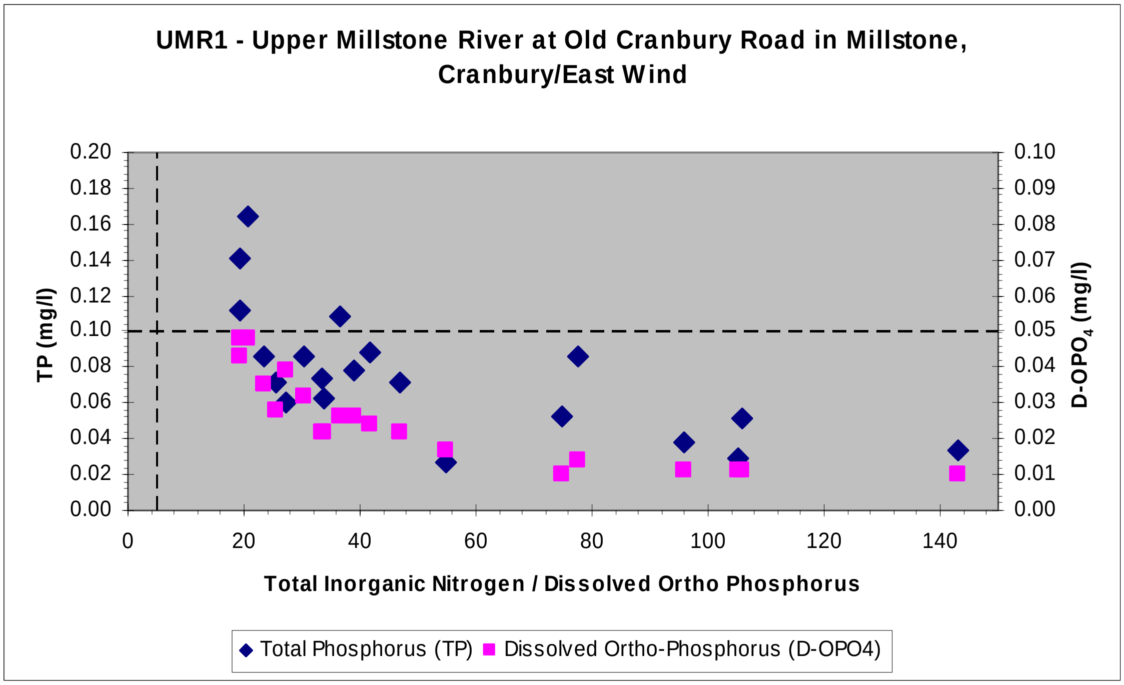
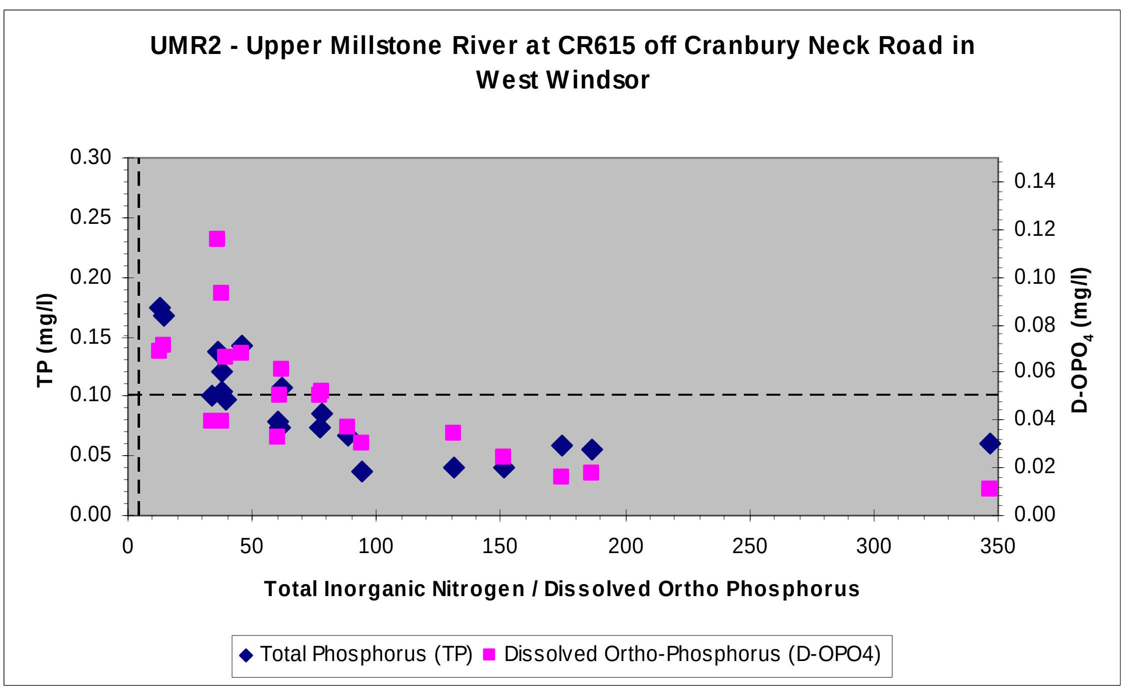




Upper Millstone River Study Area





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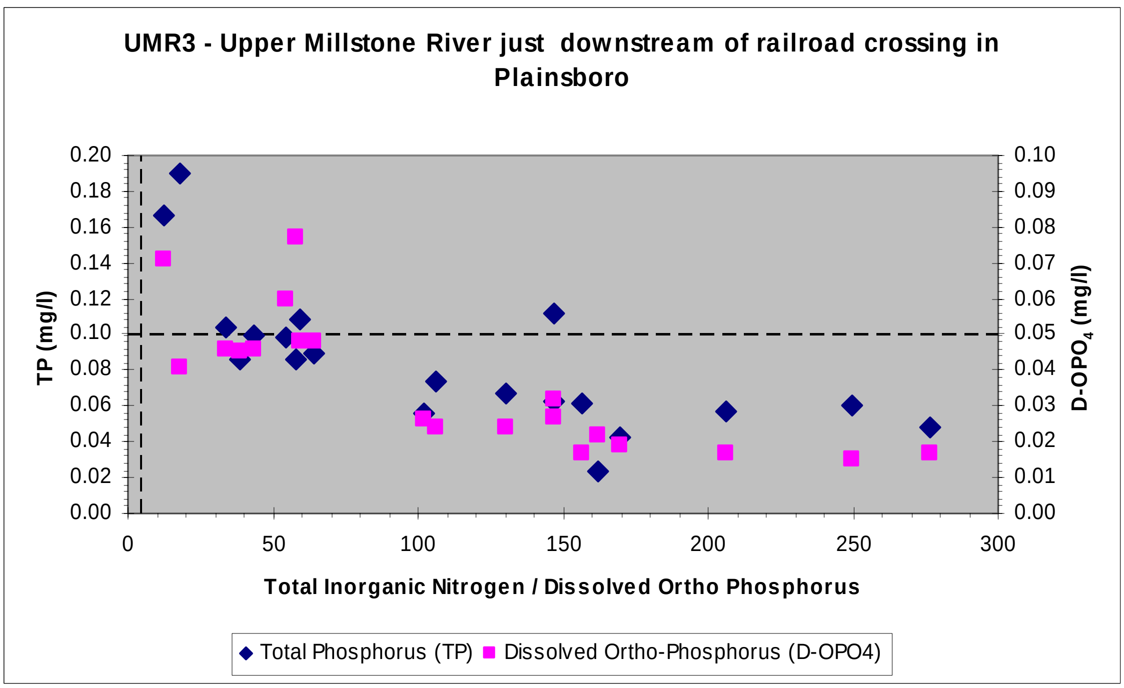
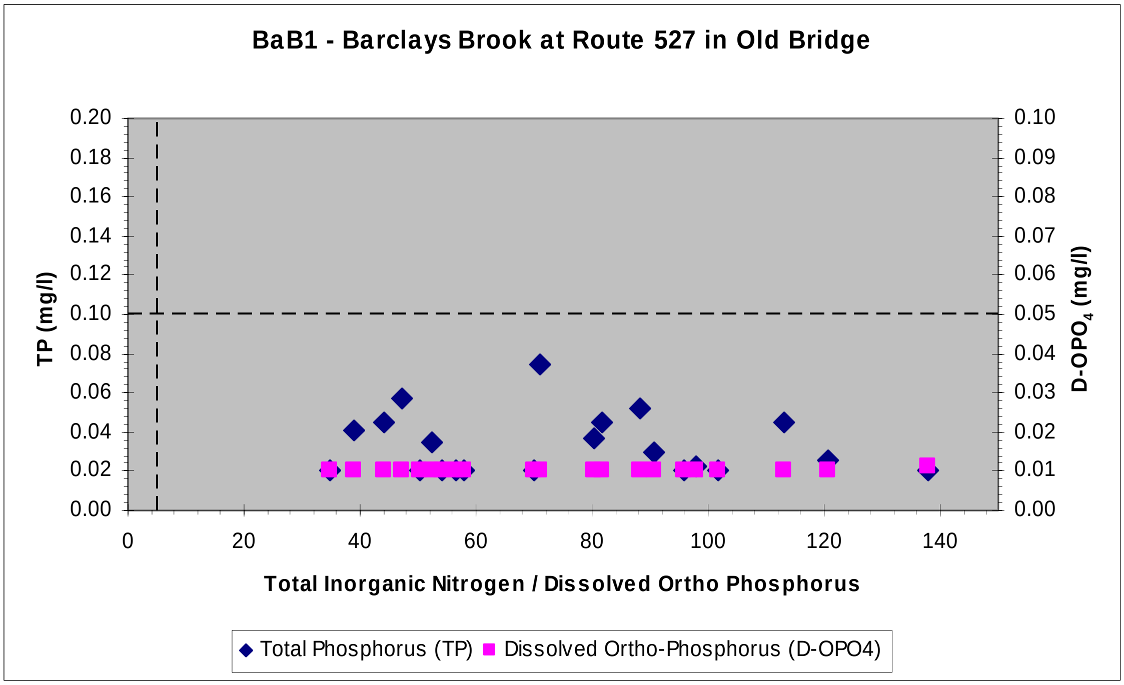
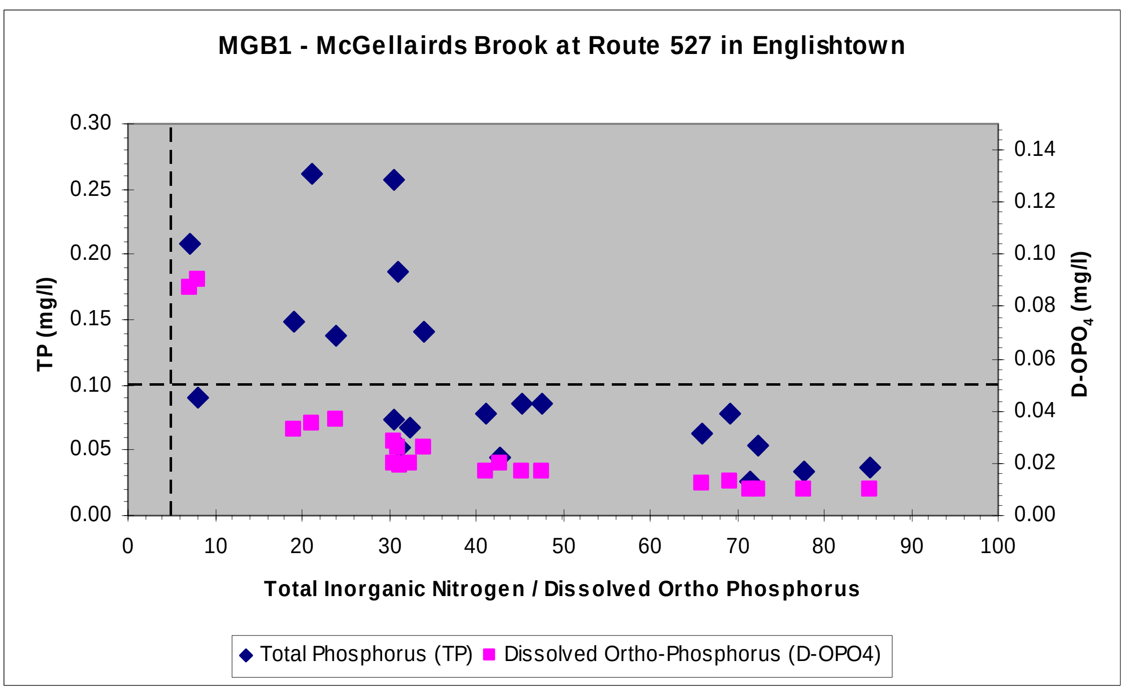
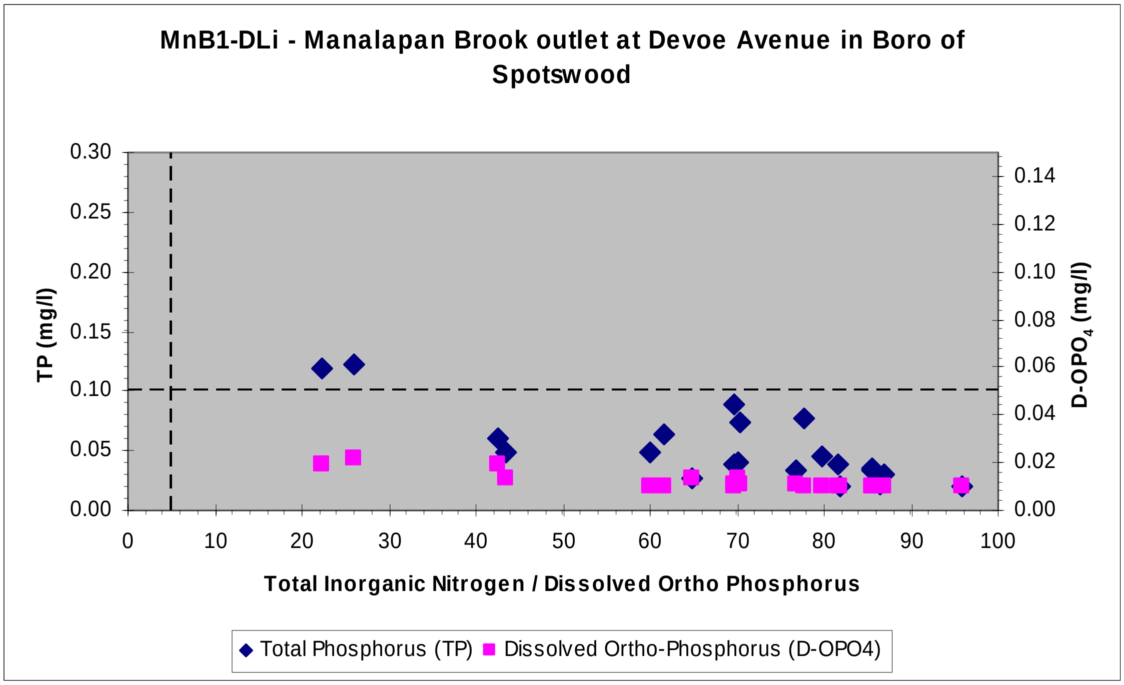


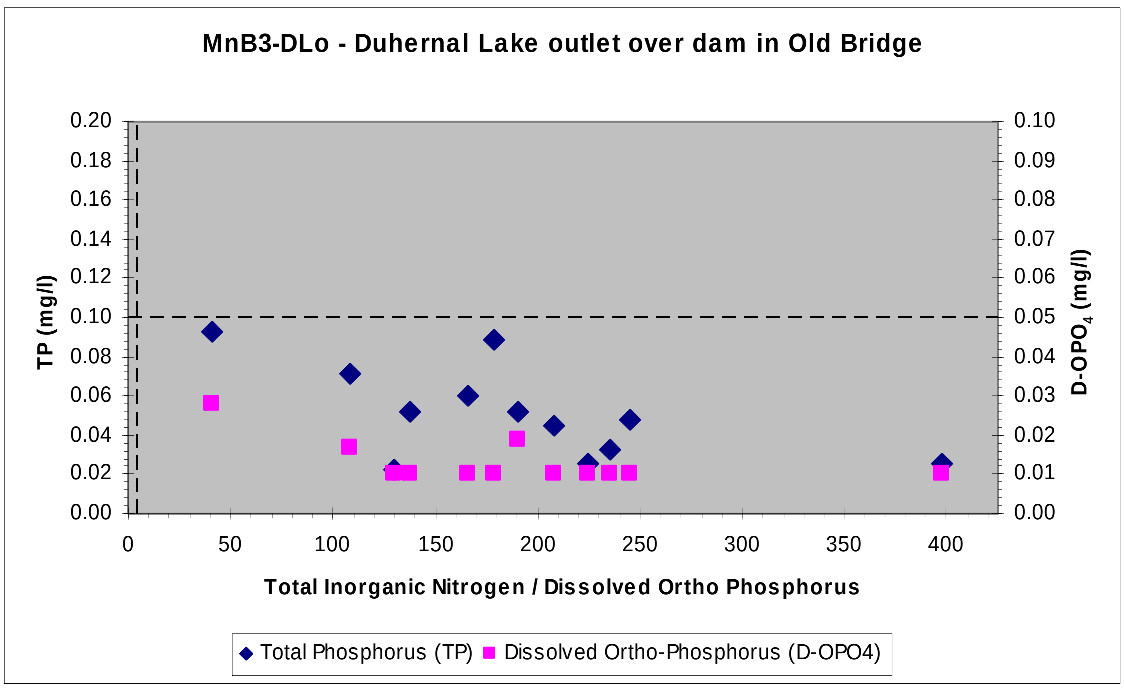
Matchaponix Brook Study Area



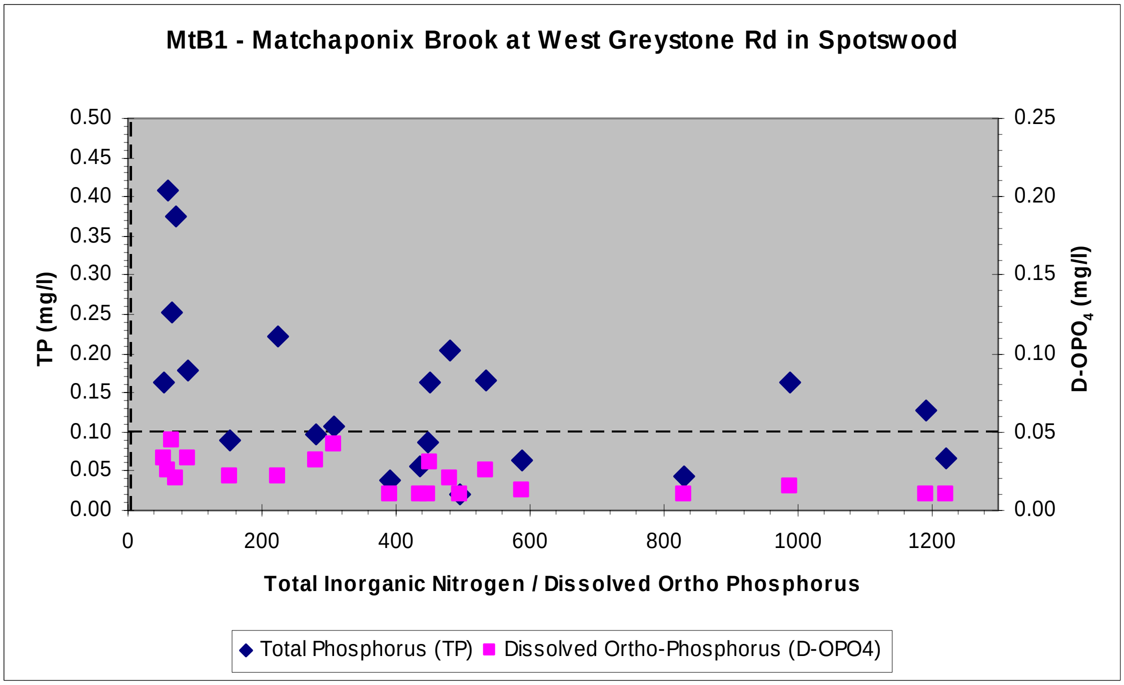


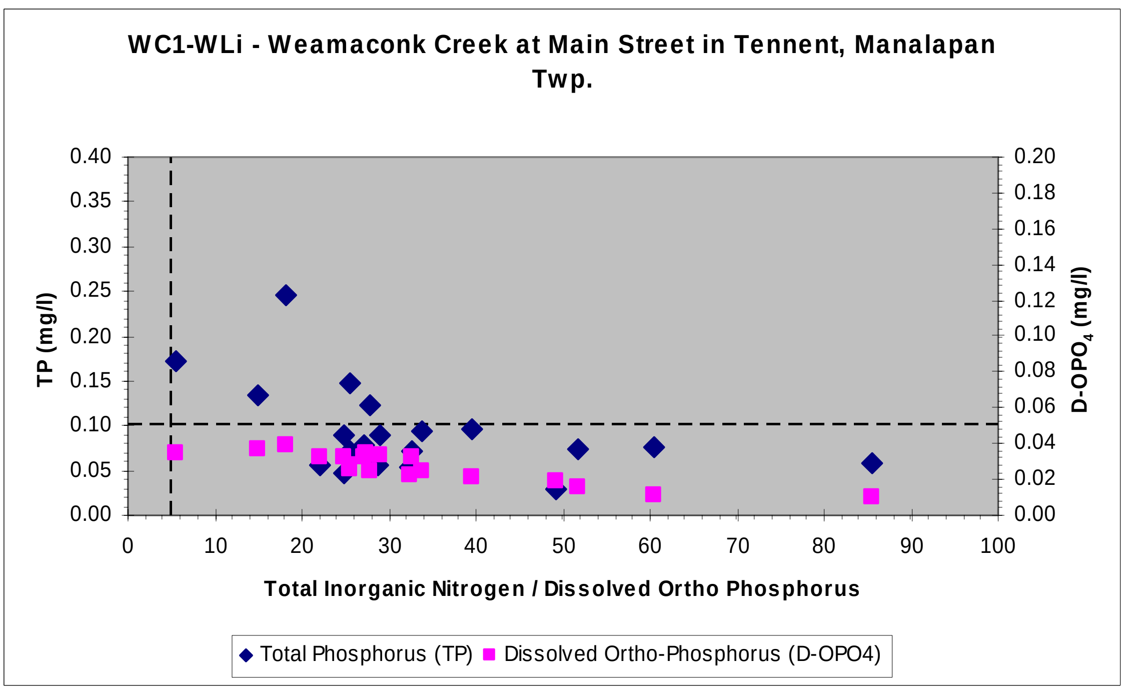
Matchaponix Brook Study Area



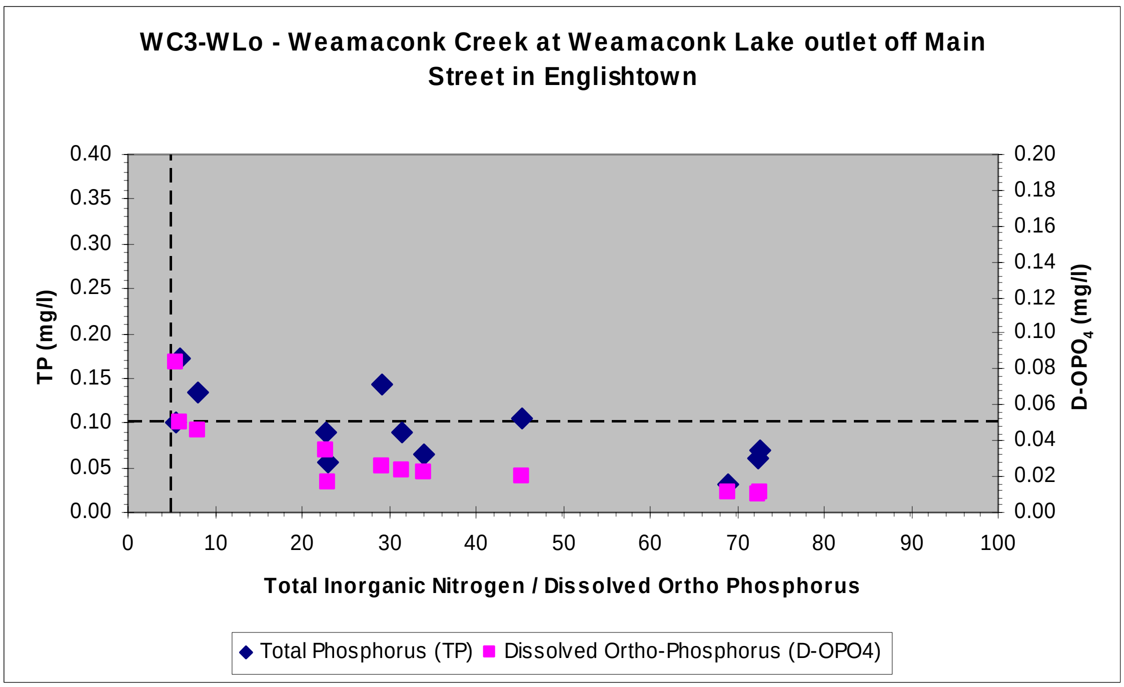


Matchaponix Brook Study Area





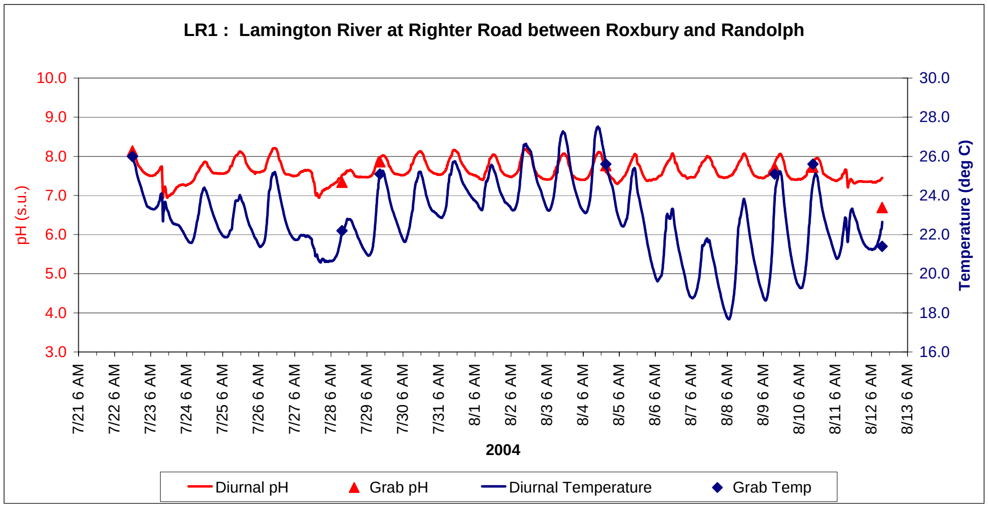
Matchaponix Brook Study Area

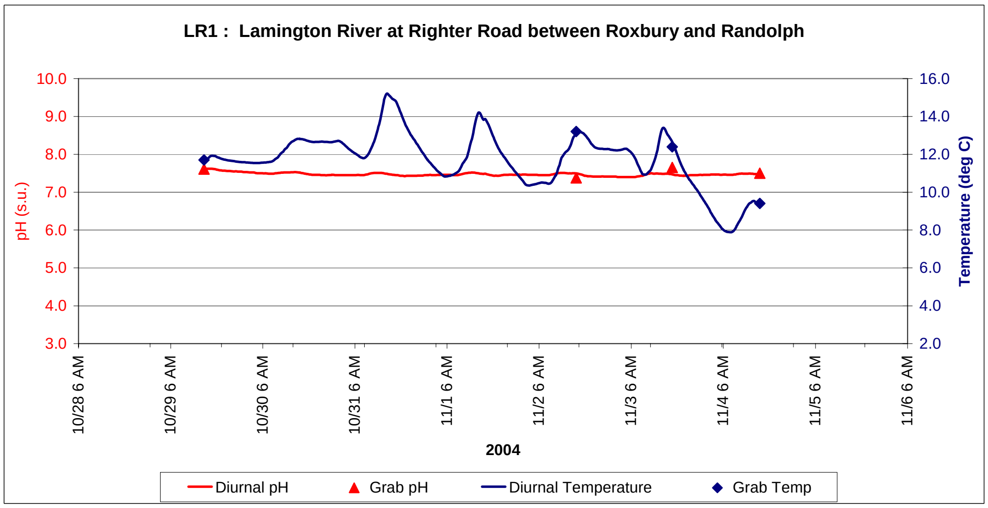


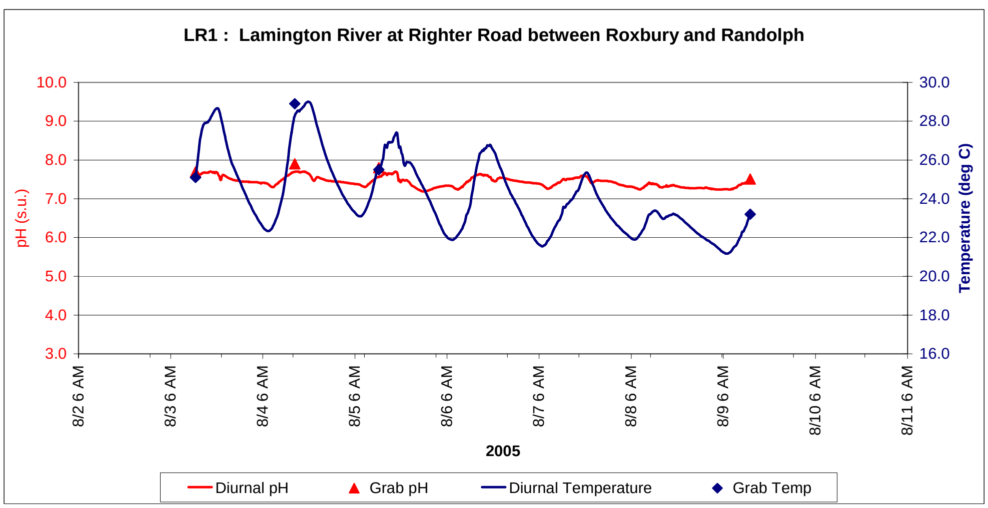
Appendix G

Diurnal Dissolved Oxygen, pH, and Temperature Data

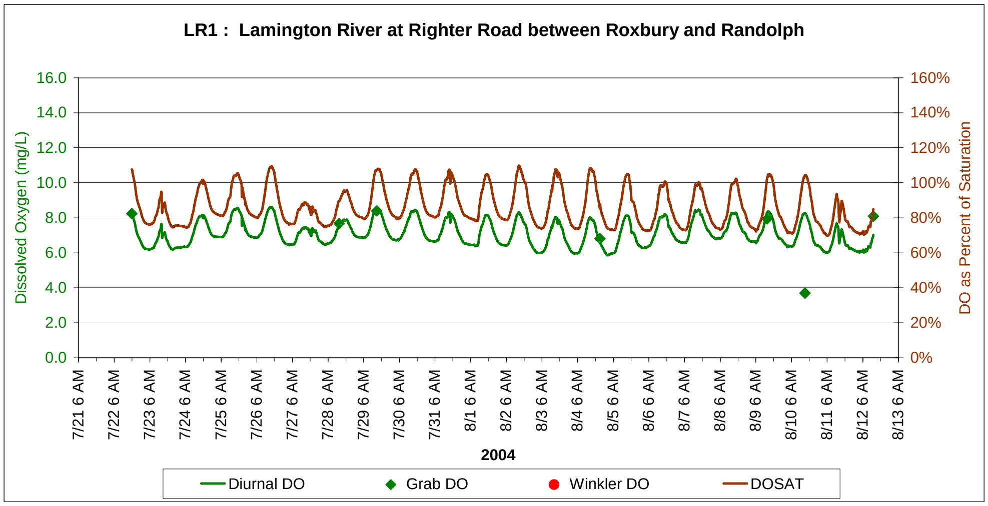
North Branch Raritan River Study Area
Diurnal Graphs

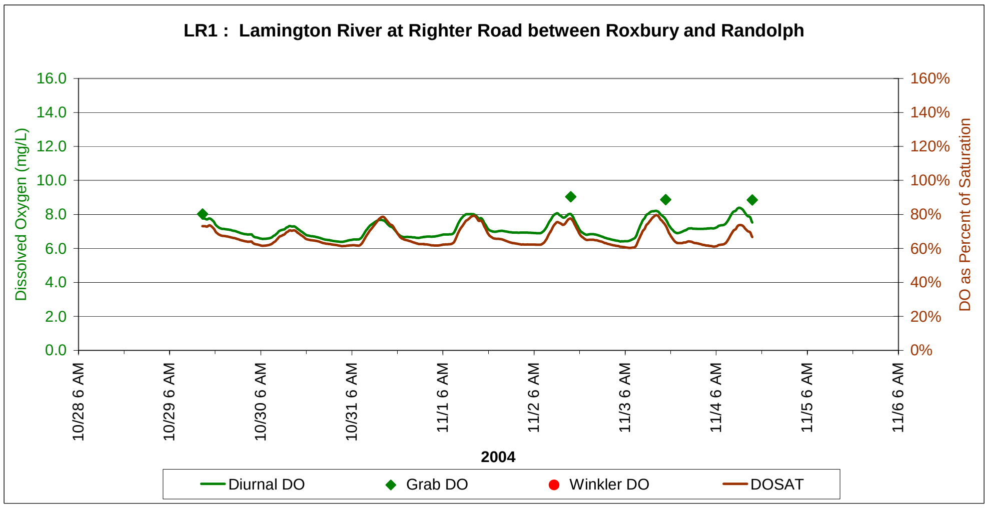


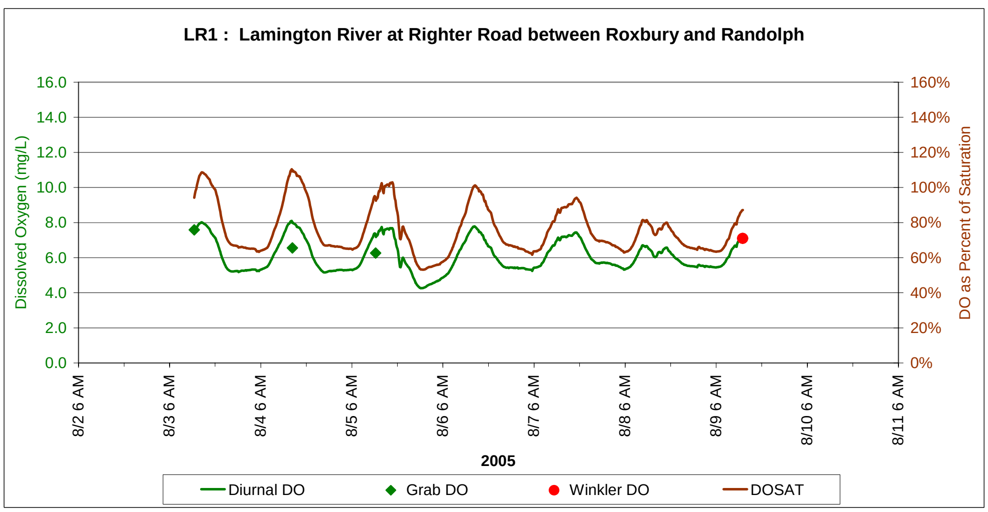




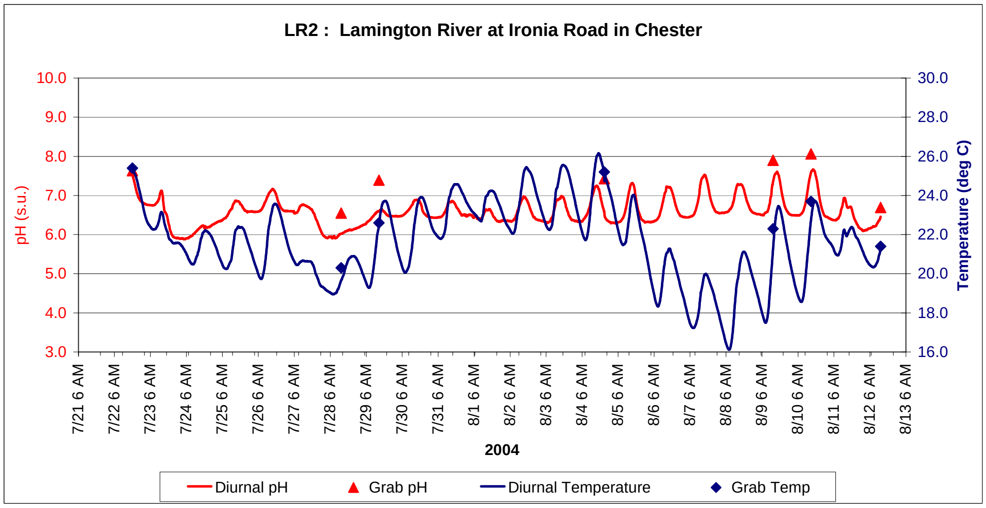
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

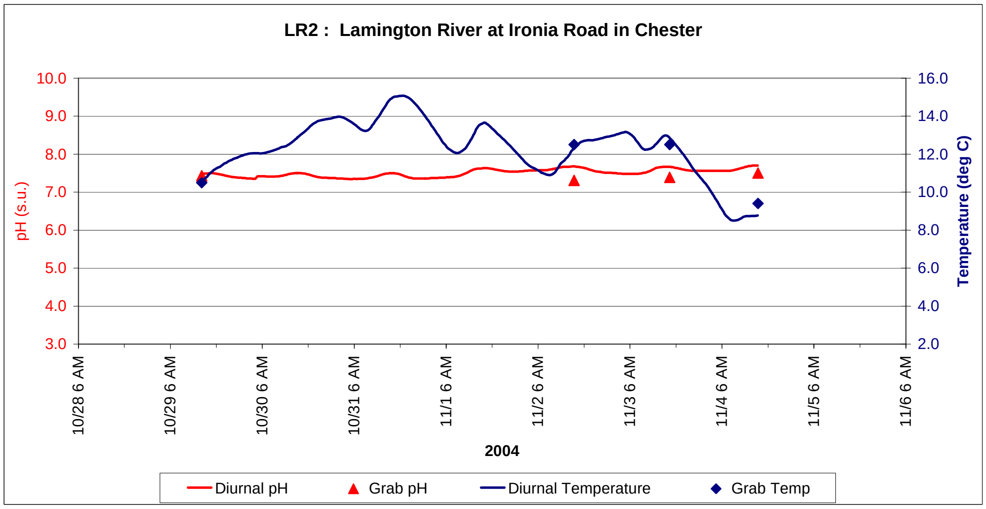


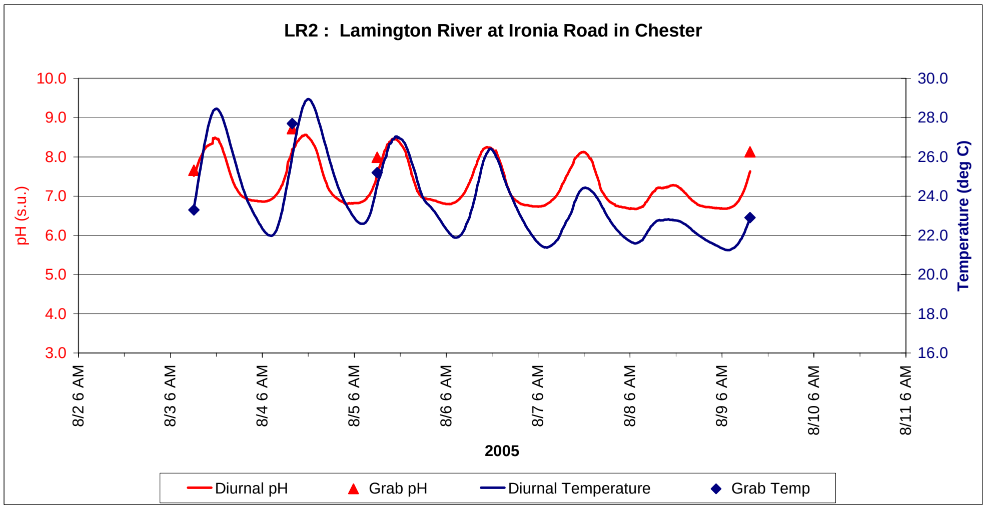




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

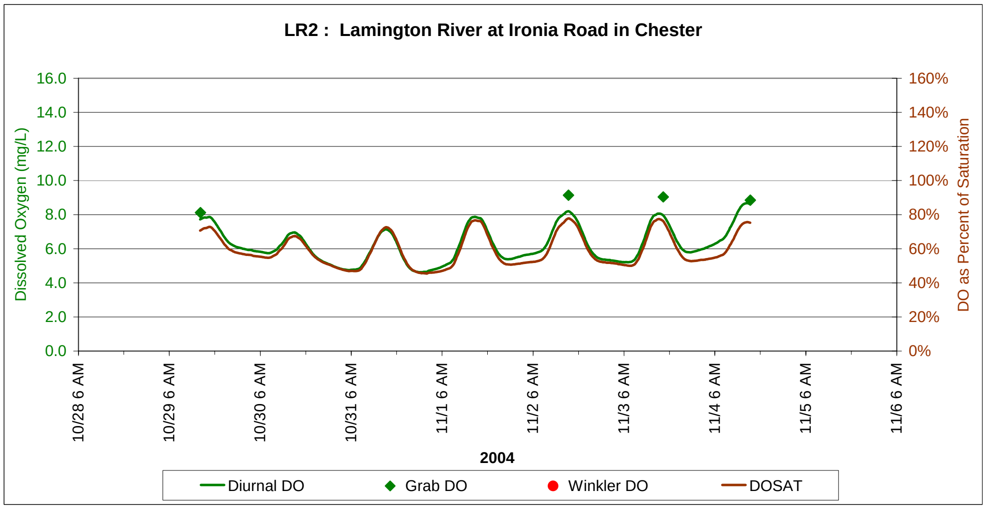


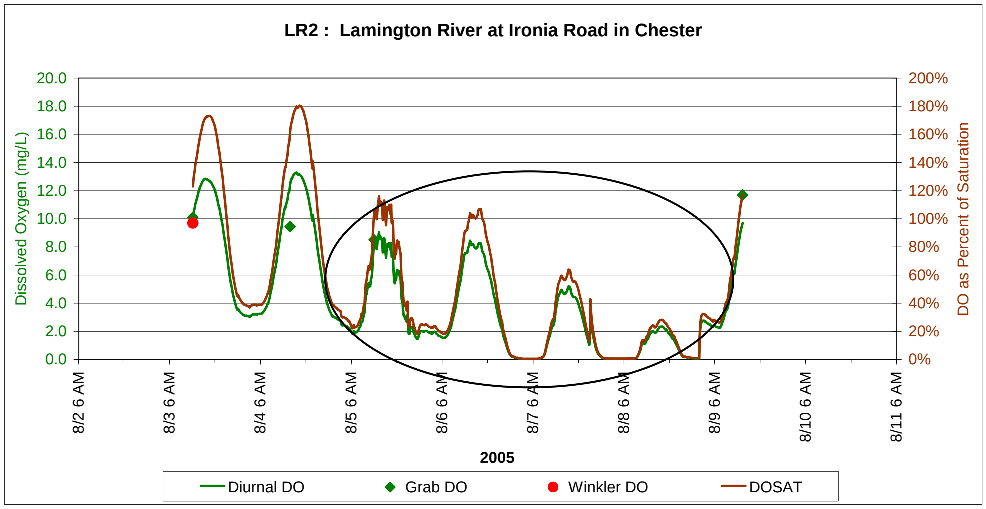




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

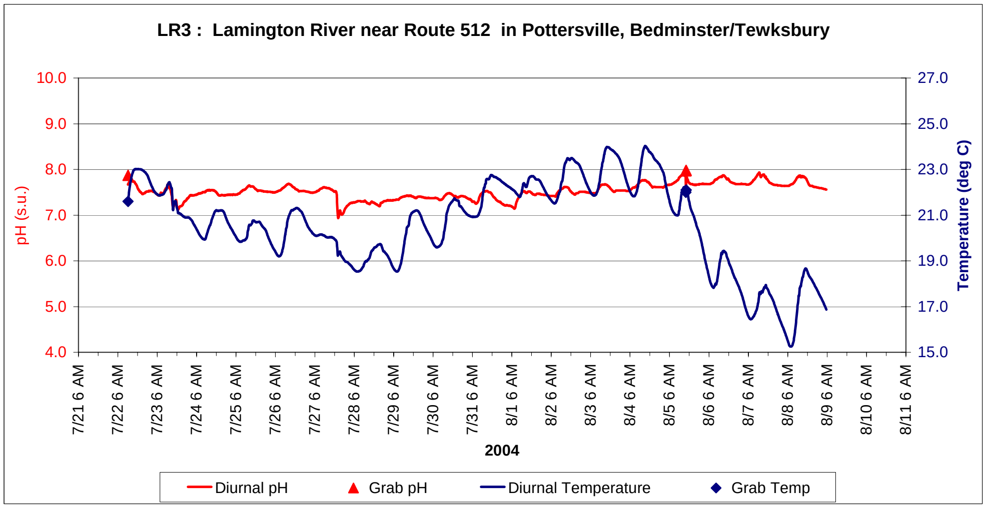
DO sensor malfunctioned during July/August
2004 event.

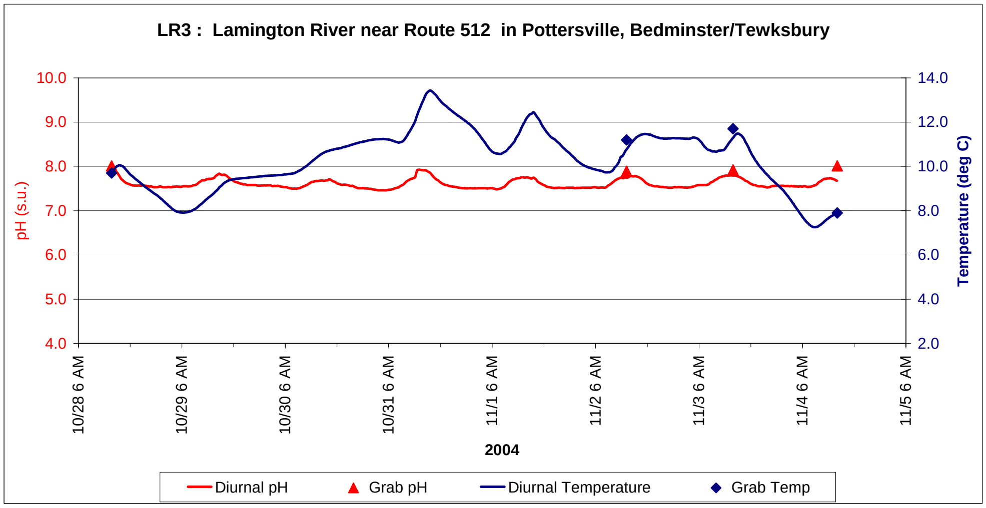


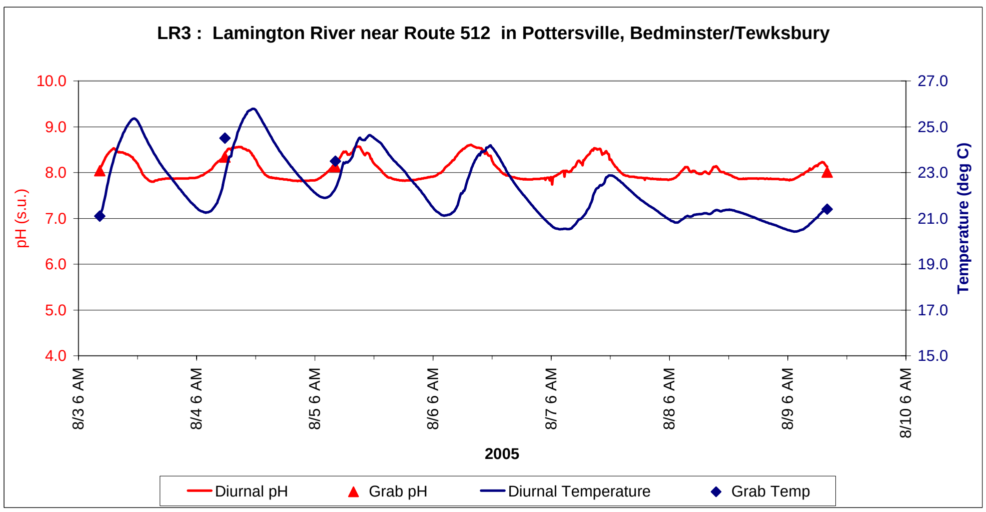


Circled: Troll influenced by sediment oxygen demand and very low flows

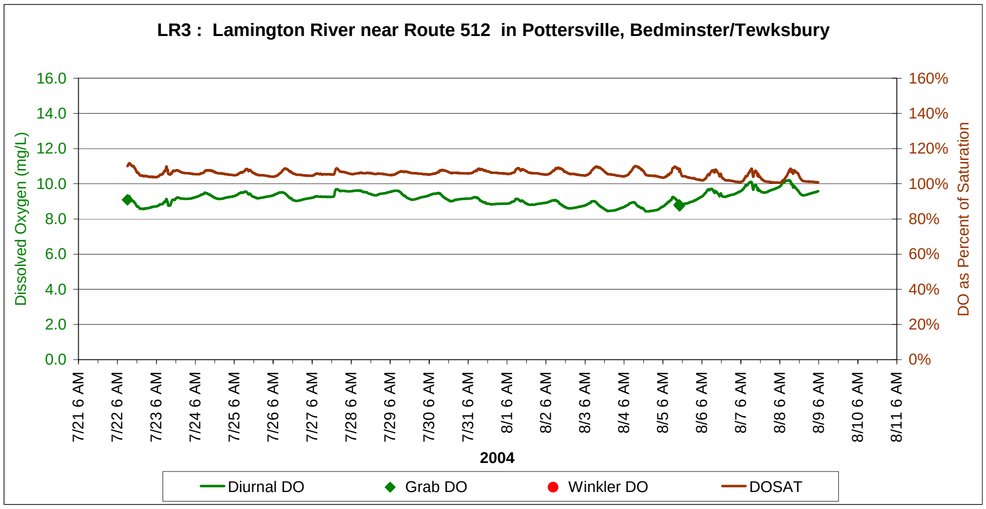
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

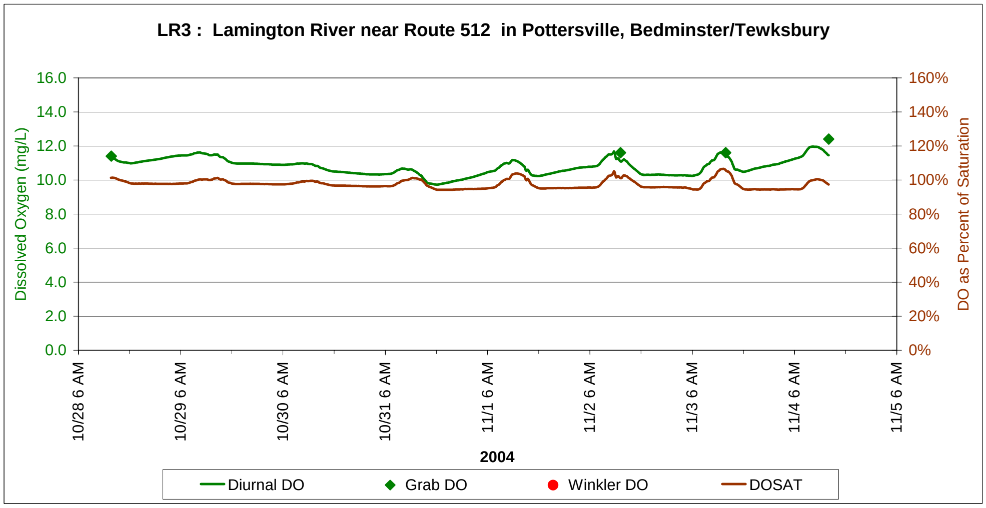


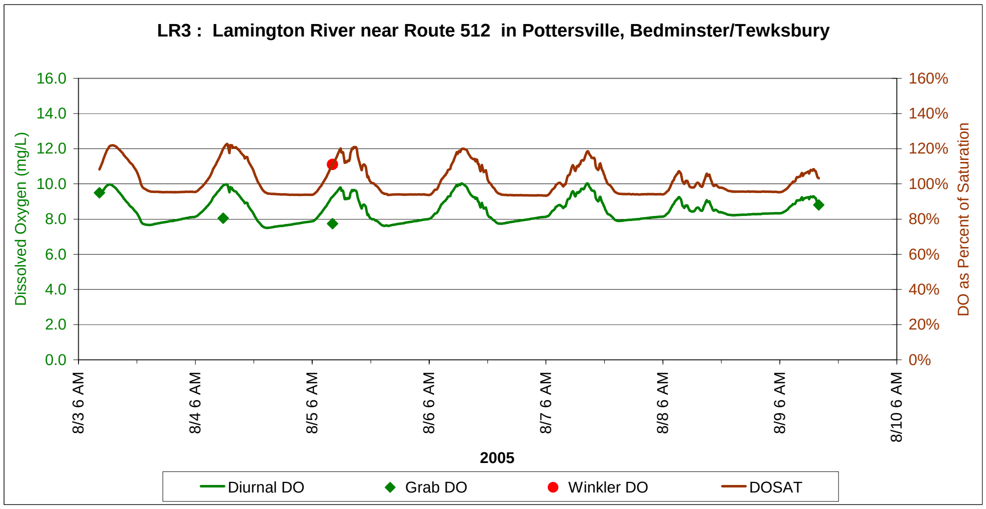




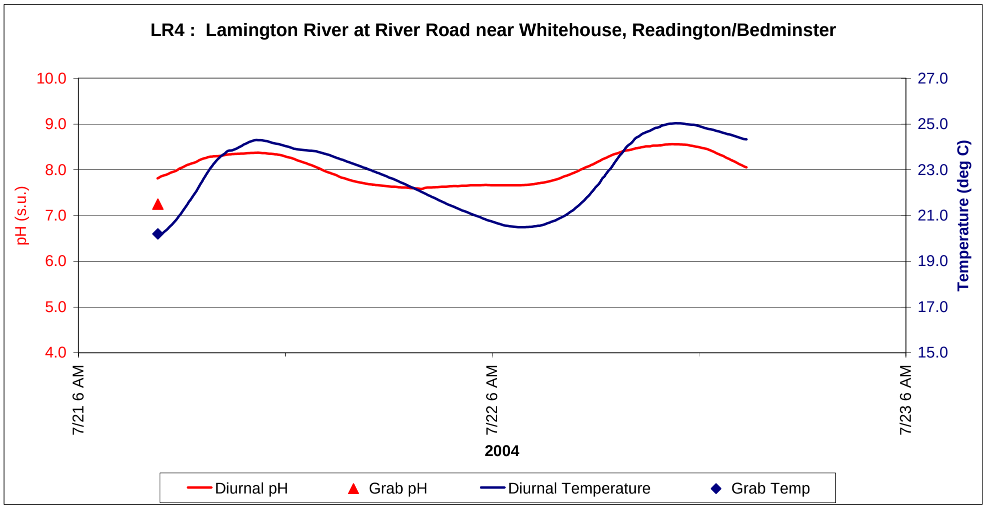
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

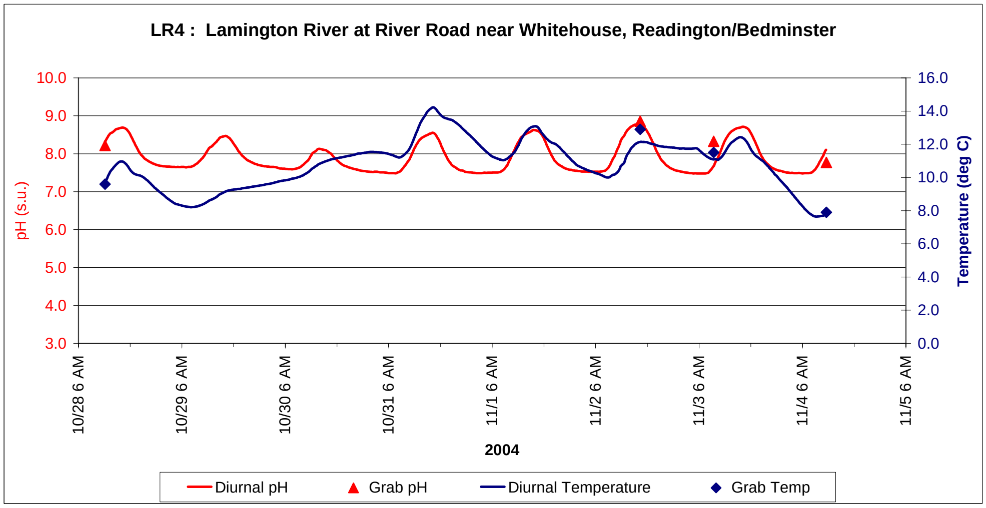


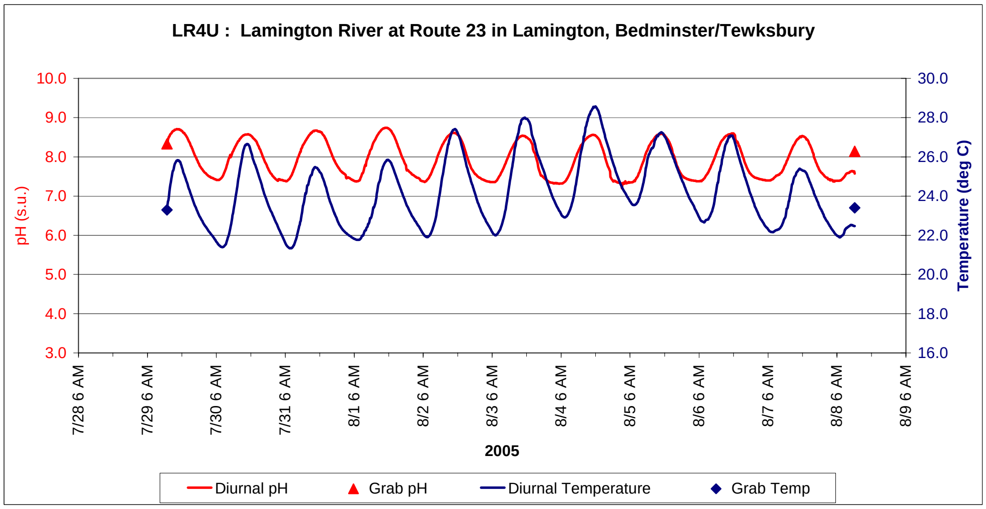




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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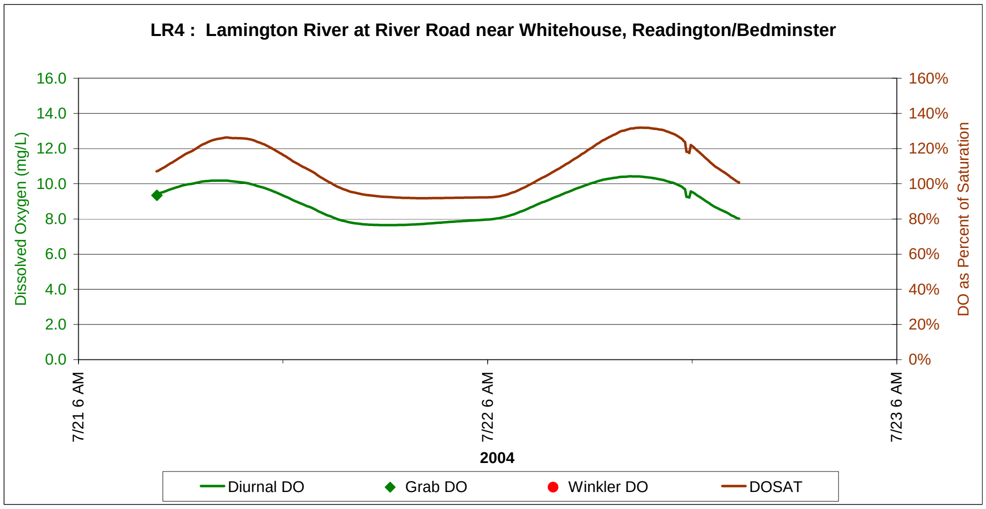
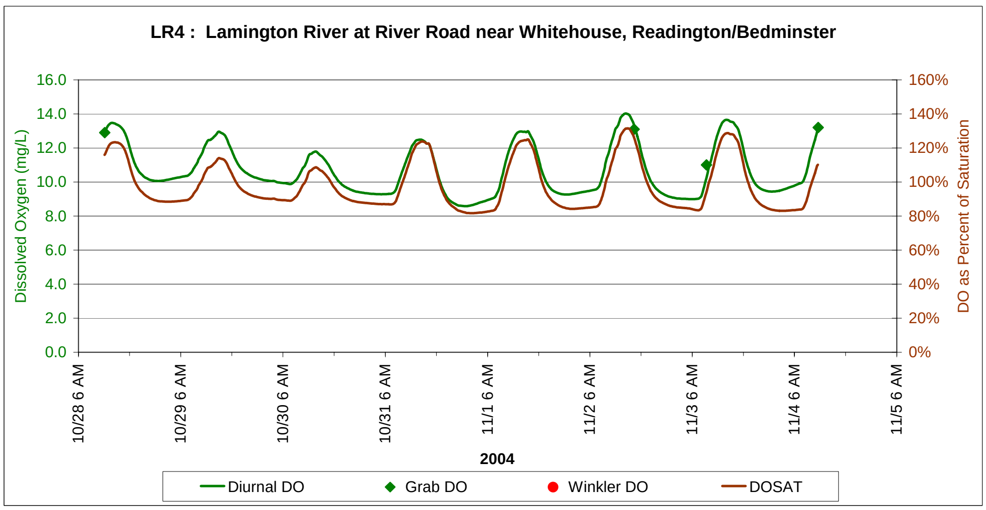
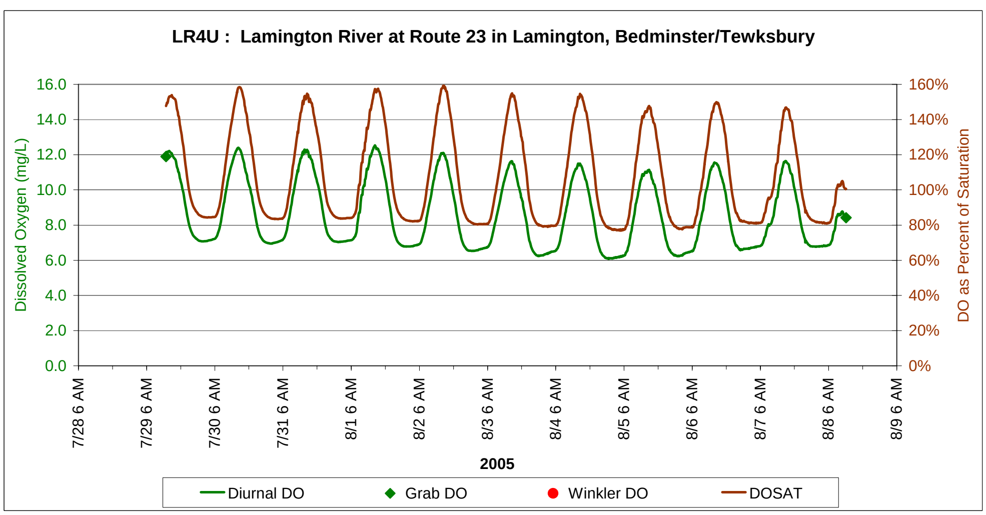
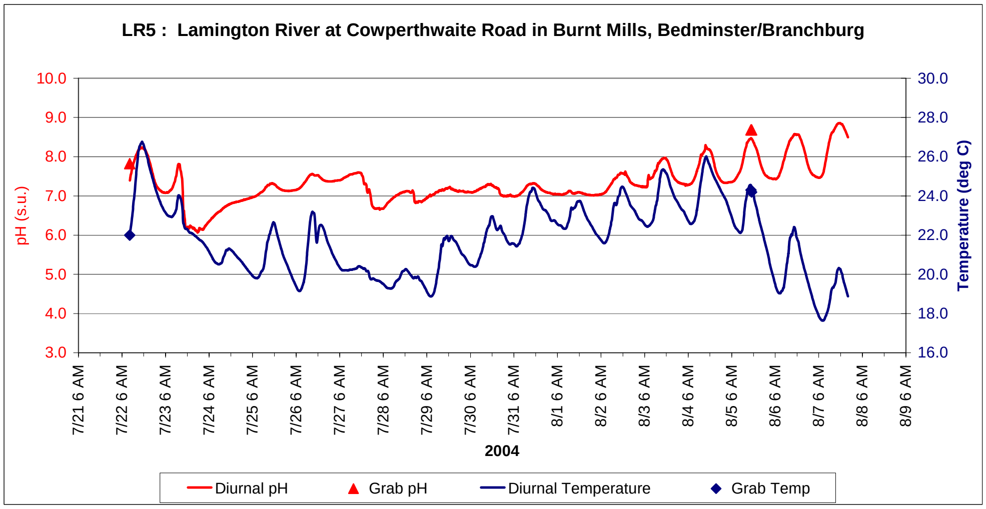
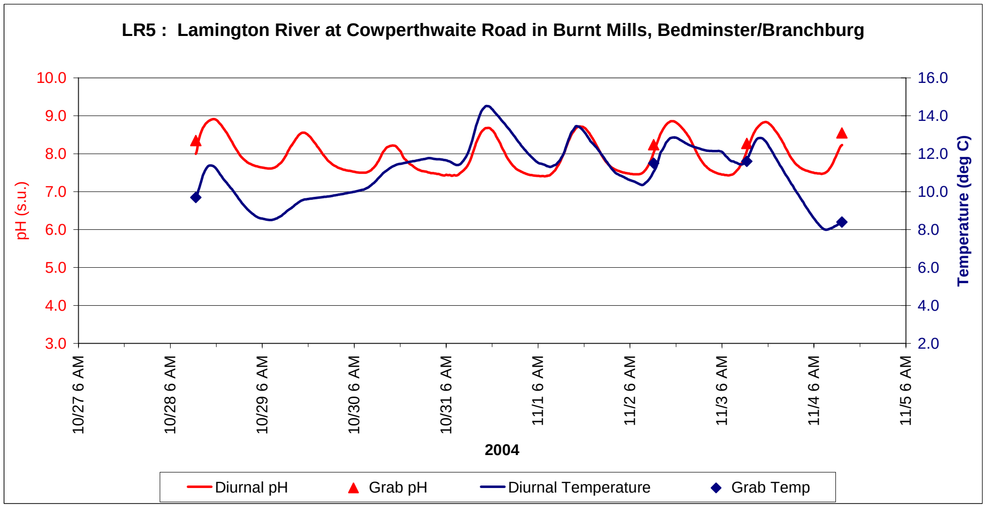


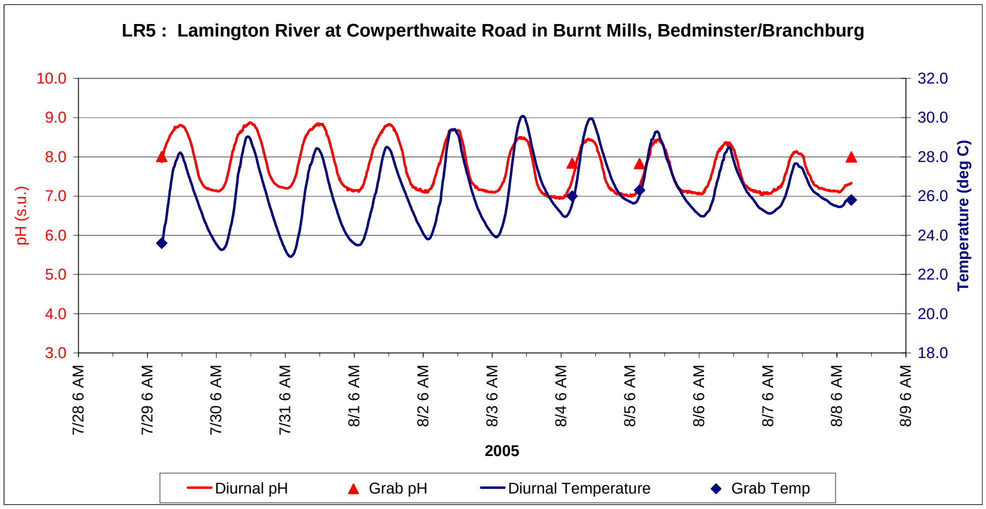




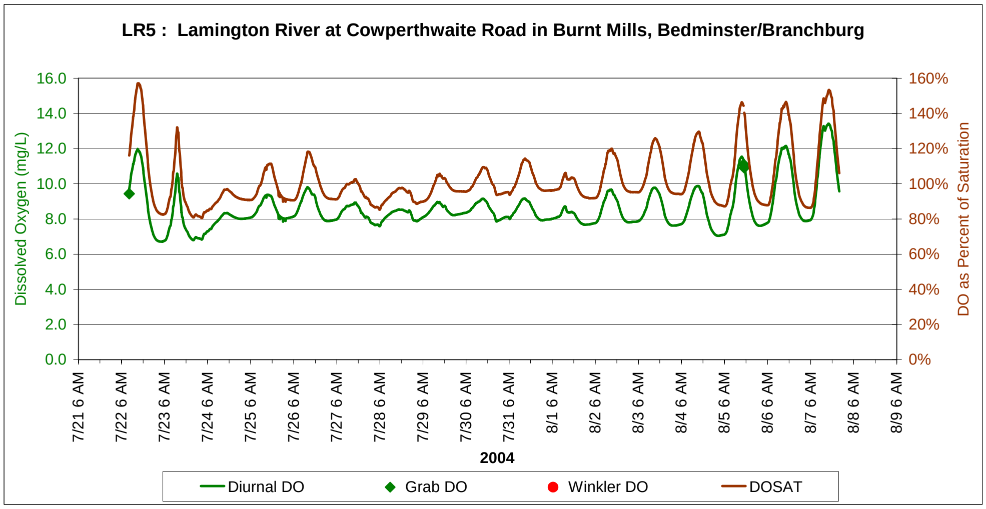
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

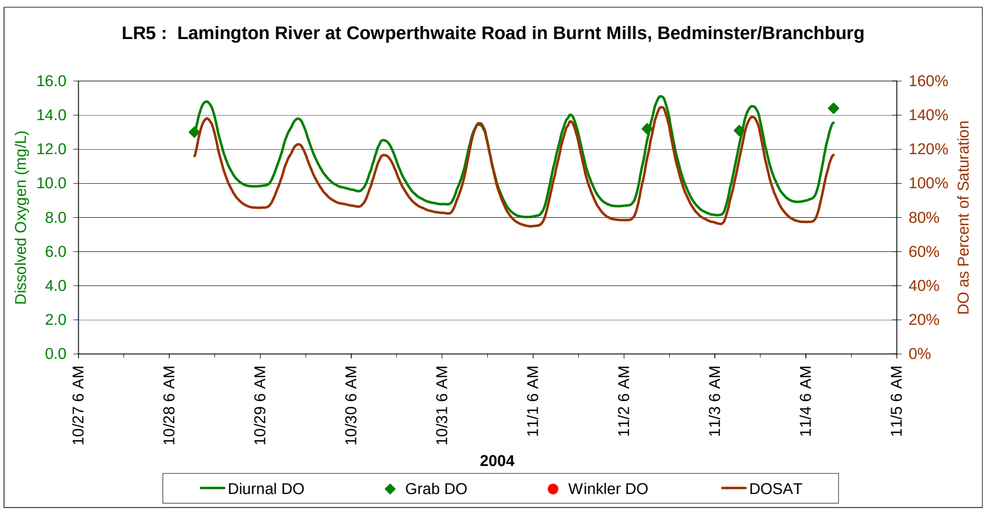


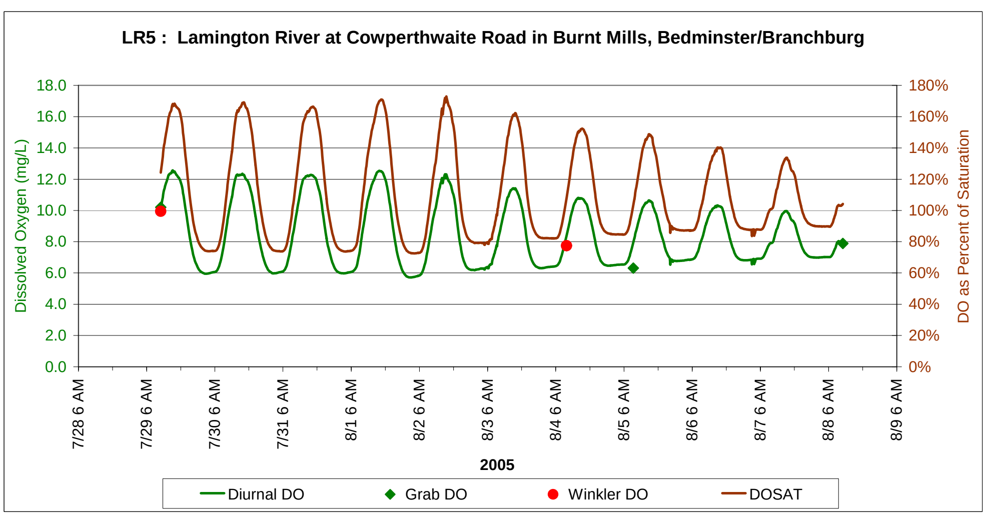




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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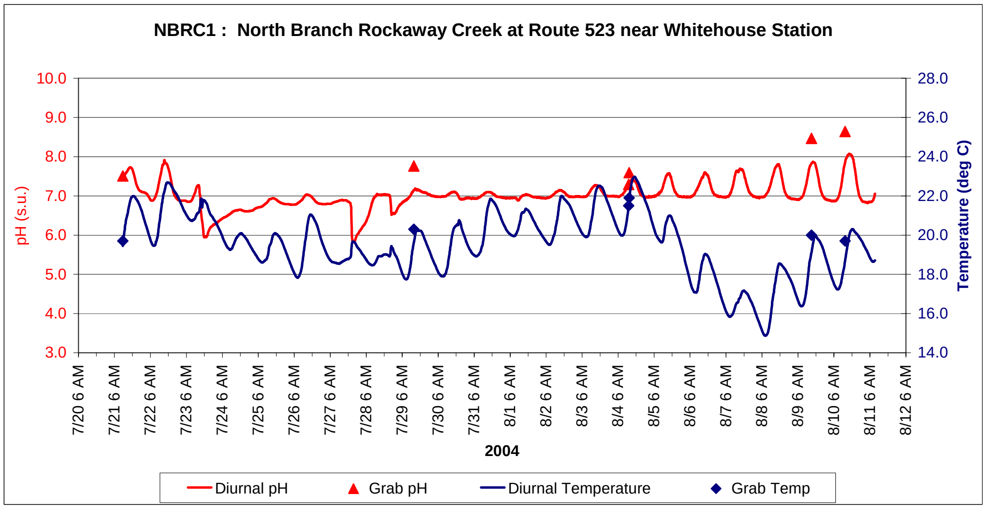

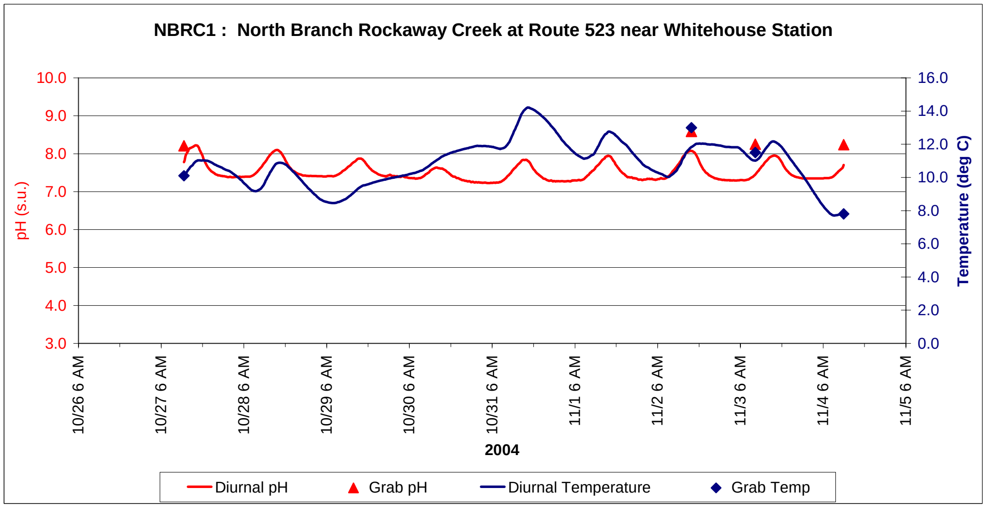

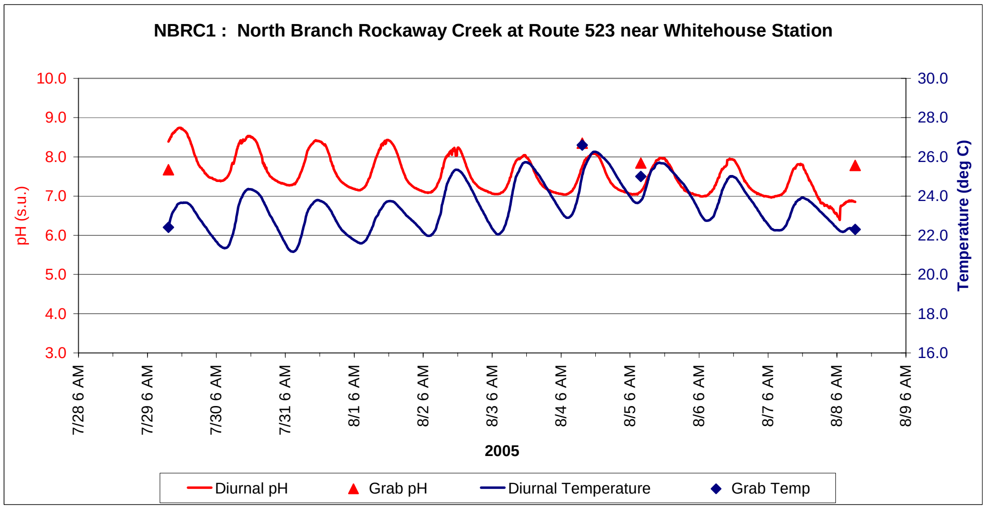

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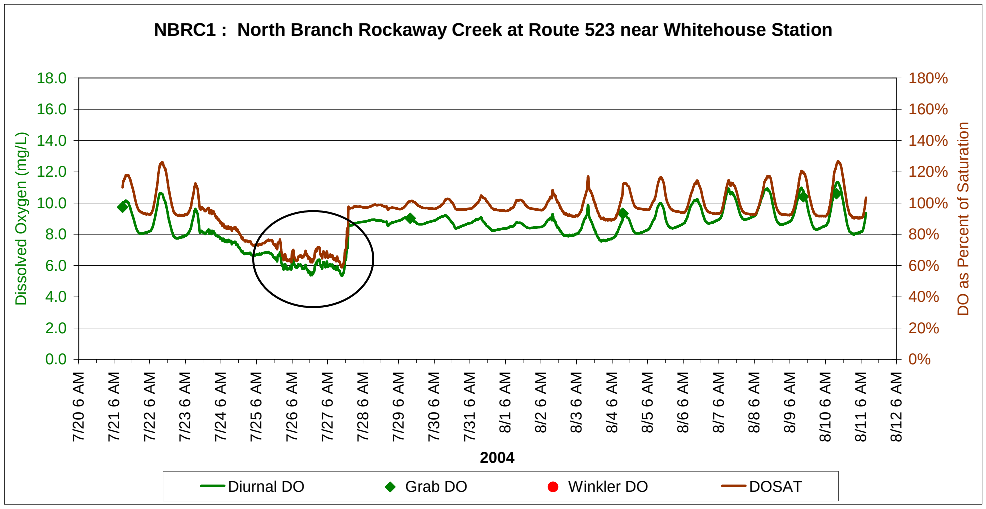
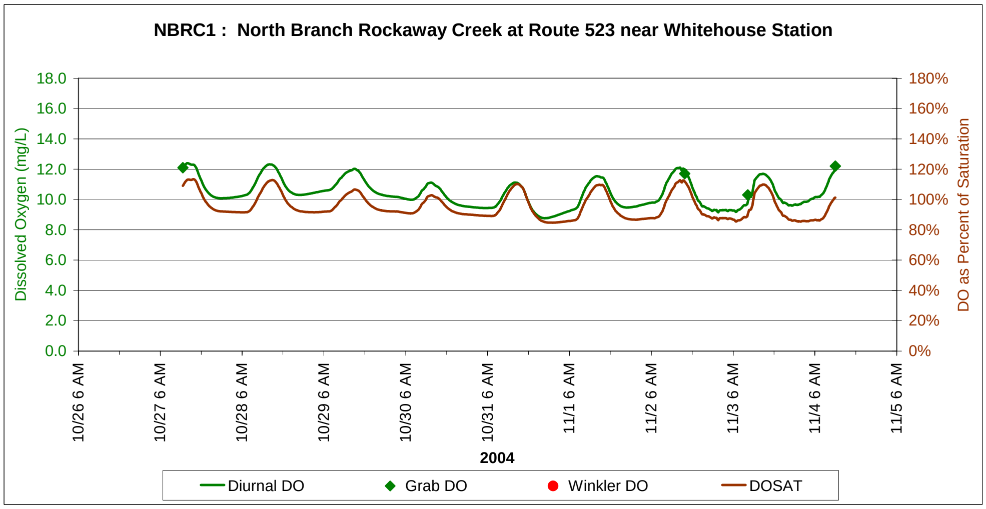
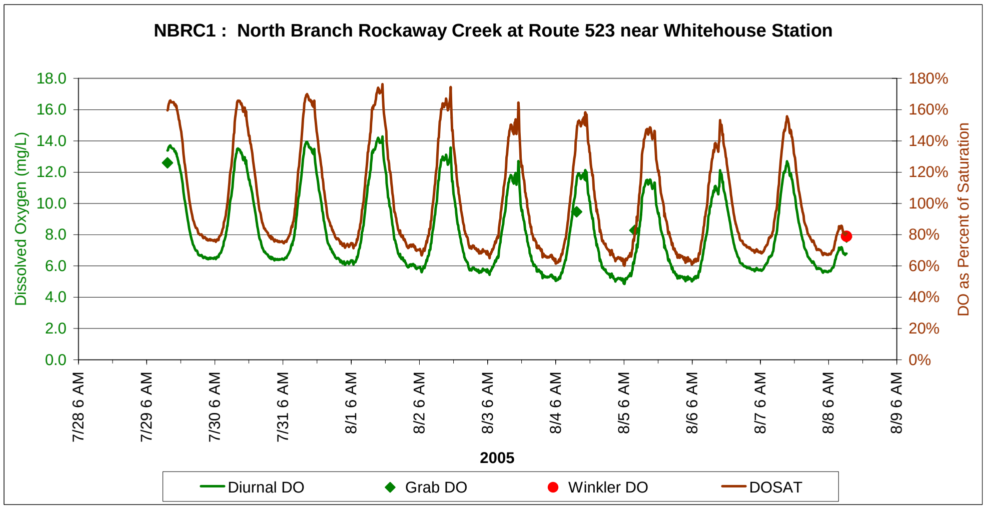
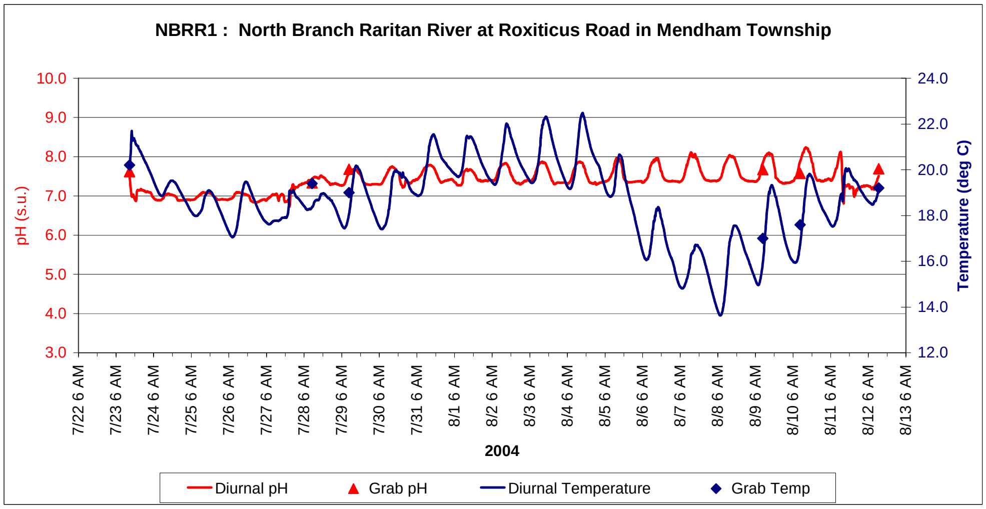


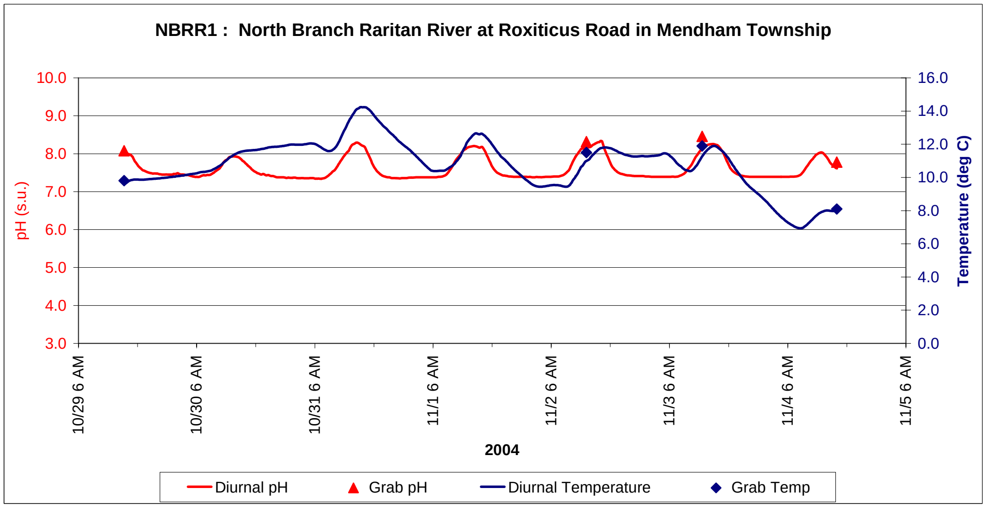
Circled: Storm event

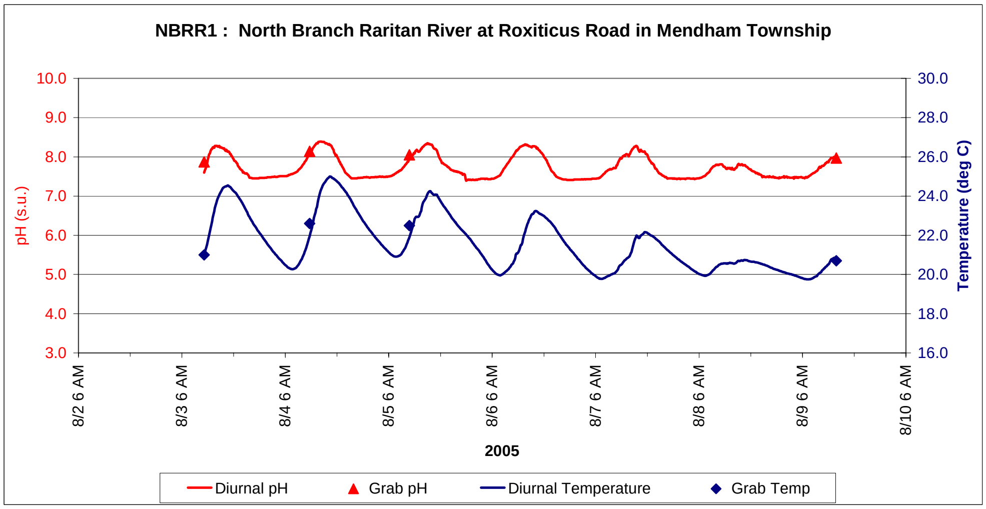




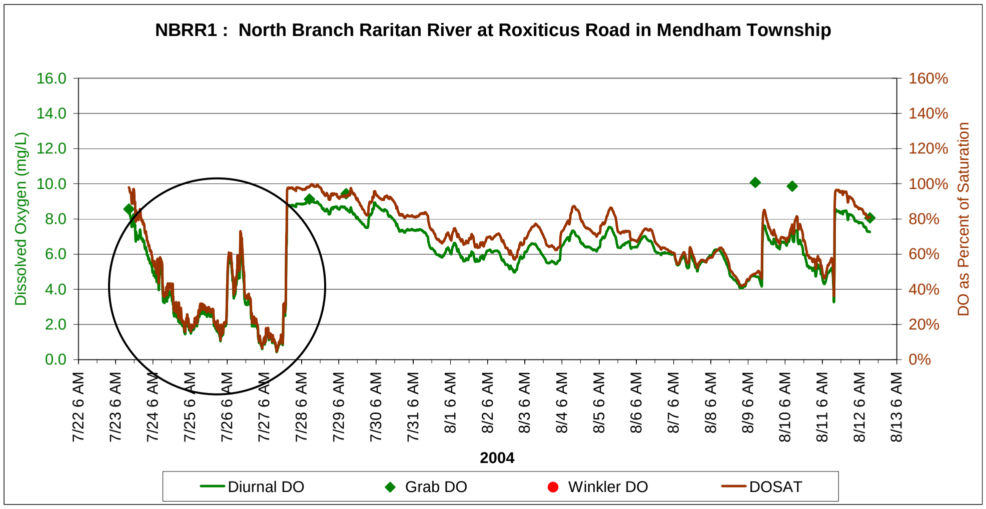
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



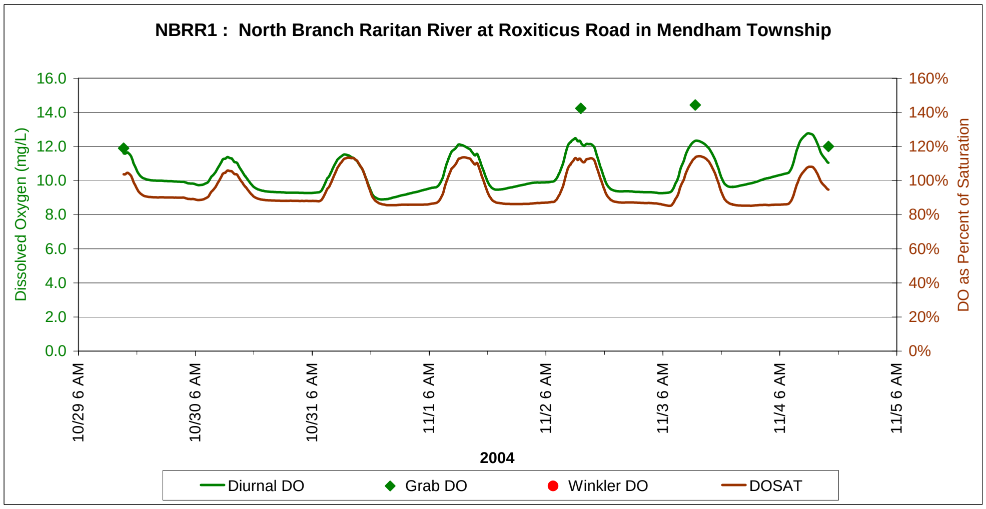


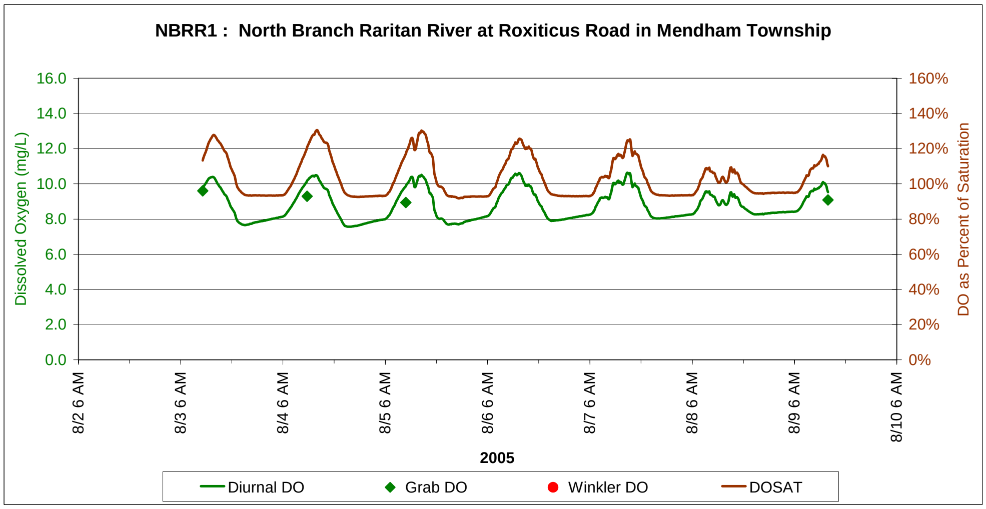


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

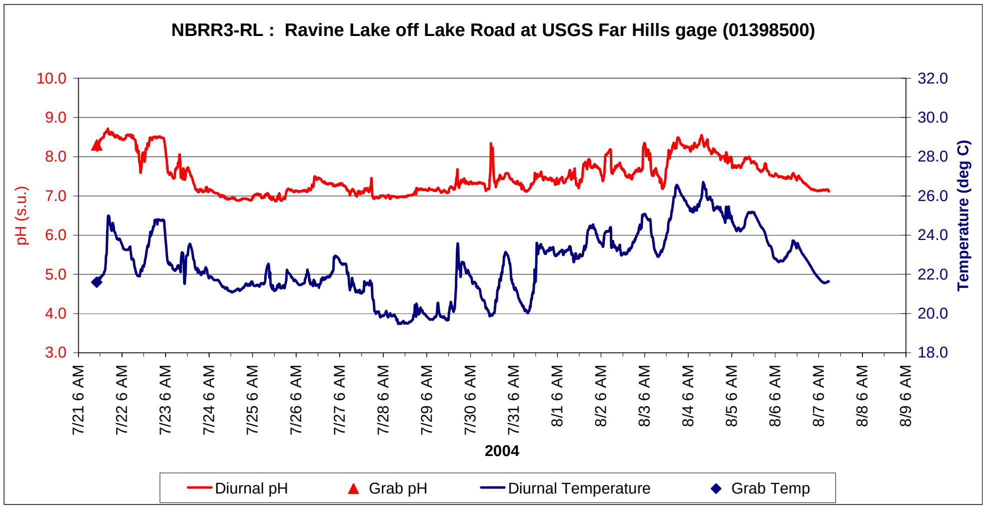


Circled: Datasonde influenced by sediment oxygen demand.

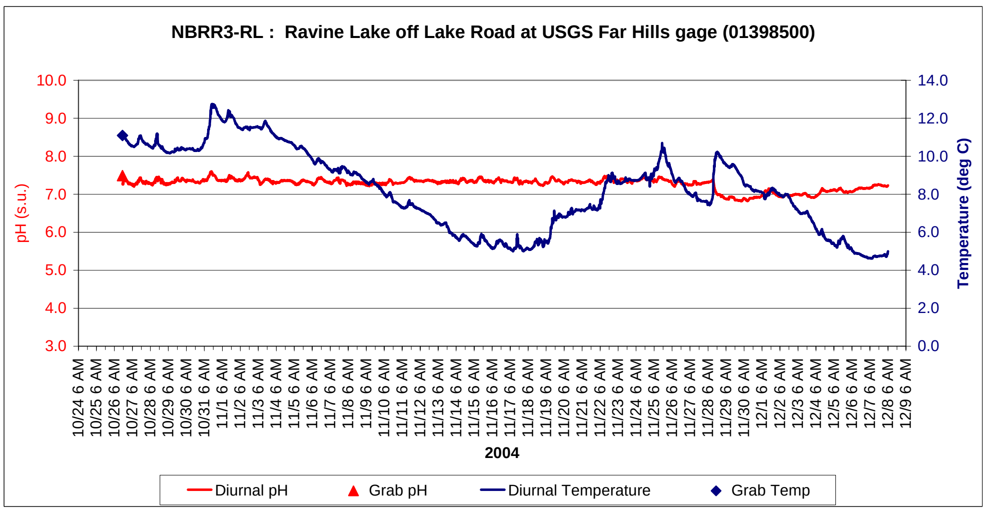


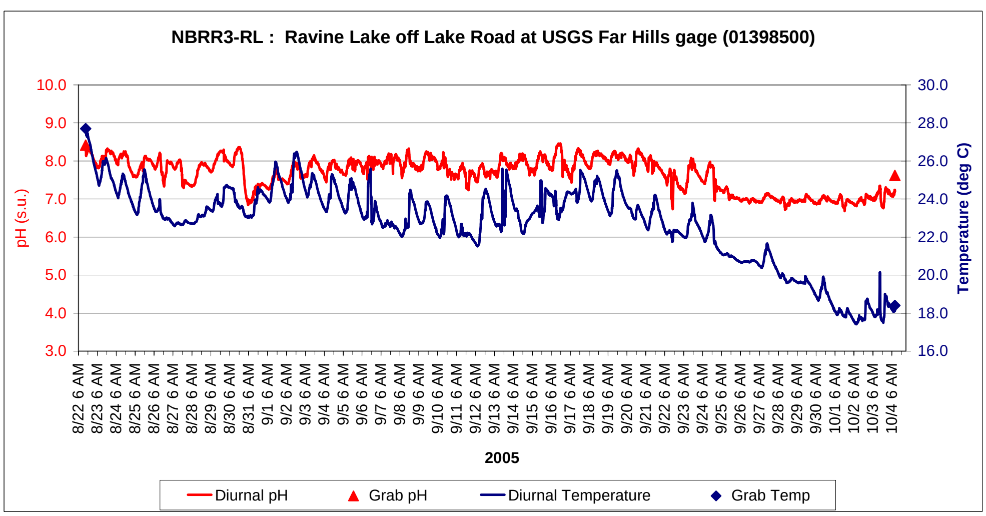


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



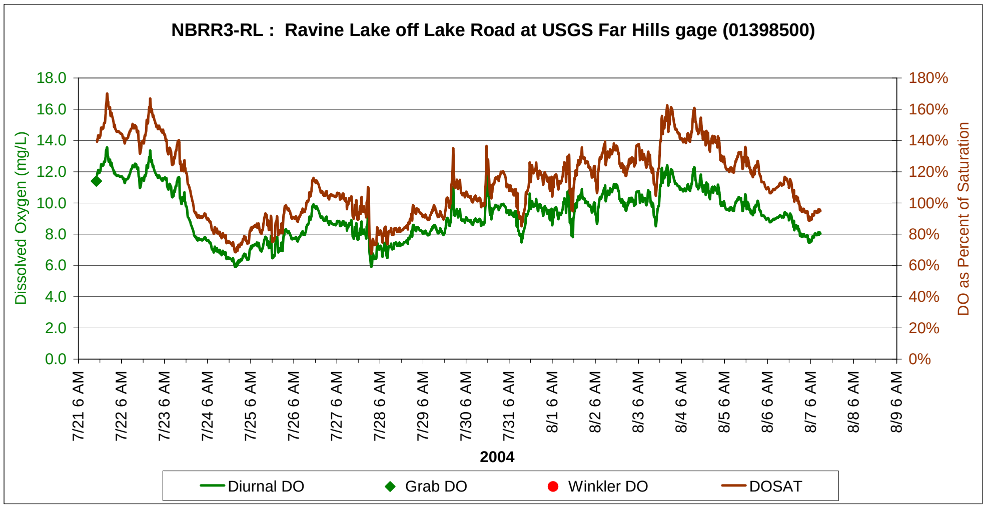
Note: Readings influenced by shifting thermocline.



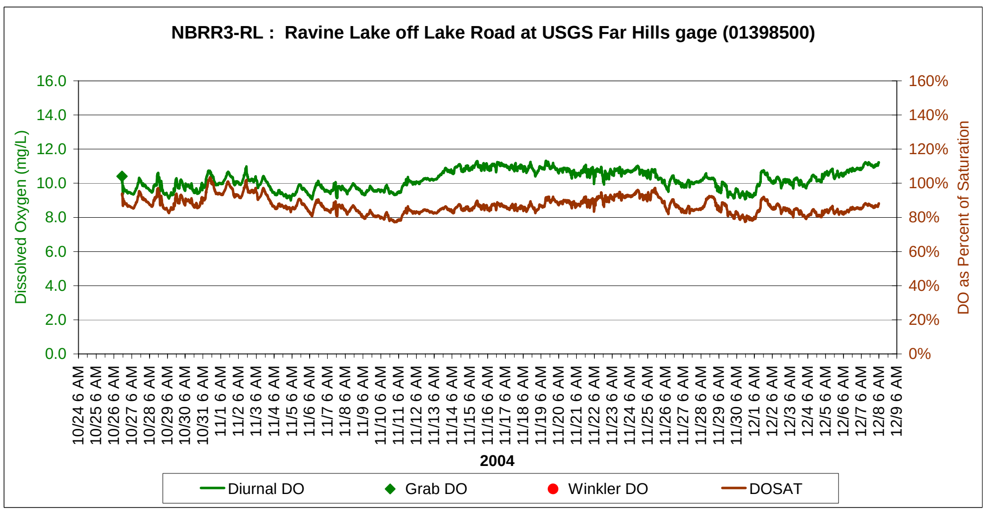


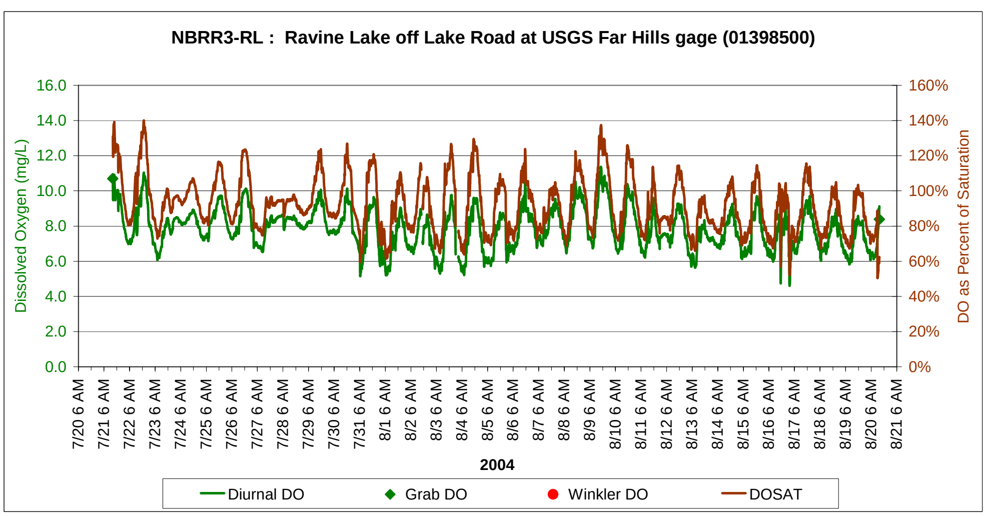
Note: Representative of epilimnetic conditions.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



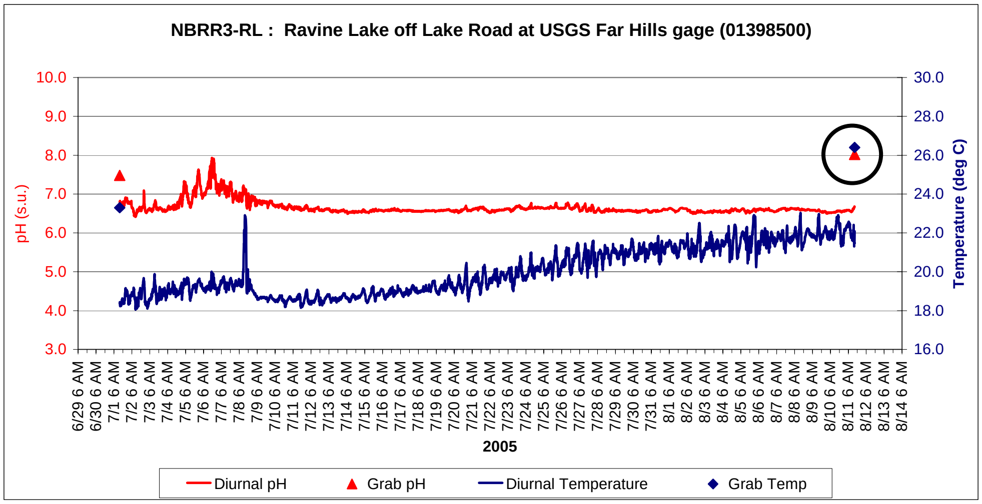
Note: Readings influenced by shifting thermocline





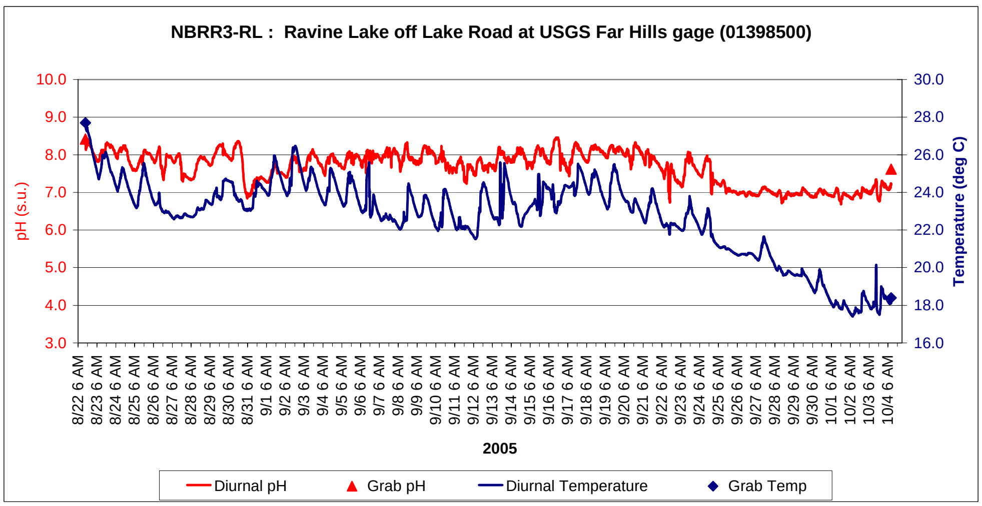
Note: Representative of epilimnetic conditions.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



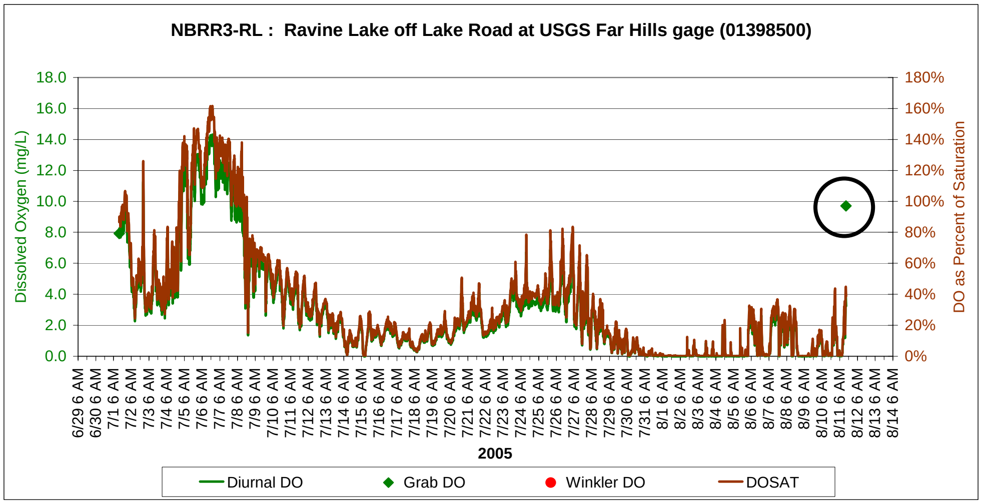
Note: Representative of hypolimnetic condition.

Circled: Grab sample not taken at meter depth.



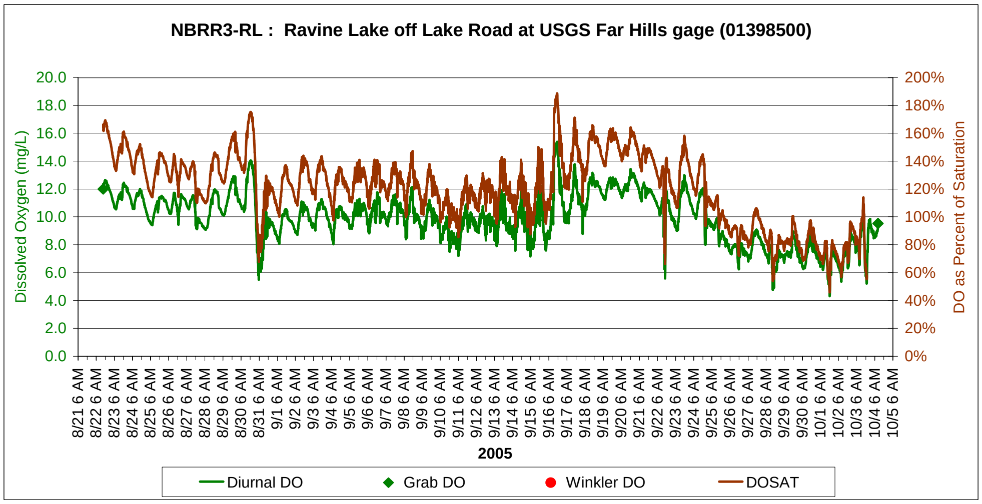
Note: Representative of epilimnetic conditions.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



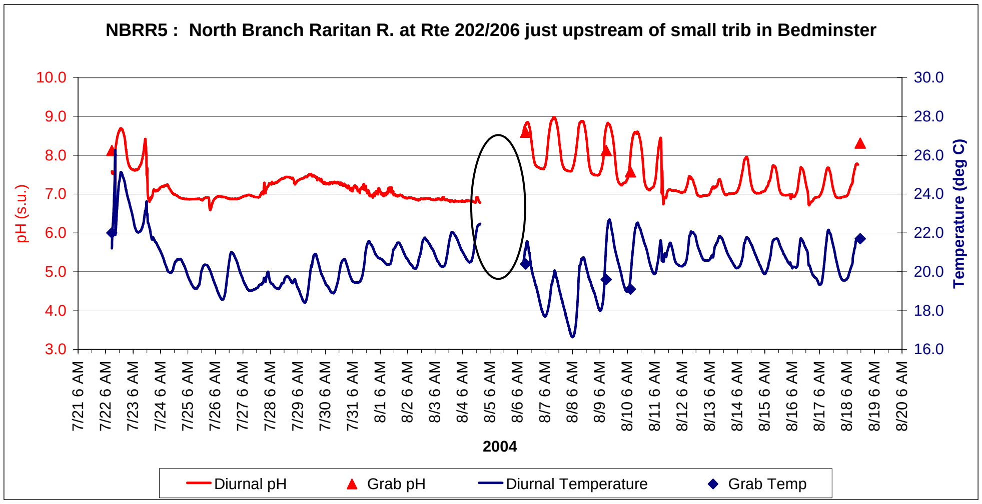
Note: Representative of hypolimnetic condition.

Circled: Grab sample not taken at meter depth.

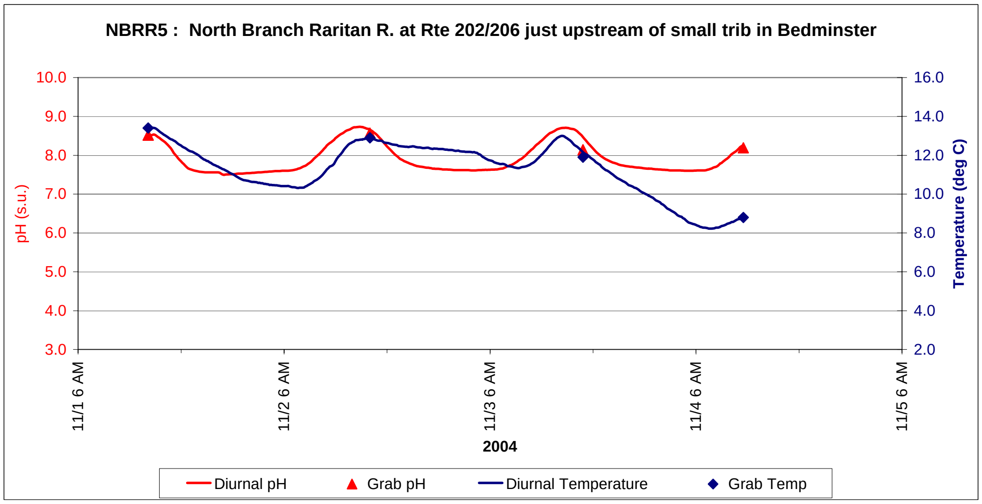


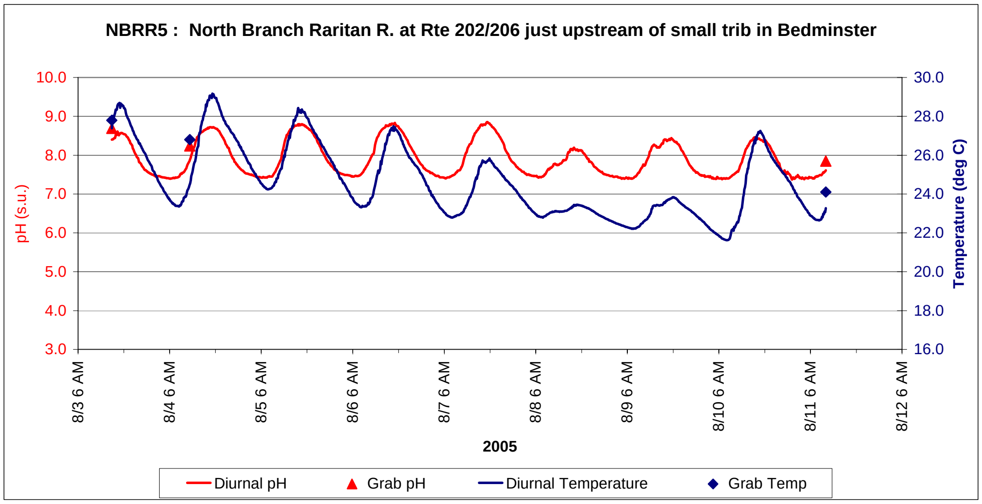
Note: Representative of epilimnetic conditions.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

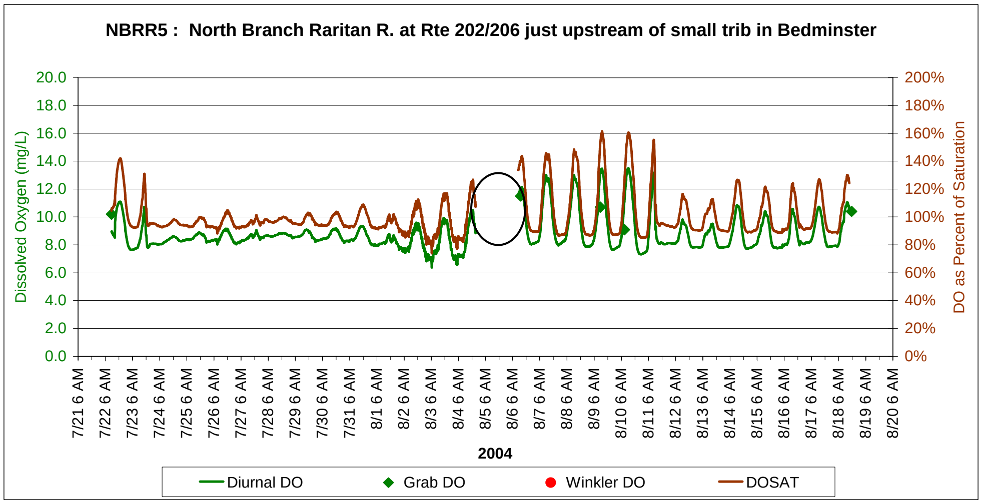


Circled: Troll buried during storm

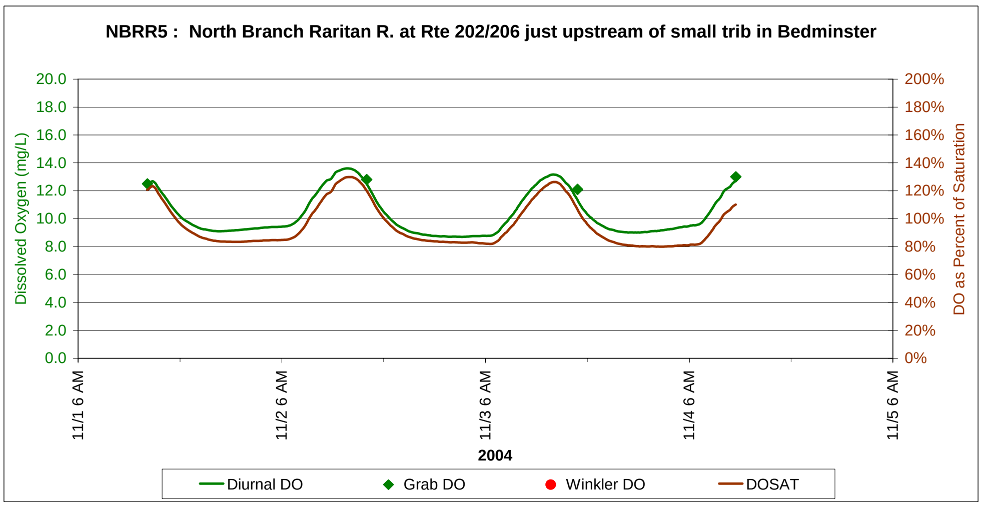


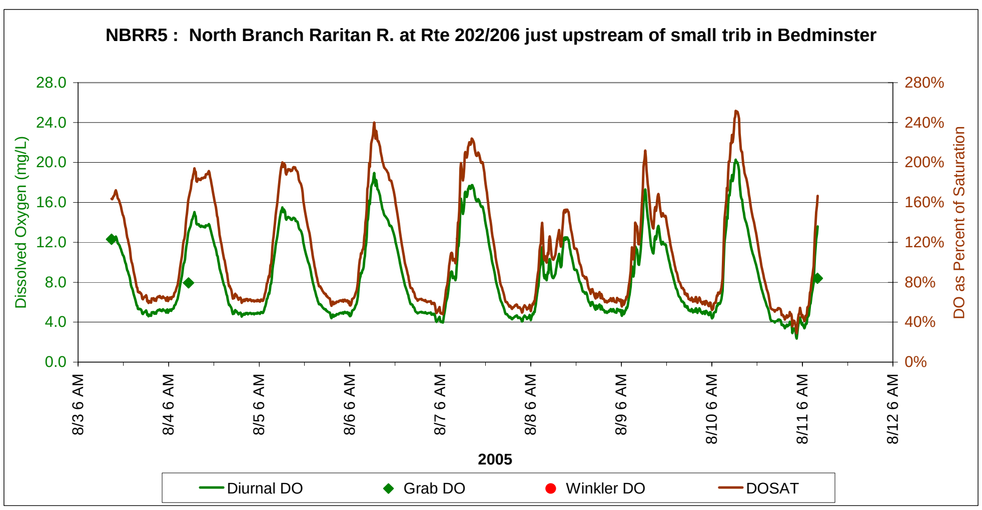


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

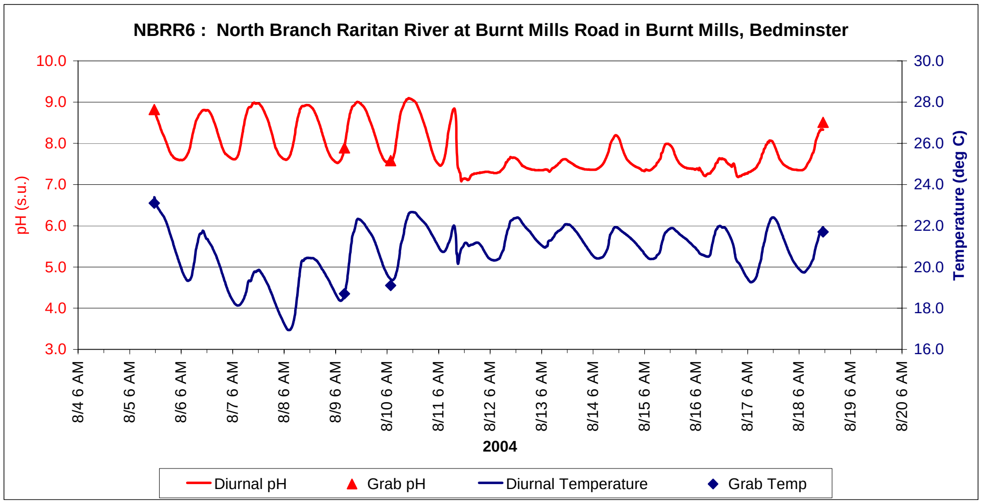


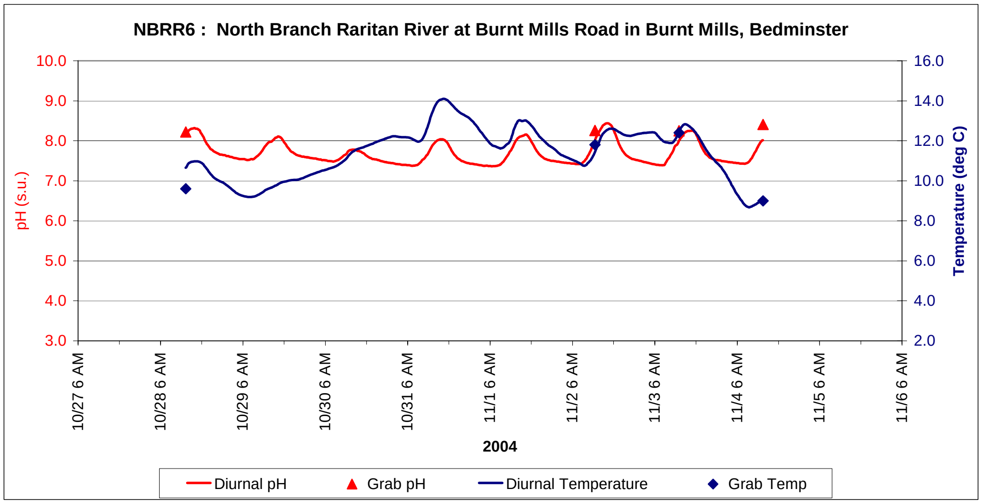
Circled: Troll buried during storm

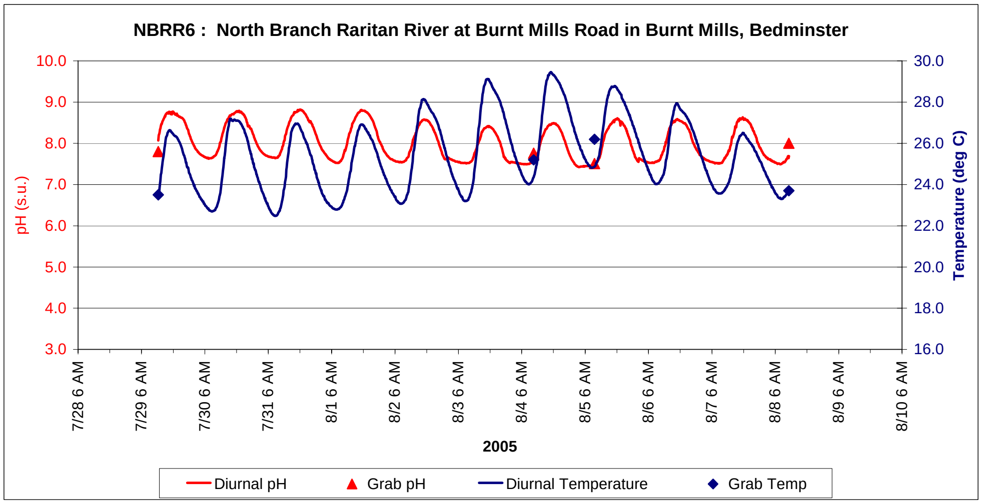




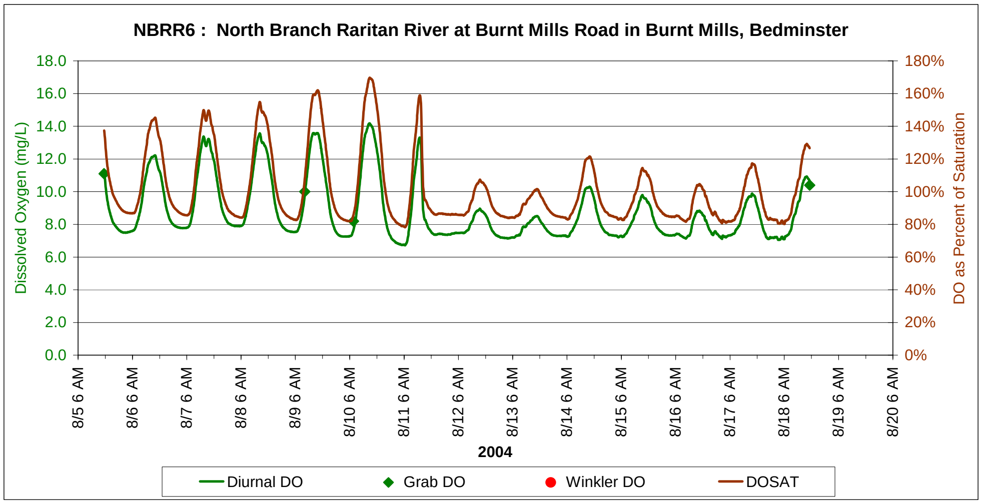
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

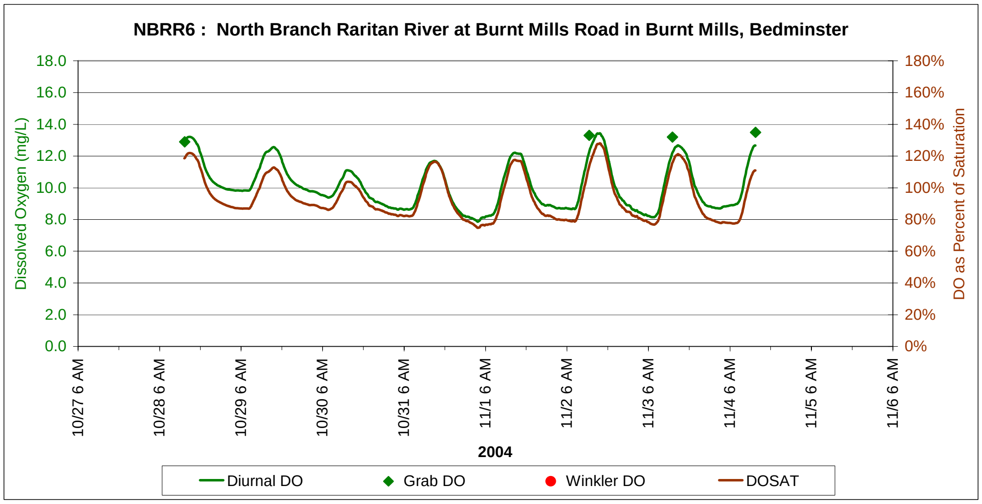


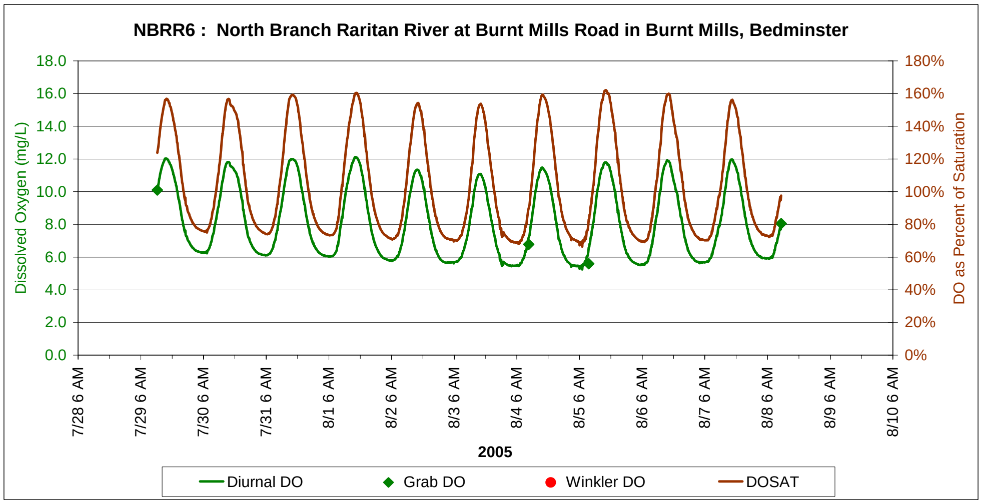




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

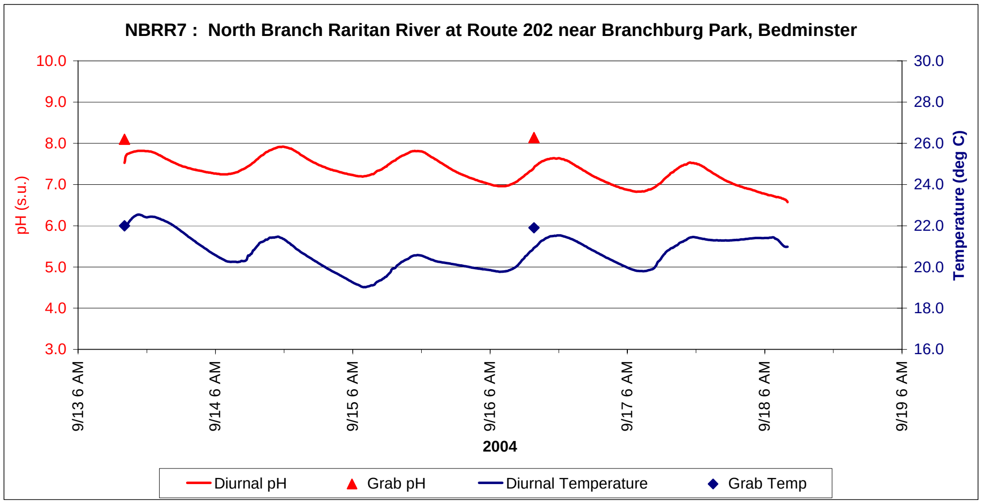




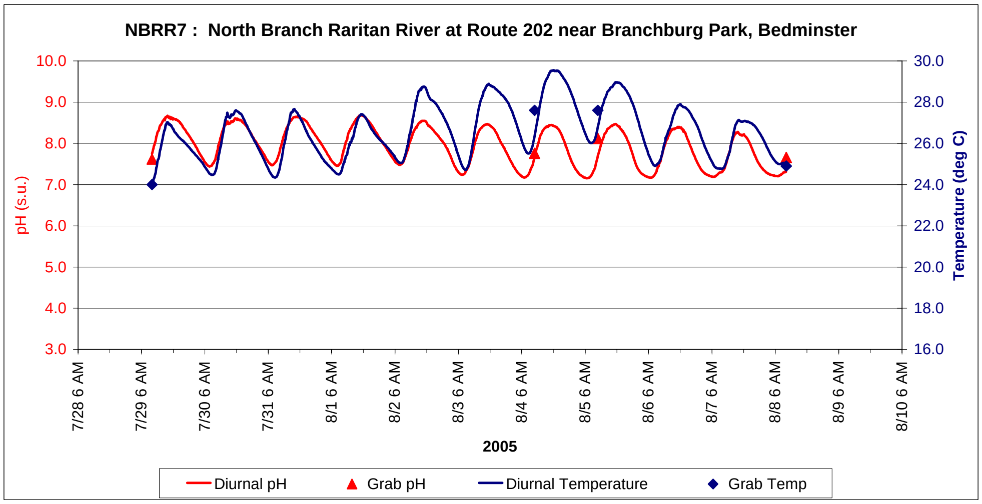


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

* Troll from 2004 summer deployment was lost after a large storm event in July.



* Troll did not record data during winter diurnal event. 2nd summer diurnal event repeated in 2005.



* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

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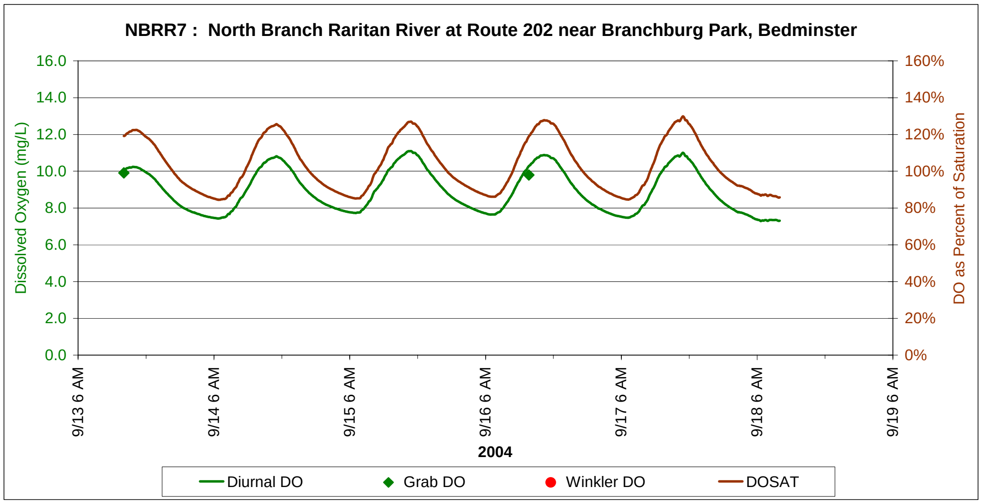

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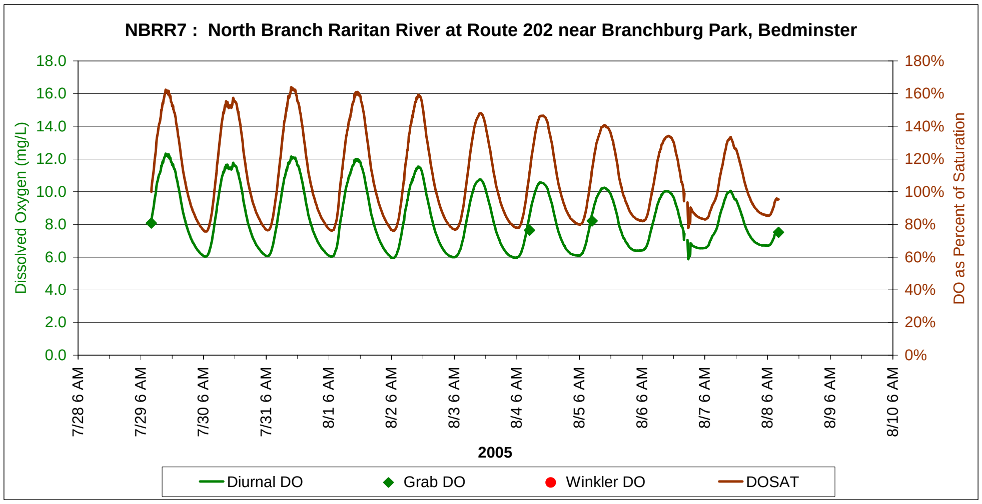
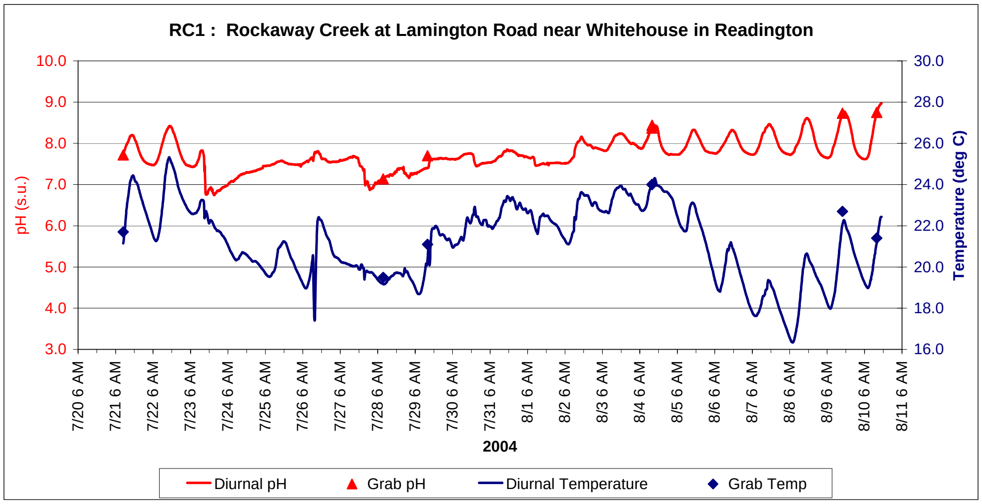
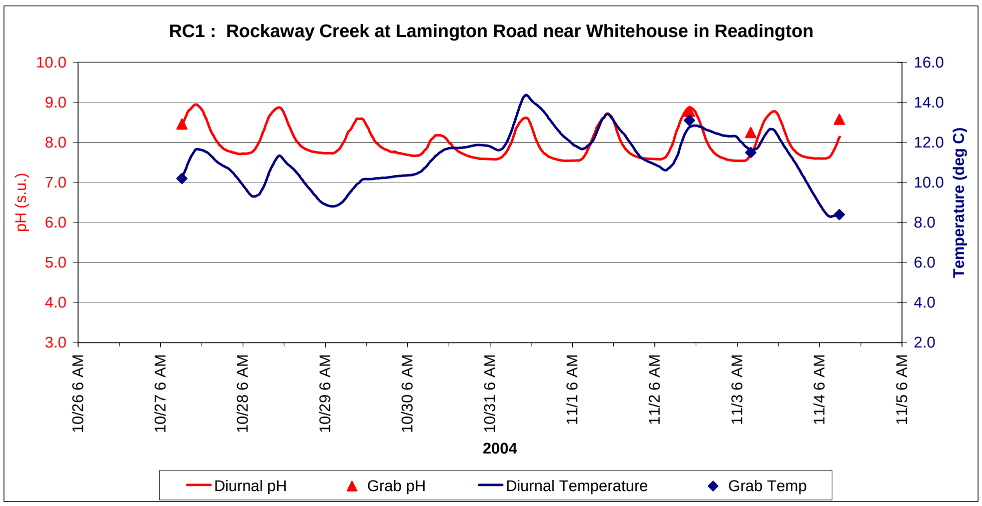
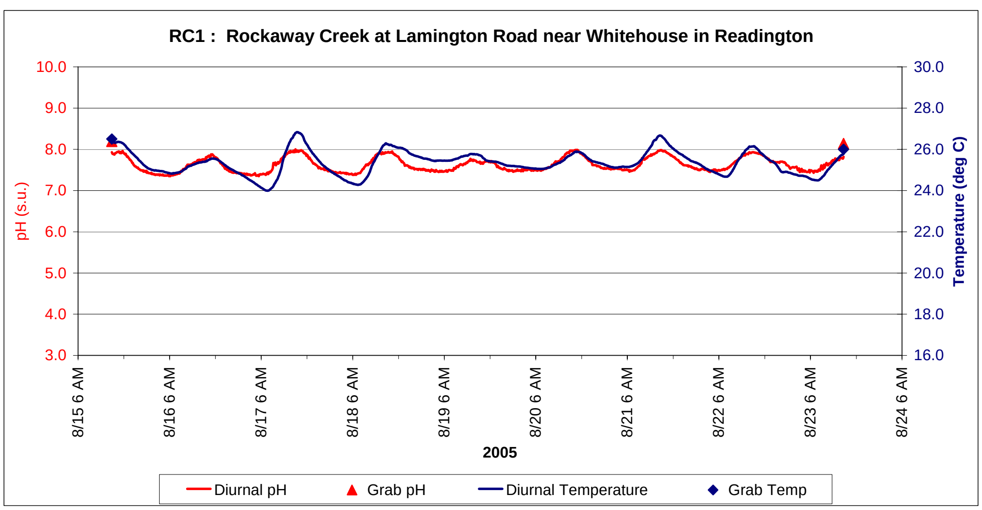


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

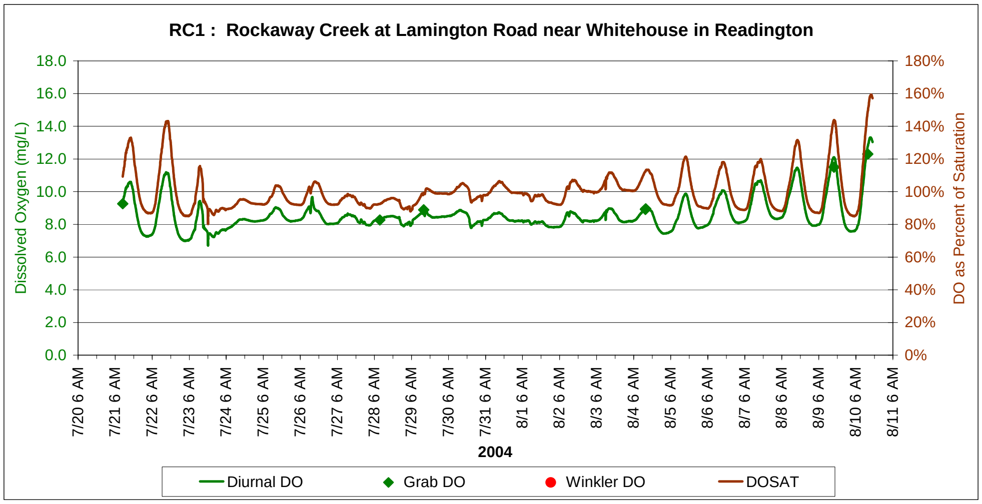


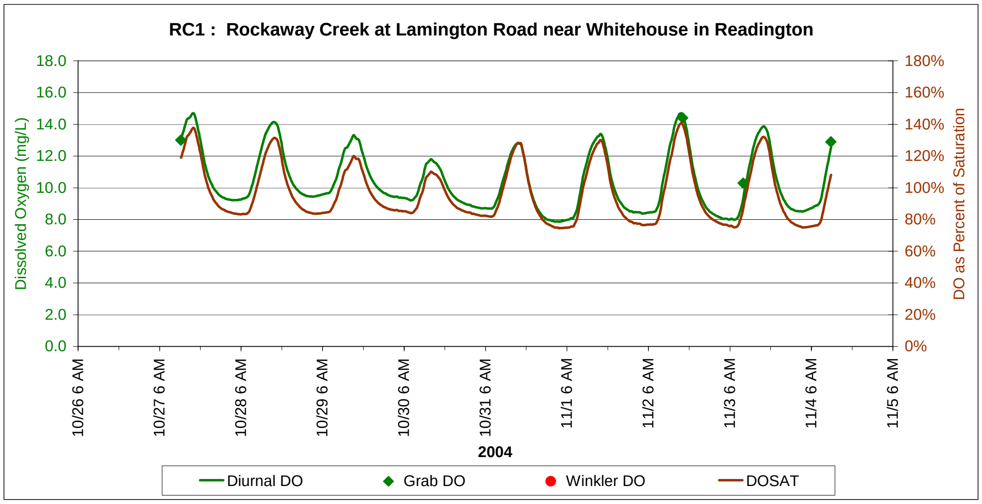


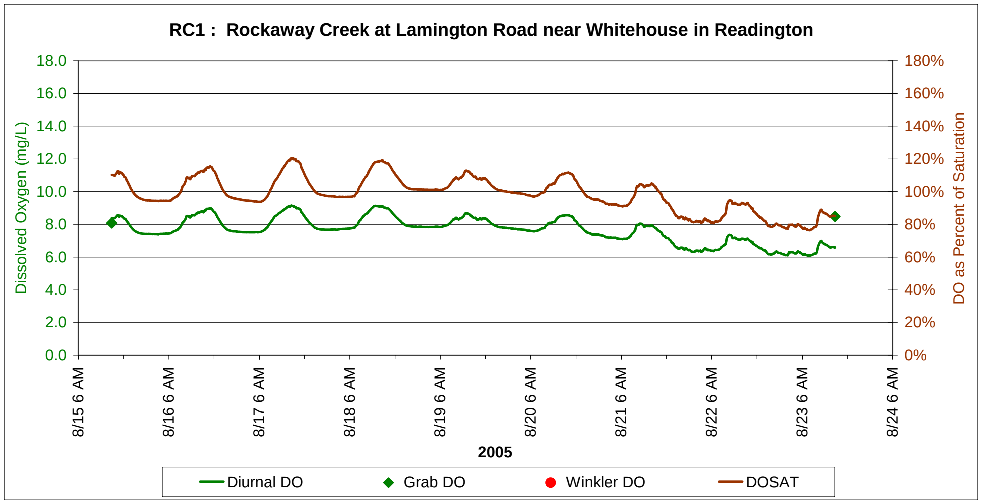


Note: Impacted by Round Valley release at Whitehouse

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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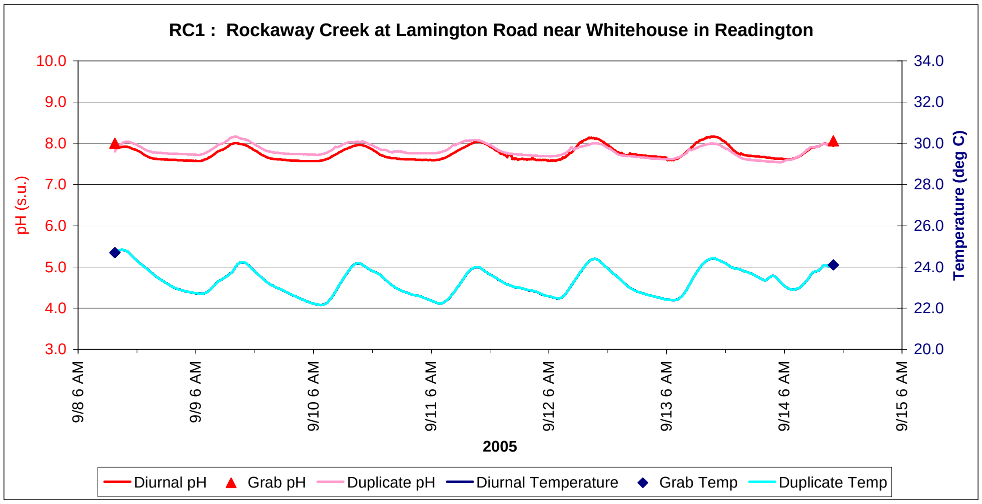

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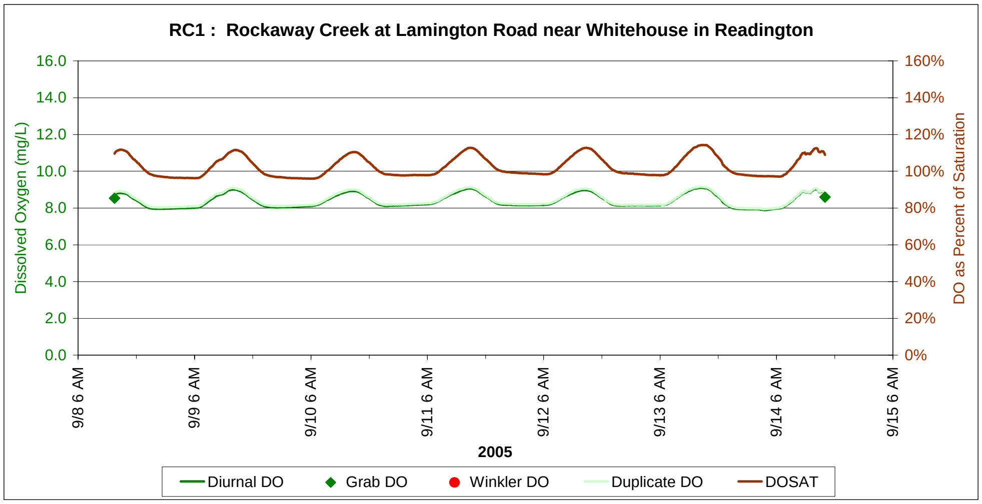

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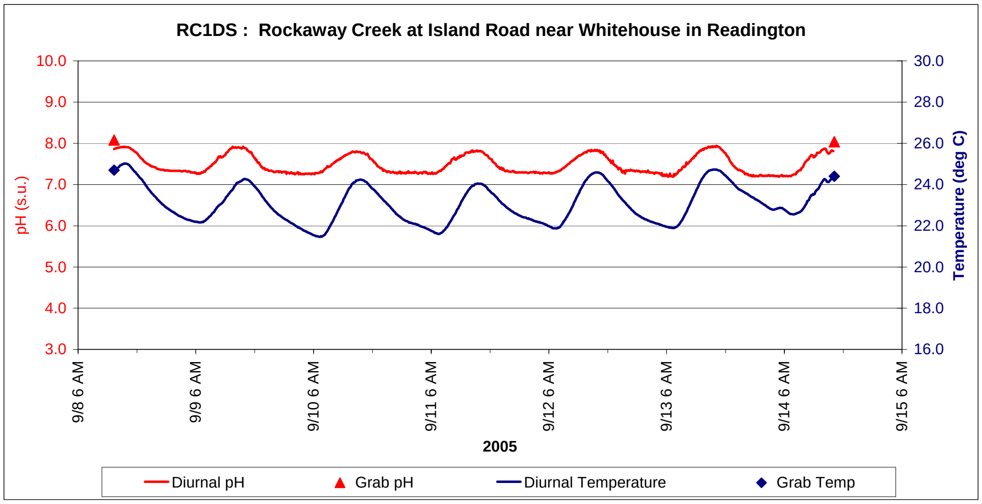

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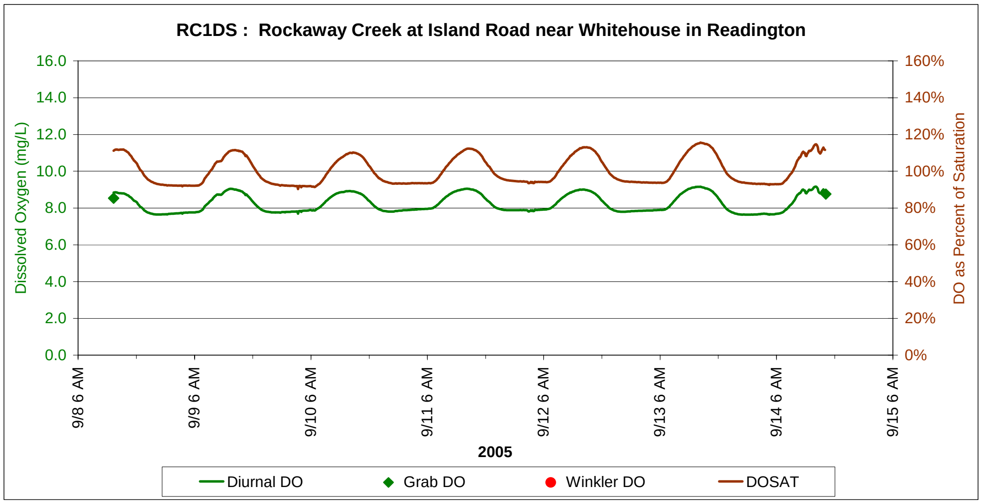
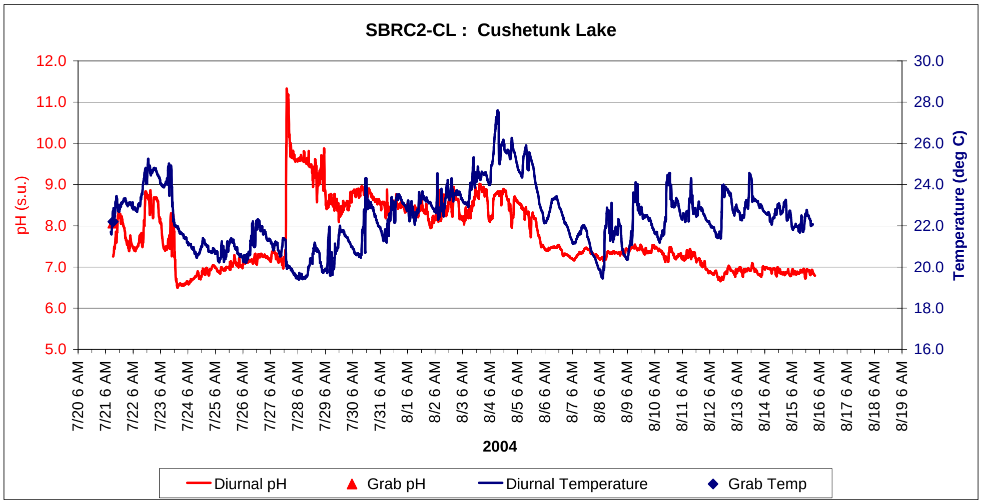
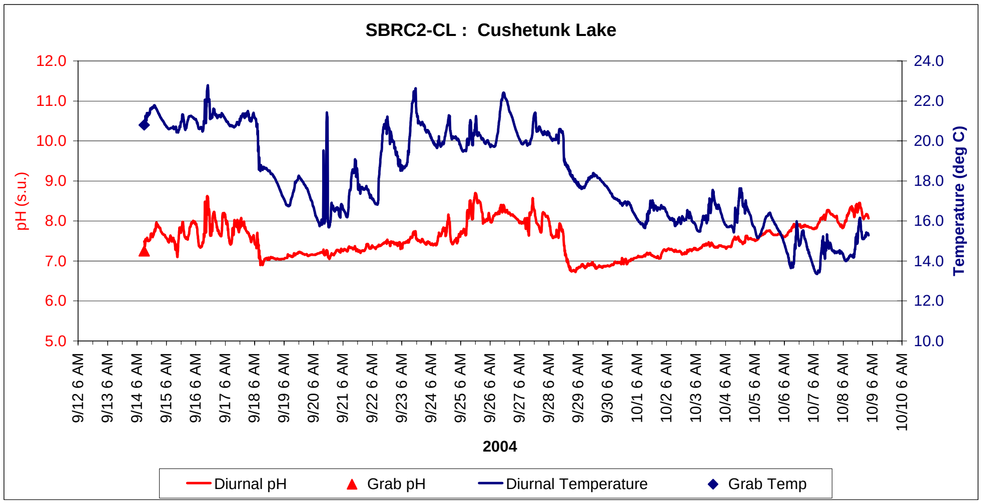


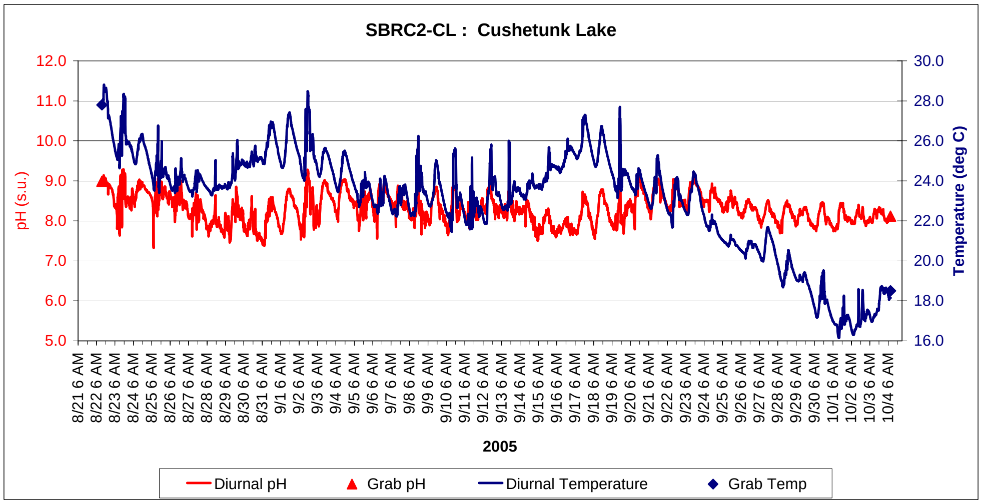
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



Note: Readings influenced by shifting thermocline.

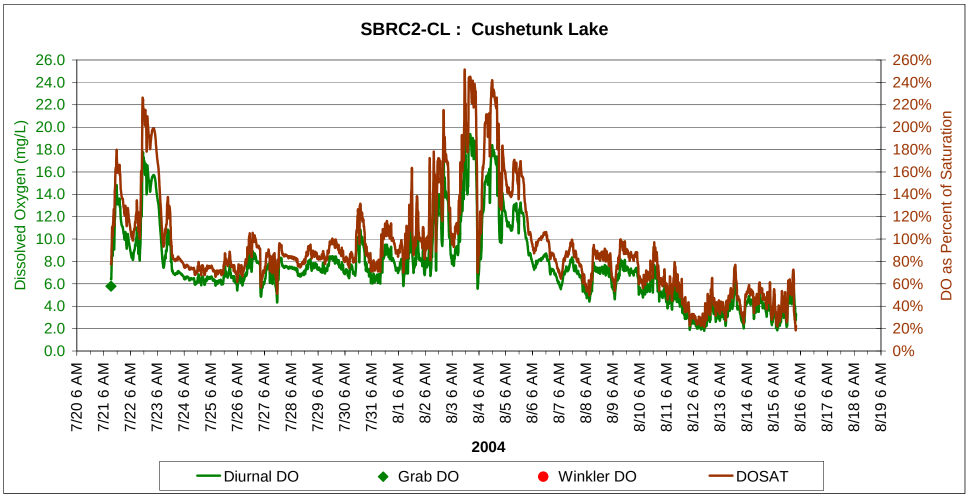


Note: Readings influenced by shifting thermocline.

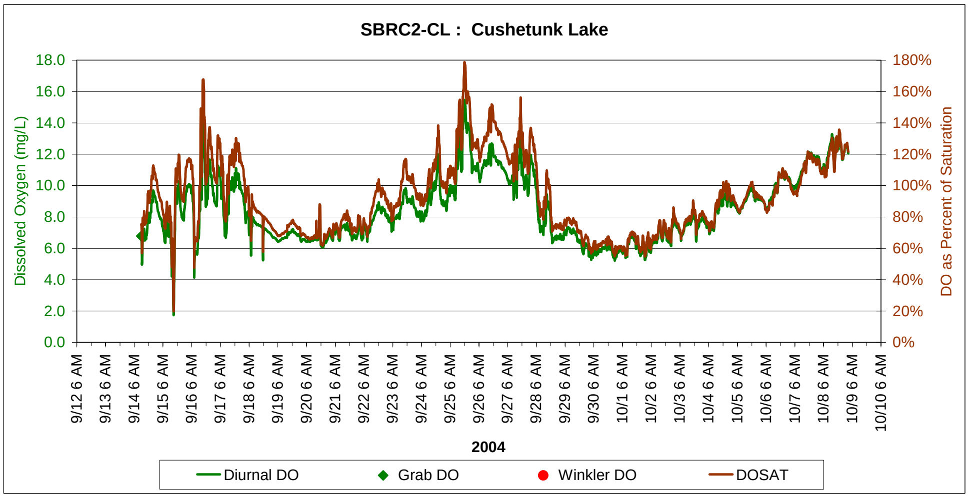


Note: Representative of epilimnetic condition.

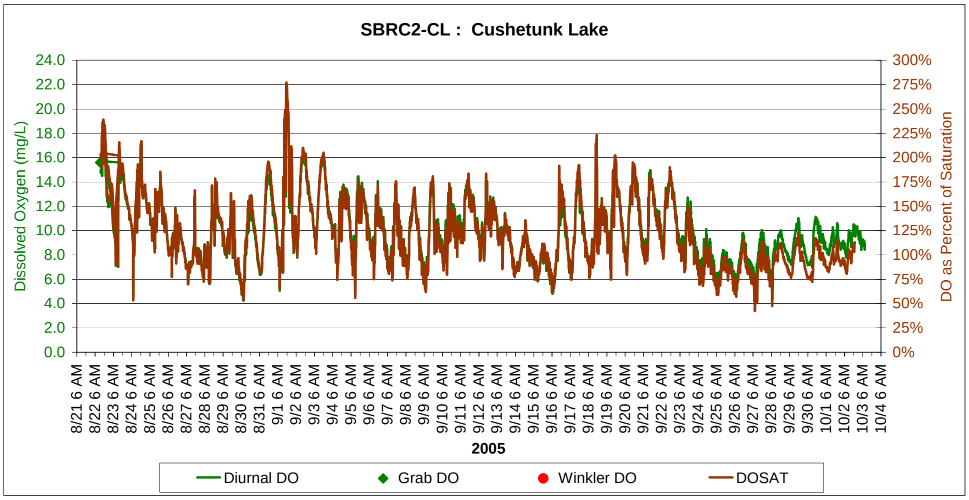
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



Note: Readings influenced by shifting thermocline.



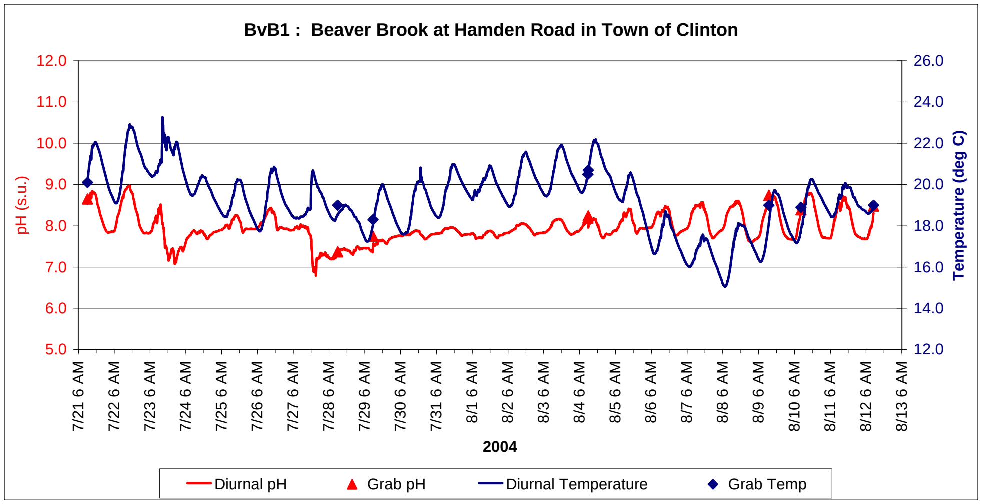
Note: Readings influenced by shifting thermocline.

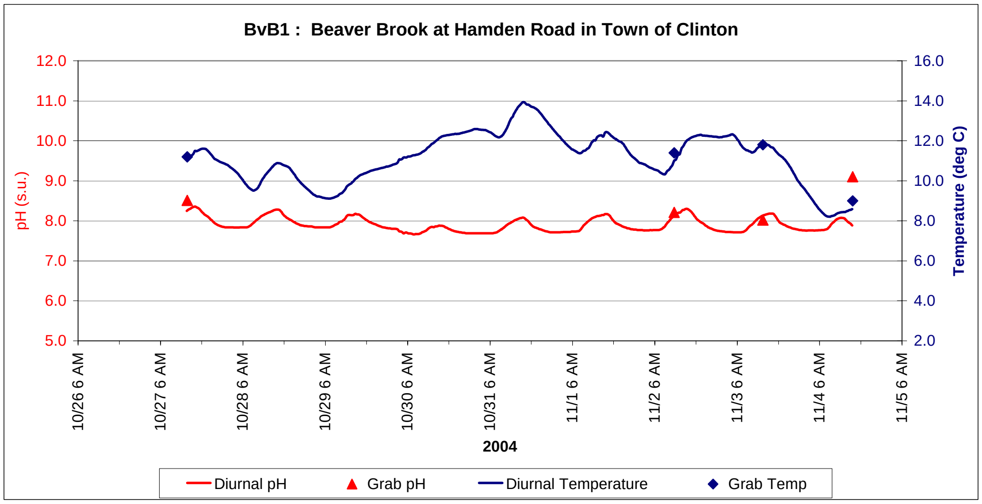


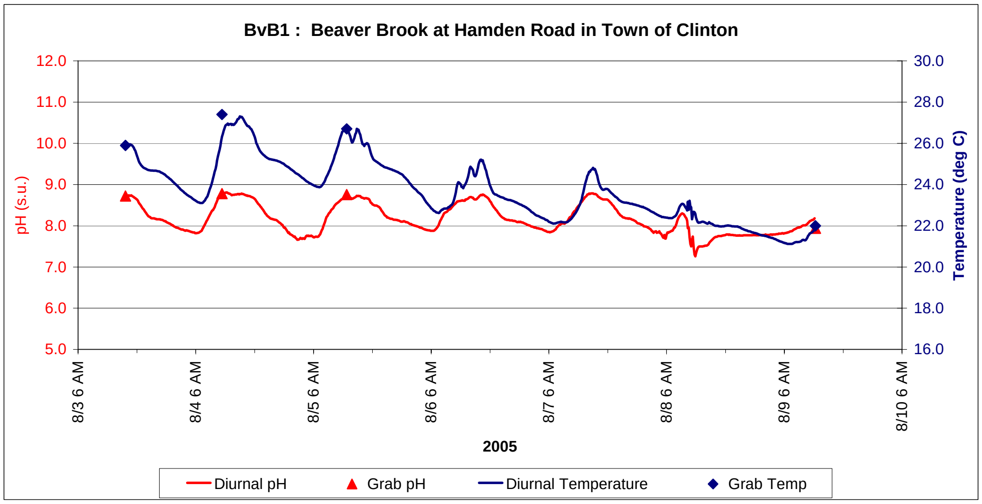
Note: Representative of epilimnetic condition.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

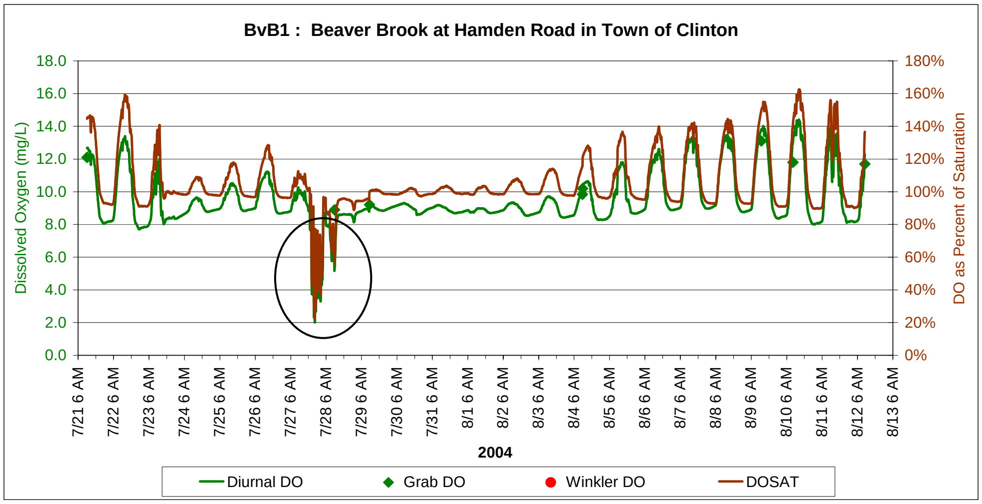
South Branch Raritan River Study Area
Diurnal Graphs



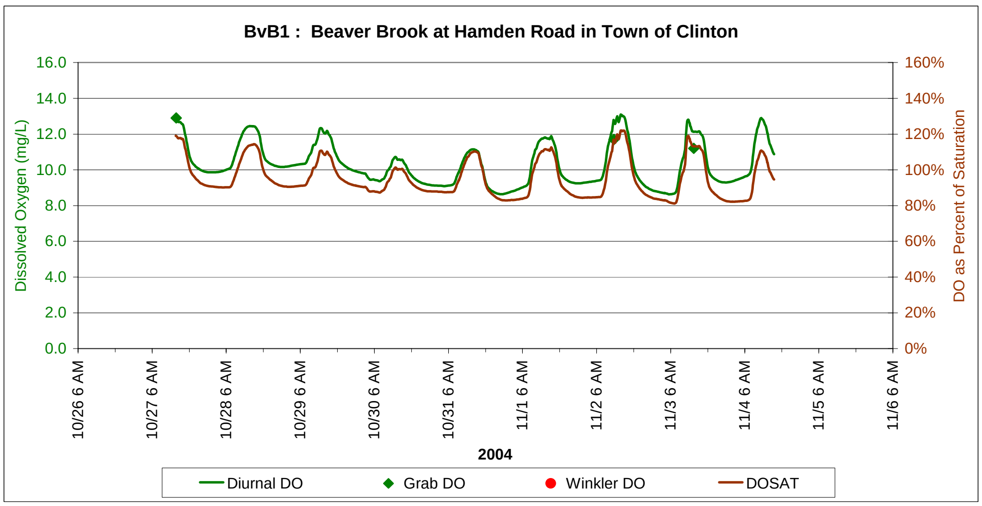


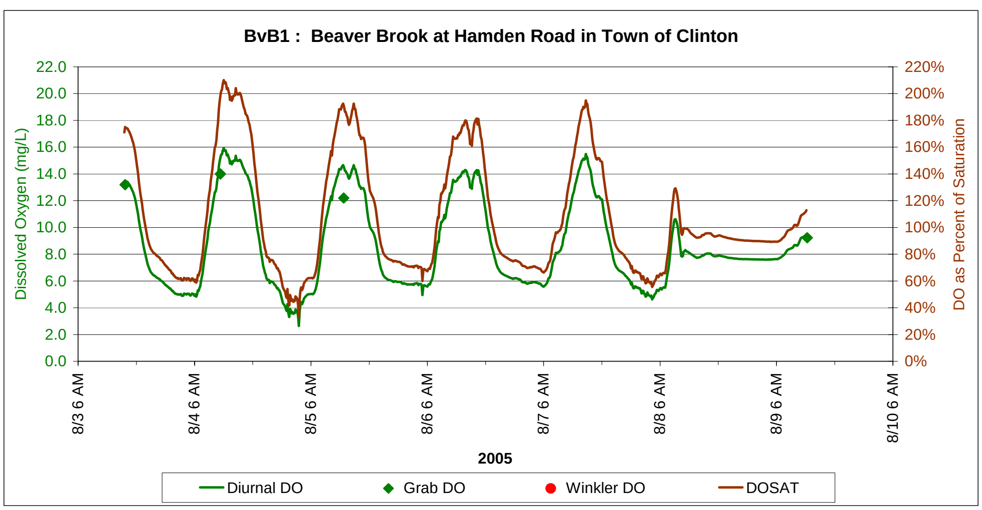


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

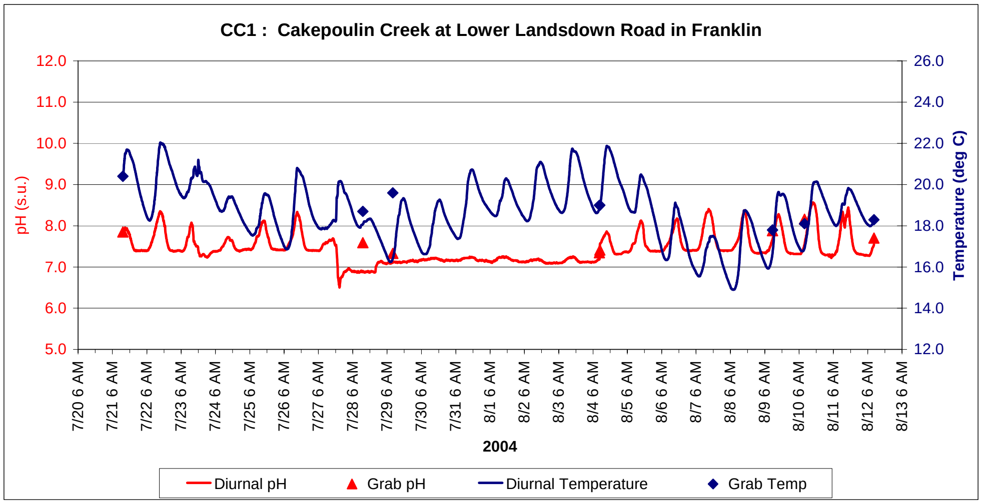


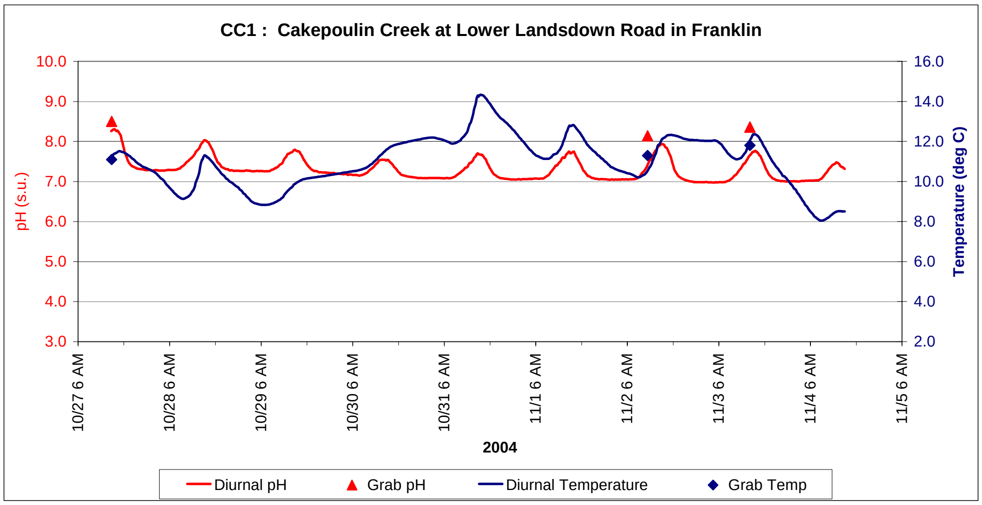
Circled: Storm event



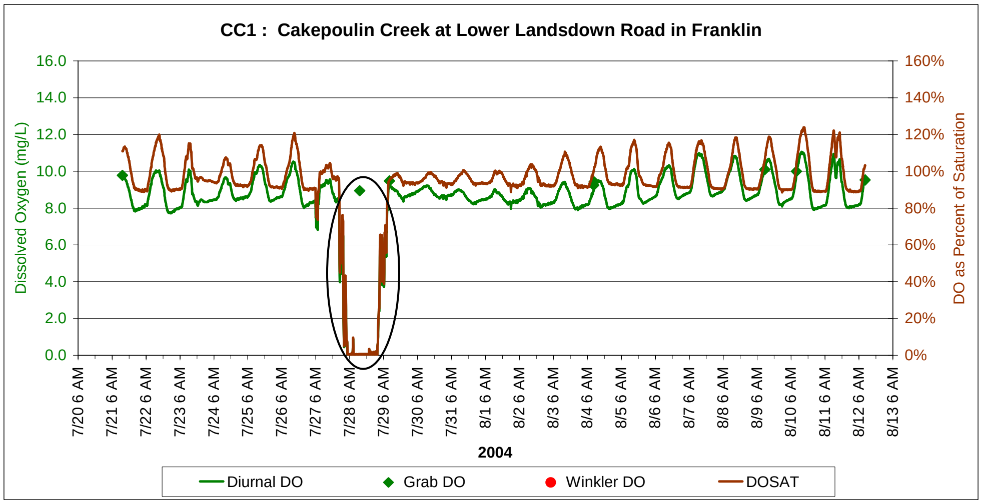


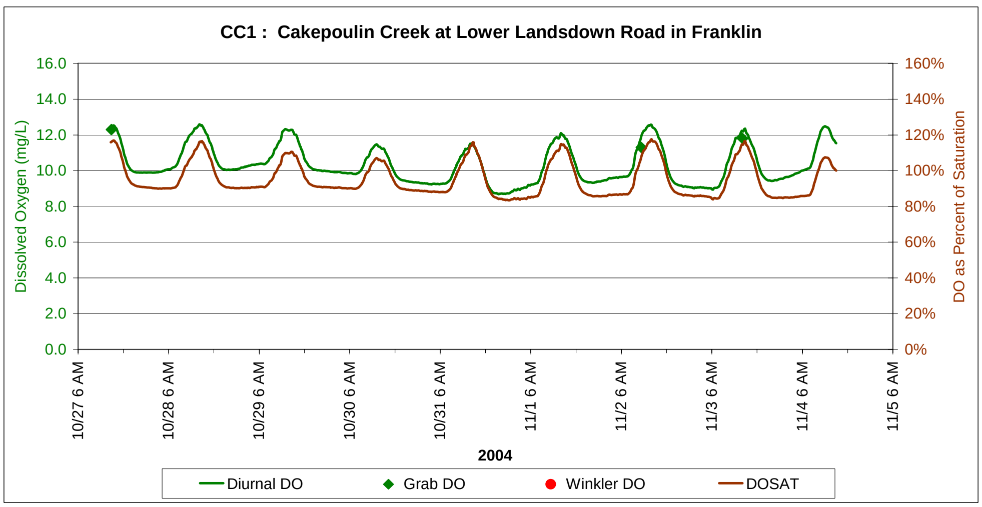
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.





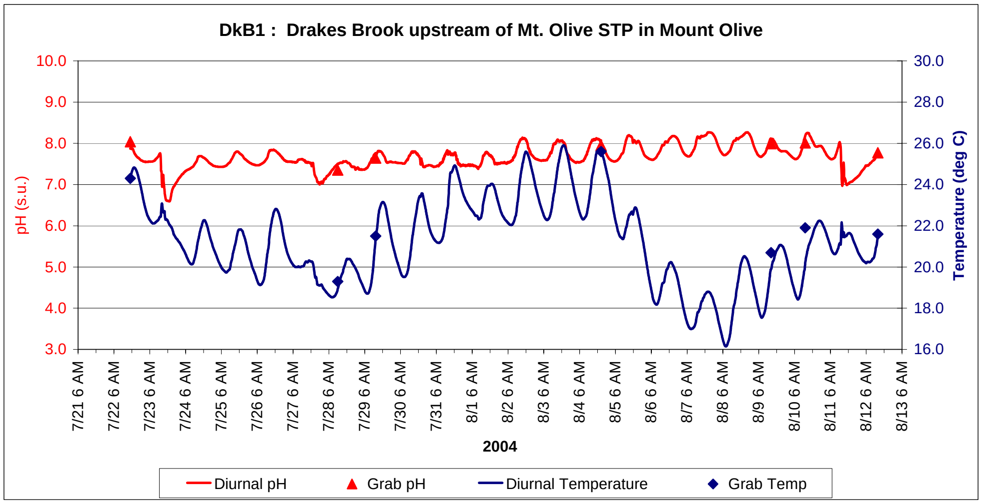
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

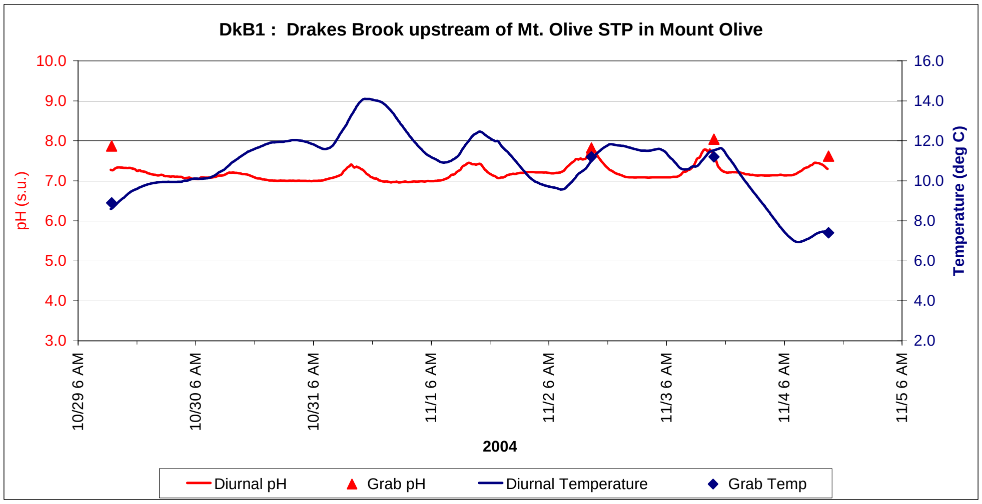


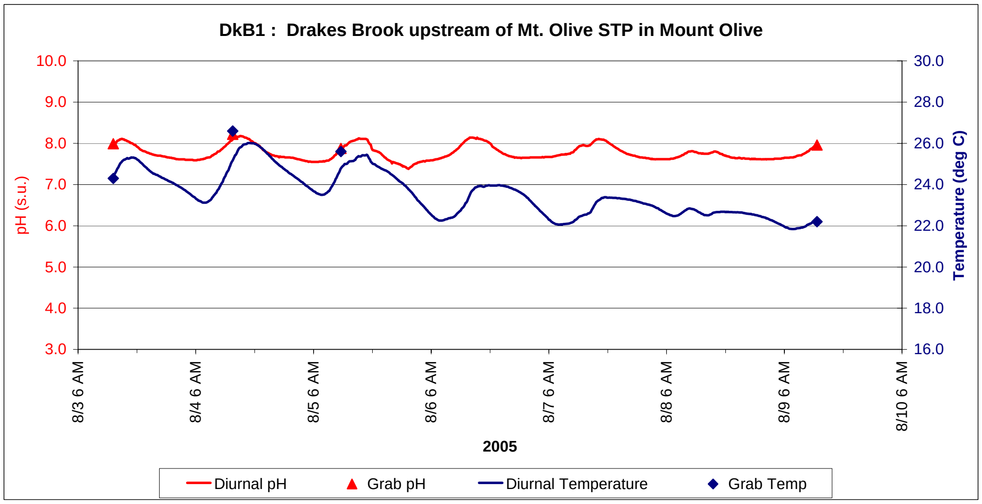


* As agreed to by NJDEP on 7/28/2005, diurnal monitoring at CC1 during the second summer event was replaced by diurnal monitoring at additional locations.

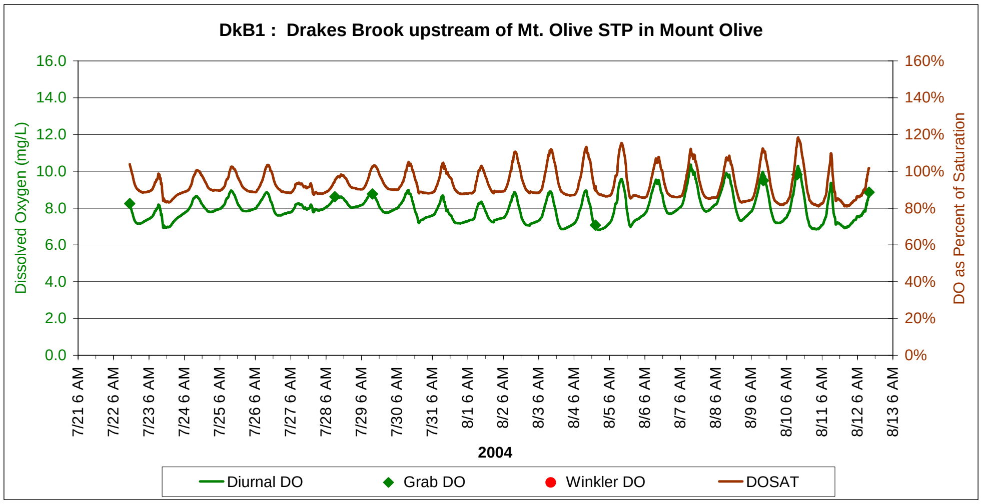
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

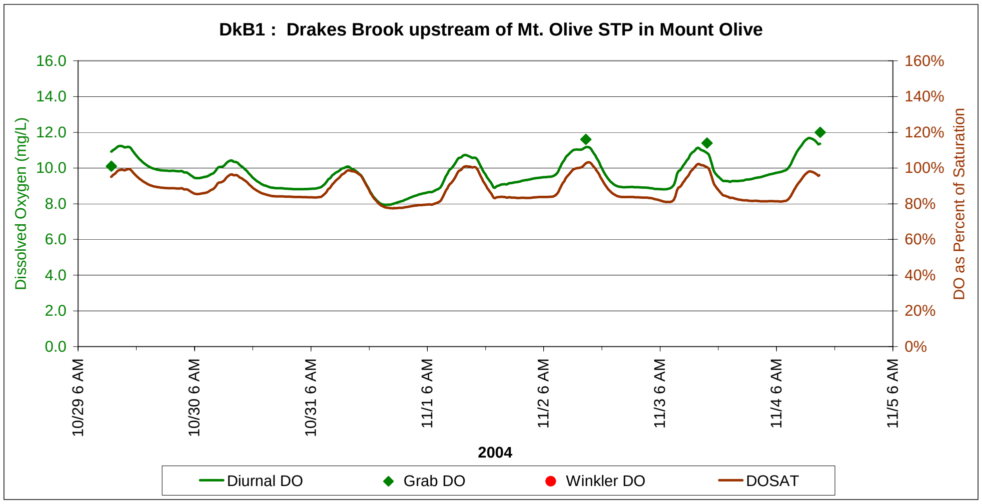


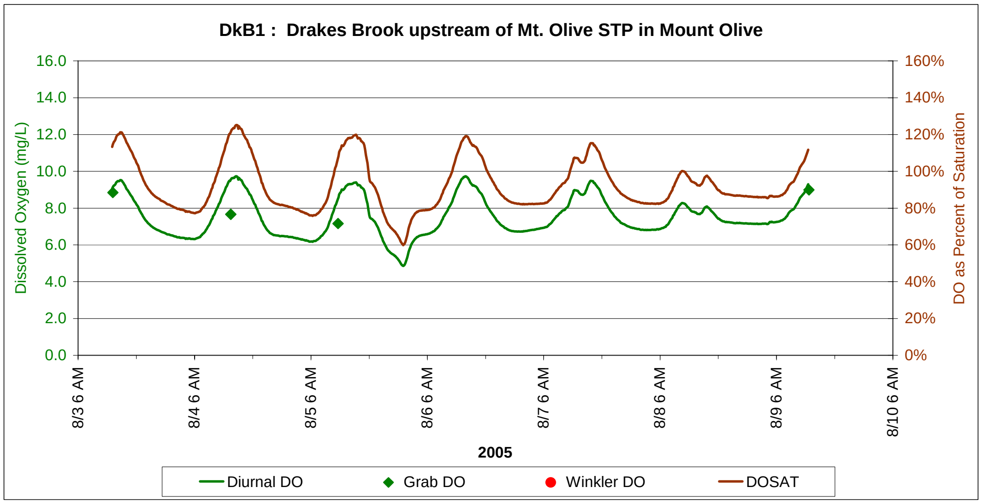




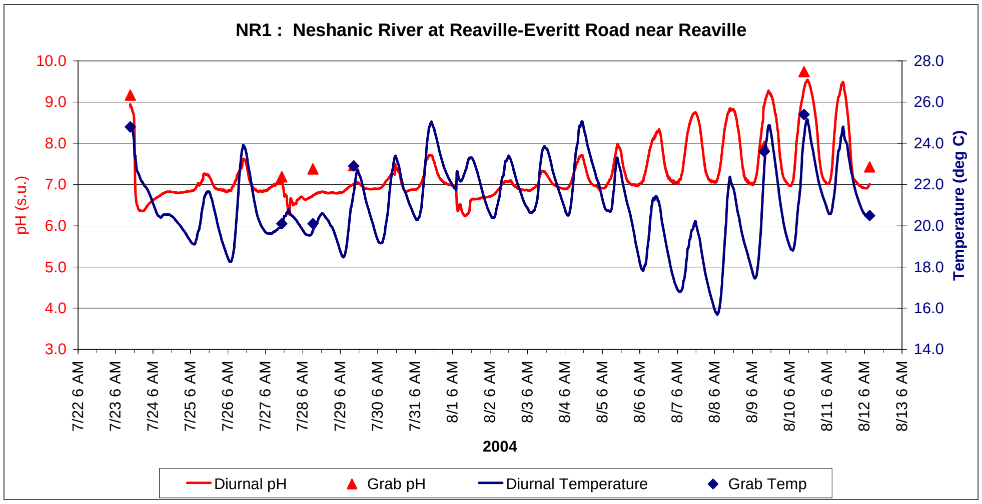
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

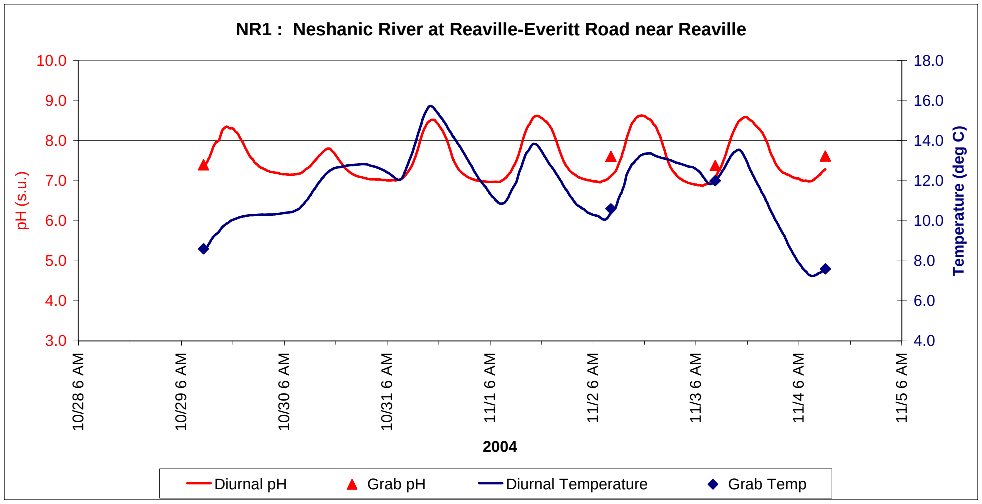


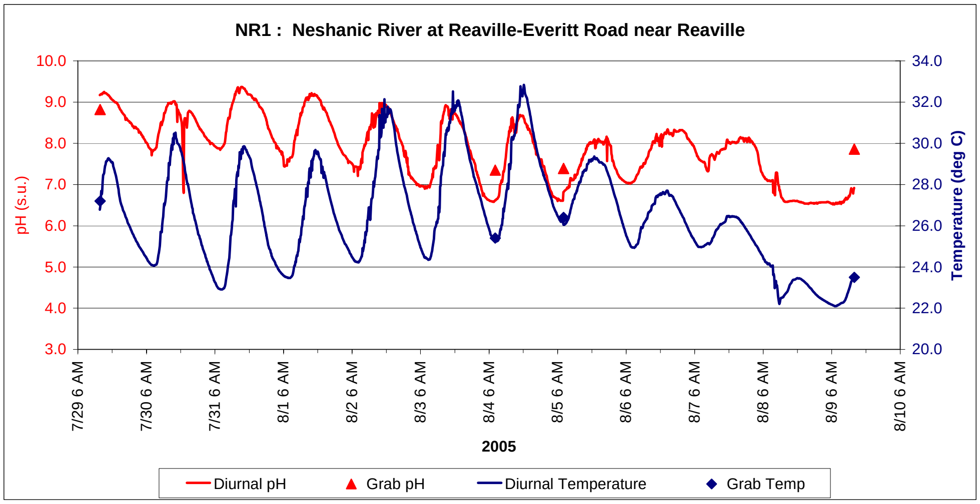




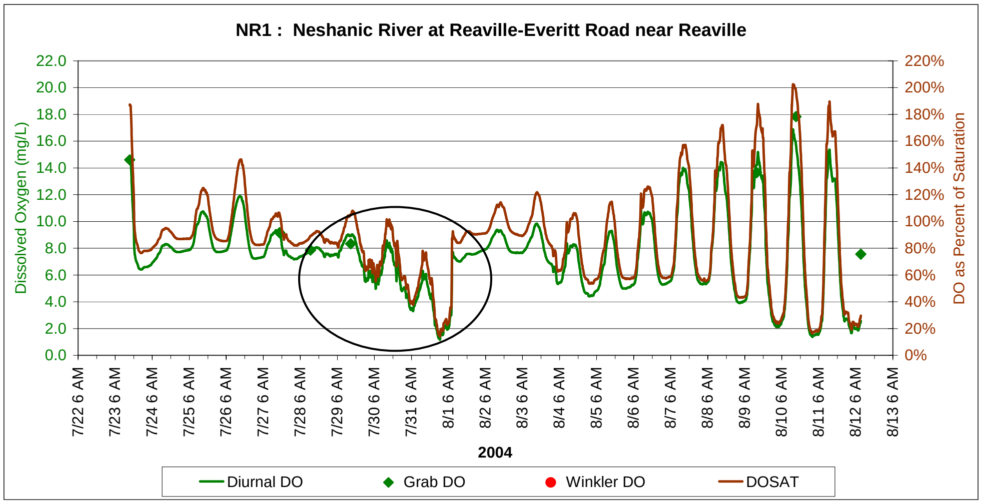
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



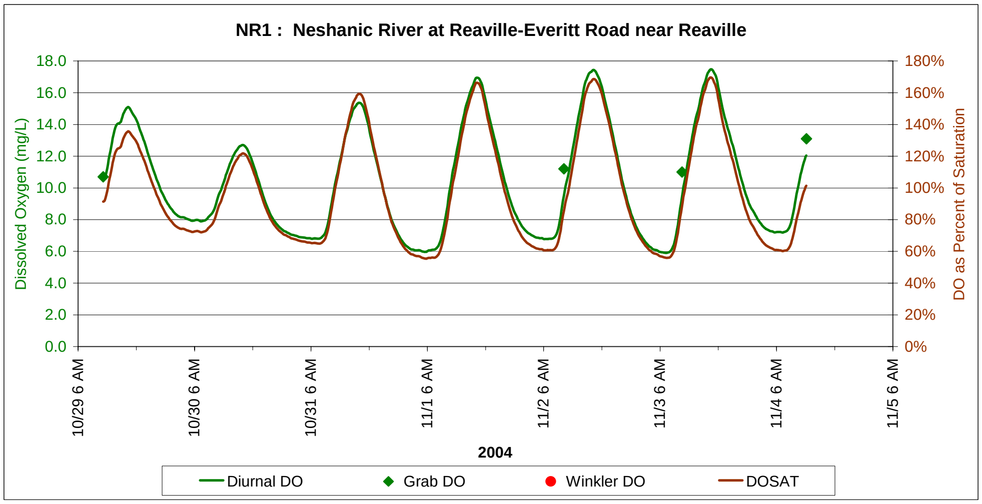


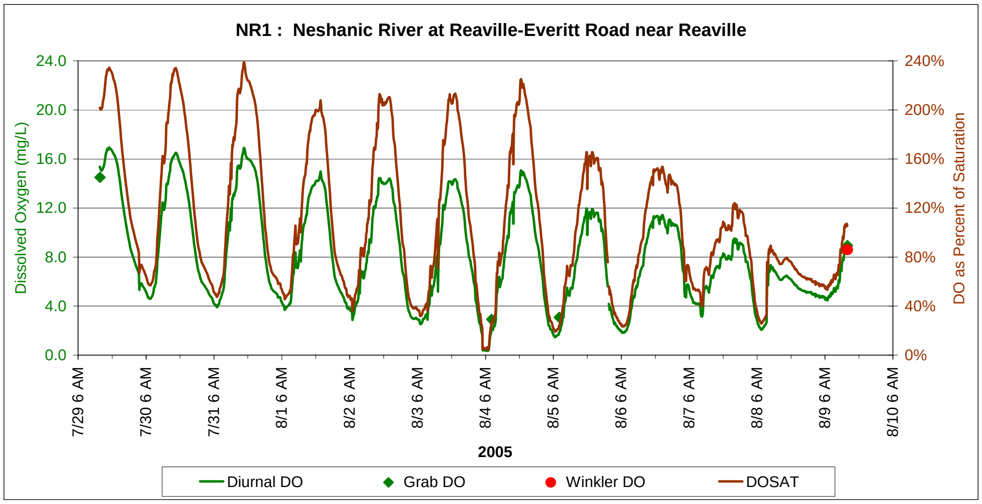


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

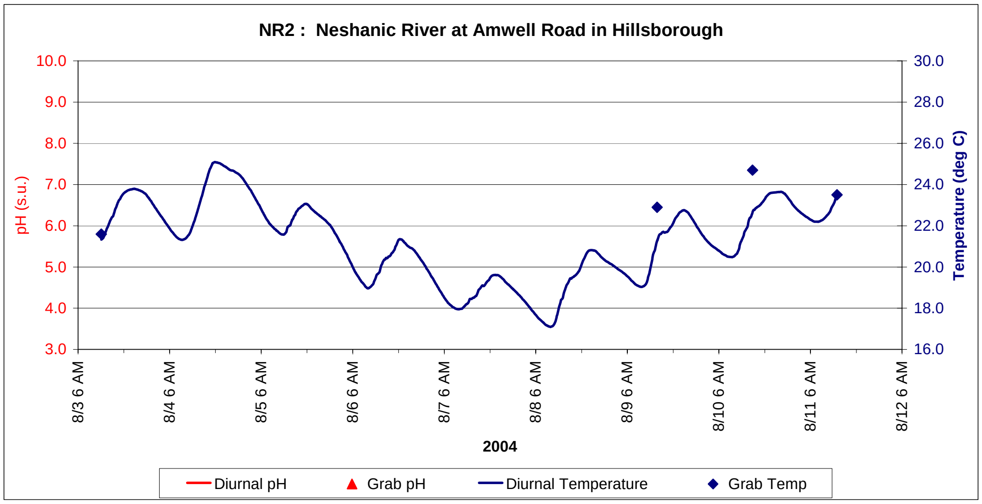


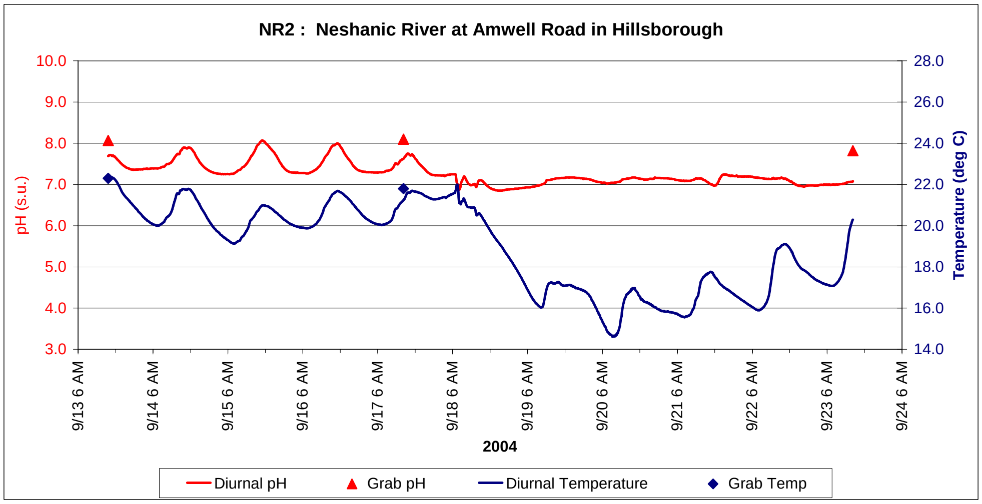
Circled: Troll buried

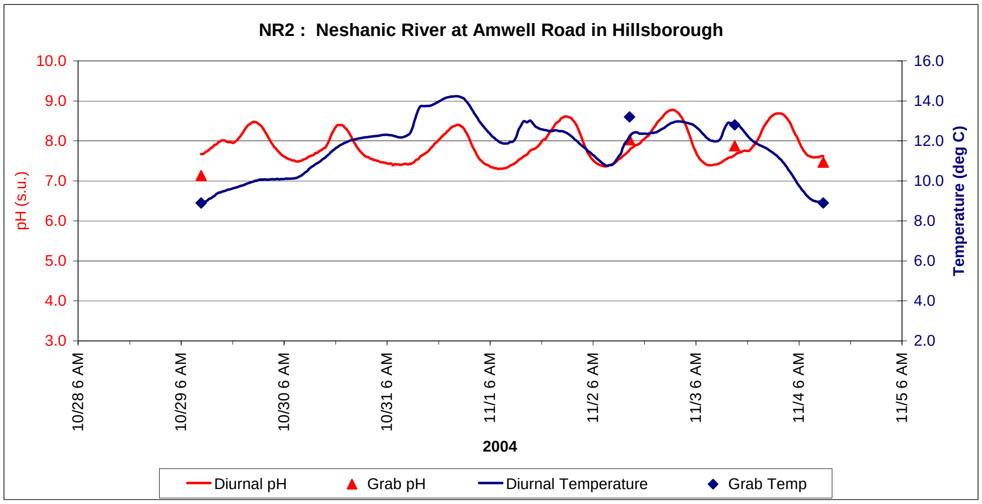




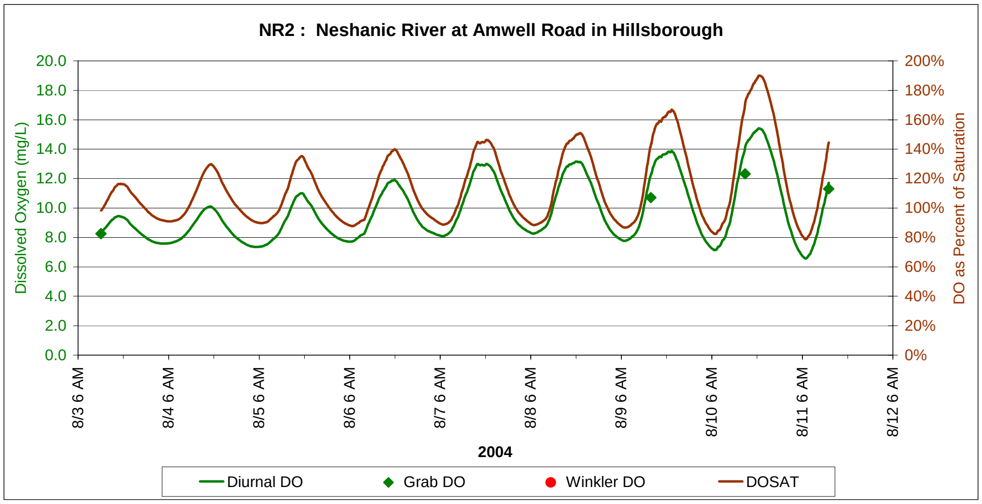
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

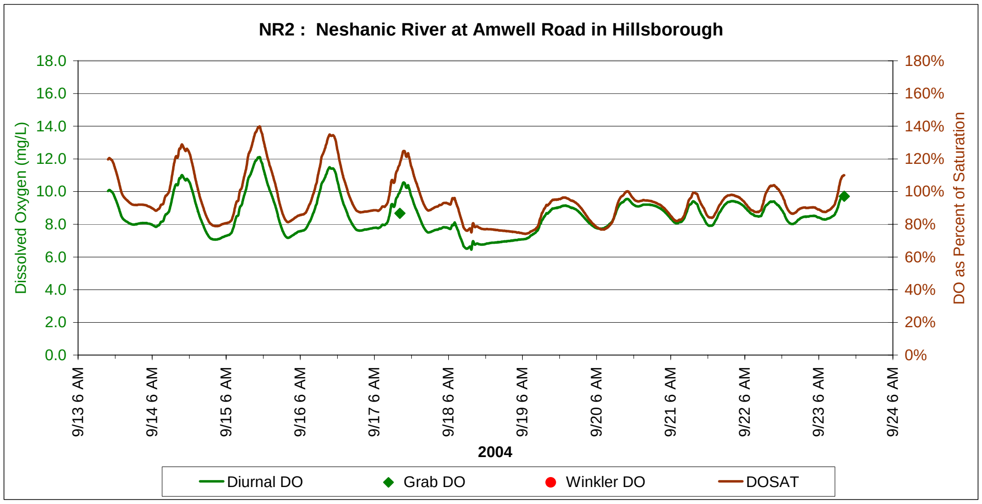


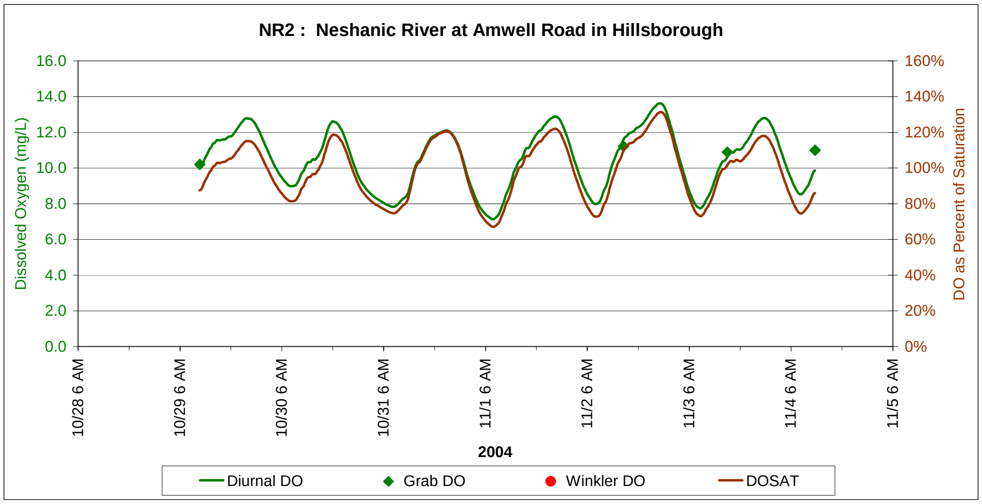




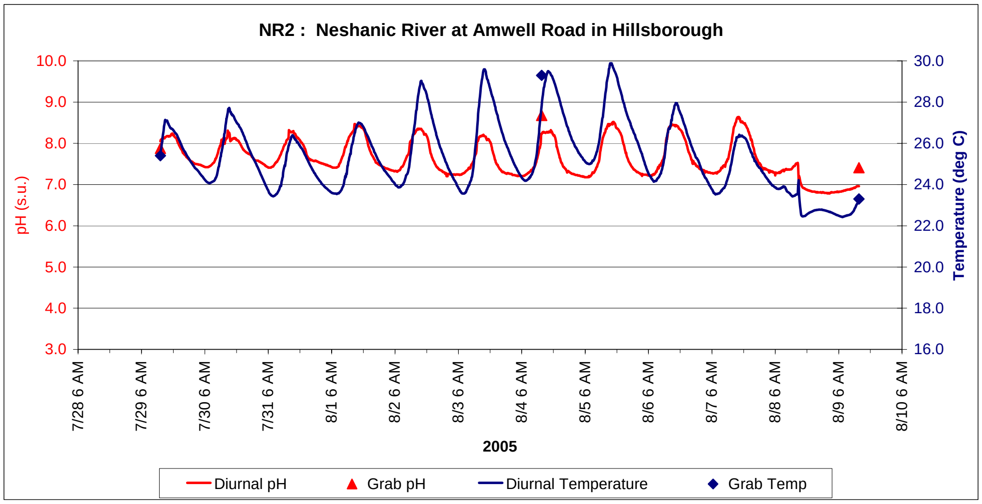
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



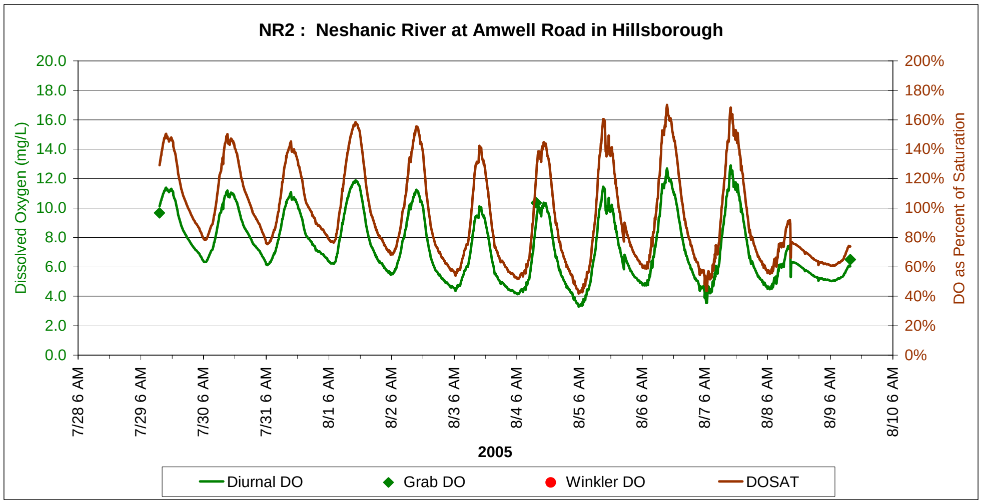




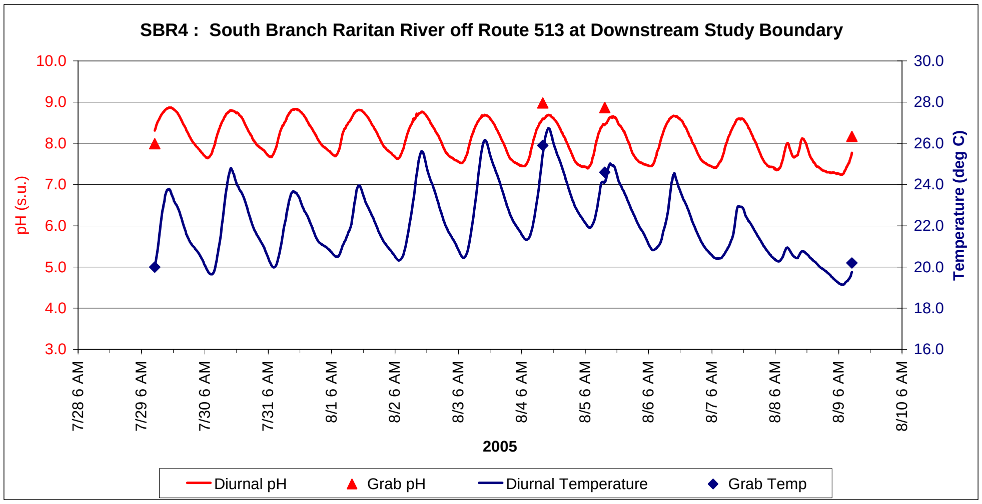
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

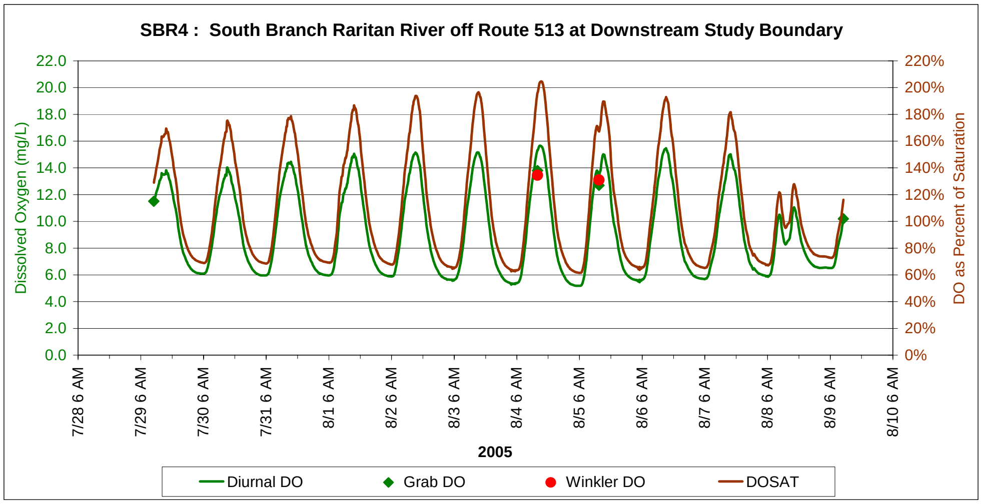


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



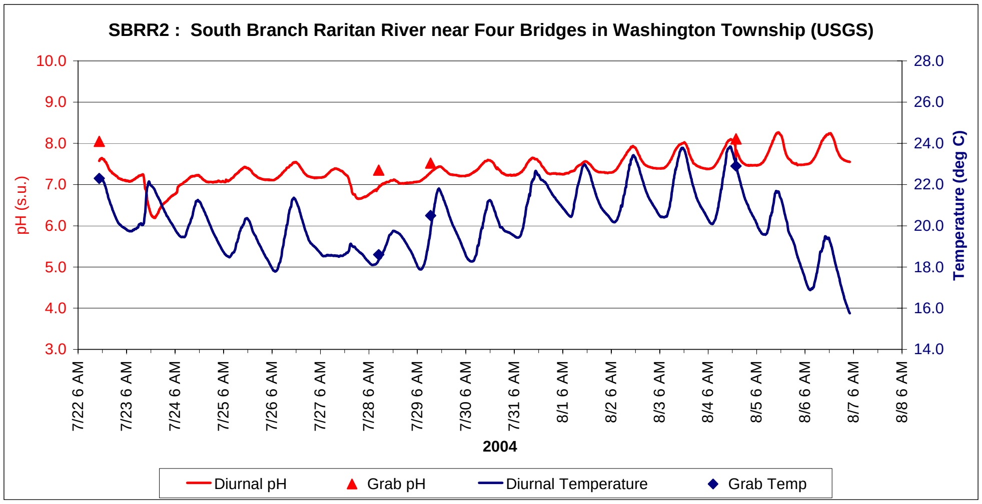
* This station was monitored concurrently in order to enhance calibration of Upper South Branch Raritan River.

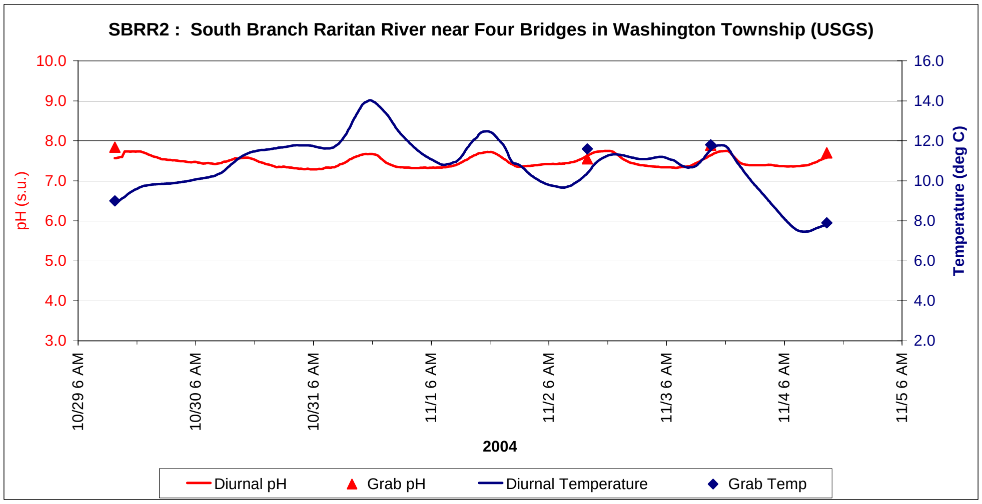
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

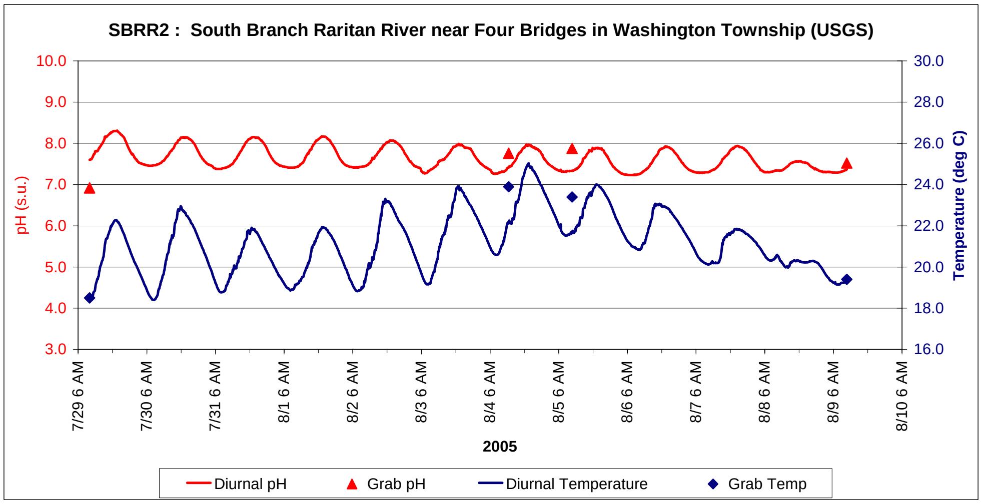


* This station was monitored concurrently in order to enhance calibration of Upper South Branch Raritan River.

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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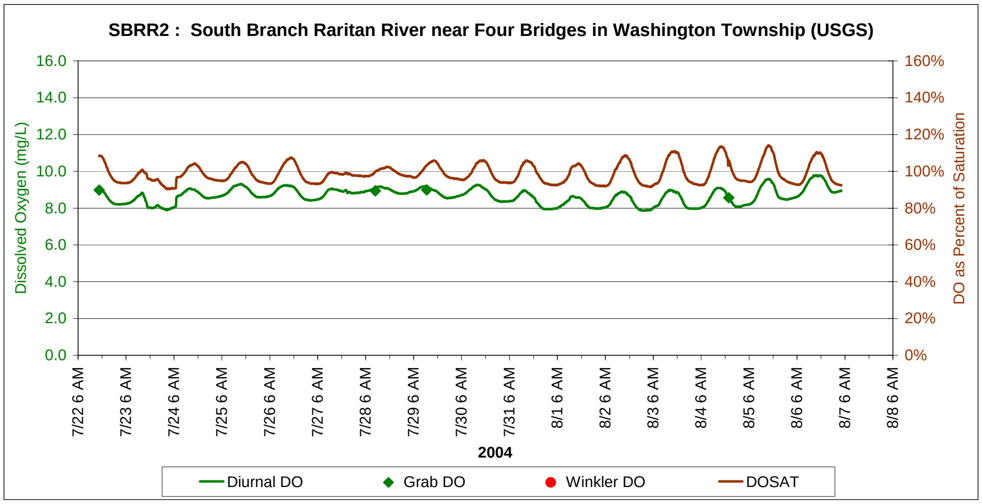
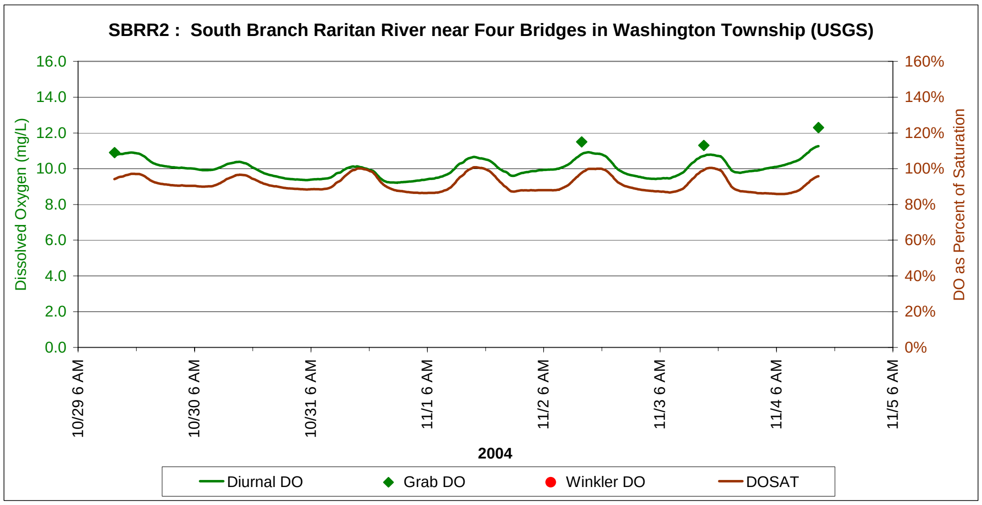
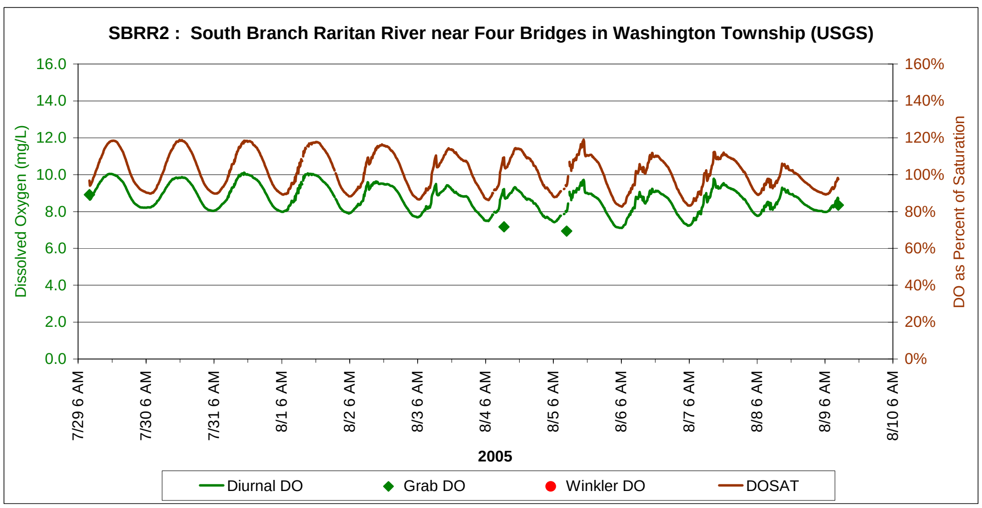
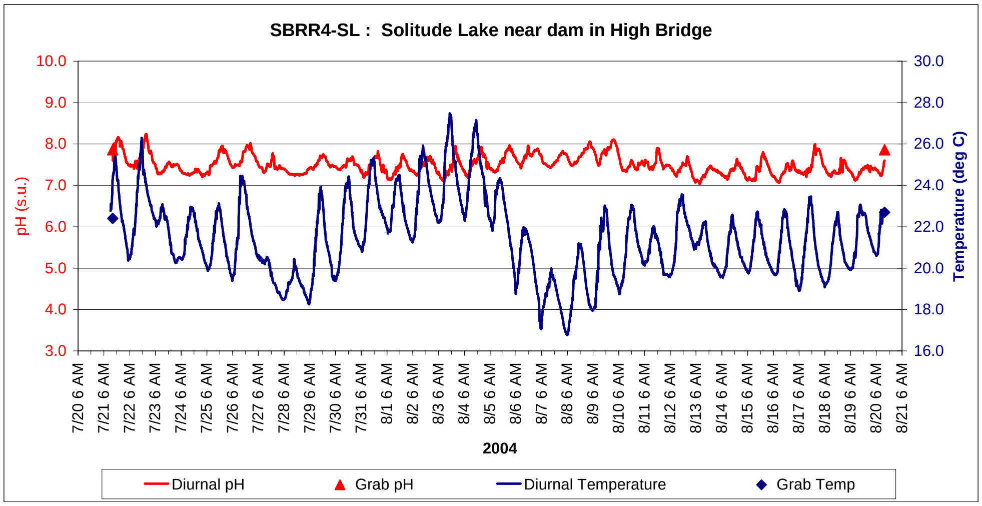
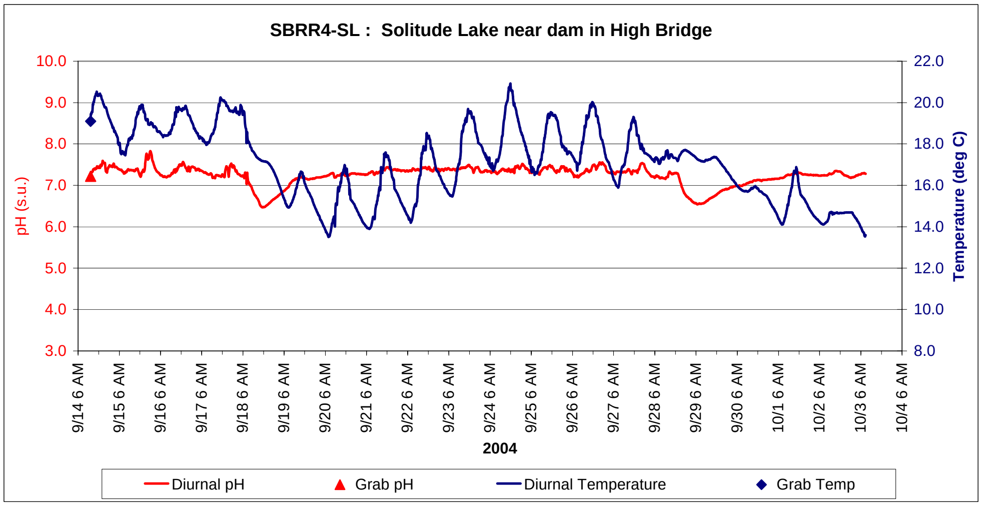


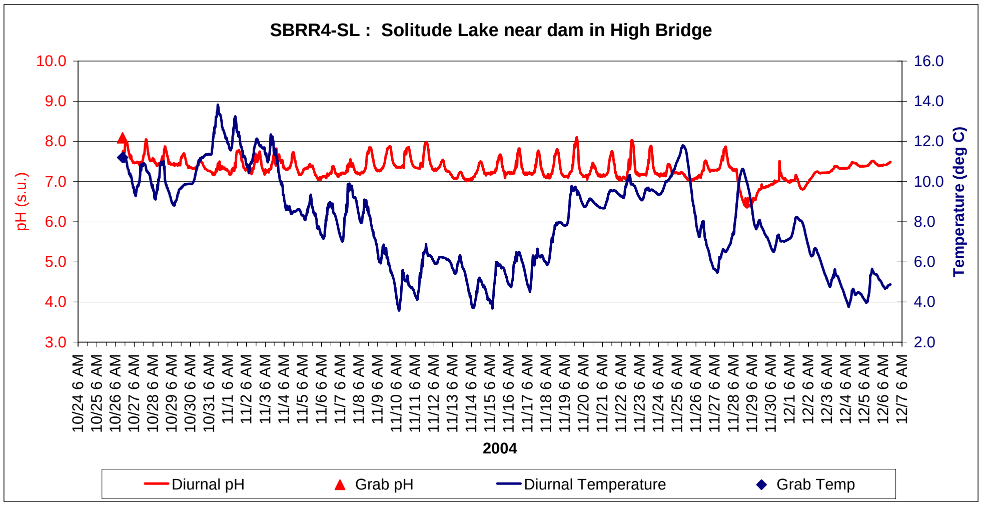




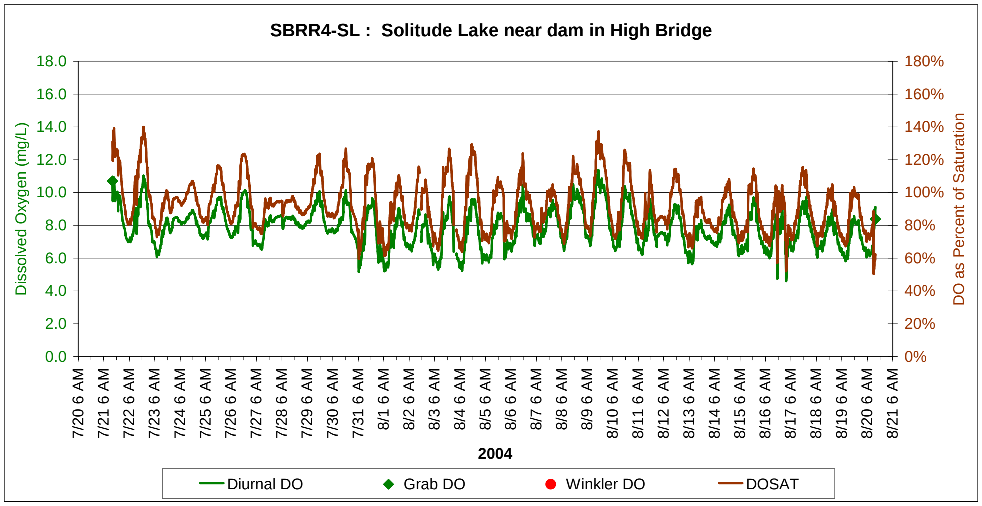
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

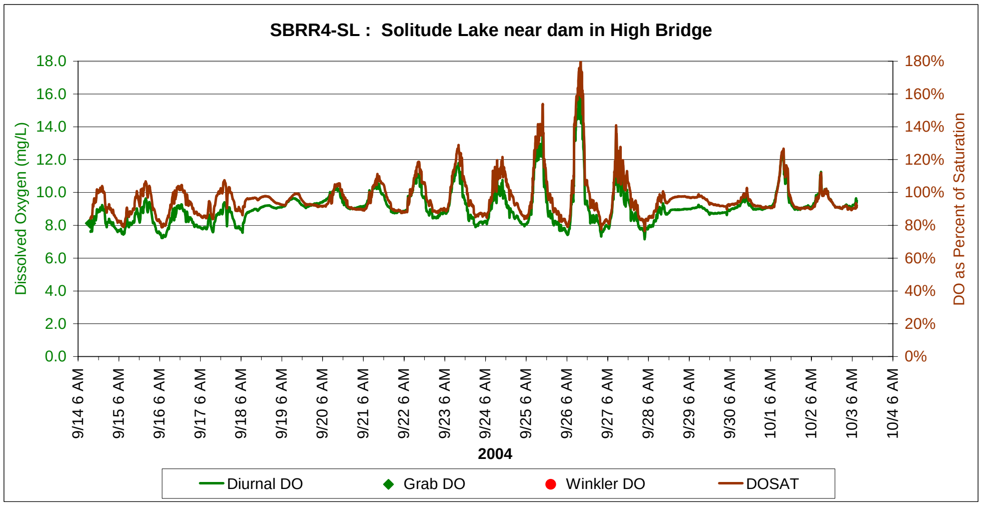


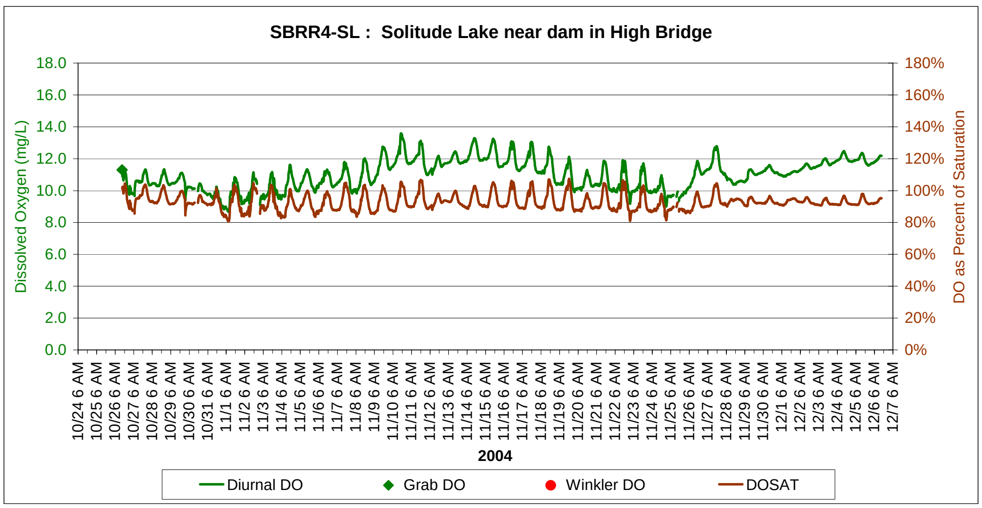




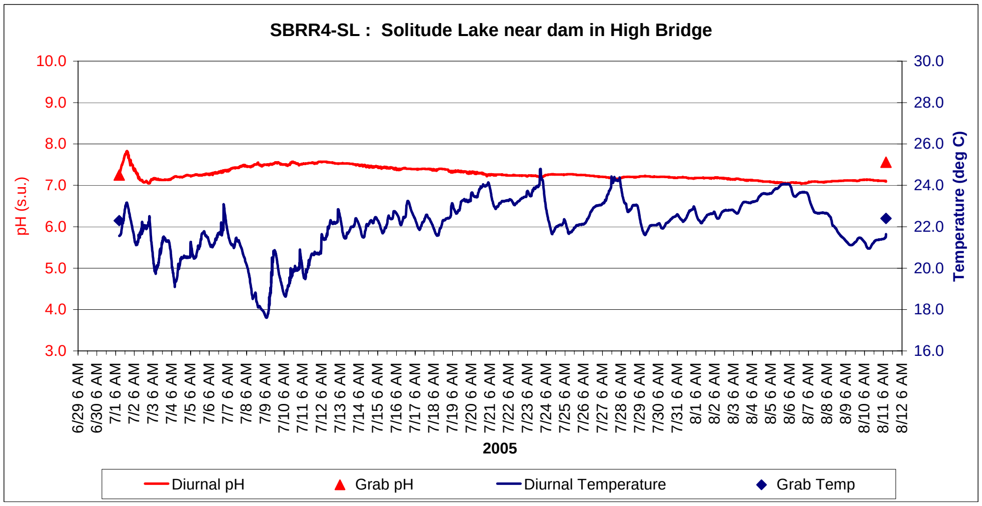
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

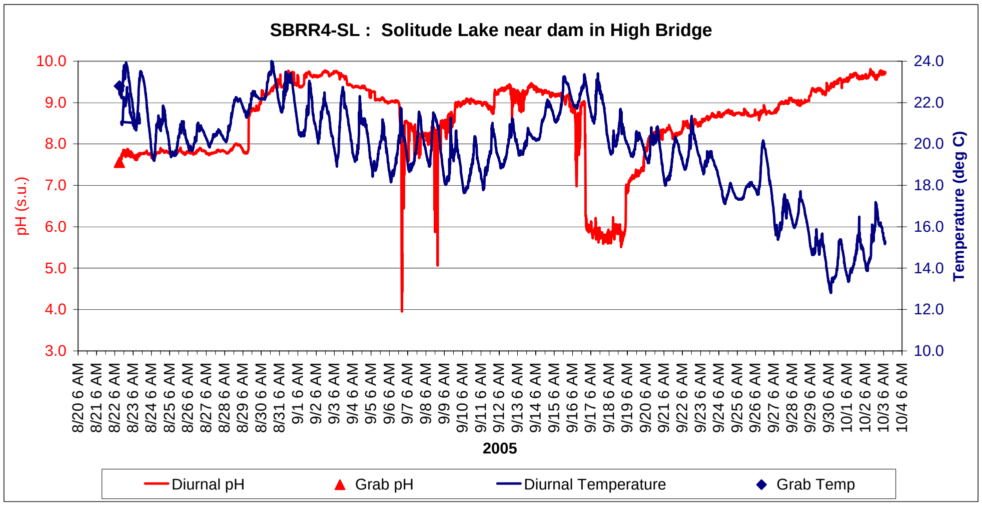




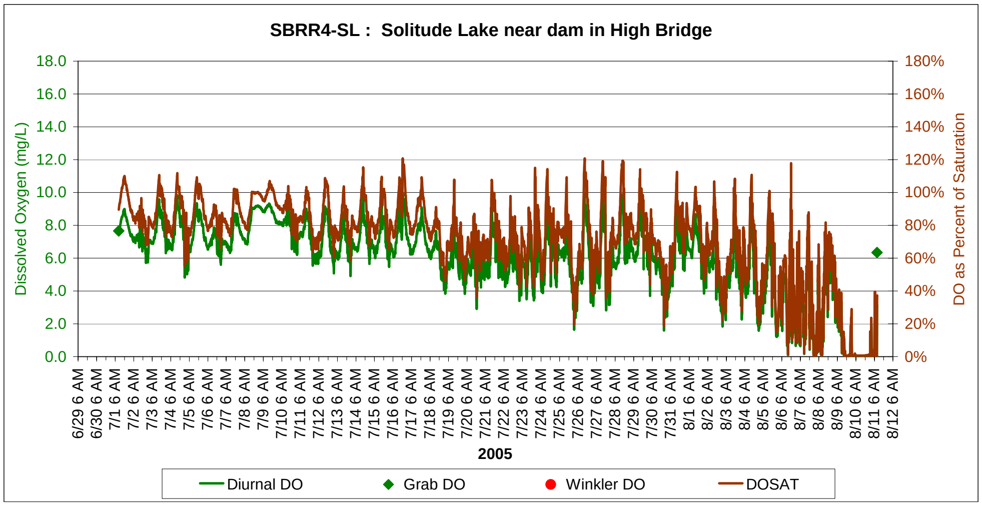


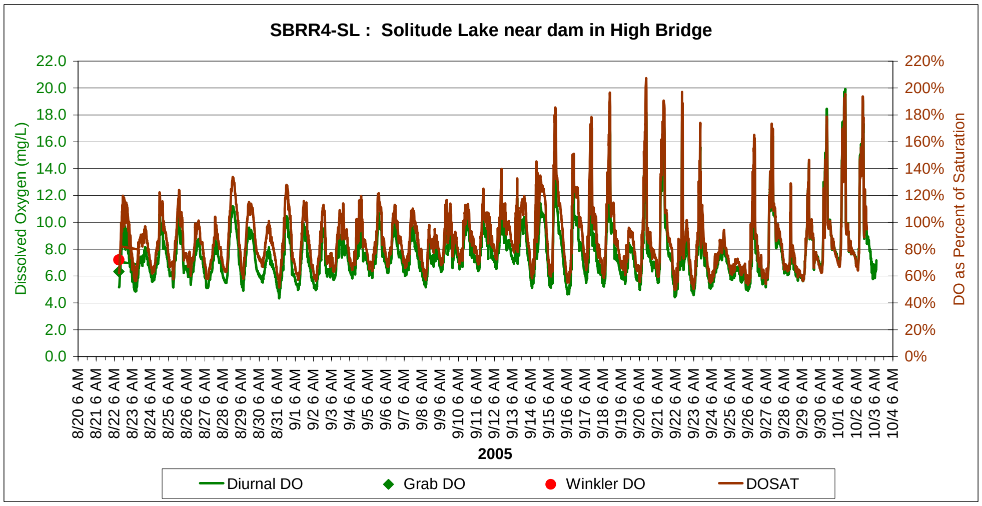
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.





* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.





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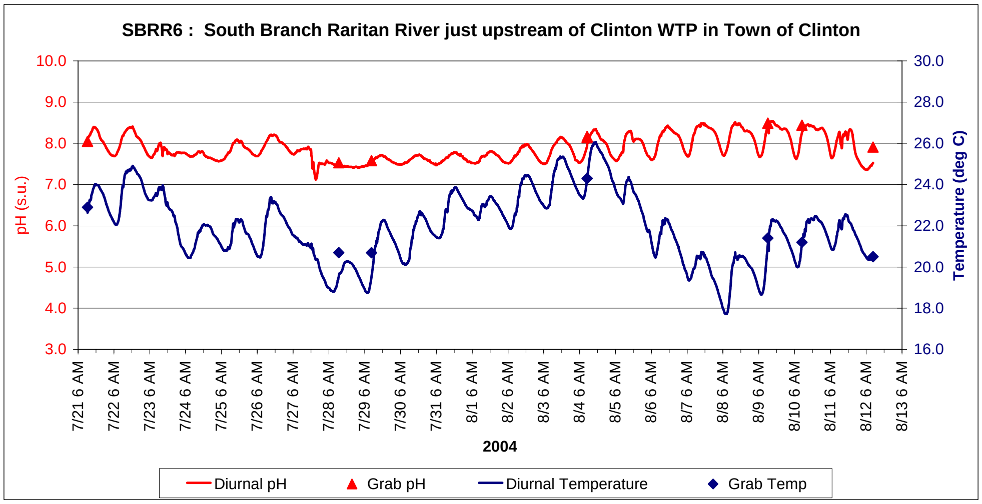
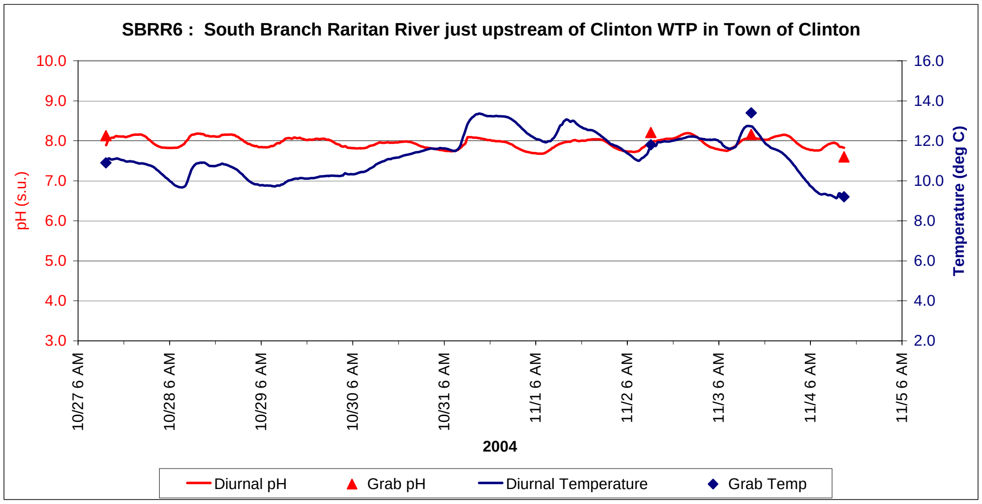
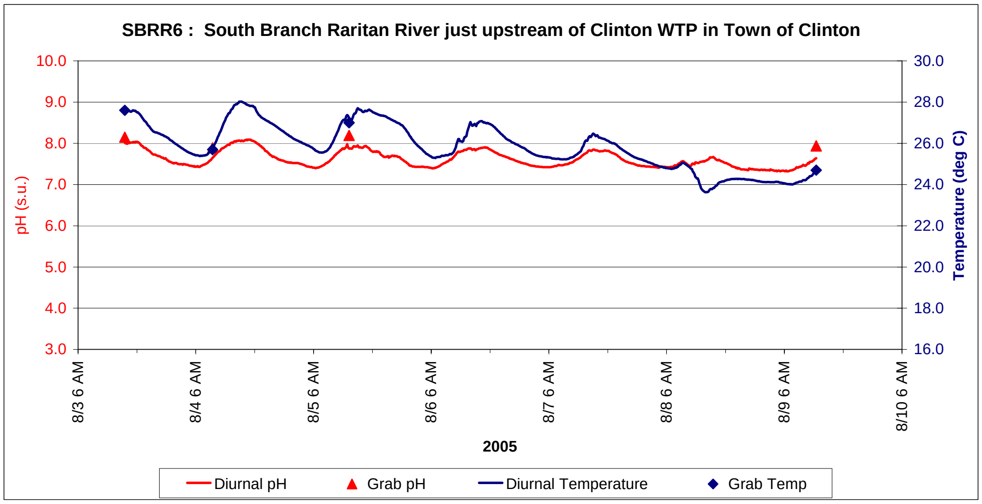
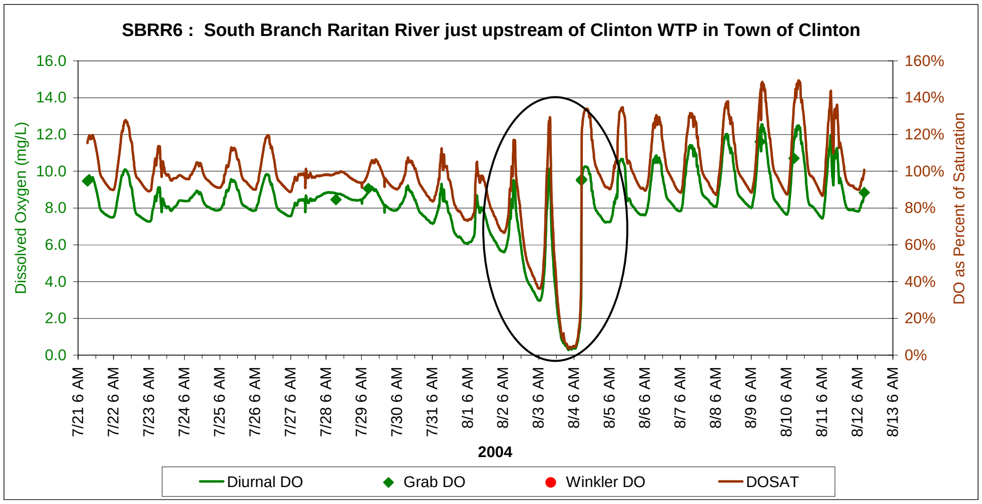


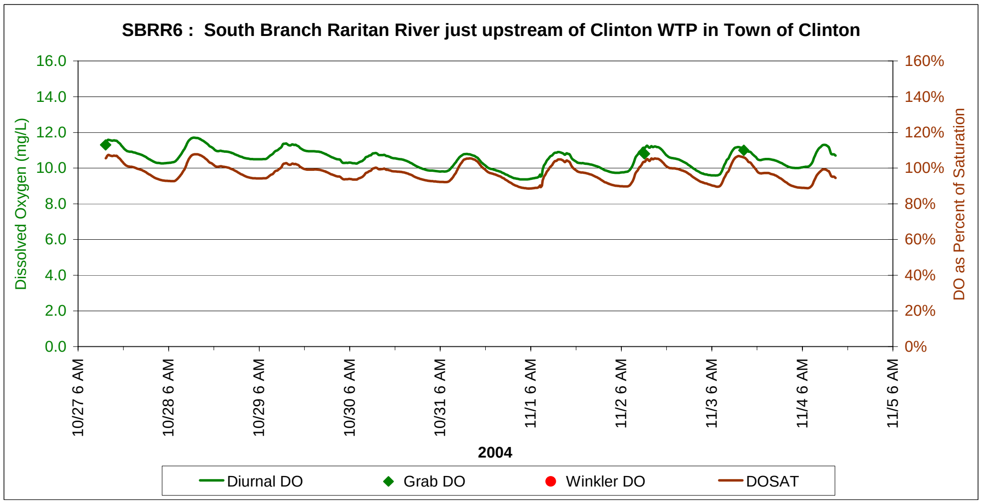


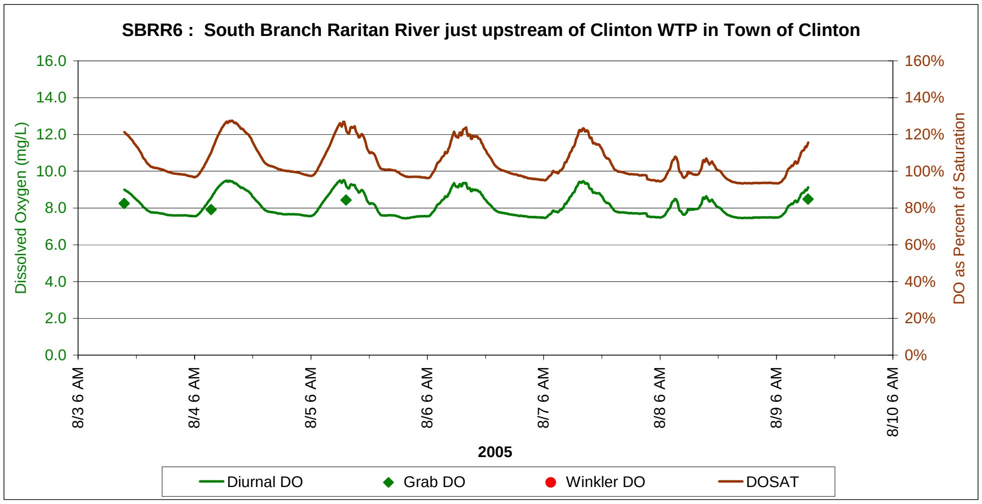


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

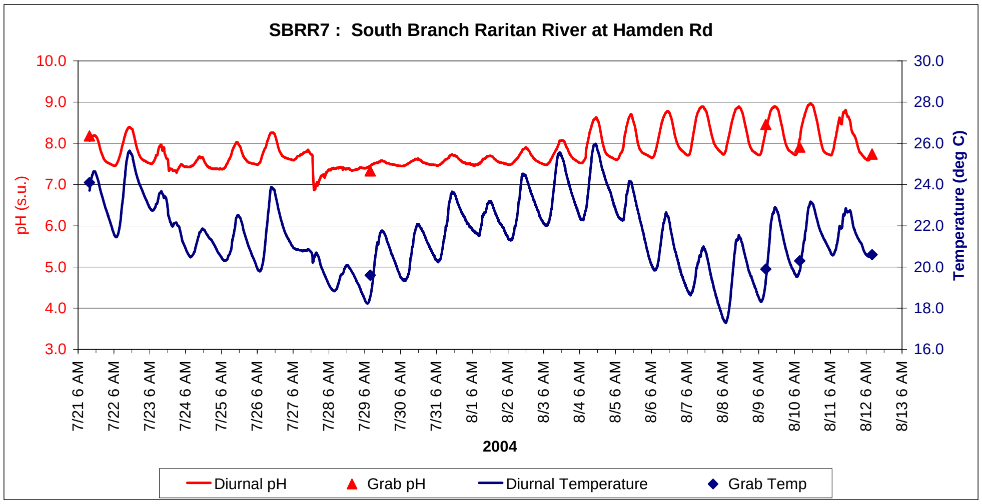


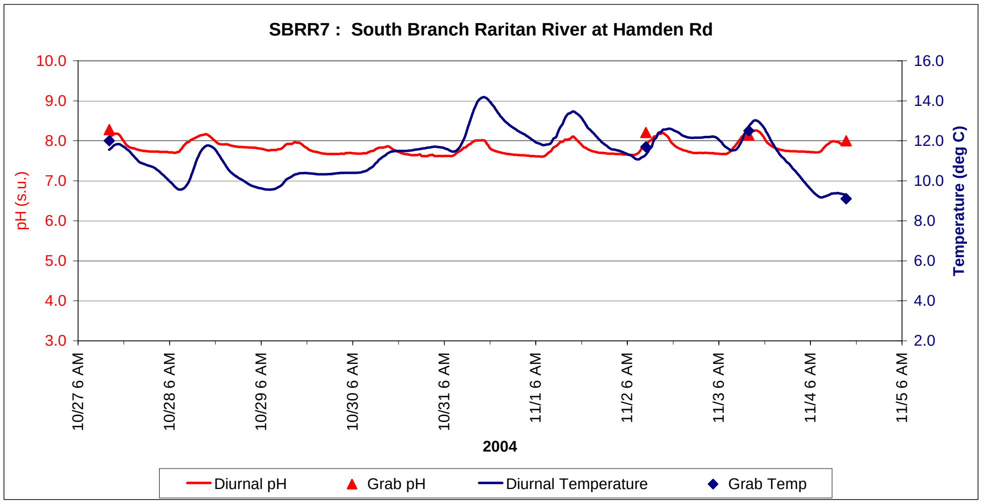
Circled: Release from Spruce Run Reservoir

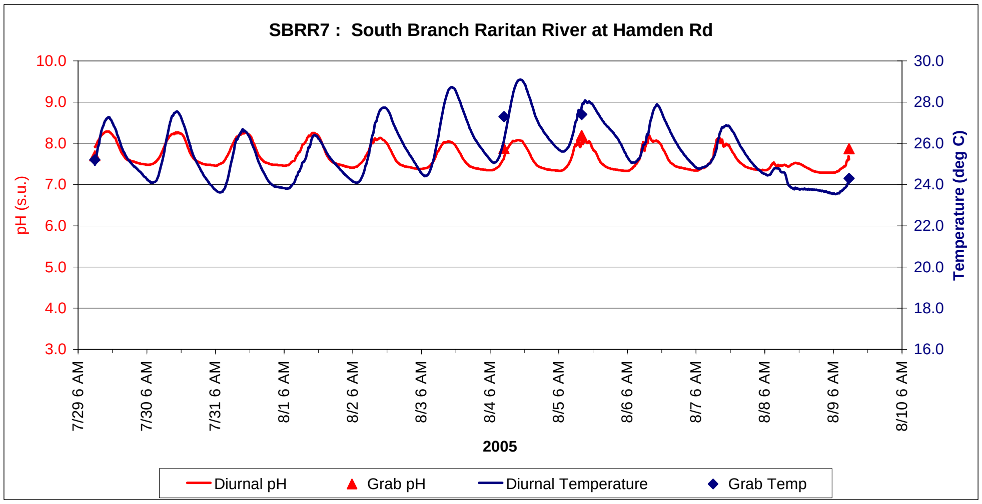




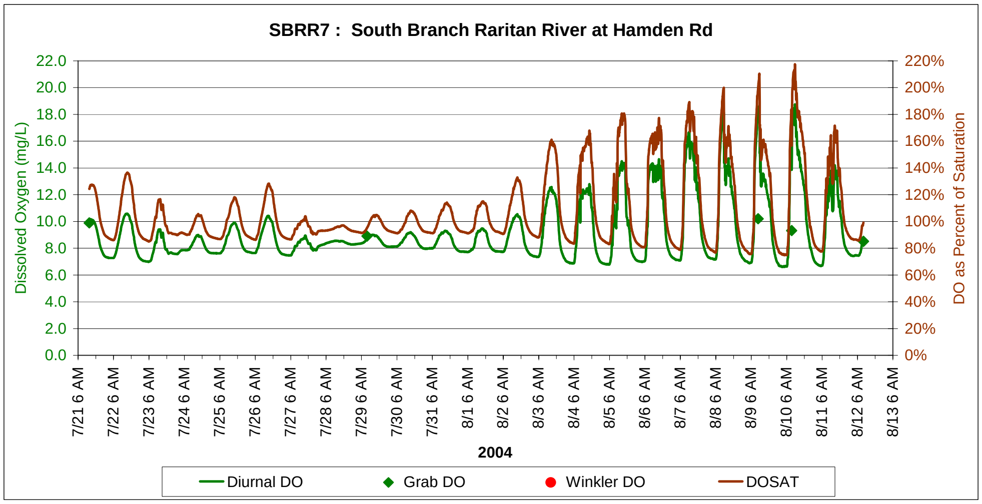
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

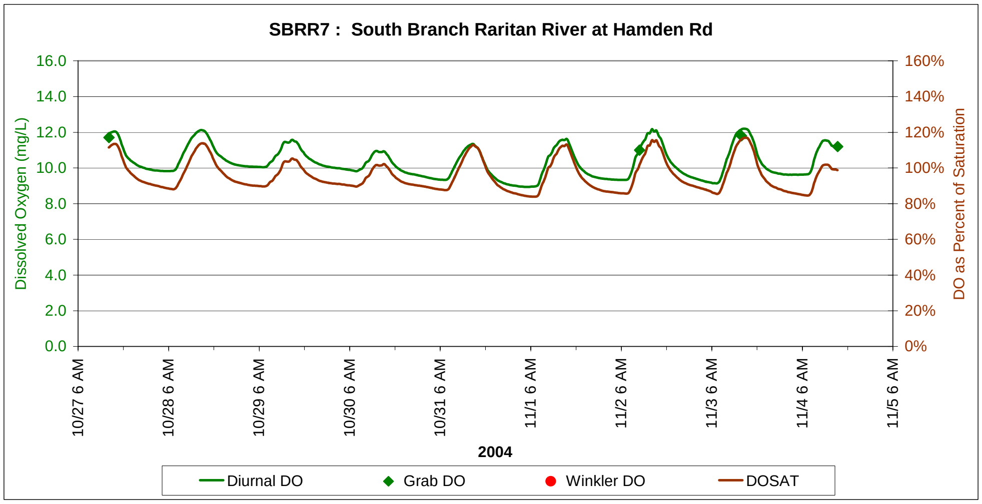


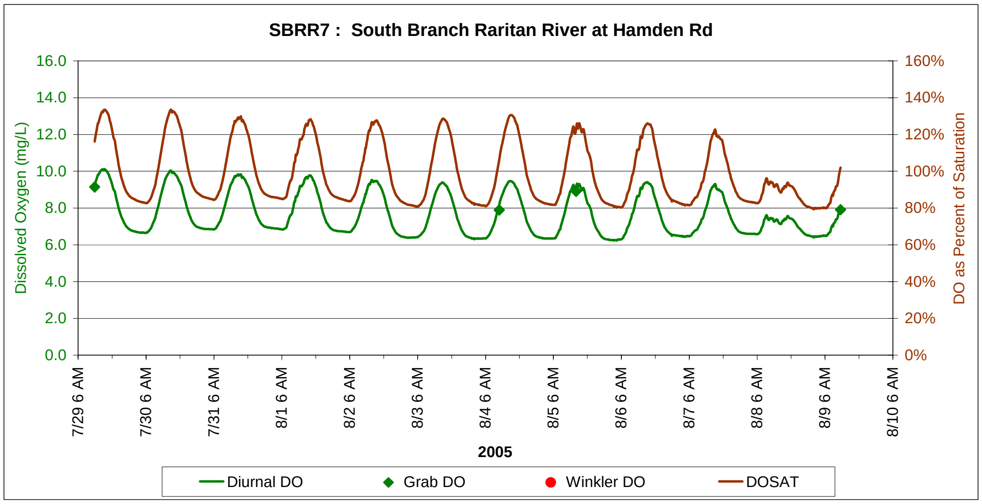




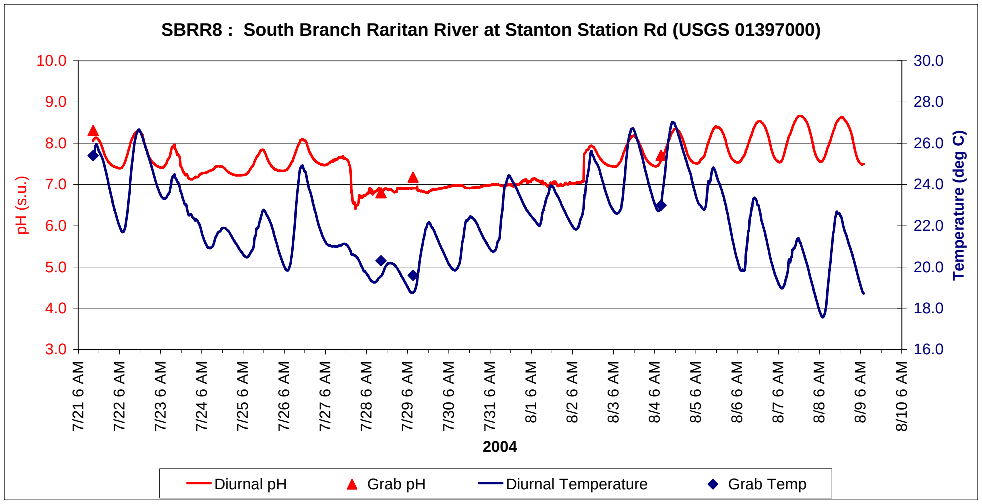
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

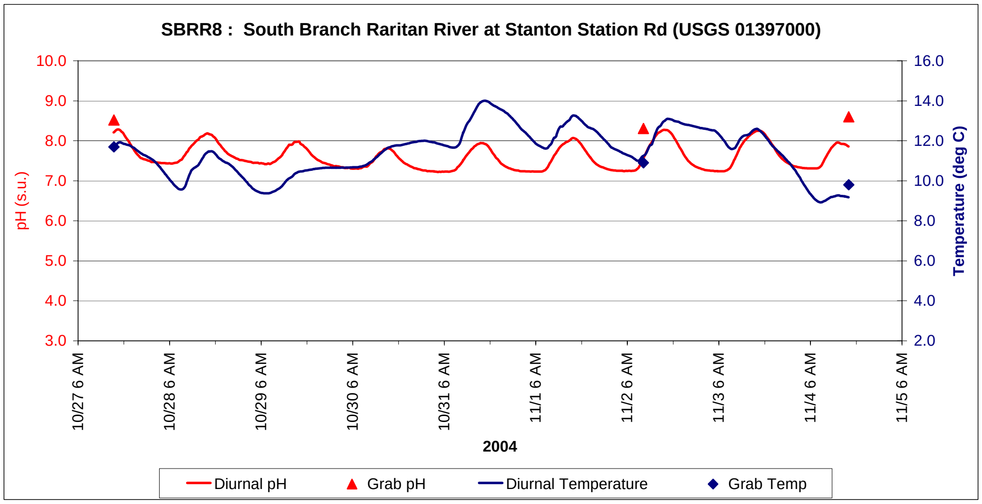


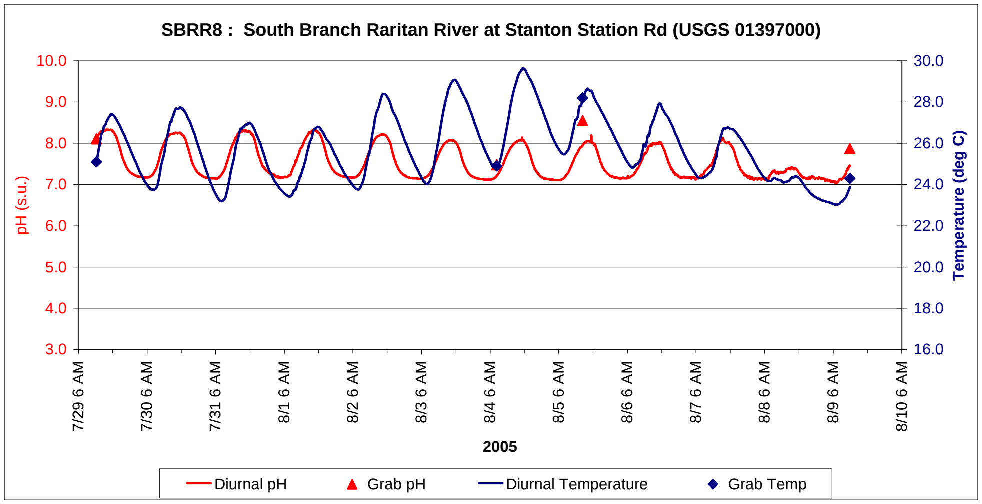




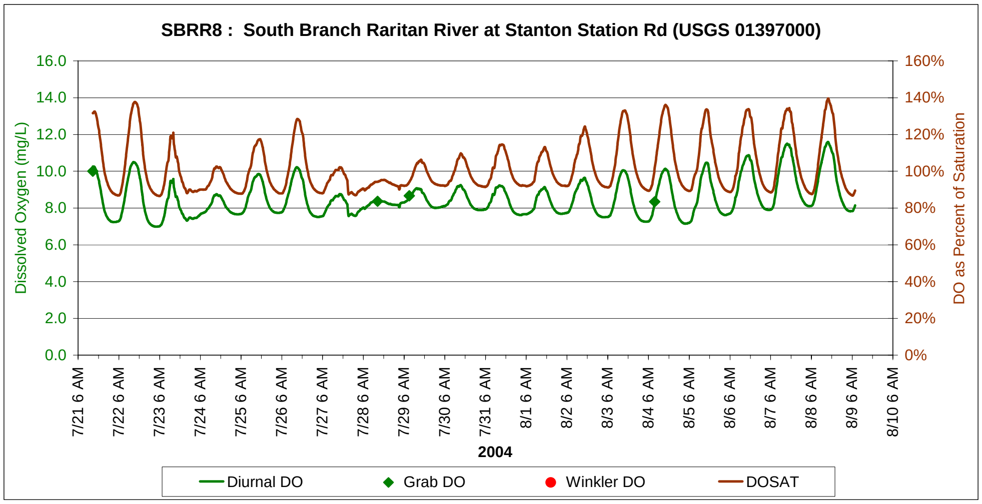
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

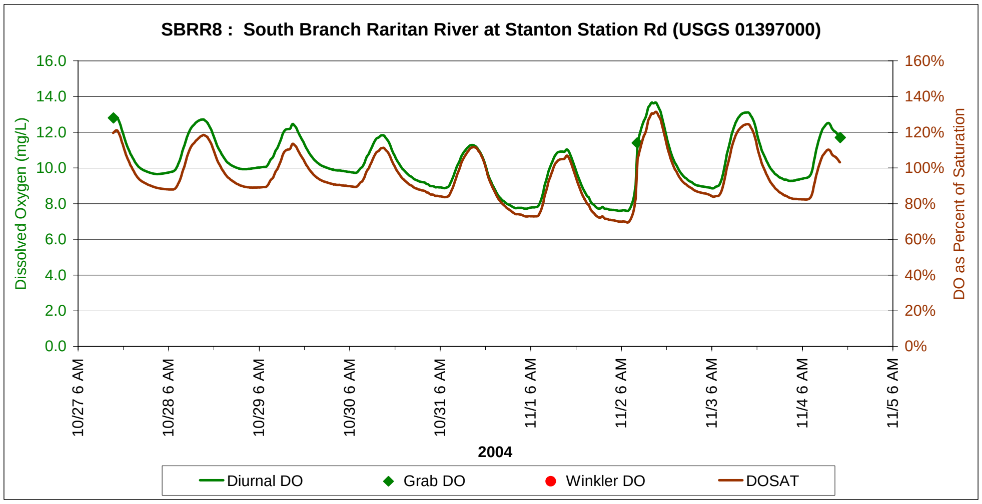


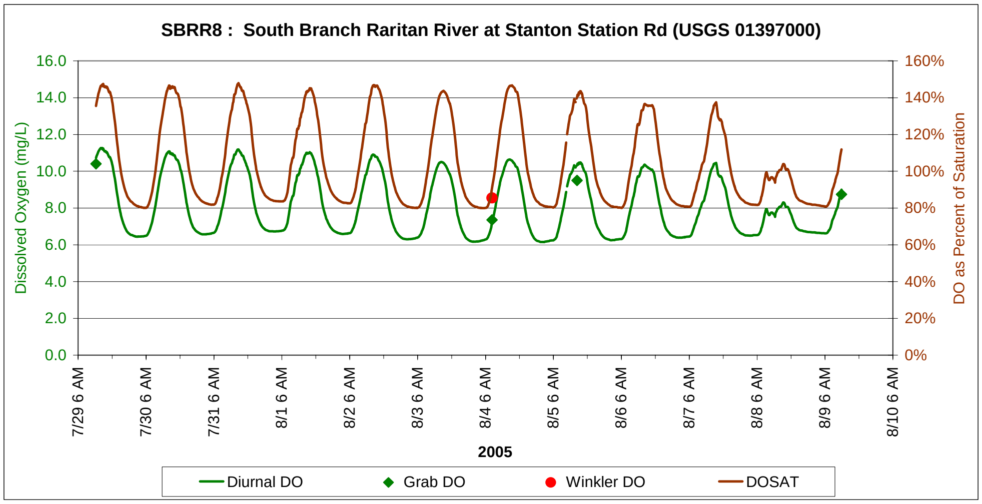




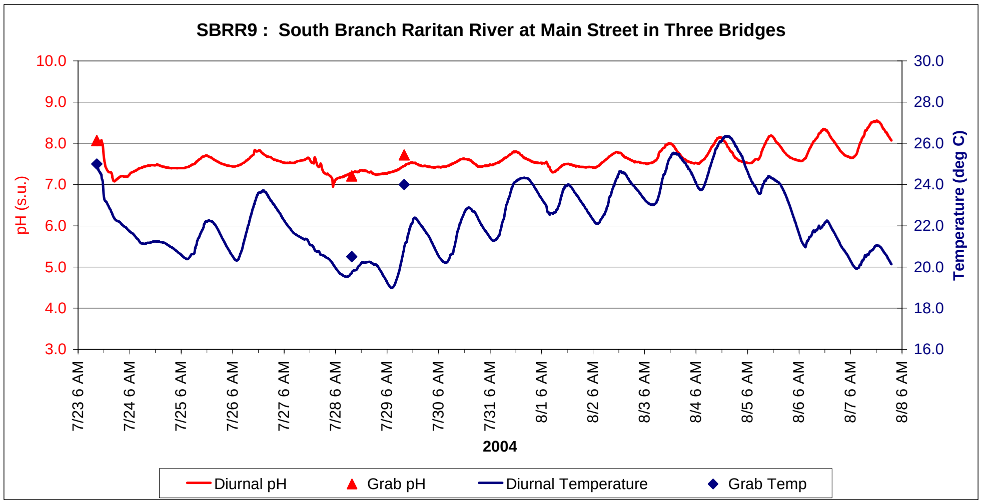
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

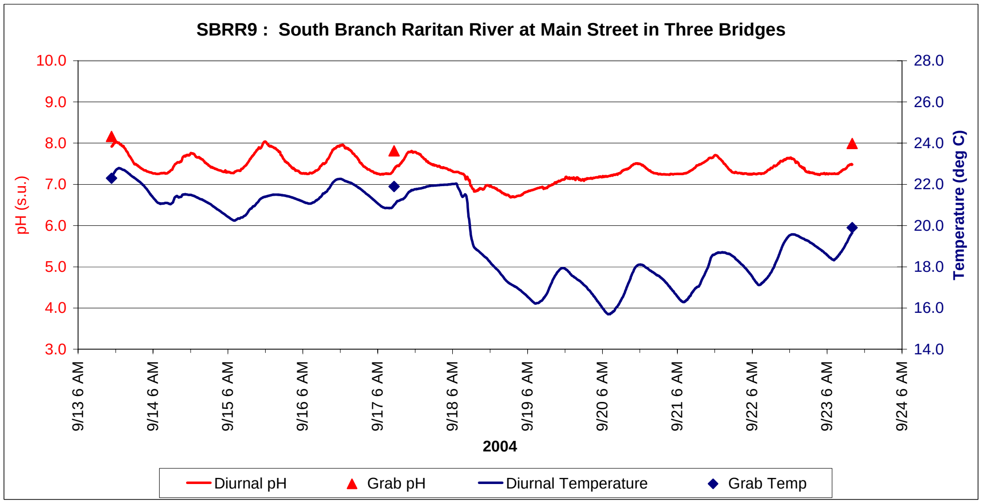


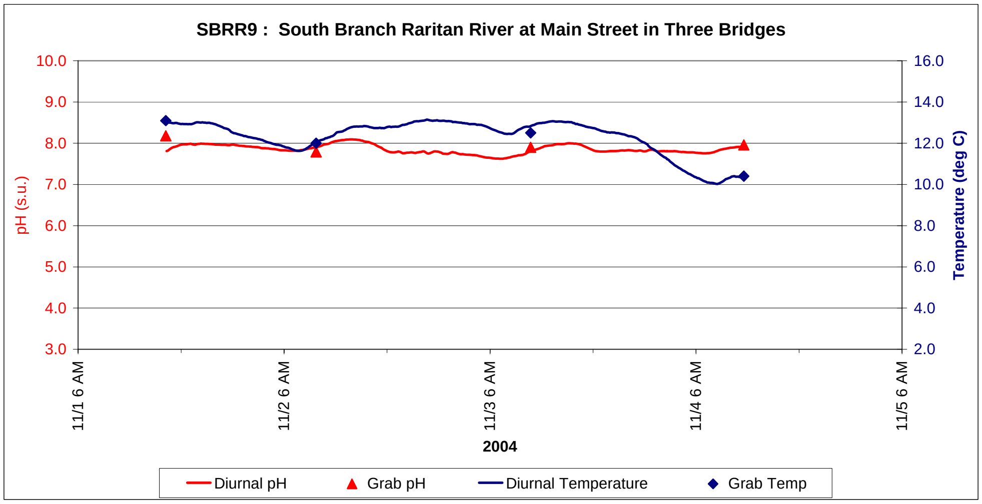




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

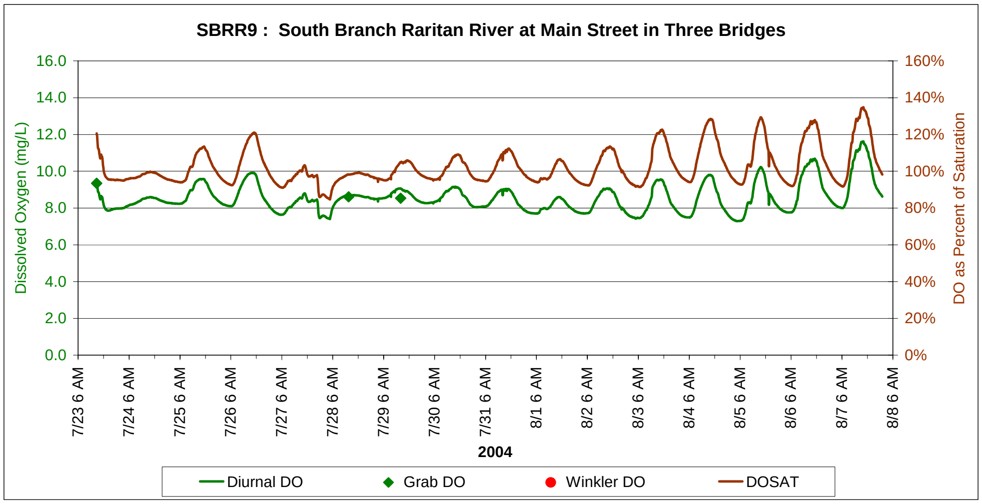


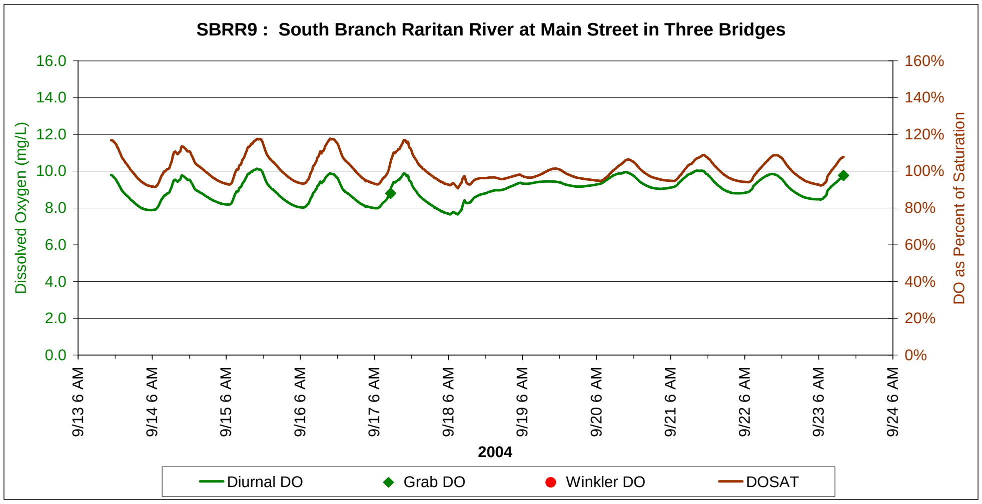


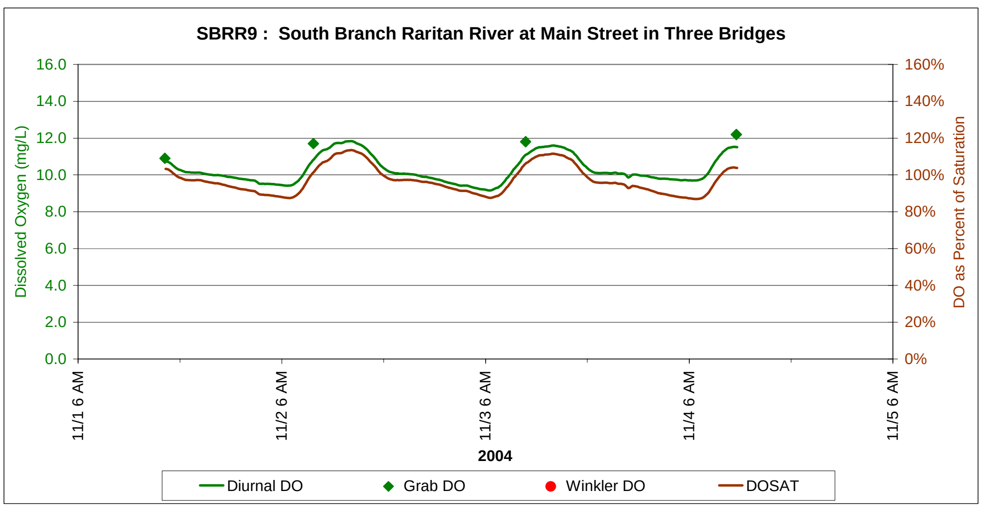


*Troll lost during summer 2005 event (apparent tampering).

* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

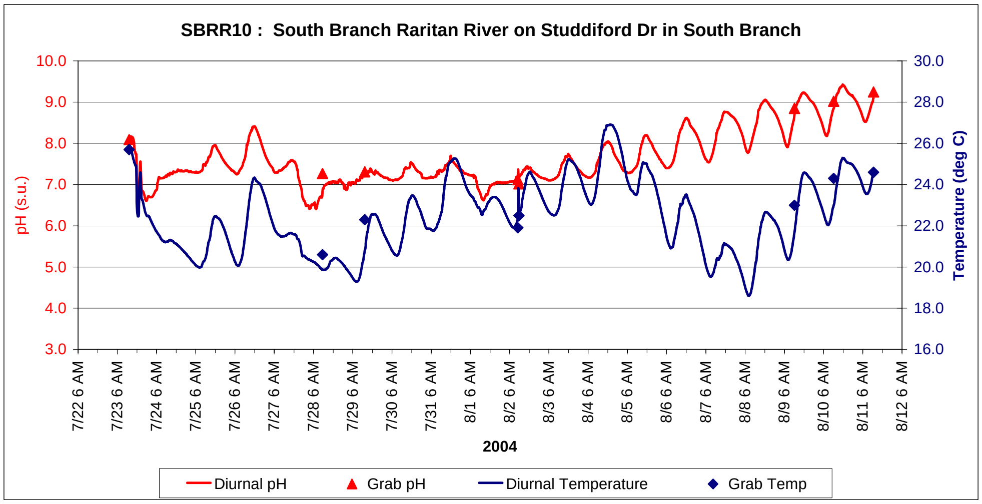


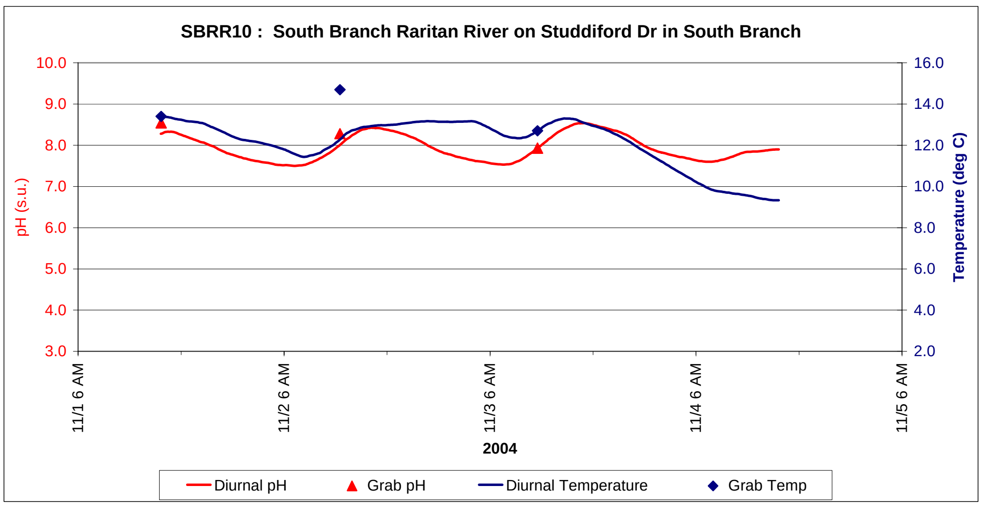


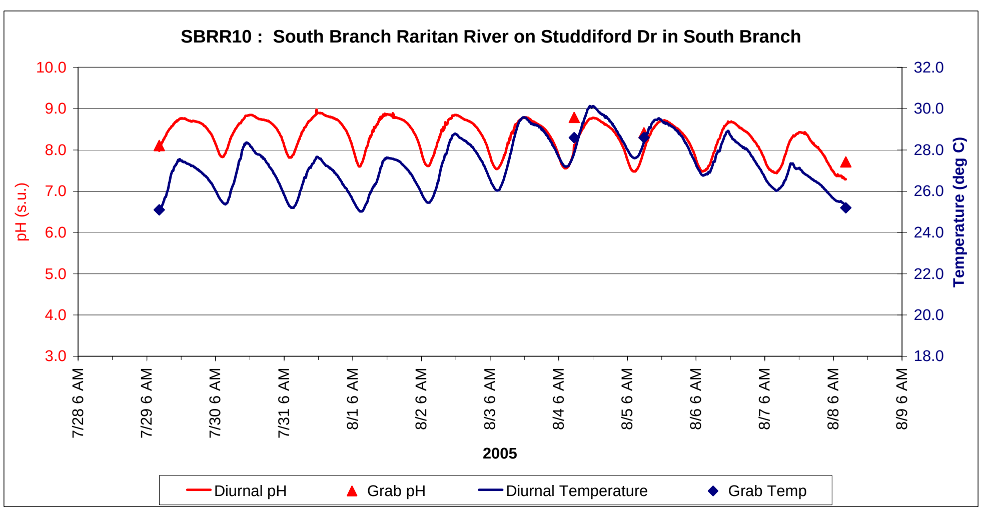


*Troll lost during summer 2005 event (apparent tampering).

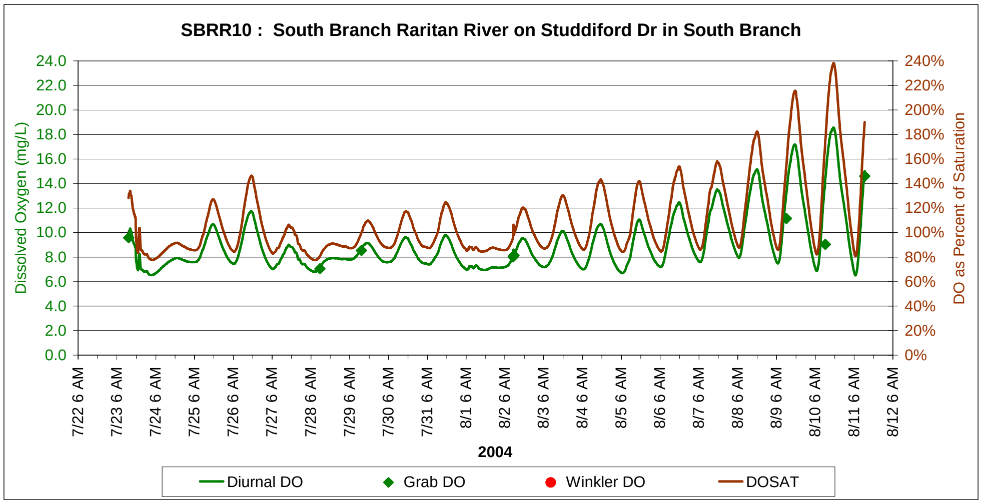
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

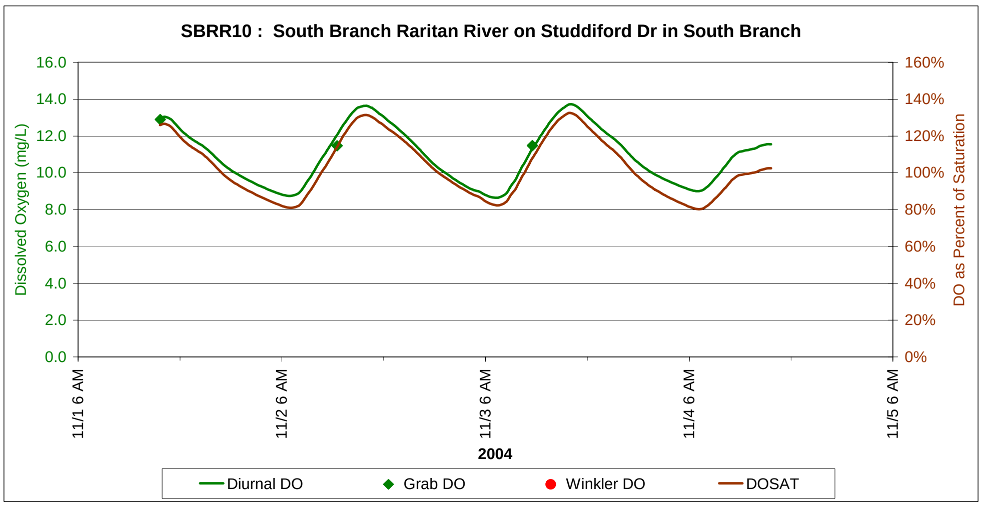


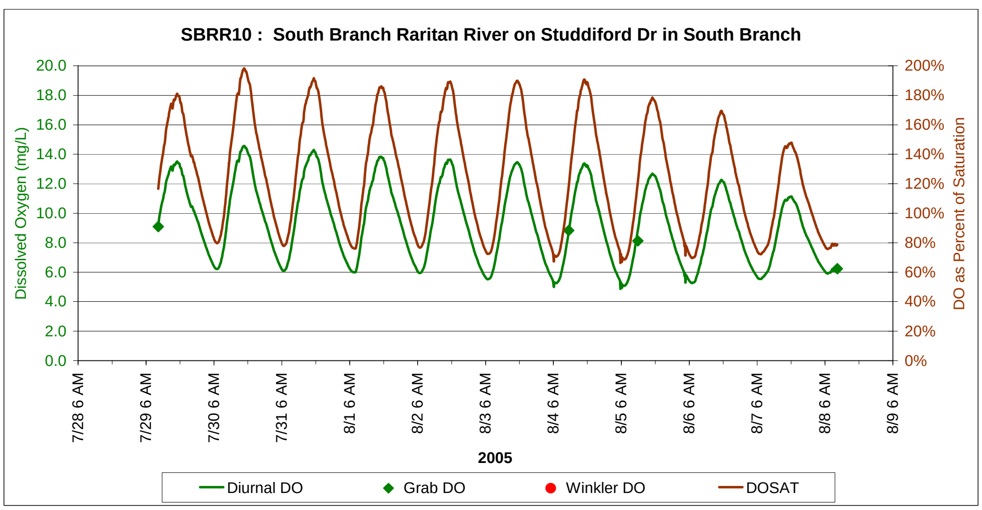




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

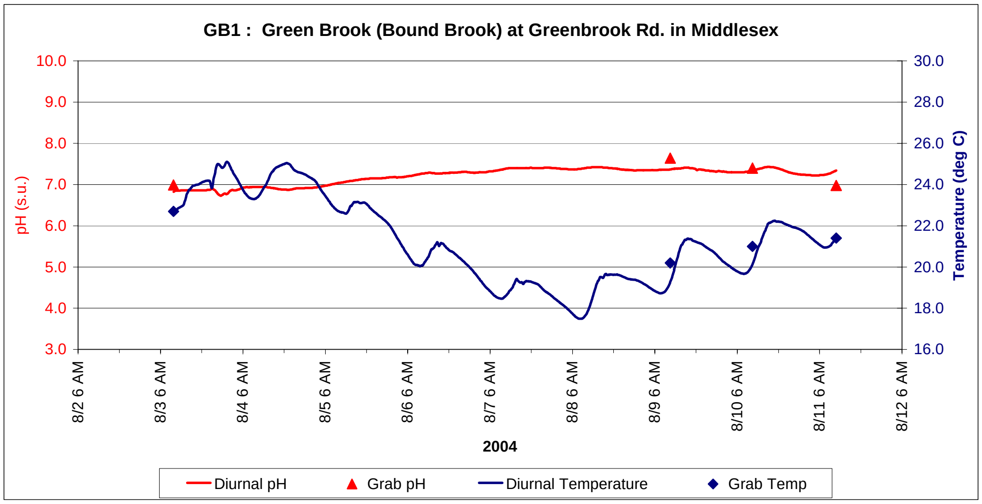


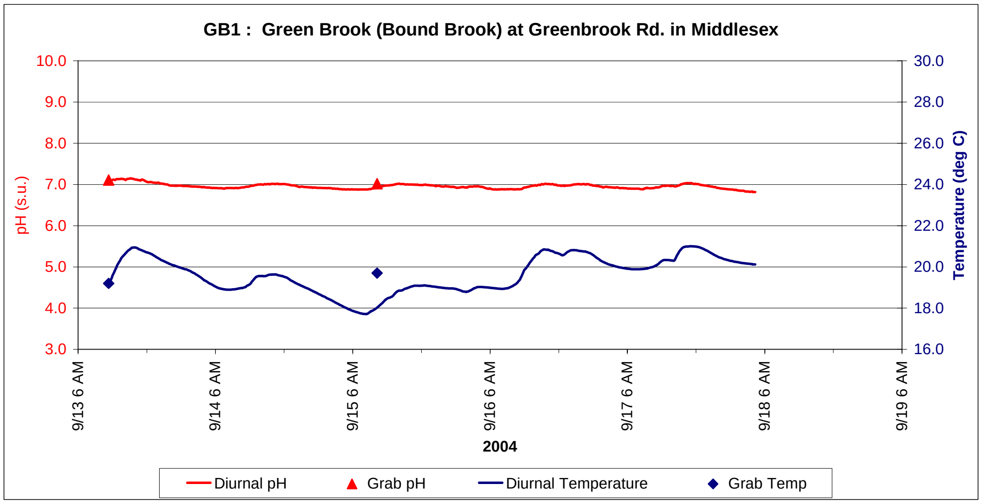




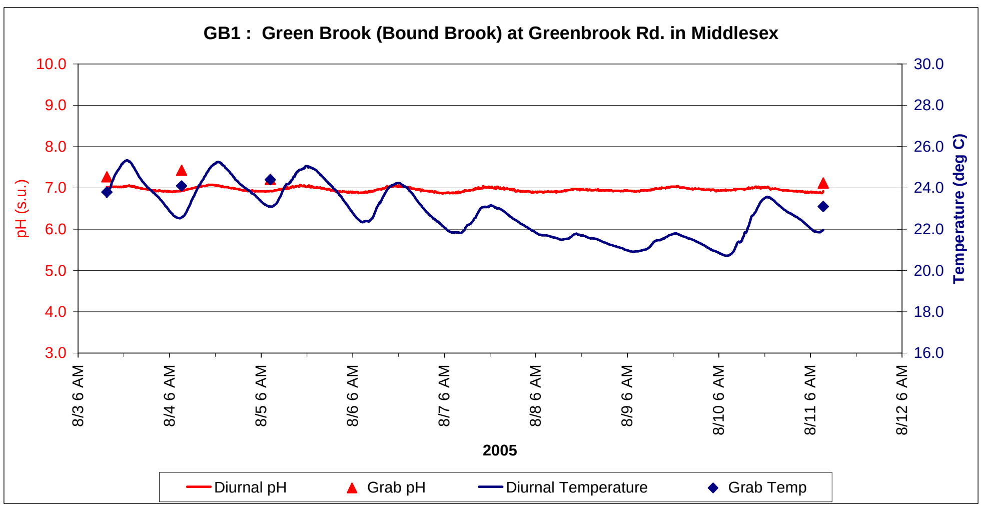
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

Mainstem Raritan River Study Area
Diurnal Graphs

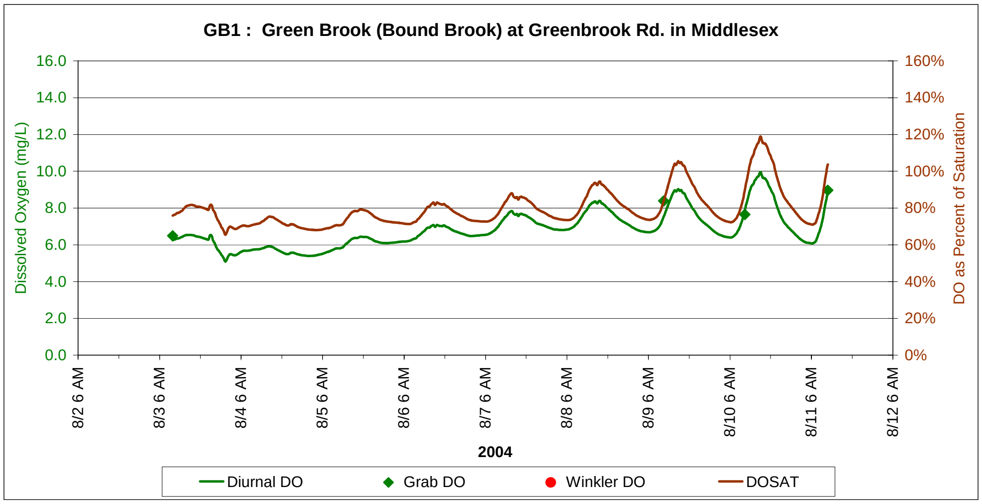


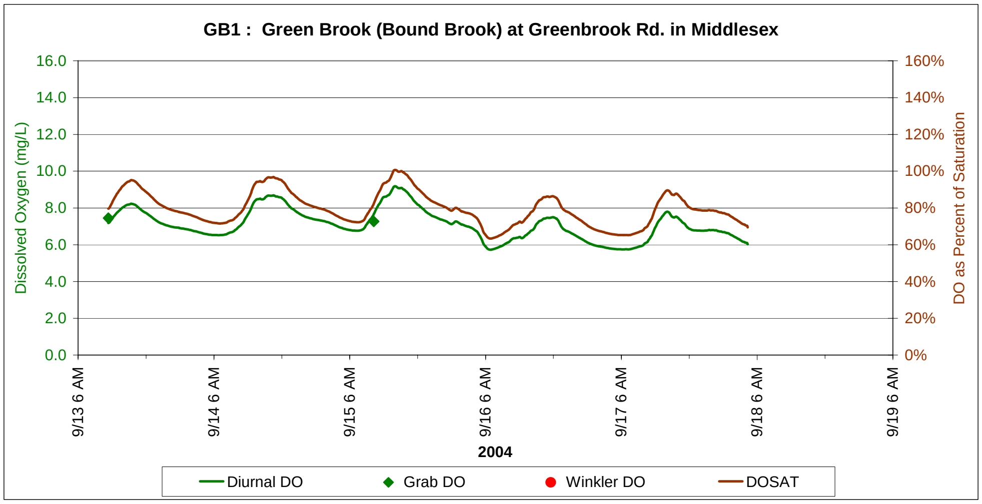


Troll did not record data during winter diurnal event. Second summer diurnal event repeated in 2005.

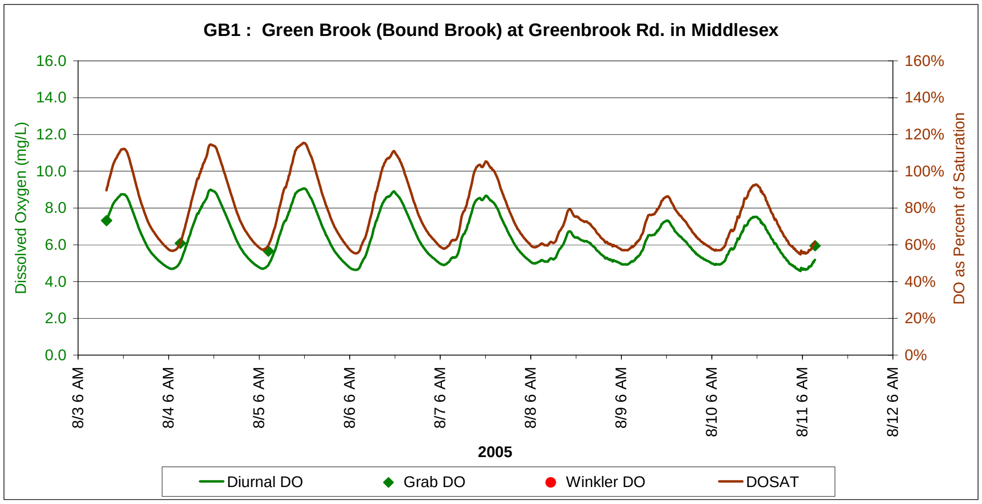


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

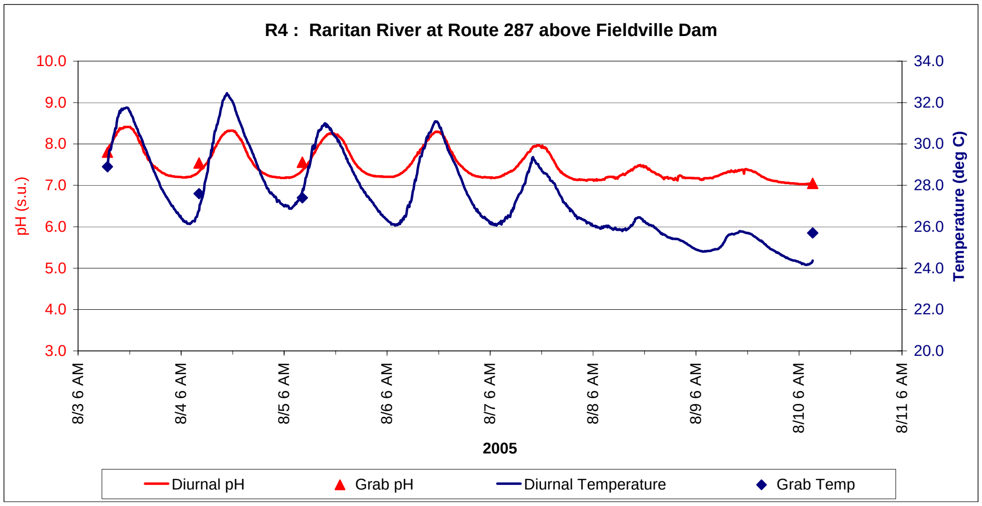




* Troll did not record data during winter diurnal event. Second summer diurnal event repeated in 2005.

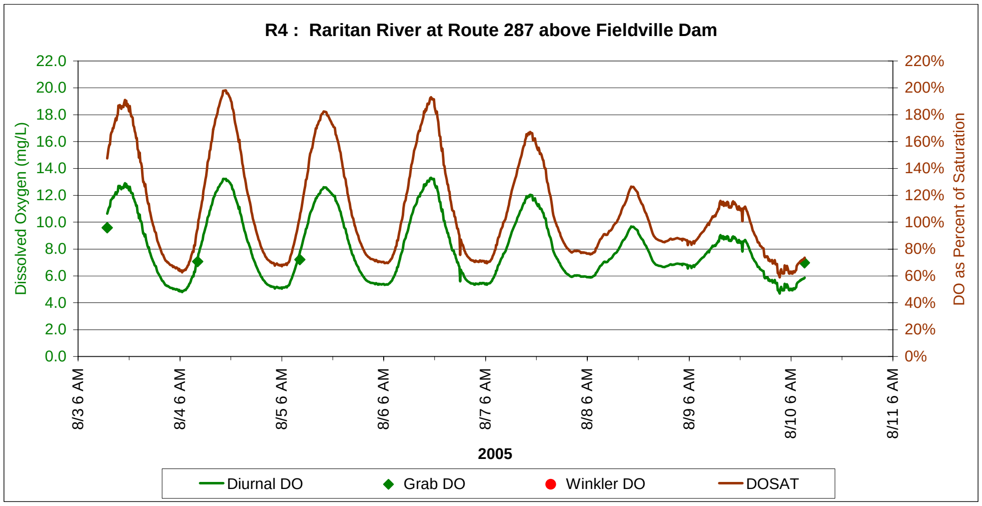


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



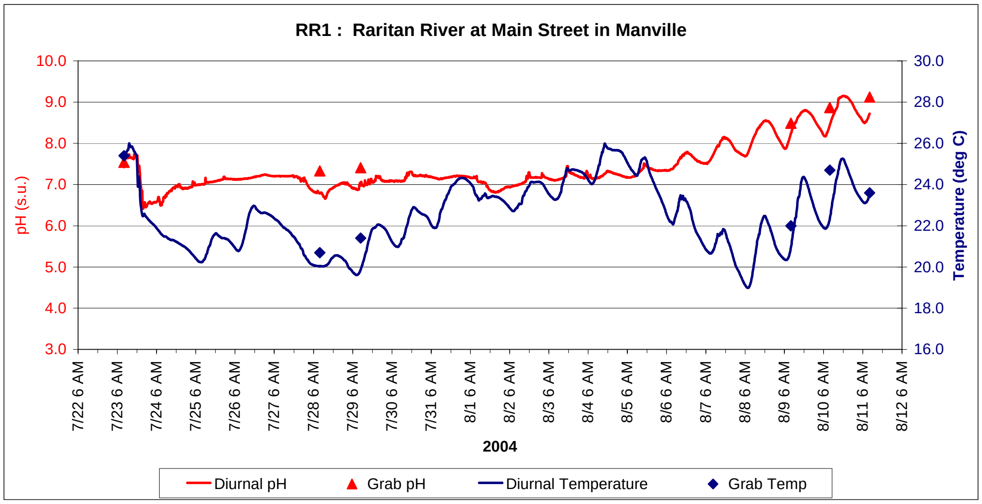
* This station was monitored concurrently in order to enhance calibration of the Mainstem Raritan River.

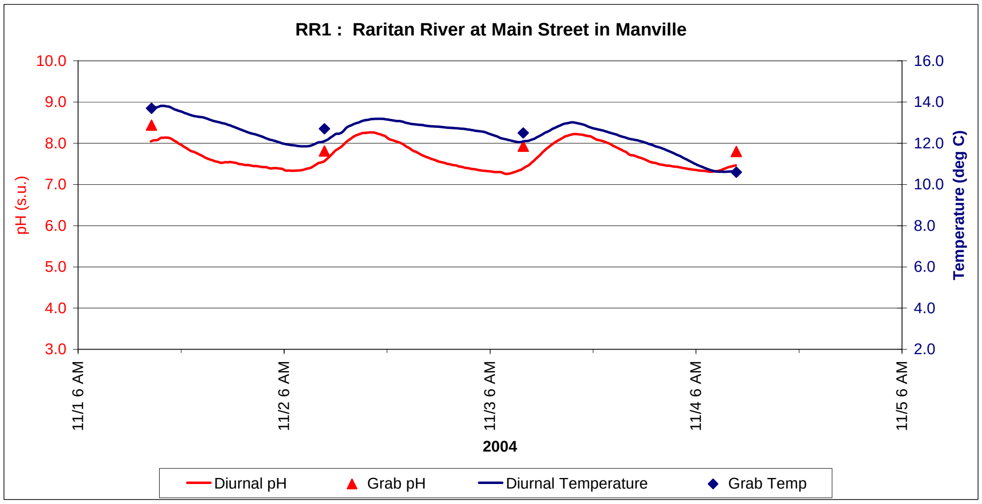
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

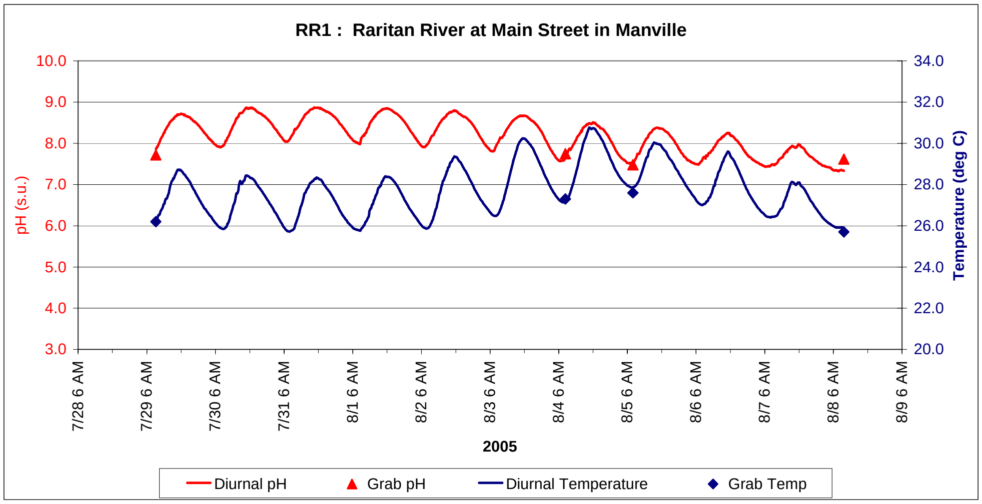


* This station was monitored concurrently in order to enhance calibration of the Mainstem Raritan River.

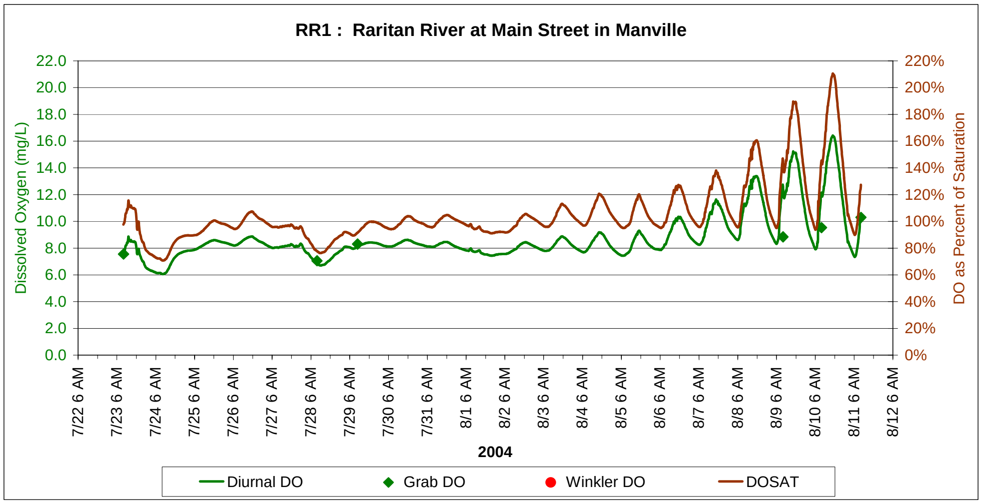
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

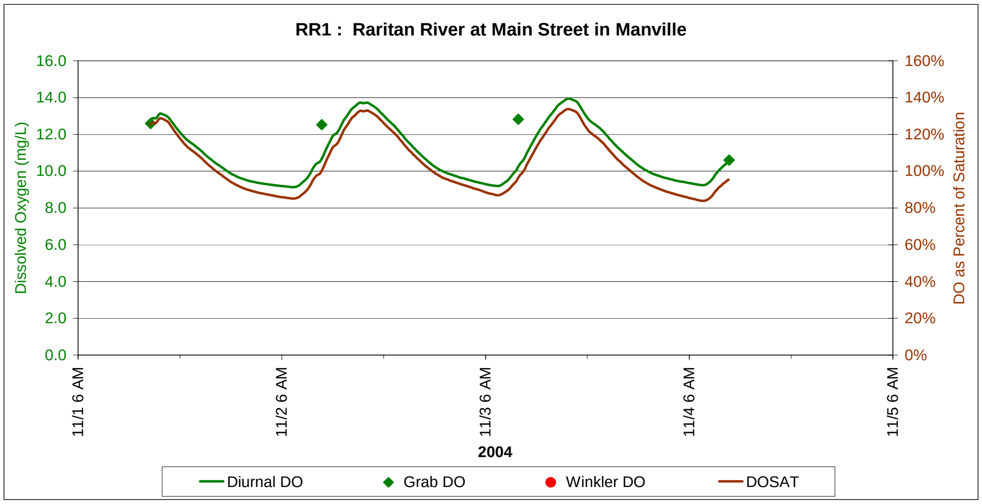


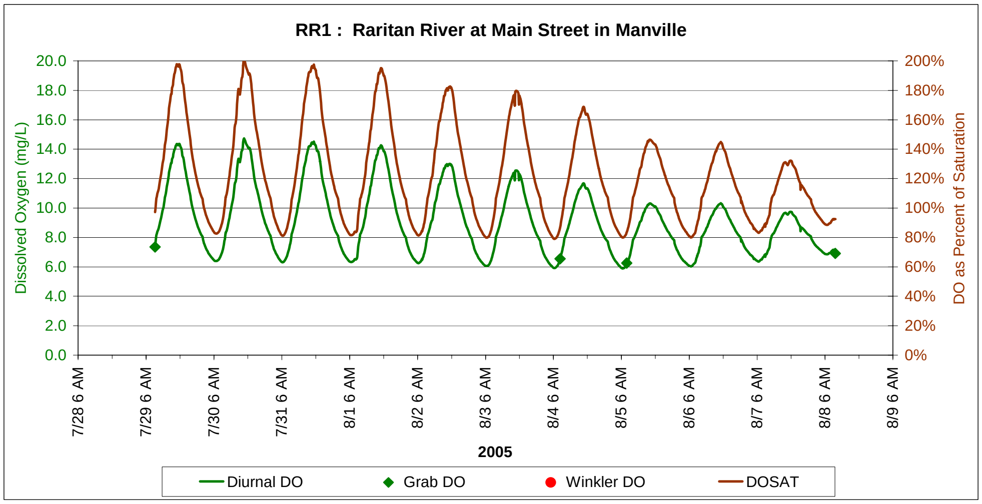




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

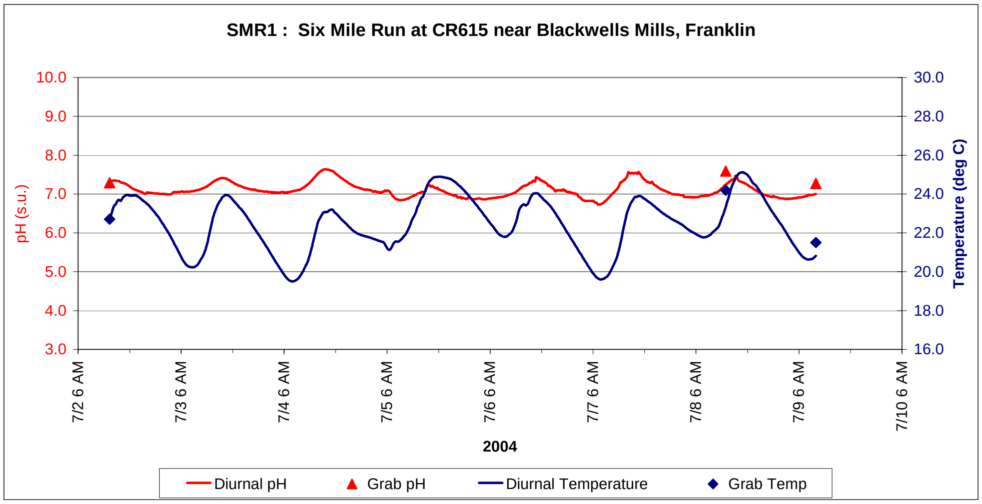


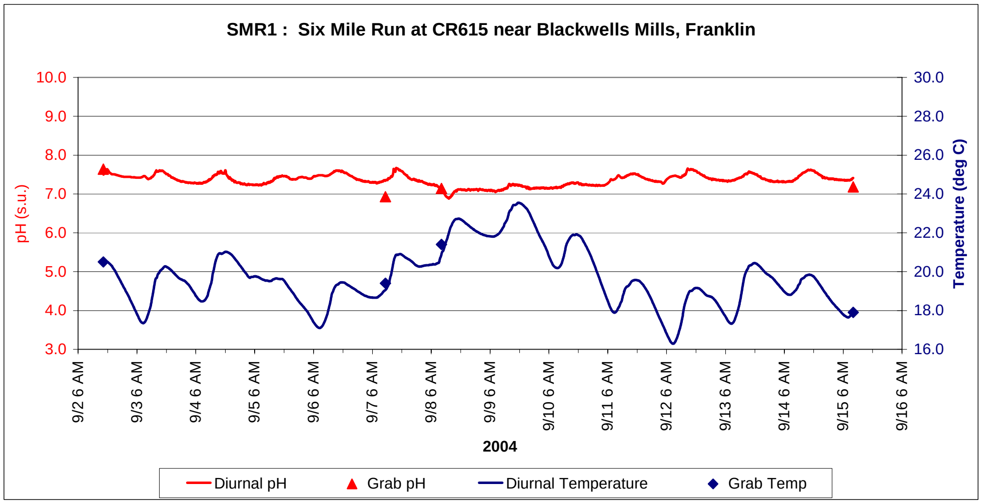


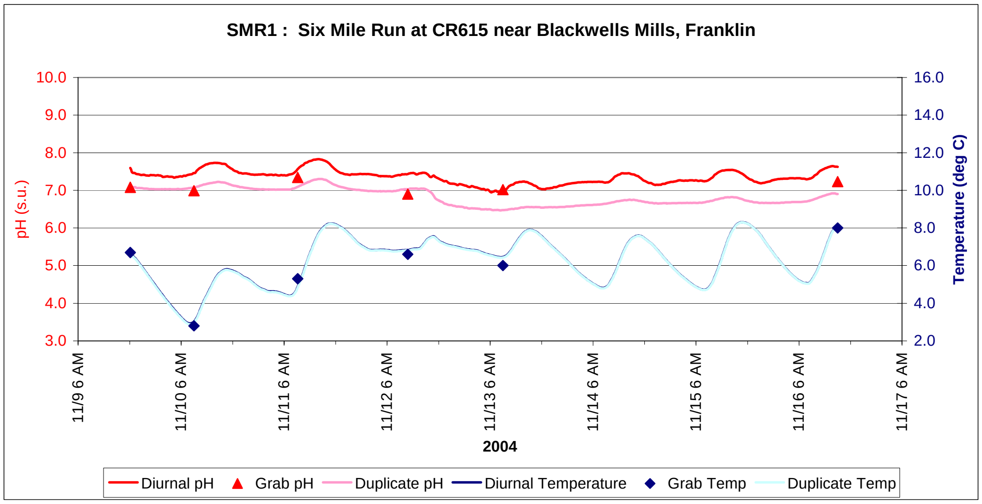


Note: Summer 2005 dissolved oxygen measurements were scaled based on experimental calibration.

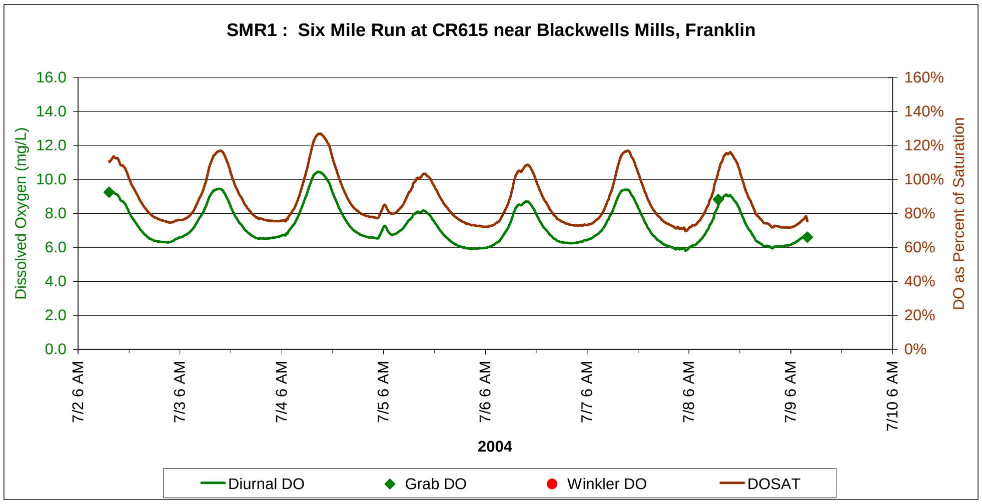
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

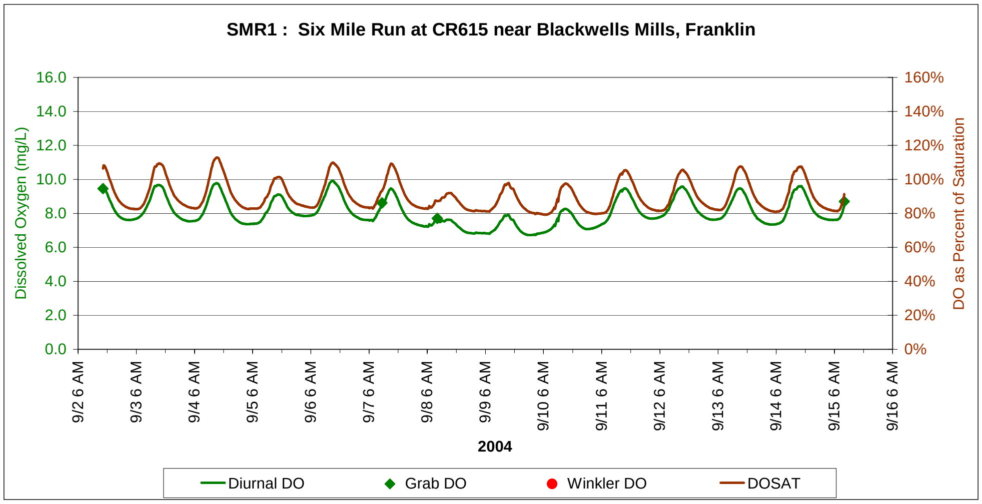


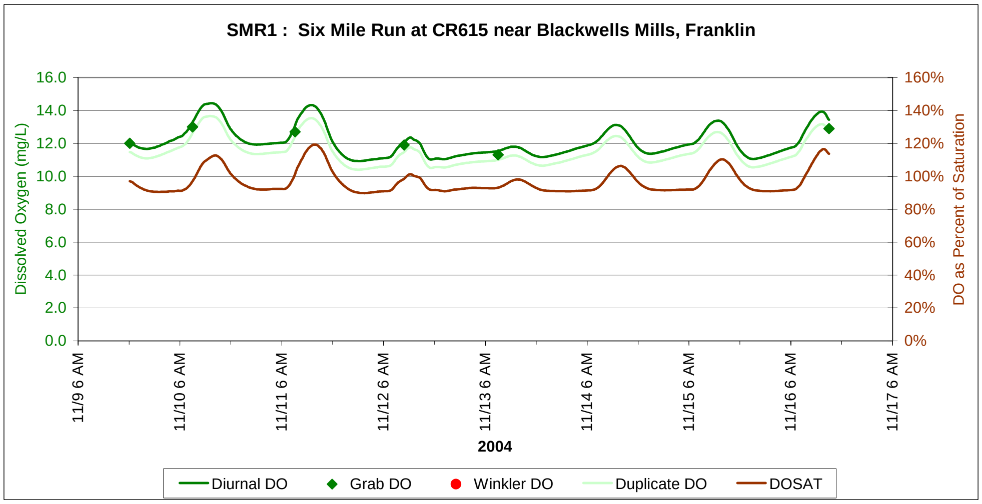




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

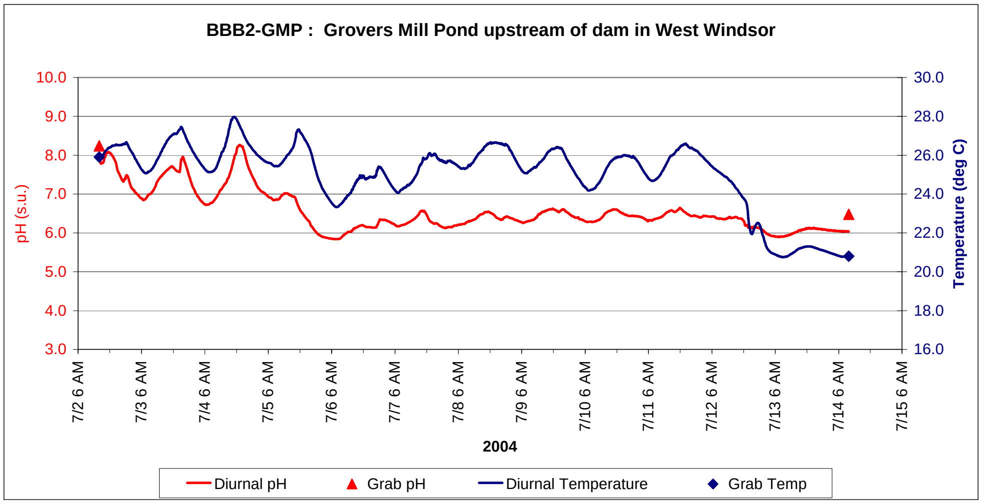




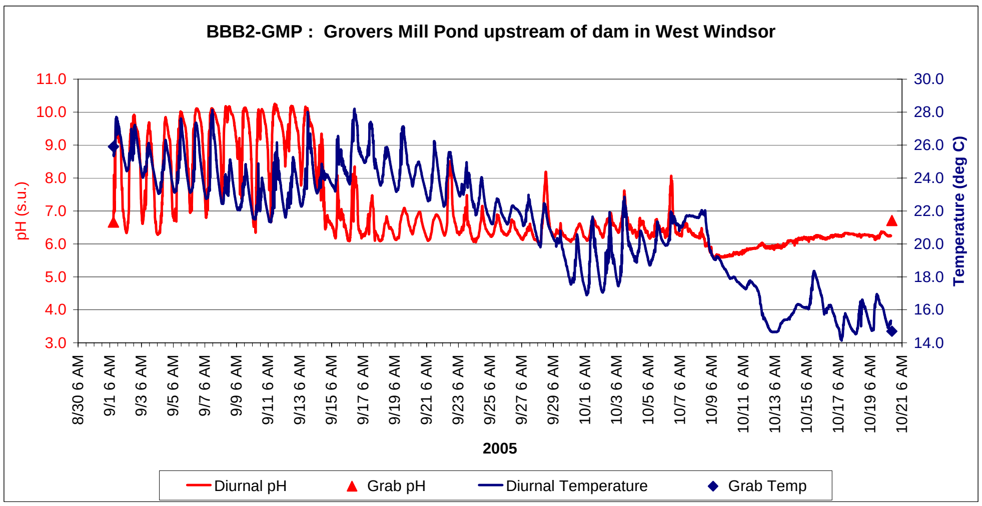


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

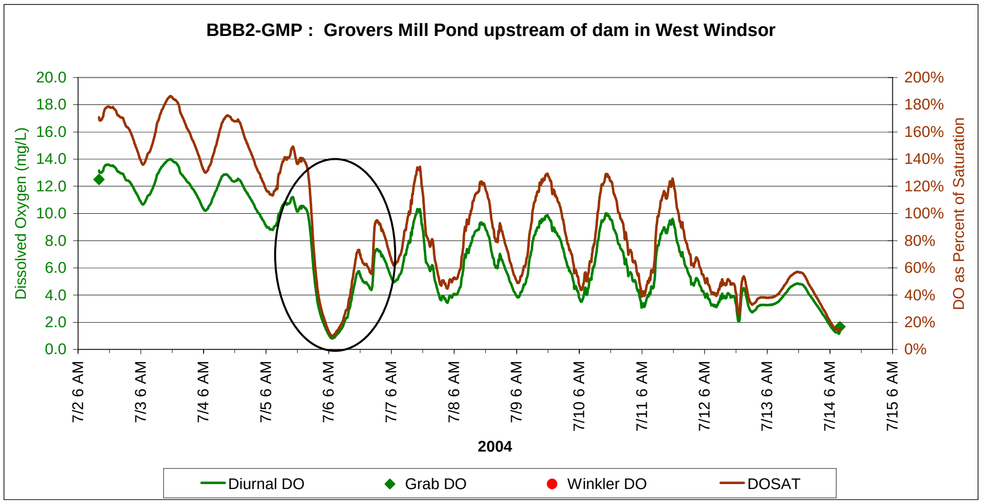
Upper Millstone River Study Area
Diurnal Graphs



* Grovers Mill Pond dam restoration began in August 2004, preventing further diurnal monitoring. An additional summer diurnal monitoring event was performed in 2005.

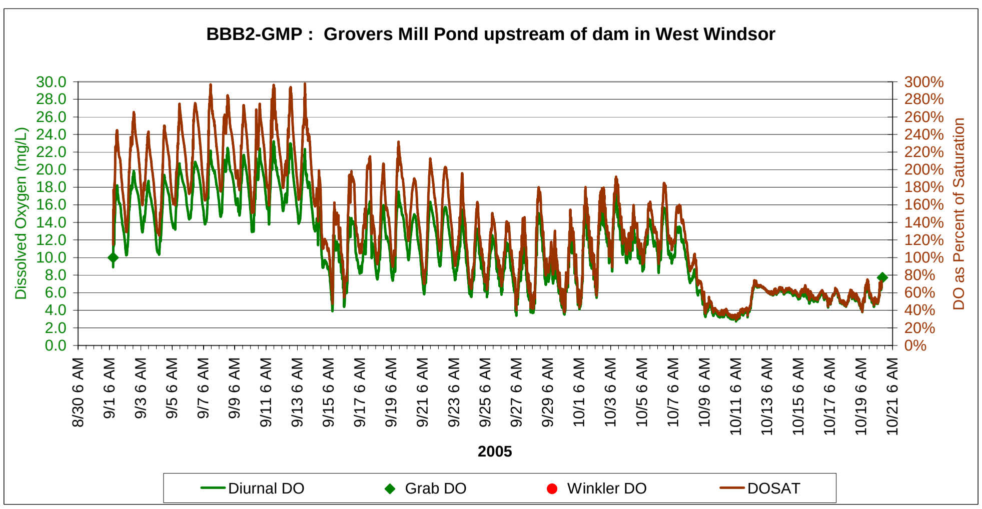


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

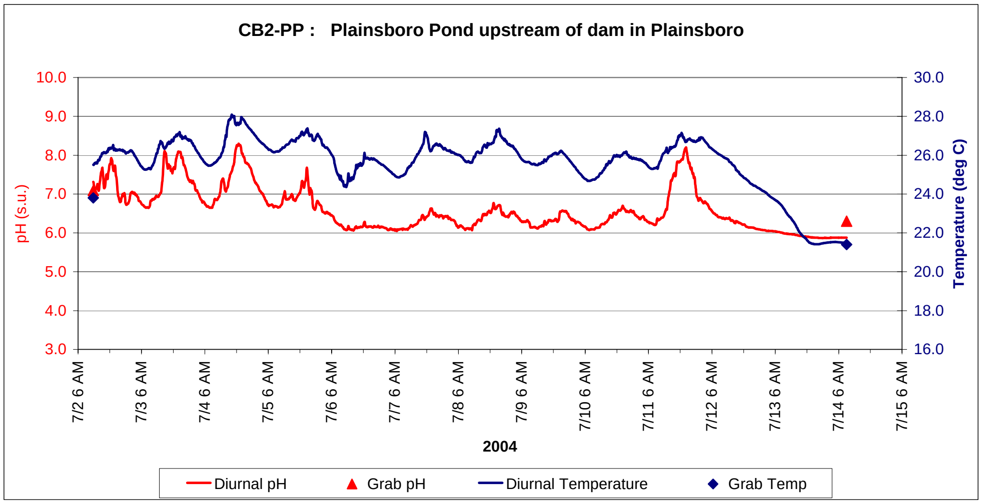


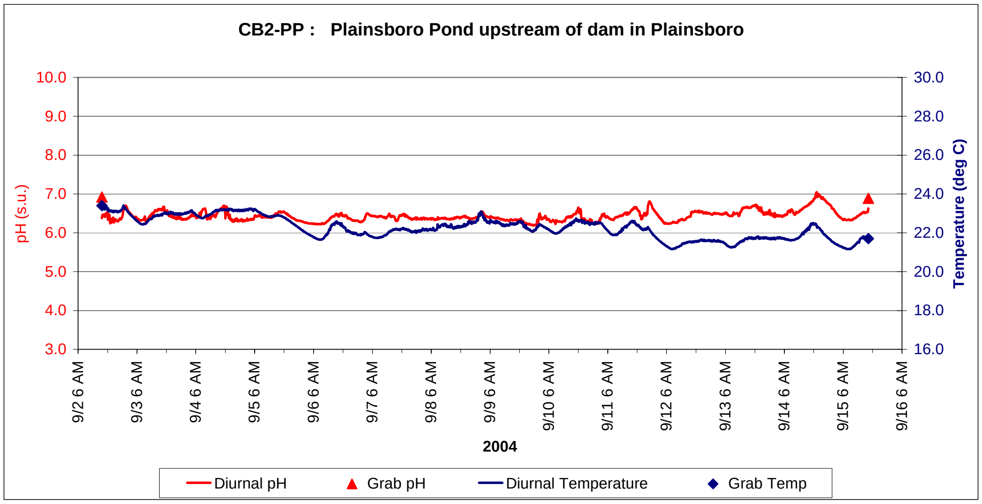
Circled: Storm Event

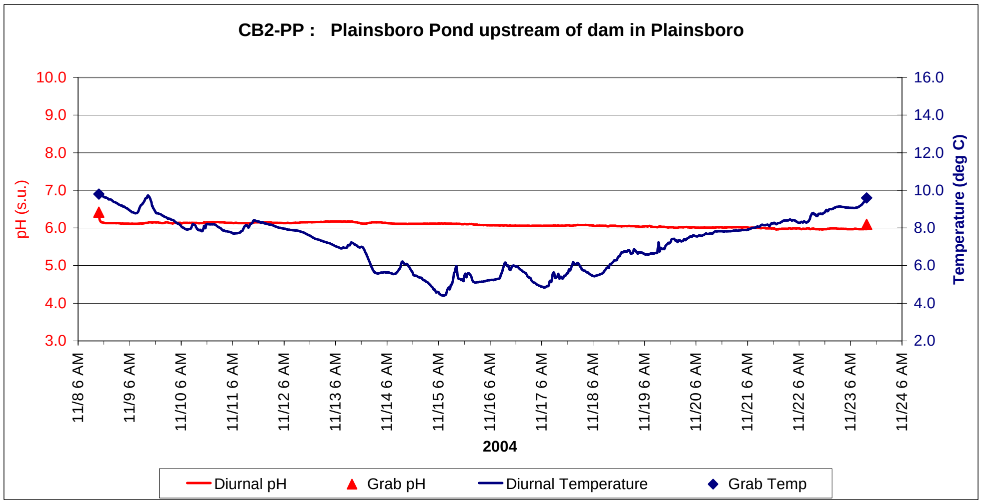
* Grovers Mill Pond dam restoration began in August 2004, preventing further diurnal monitoring. An additional summer diurnal monitoring event was performed in 2005.



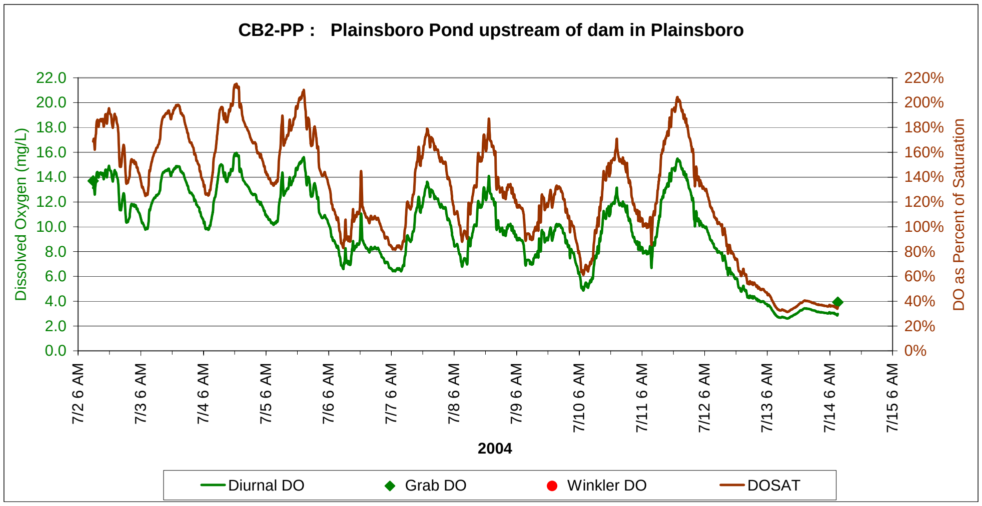
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

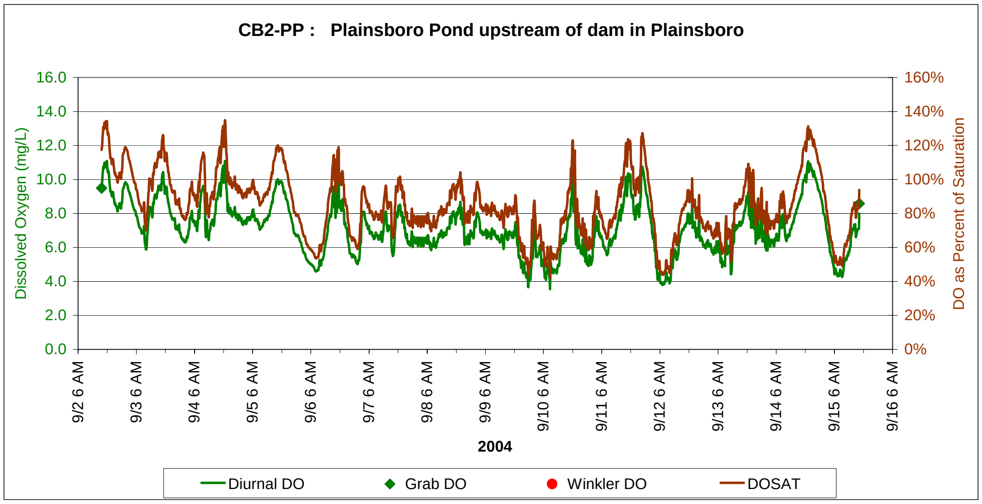


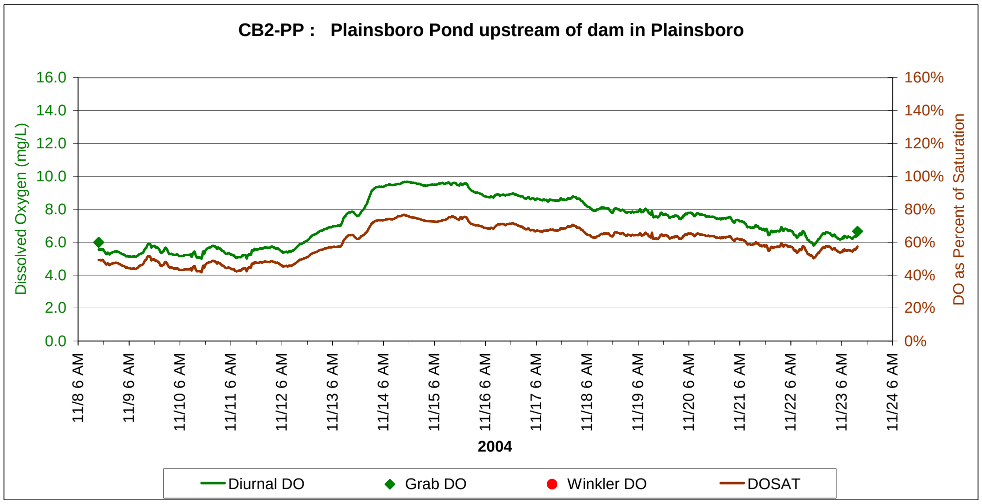




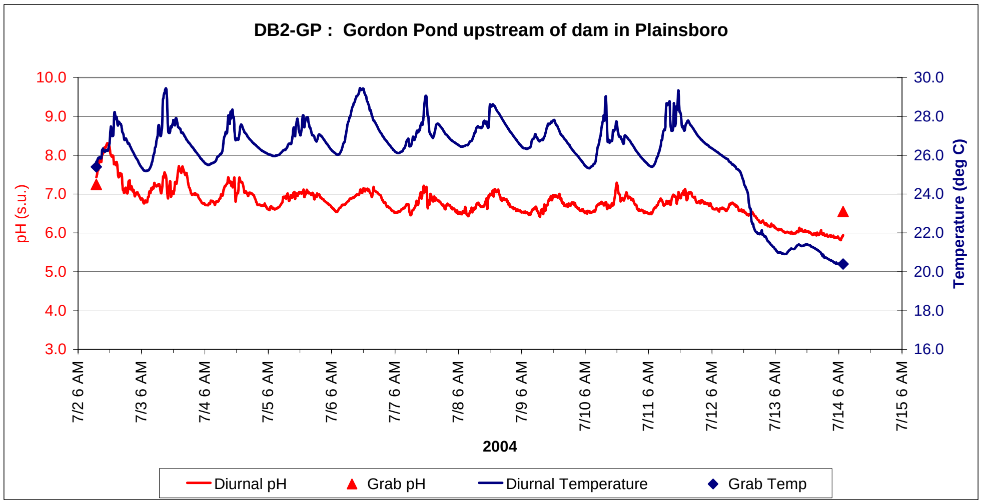
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

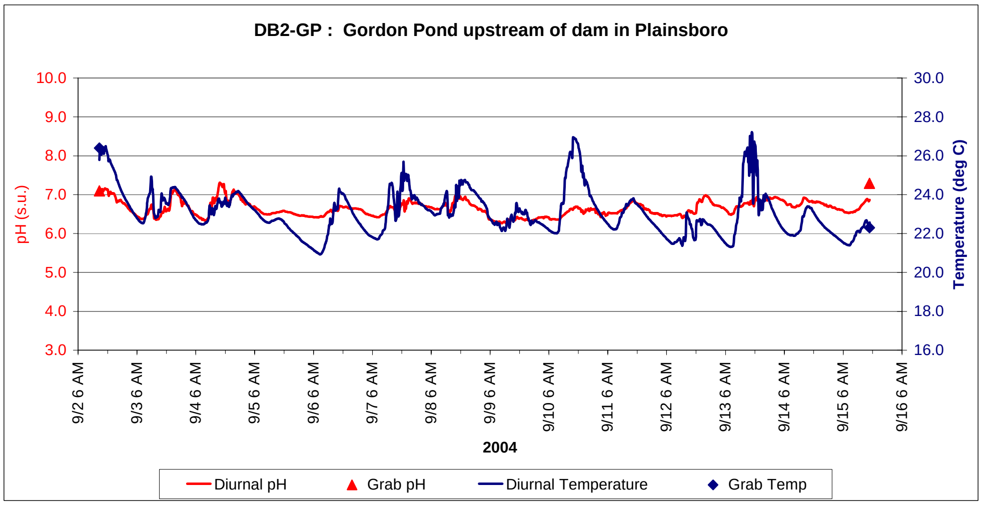


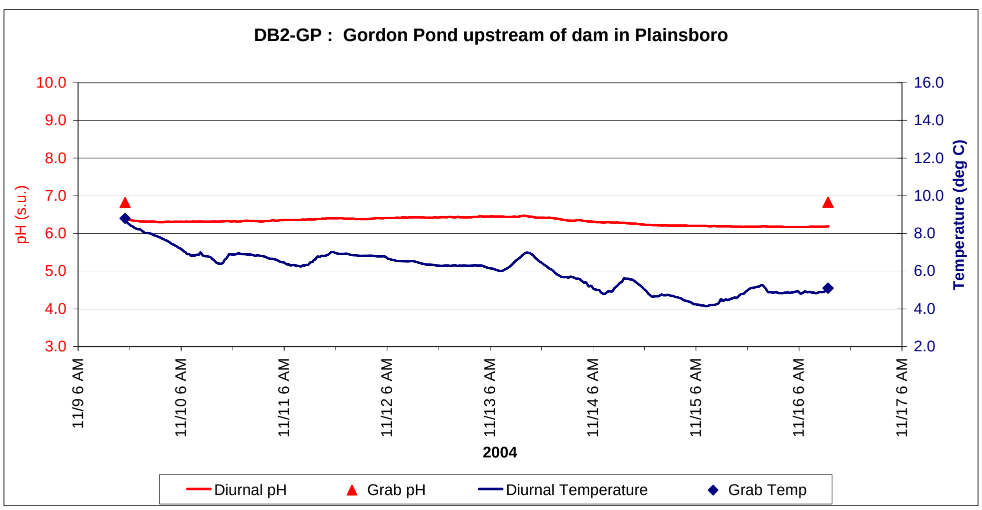




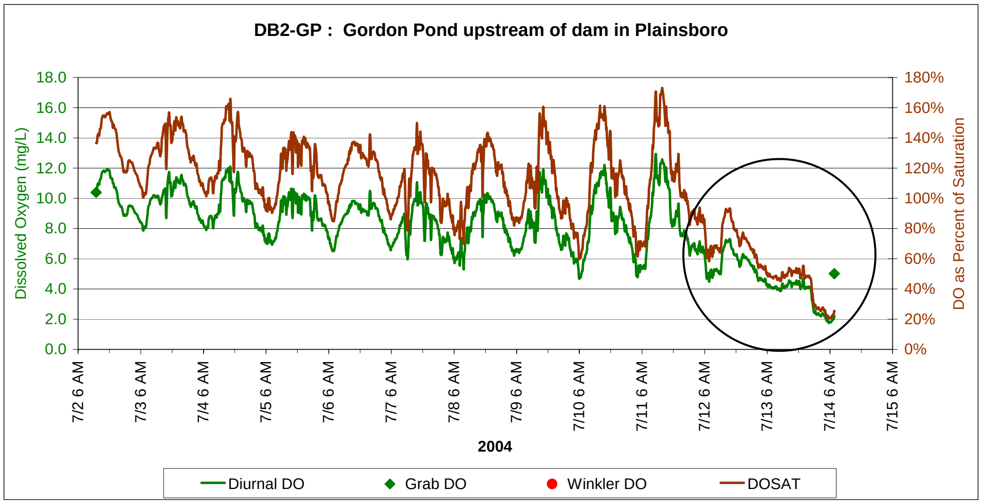
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



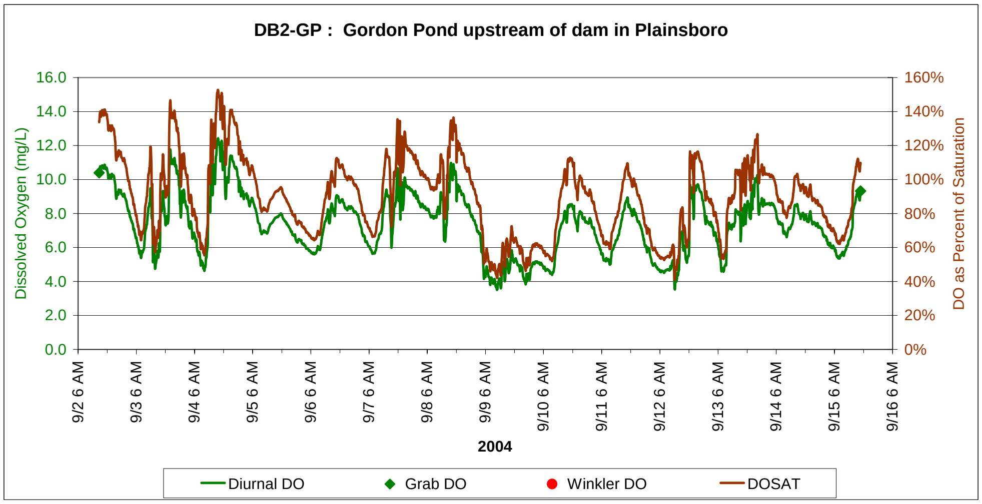


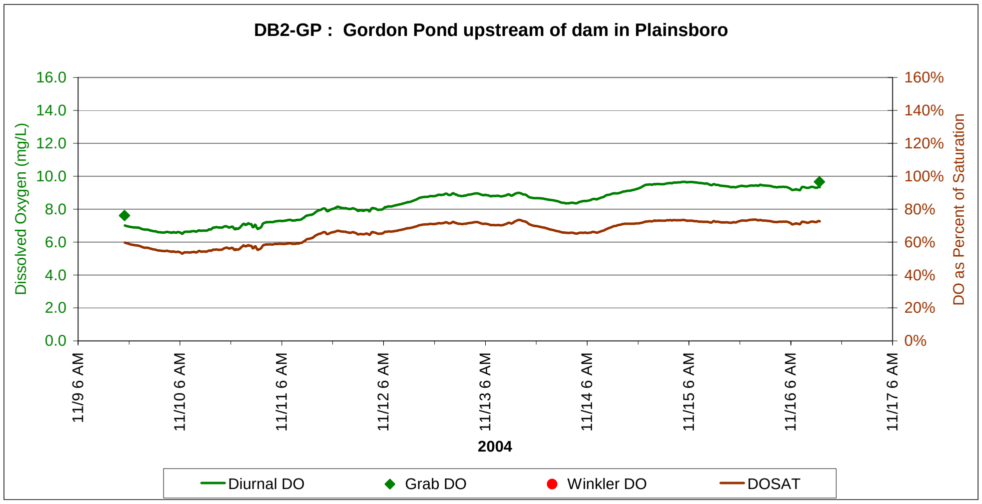


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



Circled: Storm event





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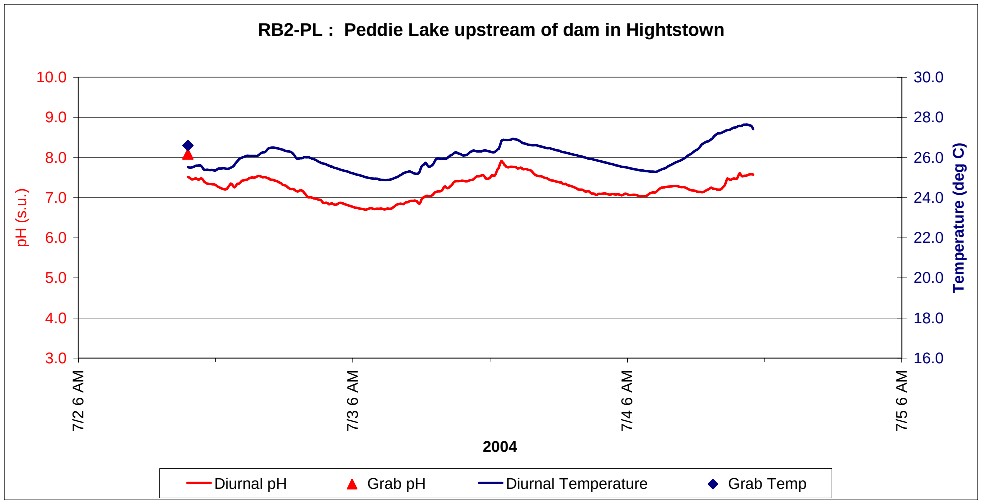

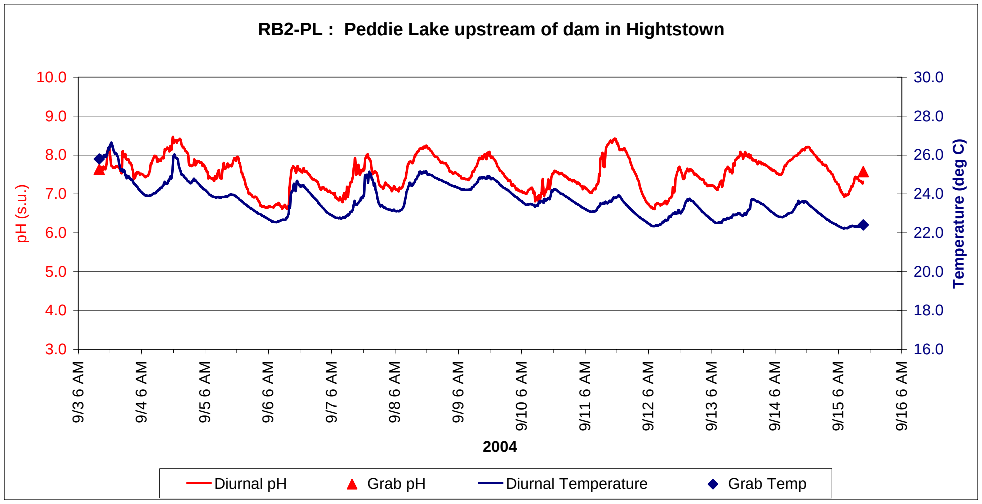

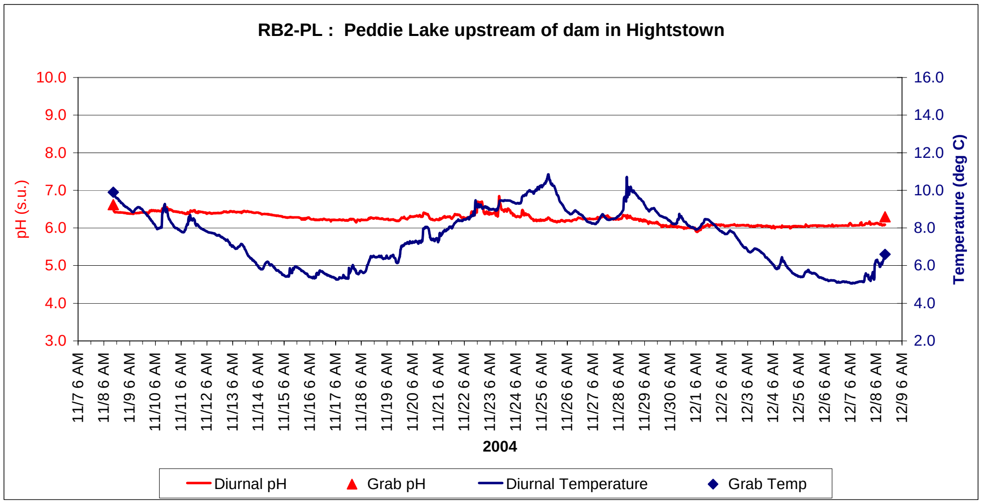

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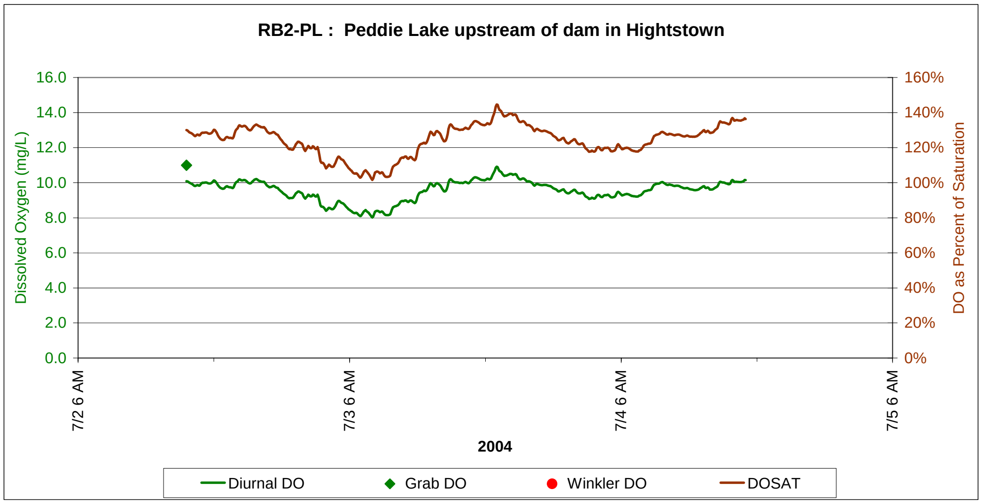
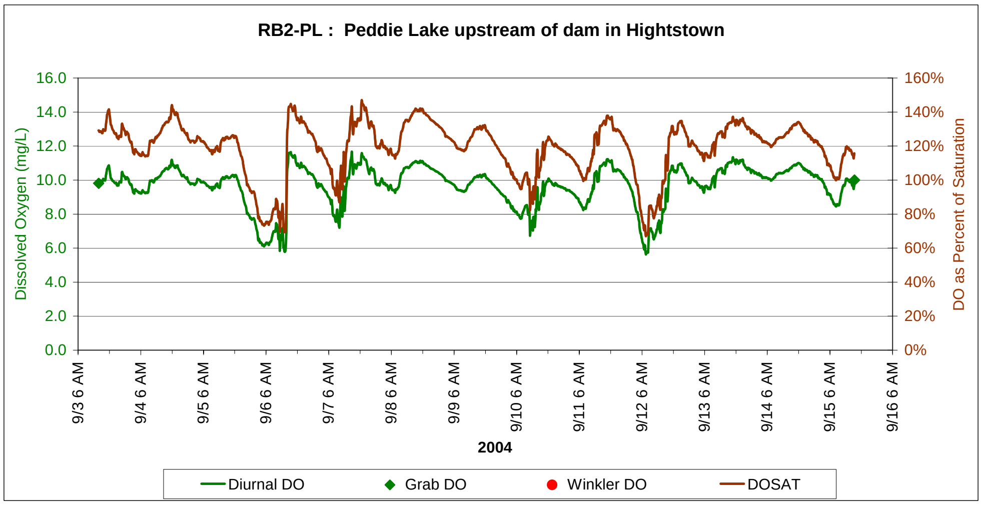
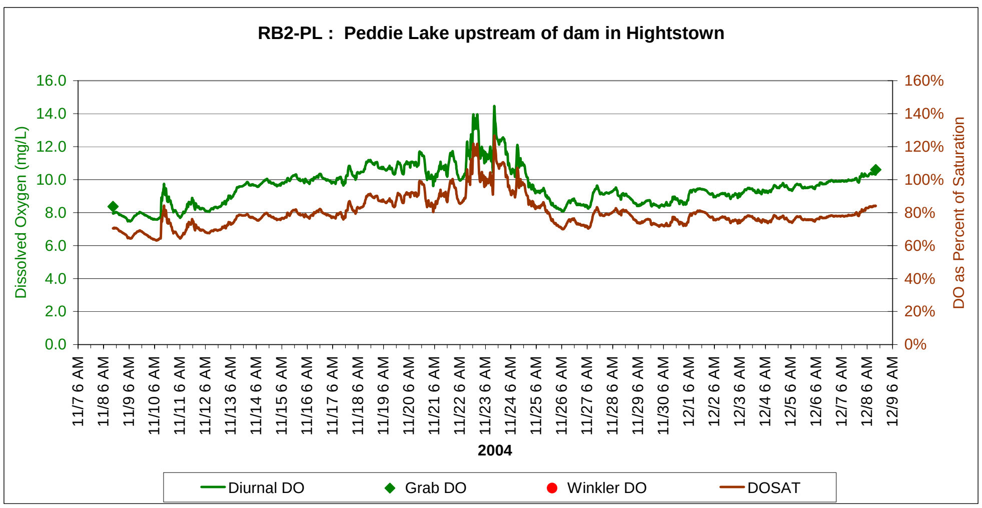
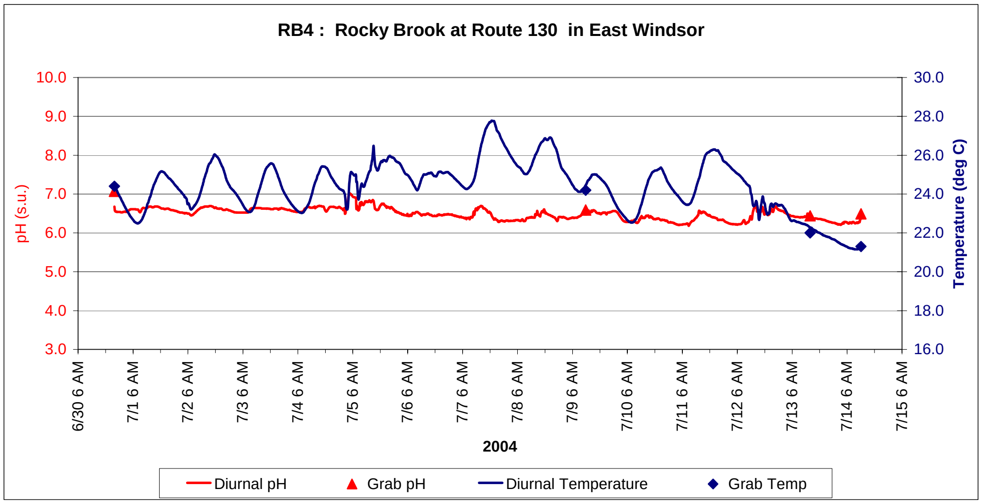
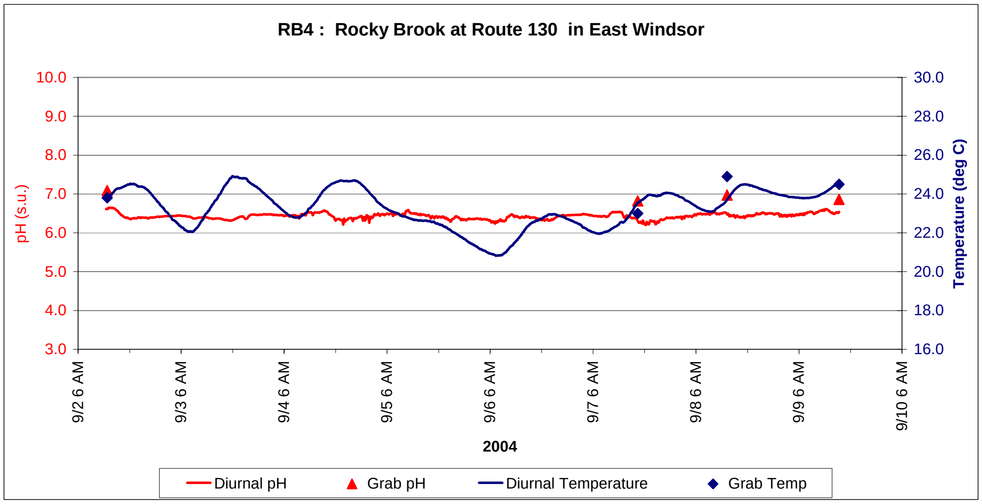


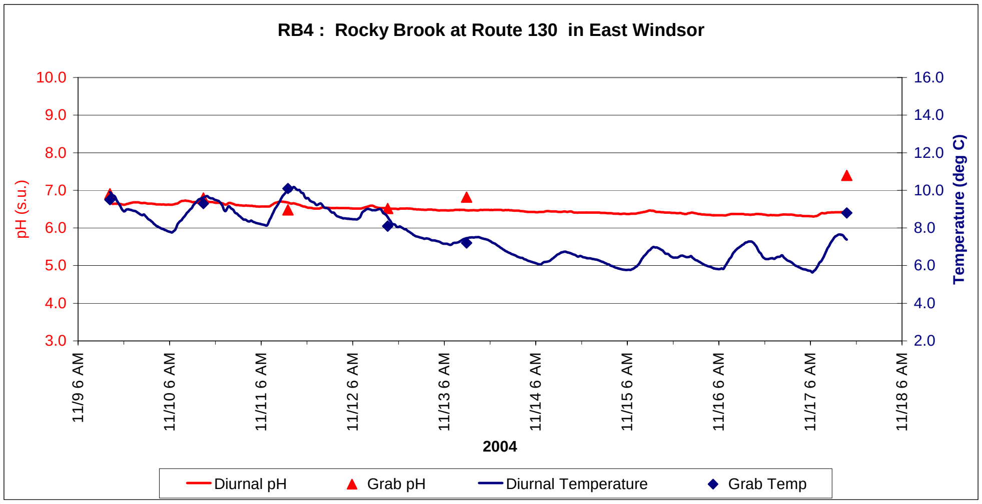




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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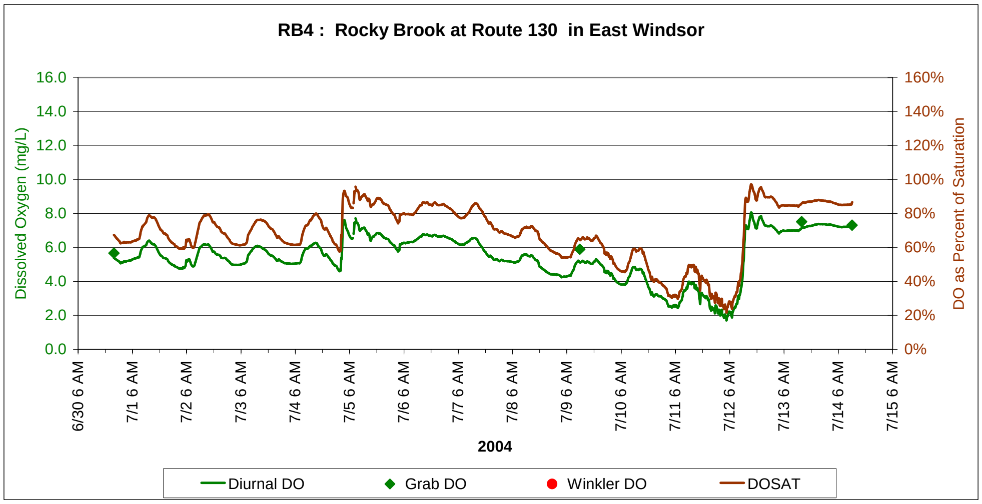
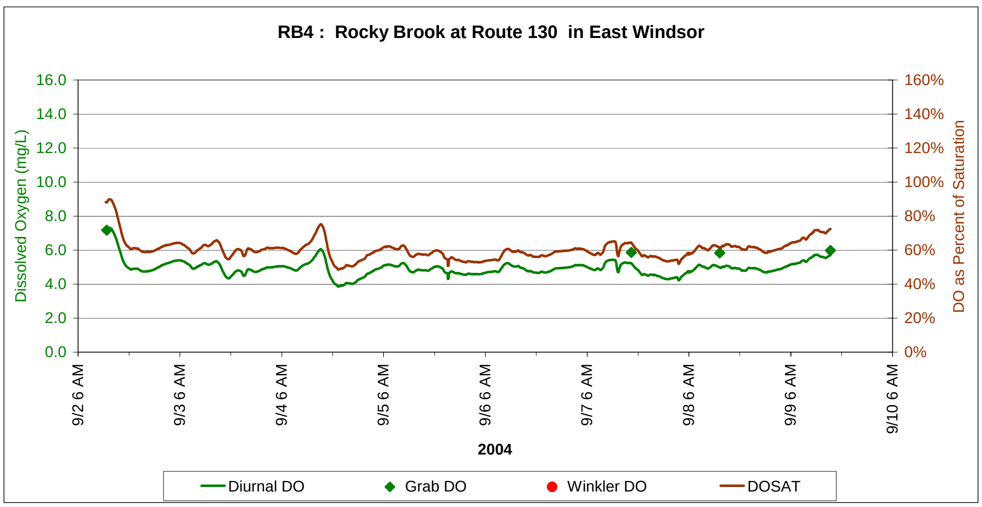
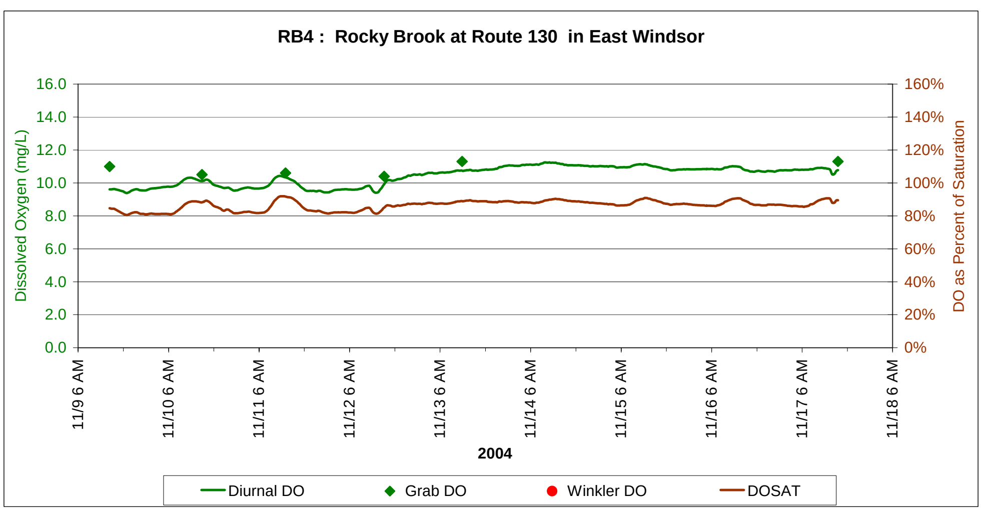
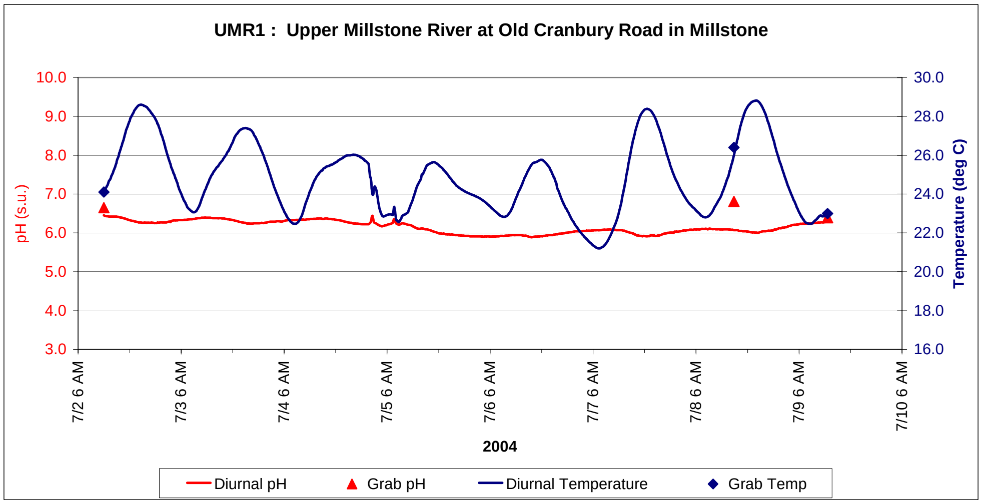
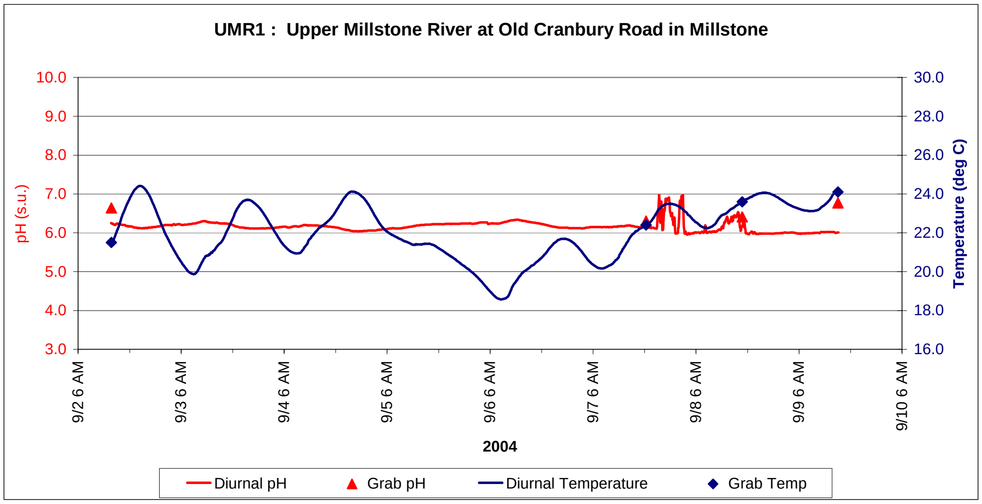


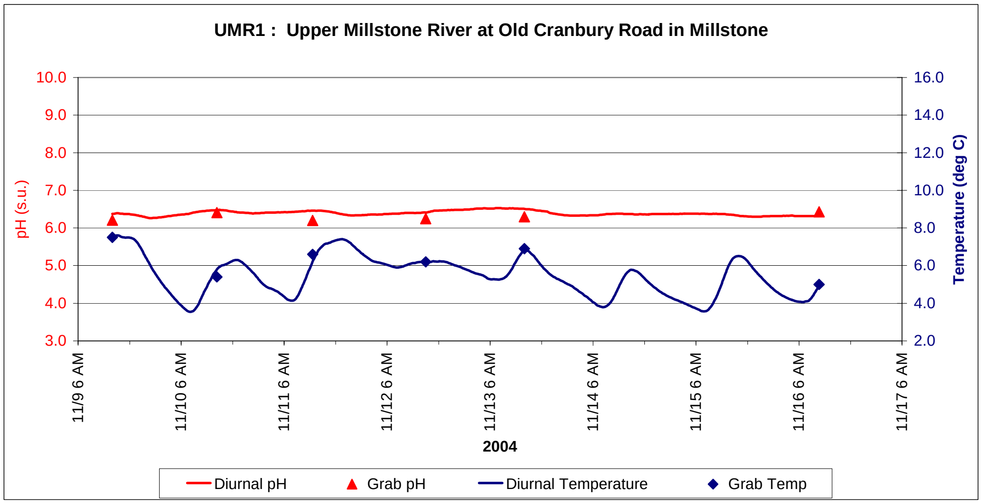




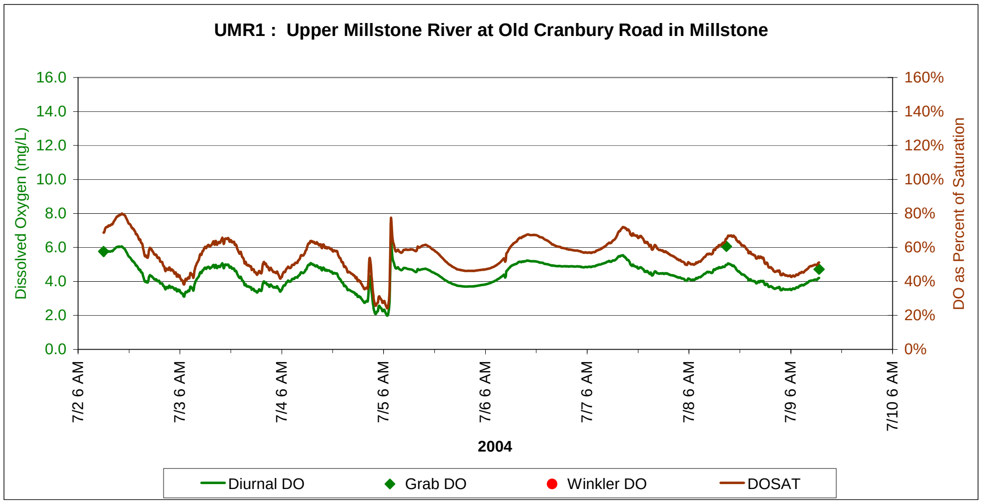
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

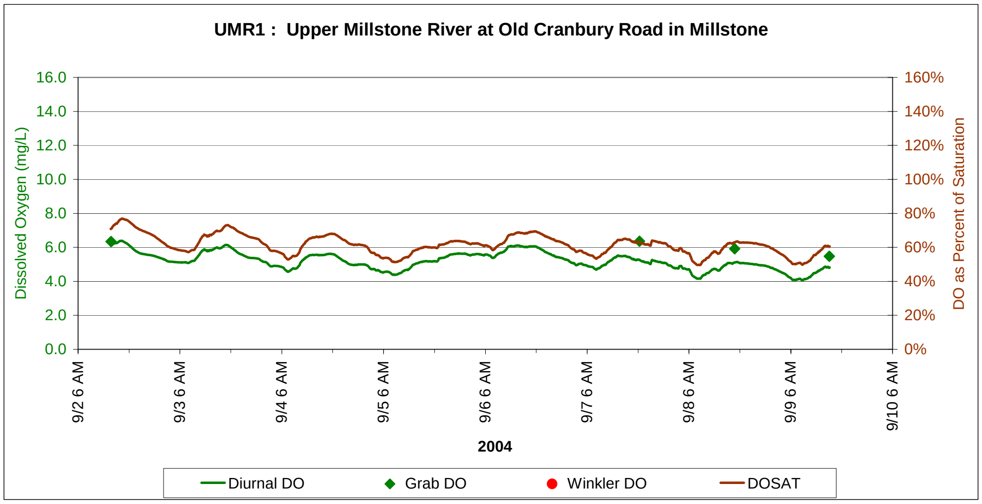


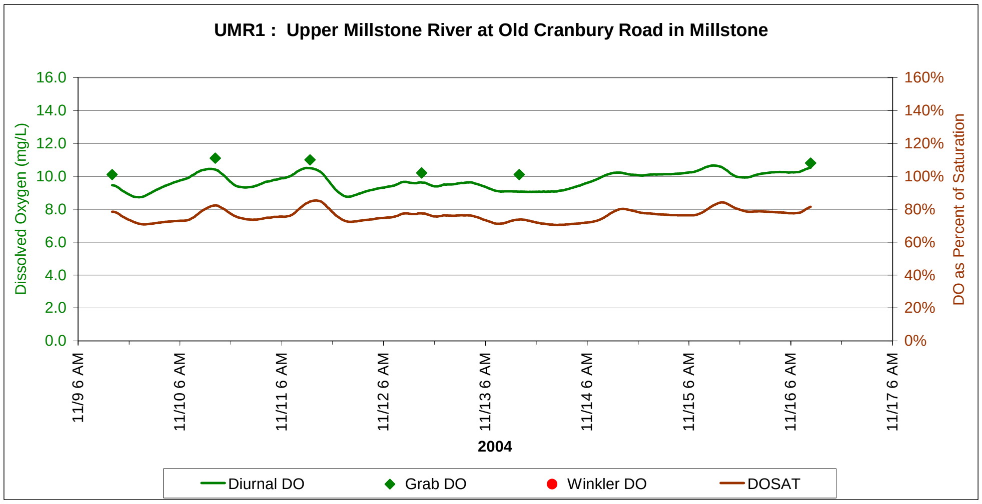




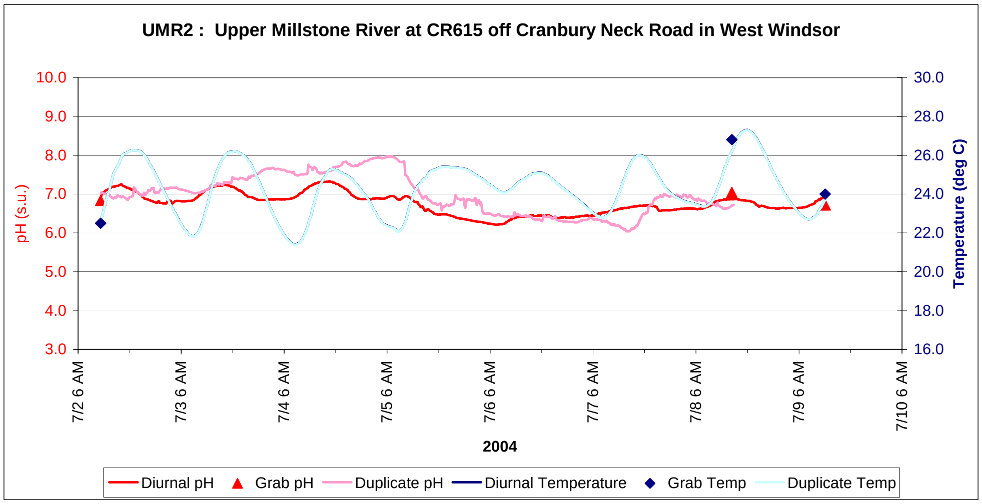
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

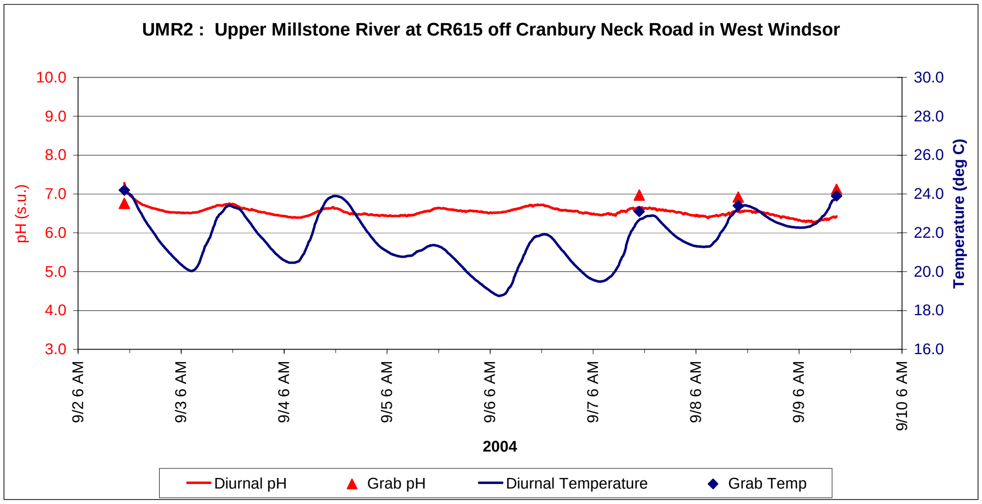


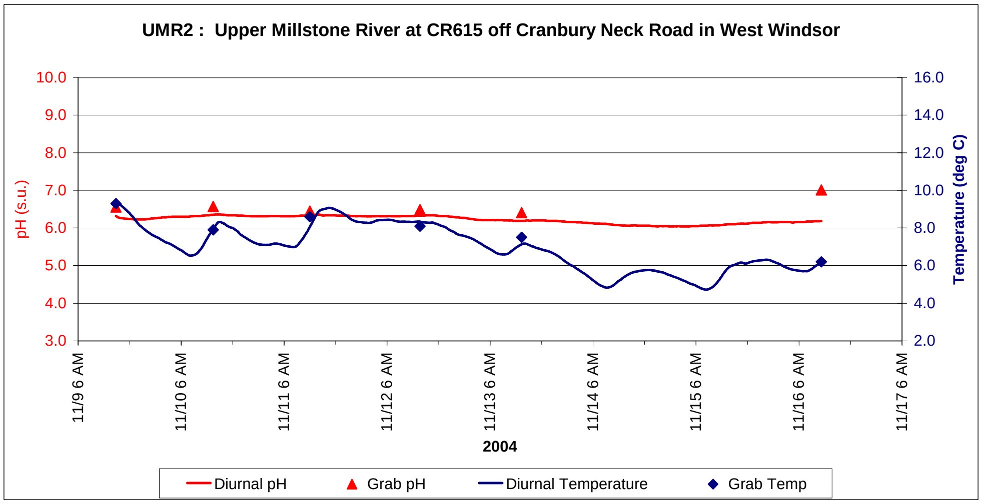




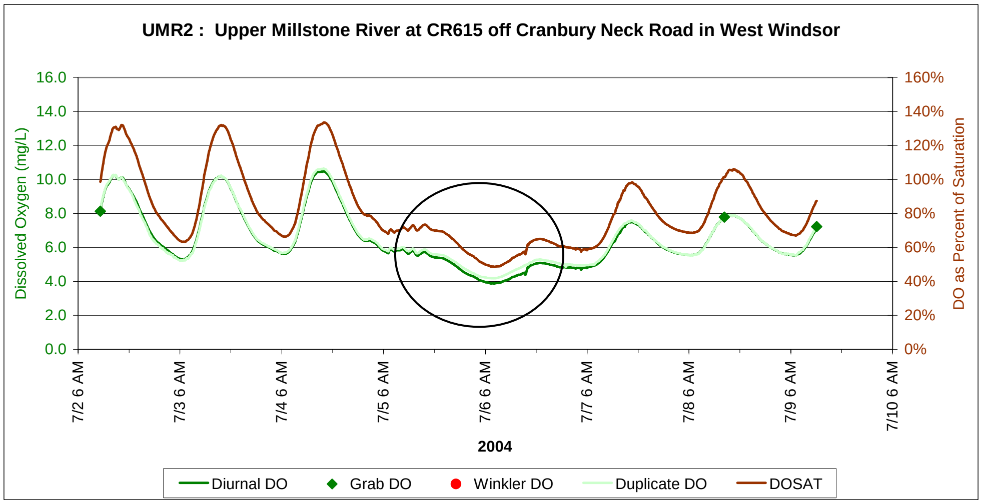
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



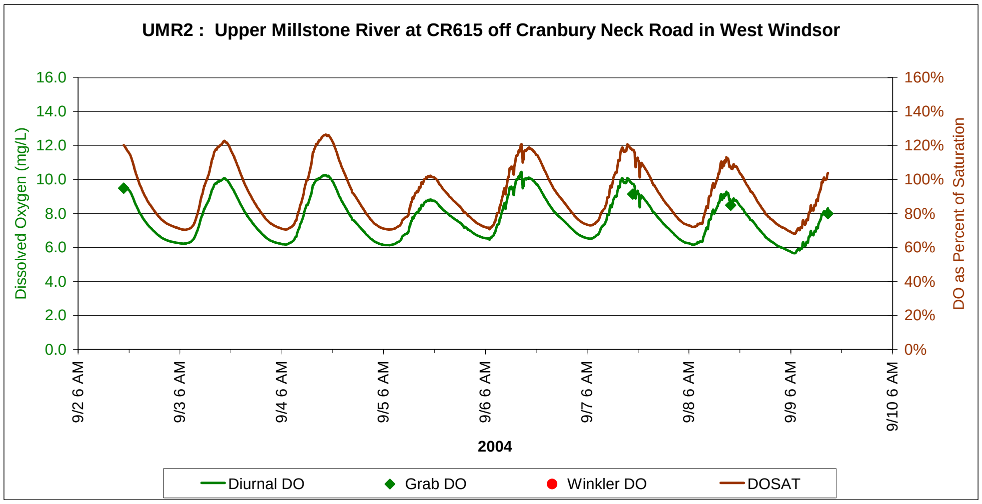


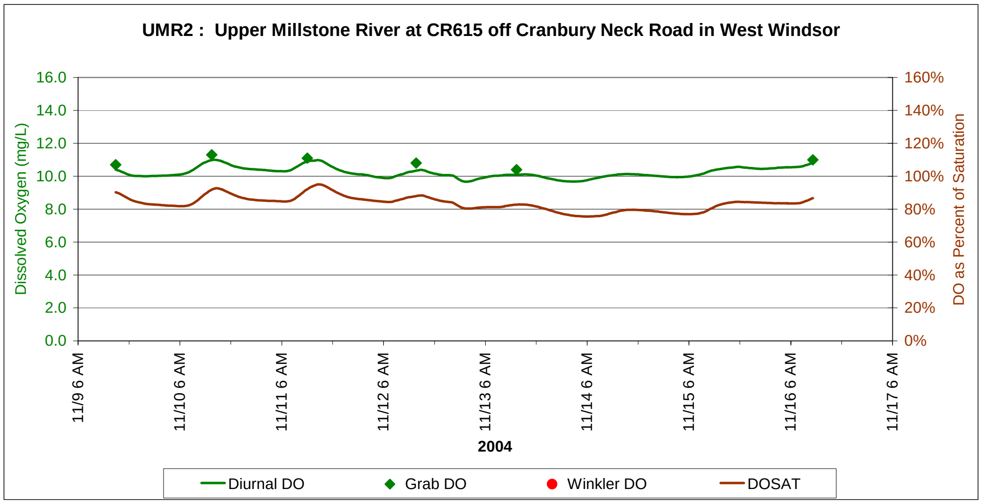


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

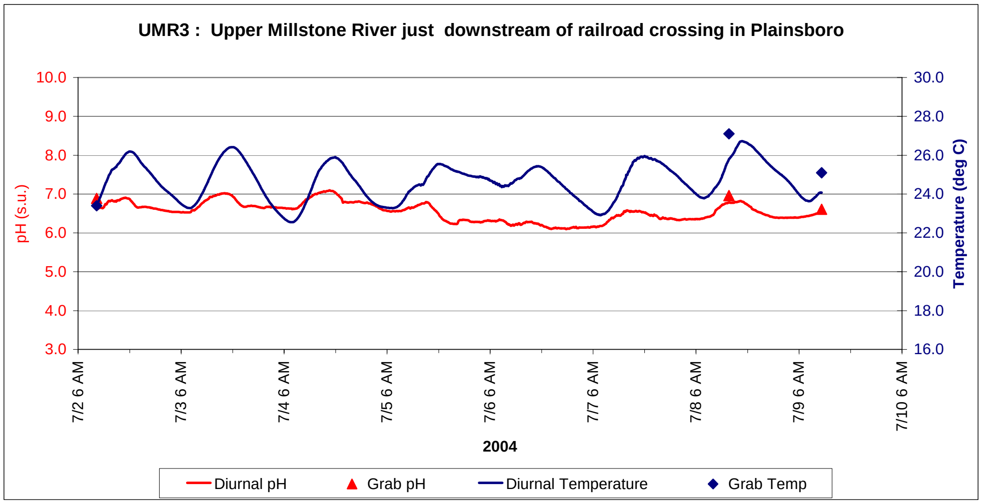


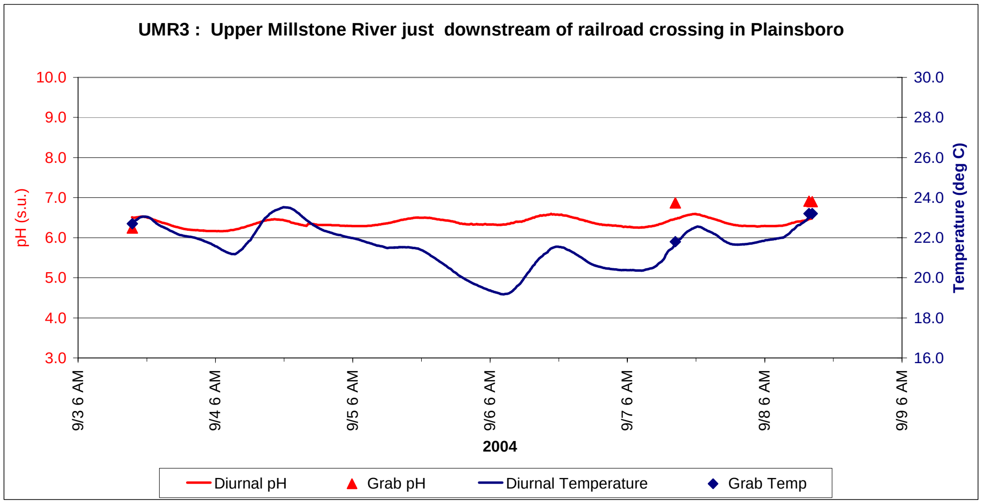
Circled: Storm event

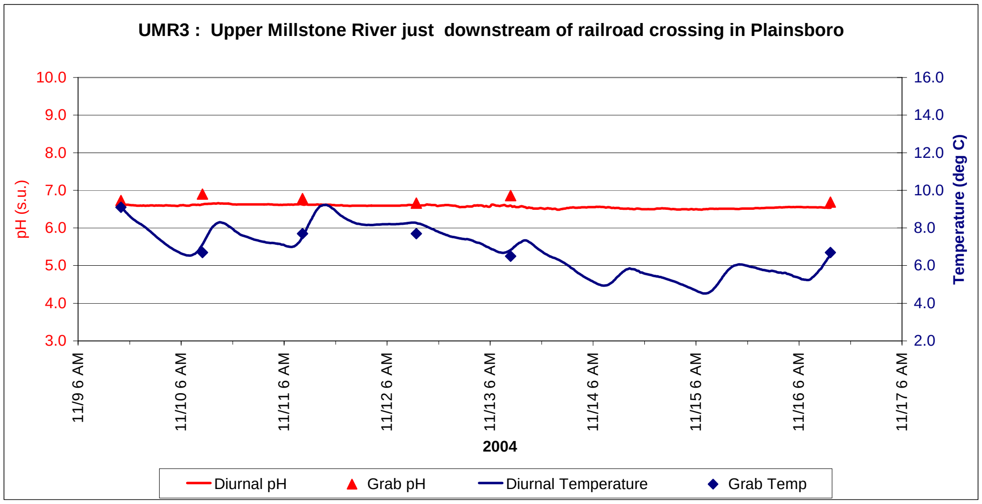




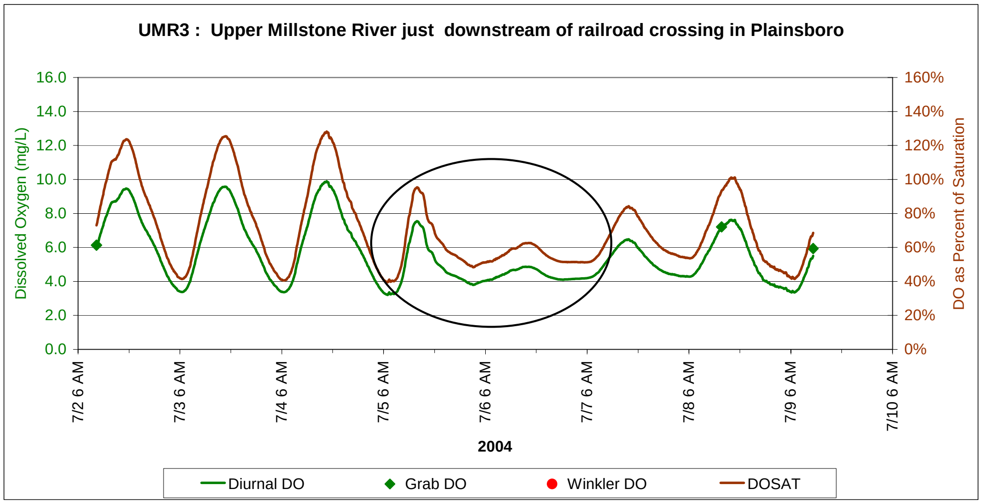
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



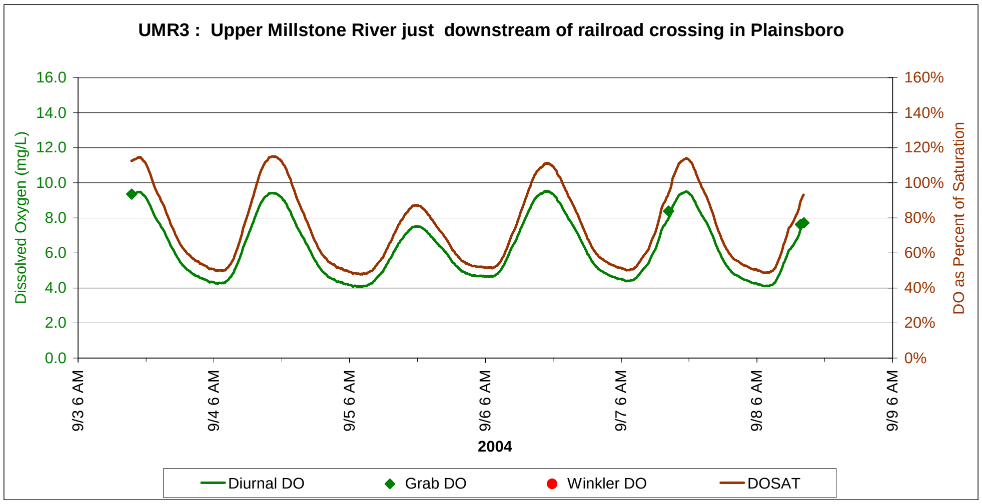


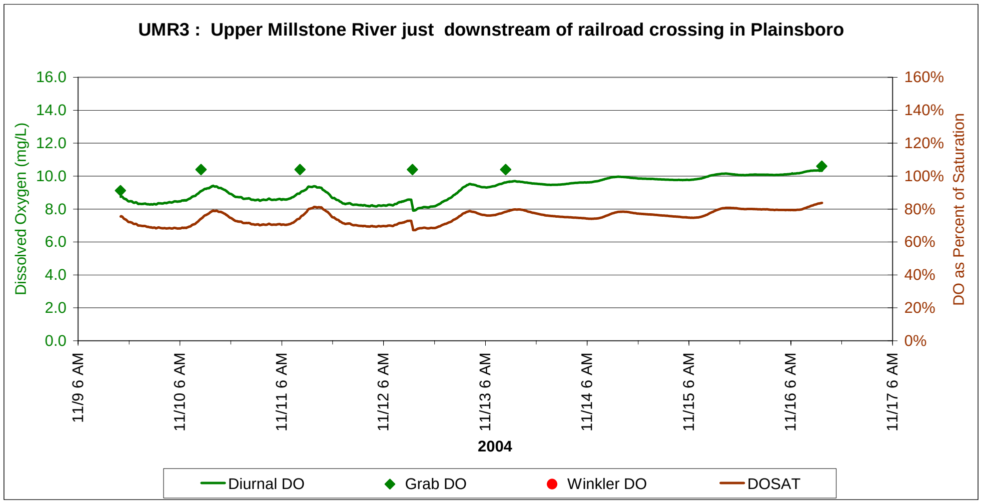


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.



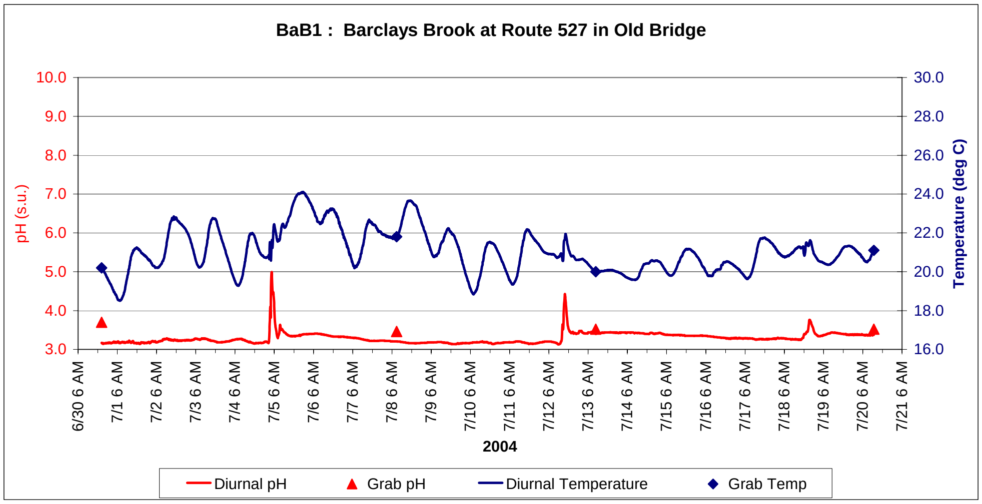
Circled: Storm event

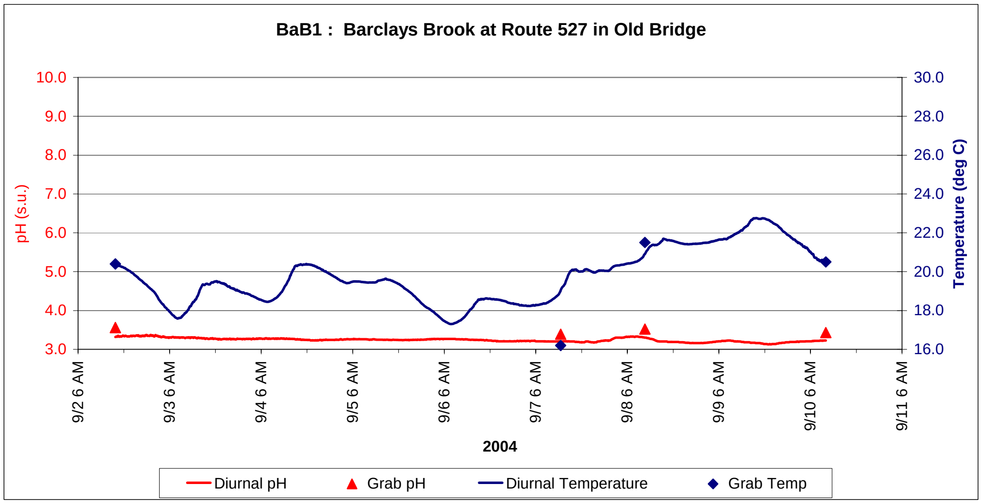


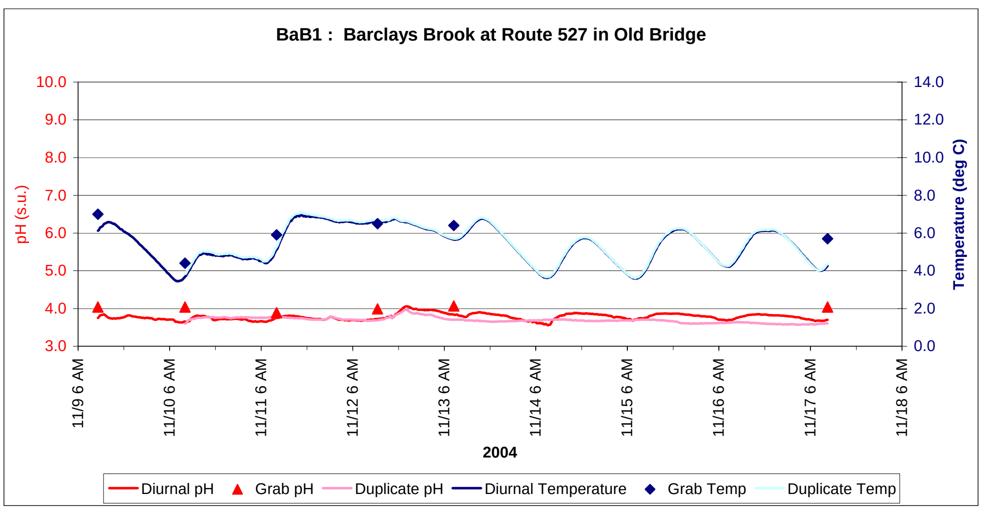


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

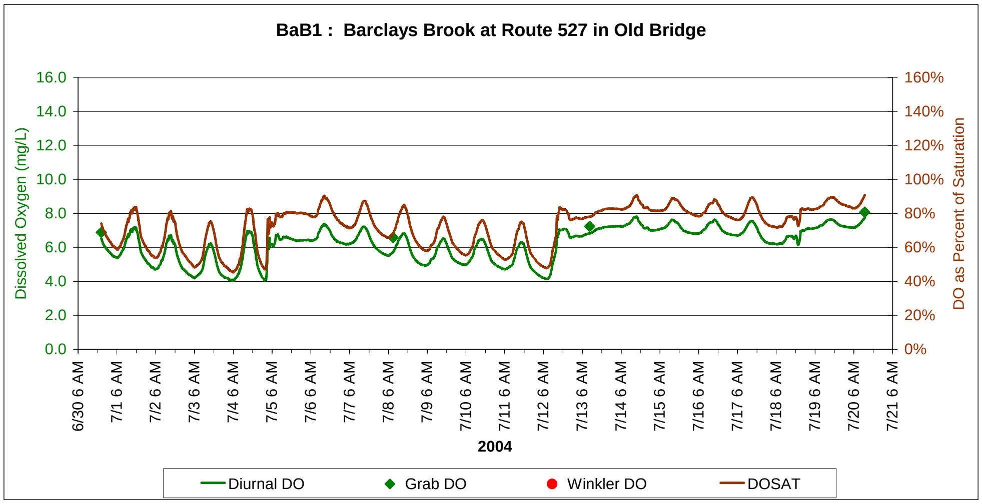
Matchaponix Brook Study Area
Diurnal Graphs

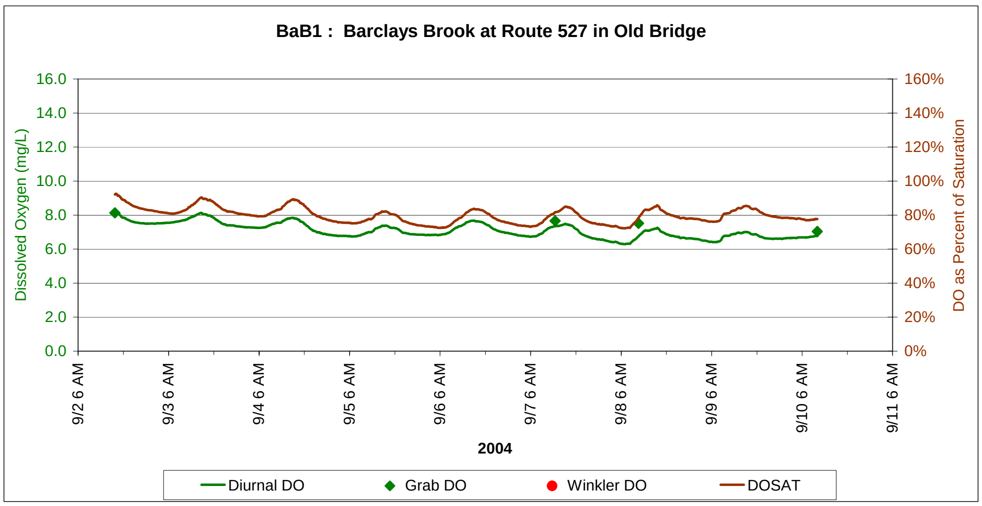


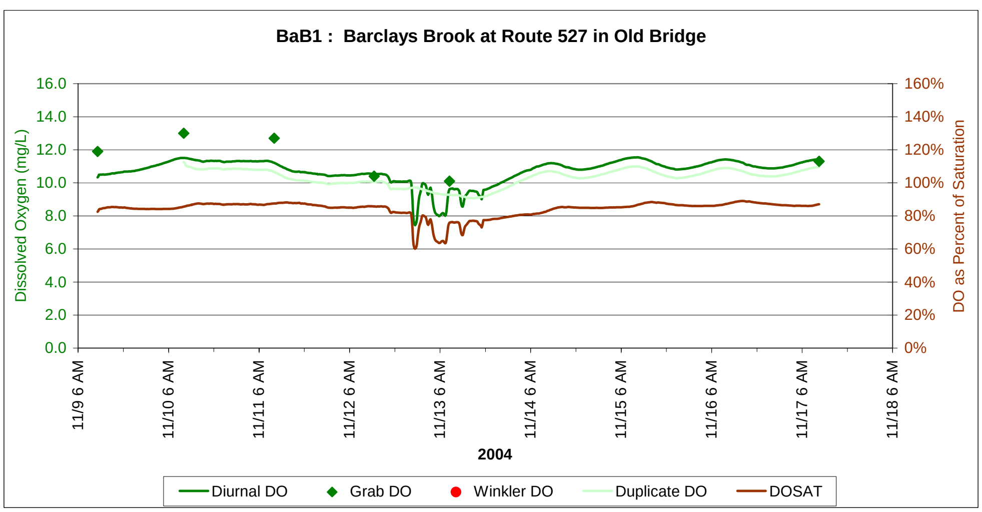




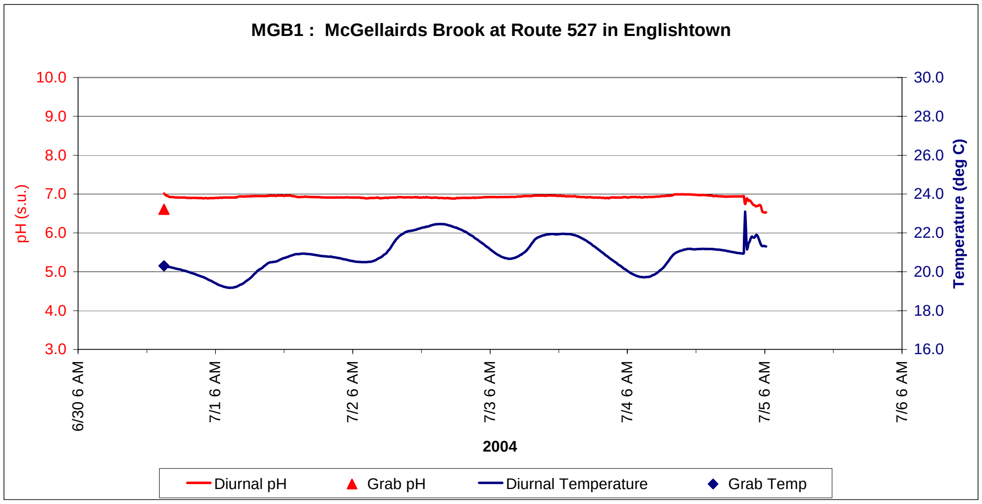
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

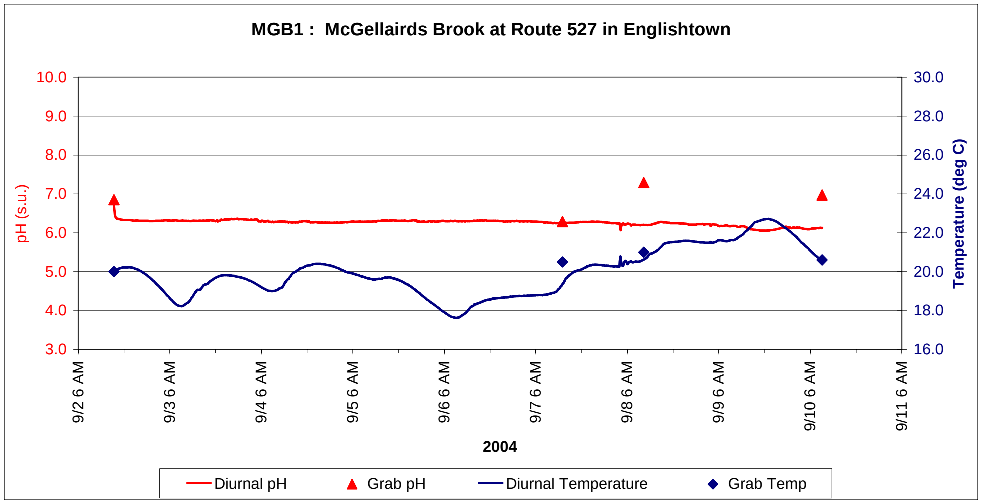


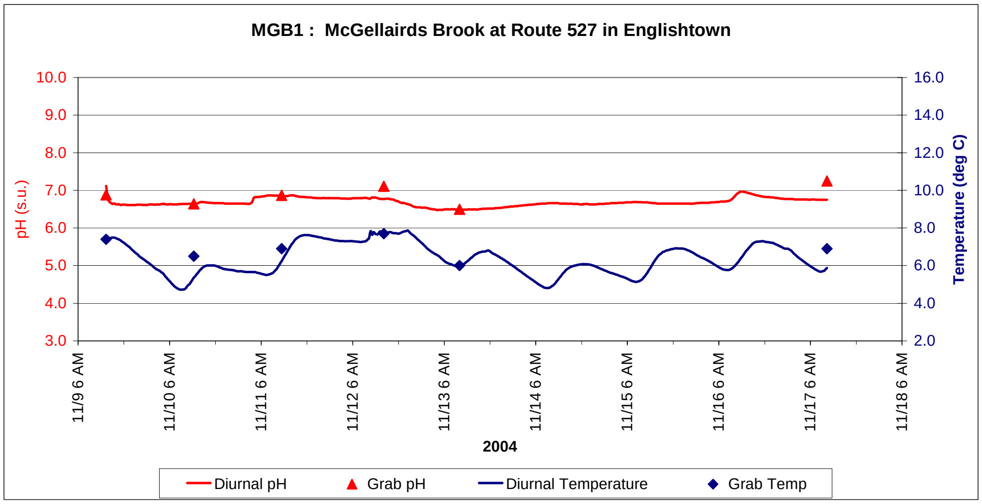




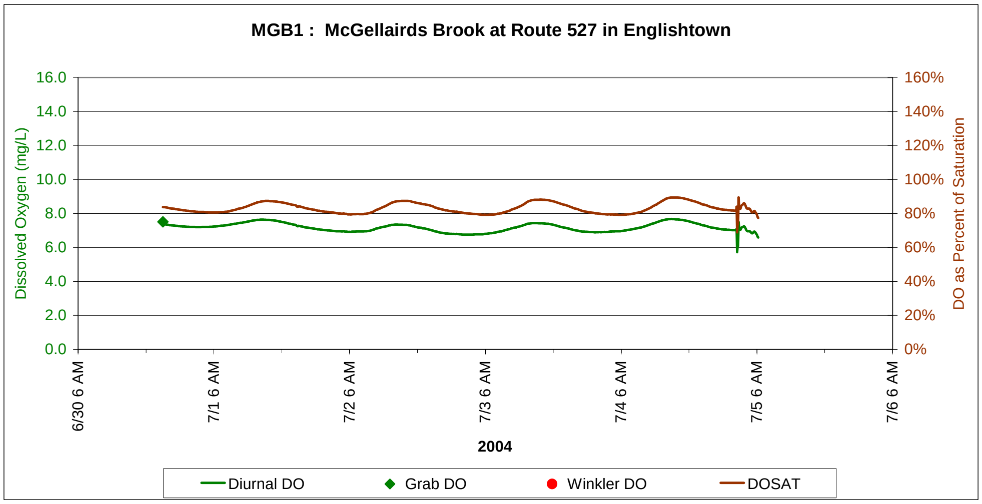
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

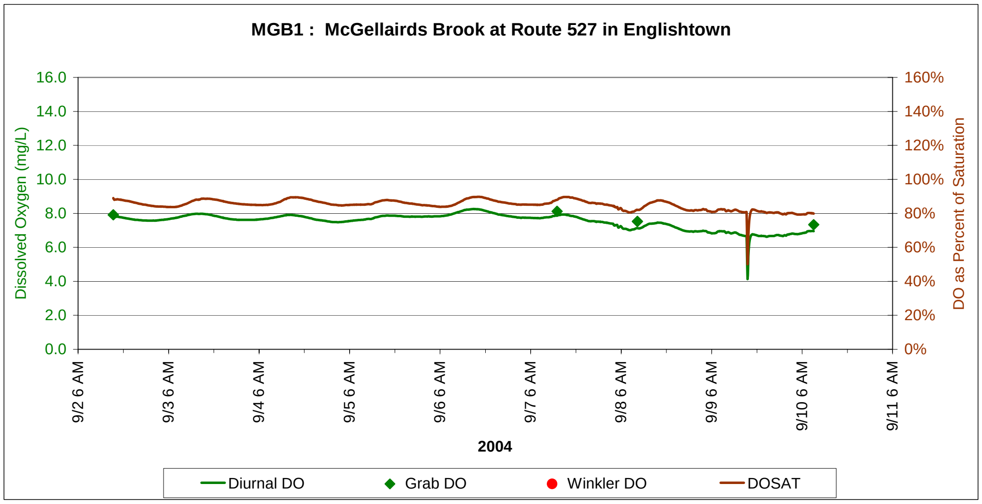


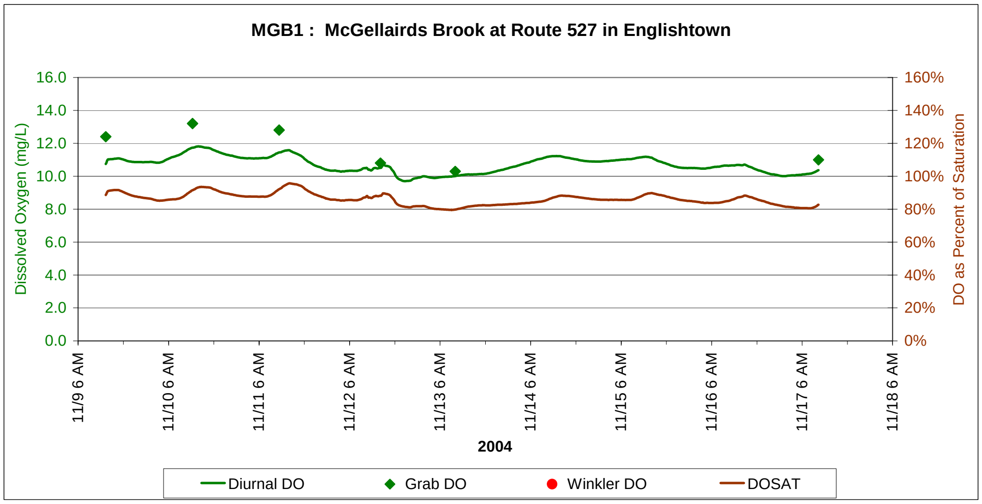




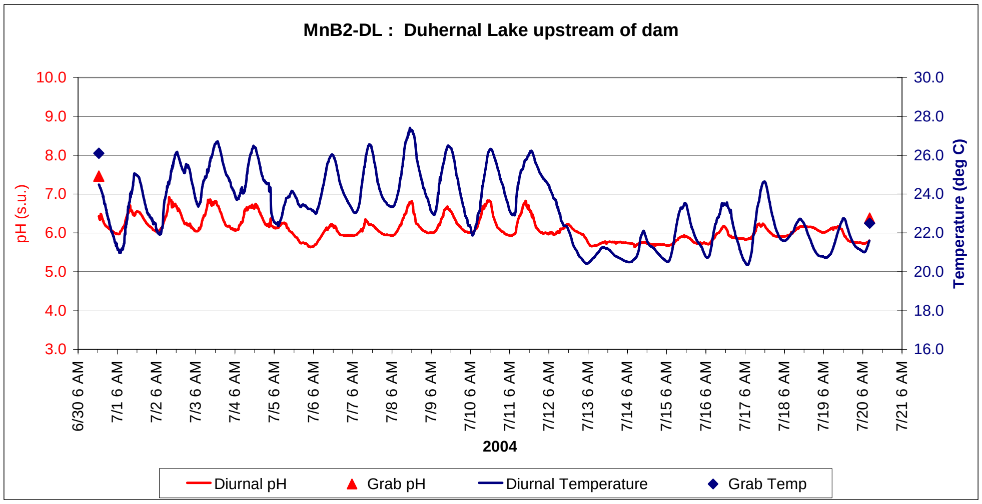
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

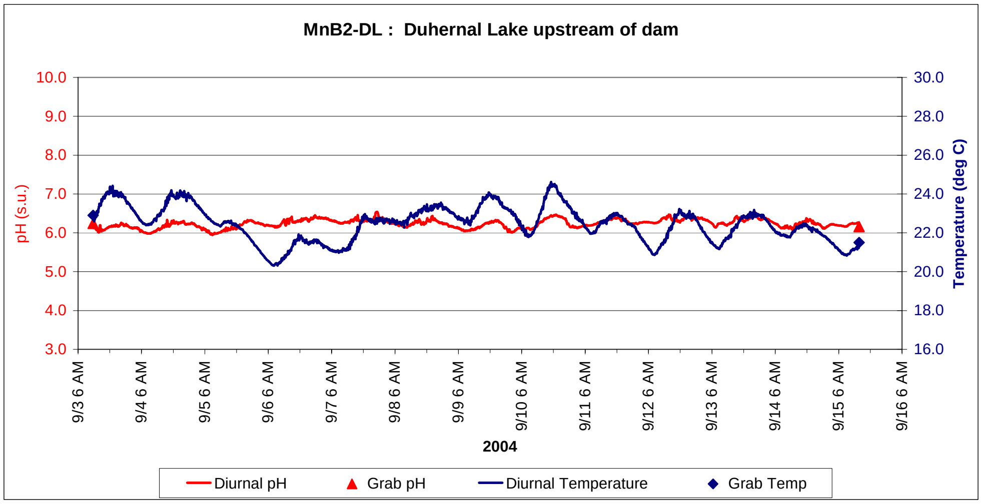


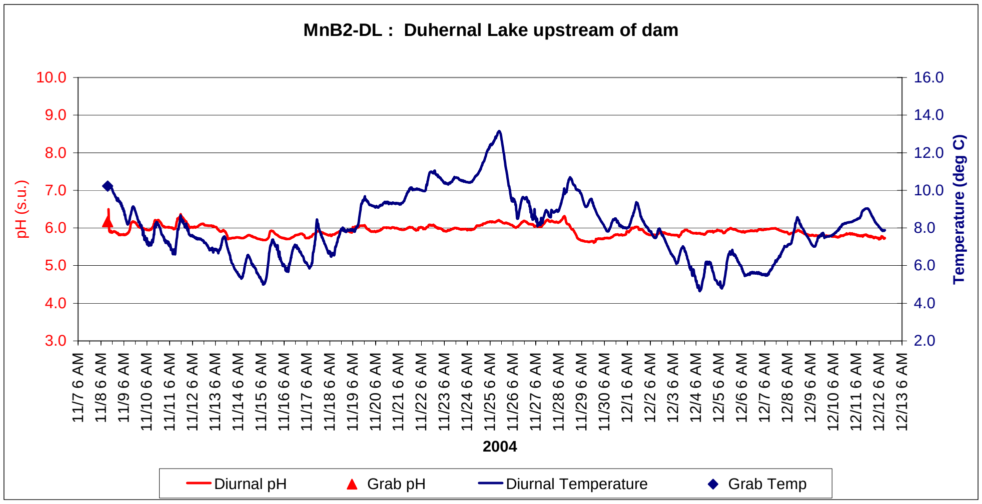




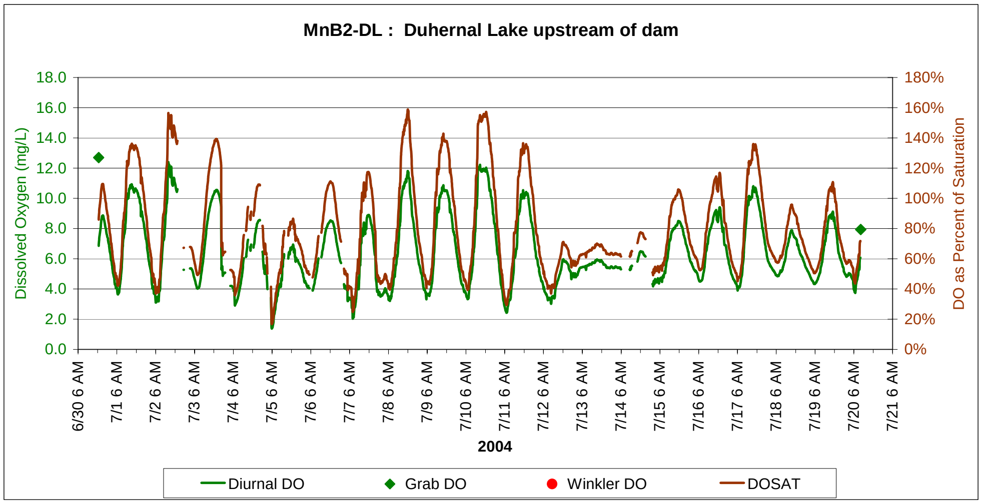
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

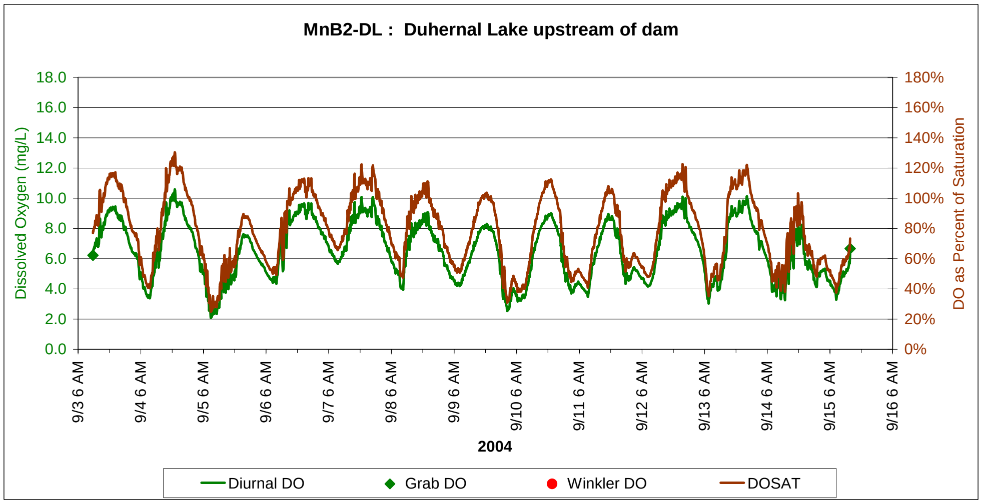


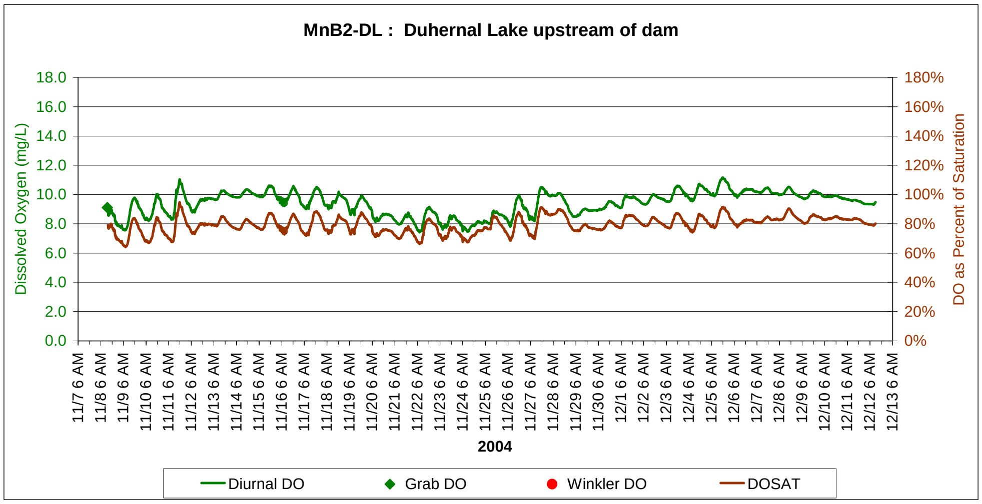




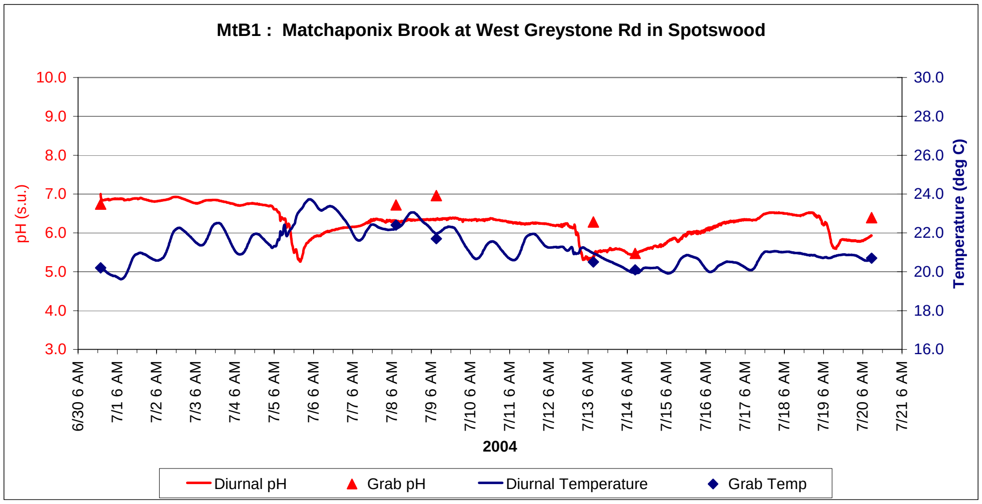
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

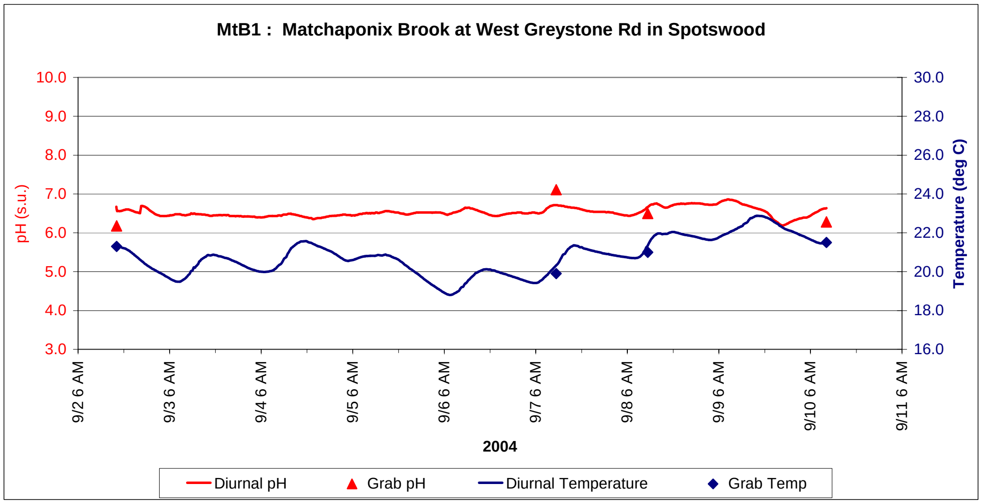


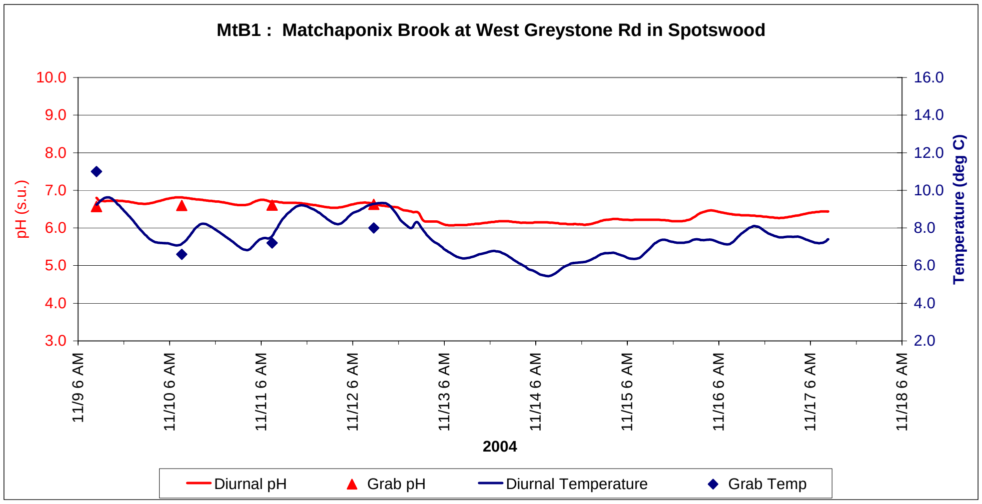




* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.







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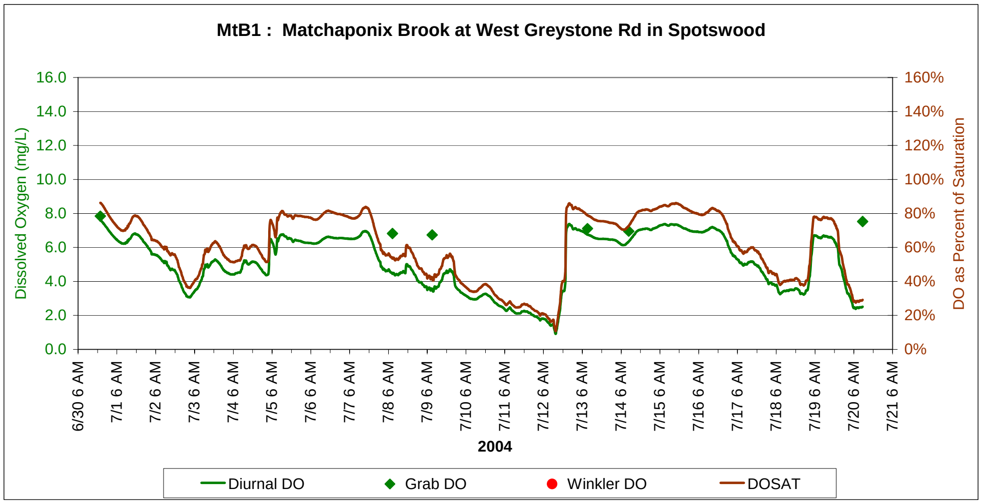
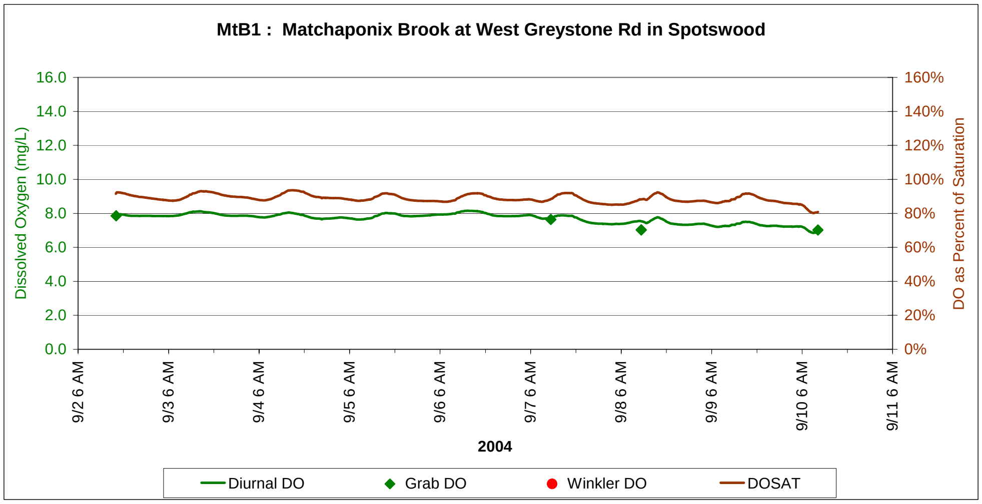
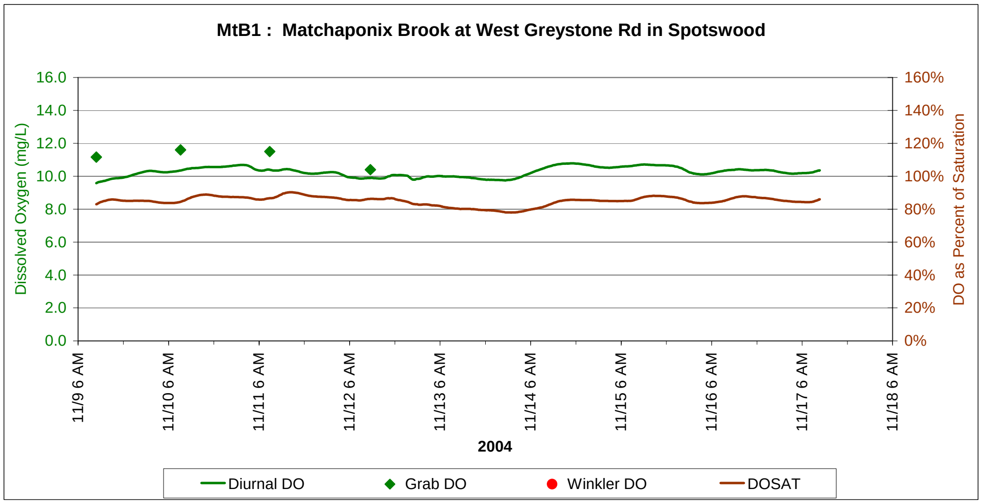
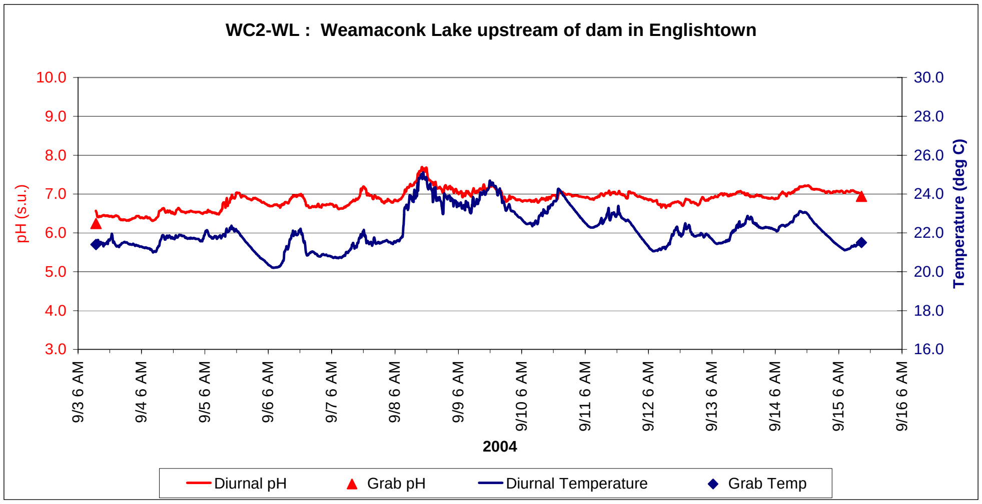


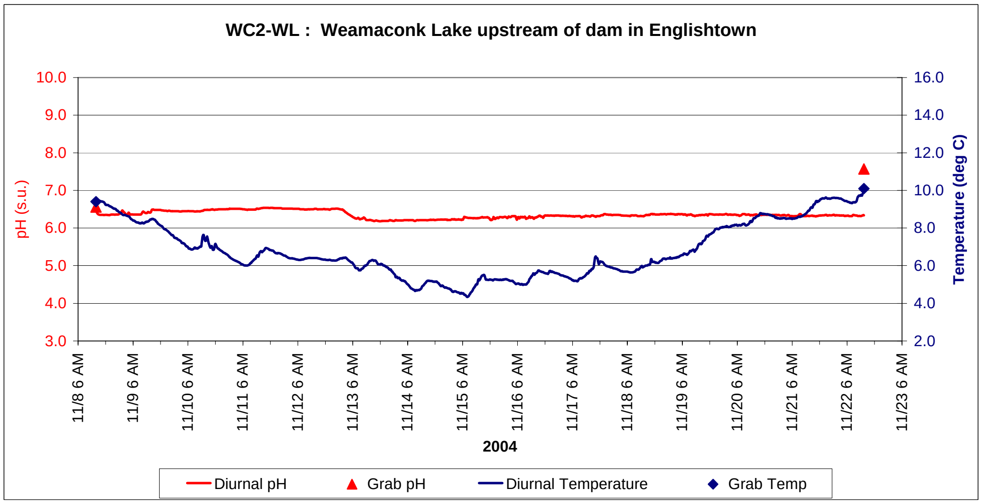


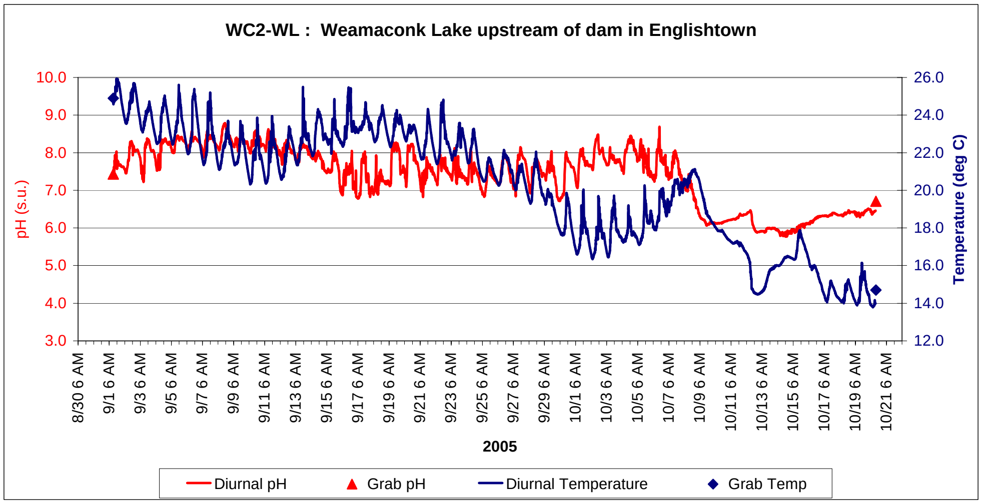


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

* Troll lost during first summer diurnal event.

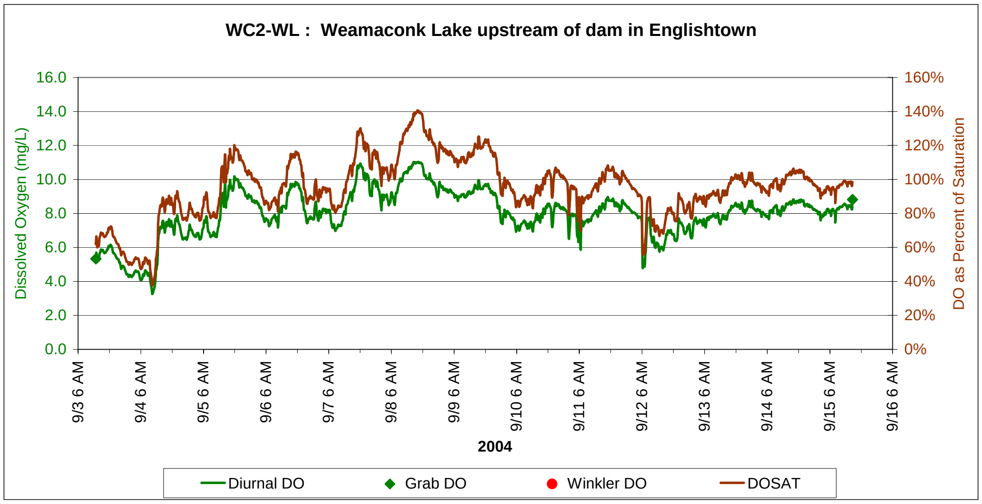


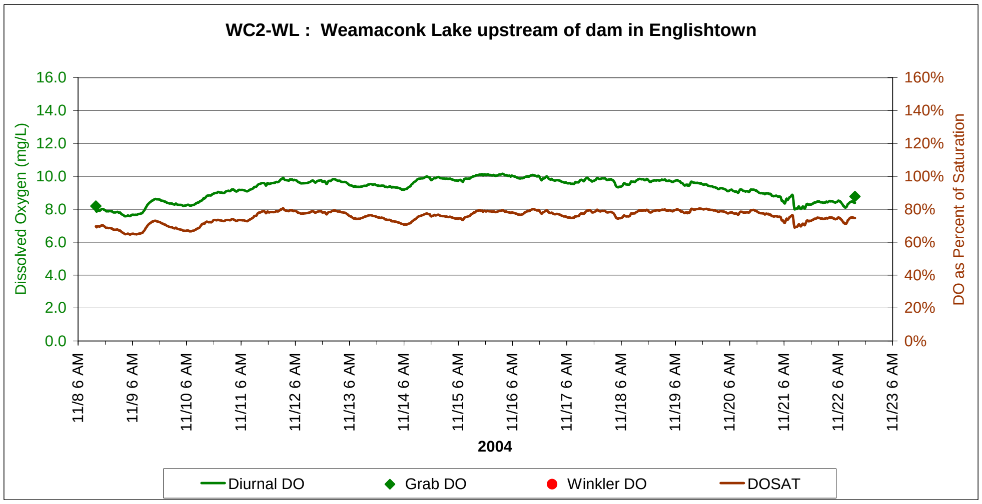


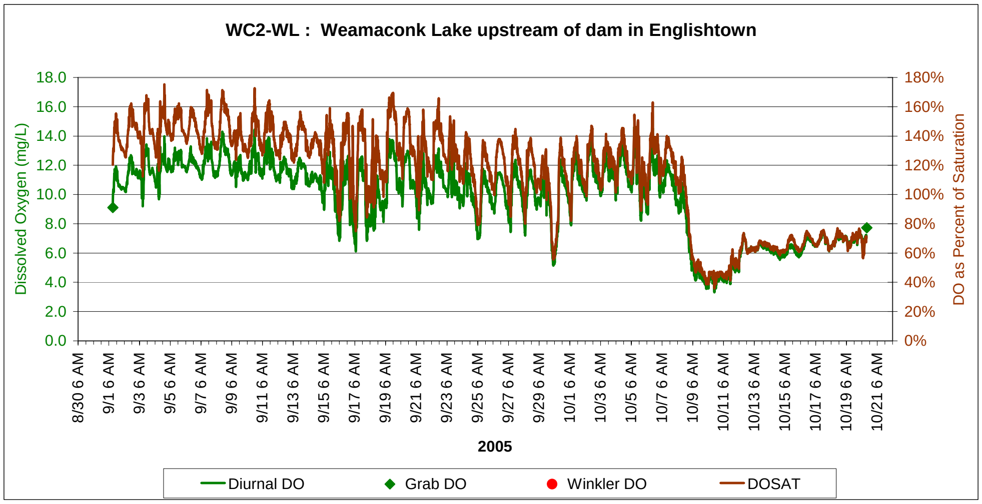


* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

* Troll lost during first summer diurnal event.



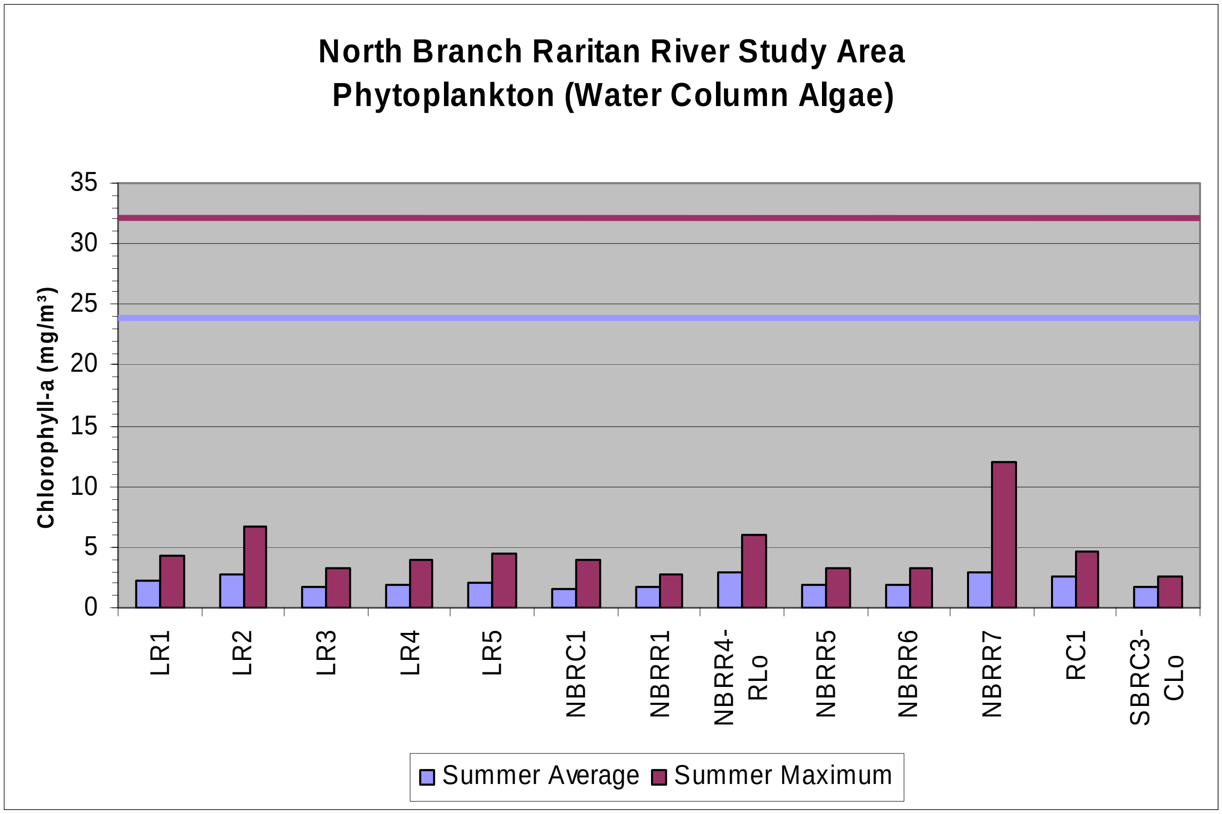


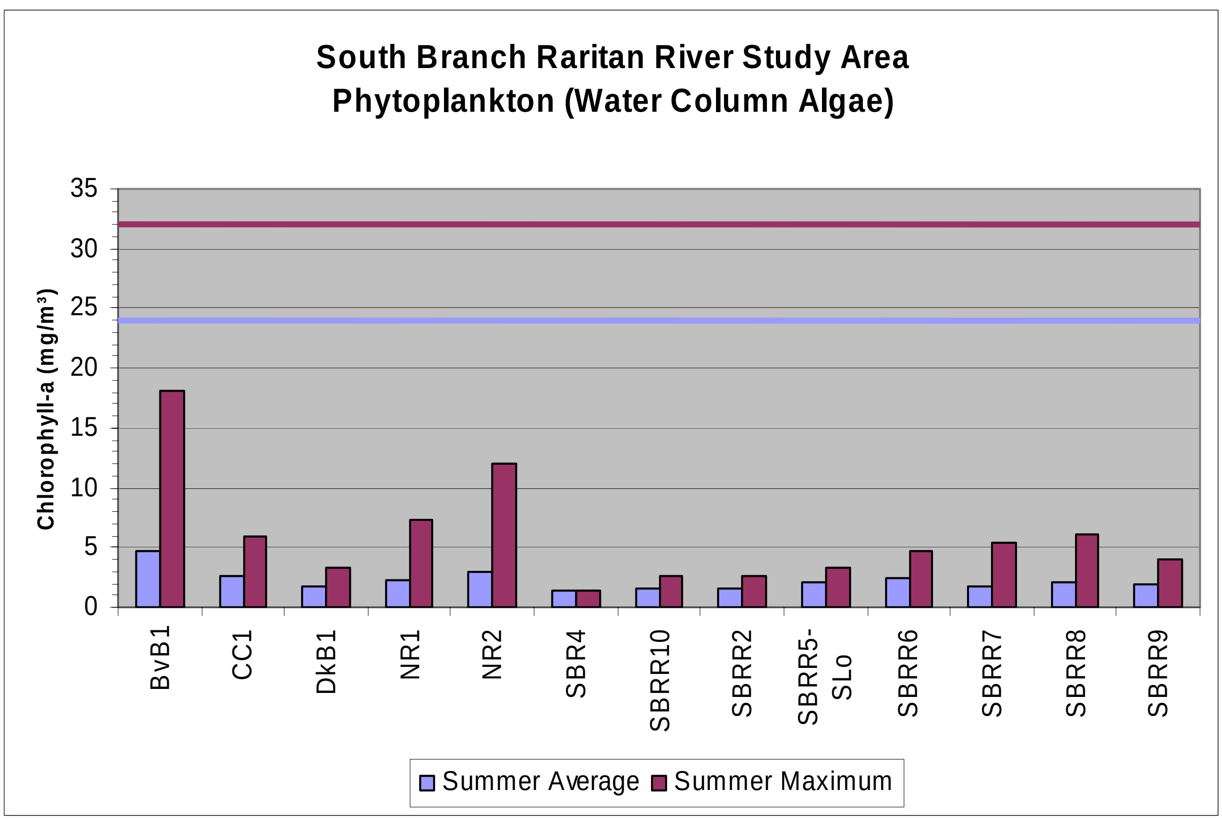


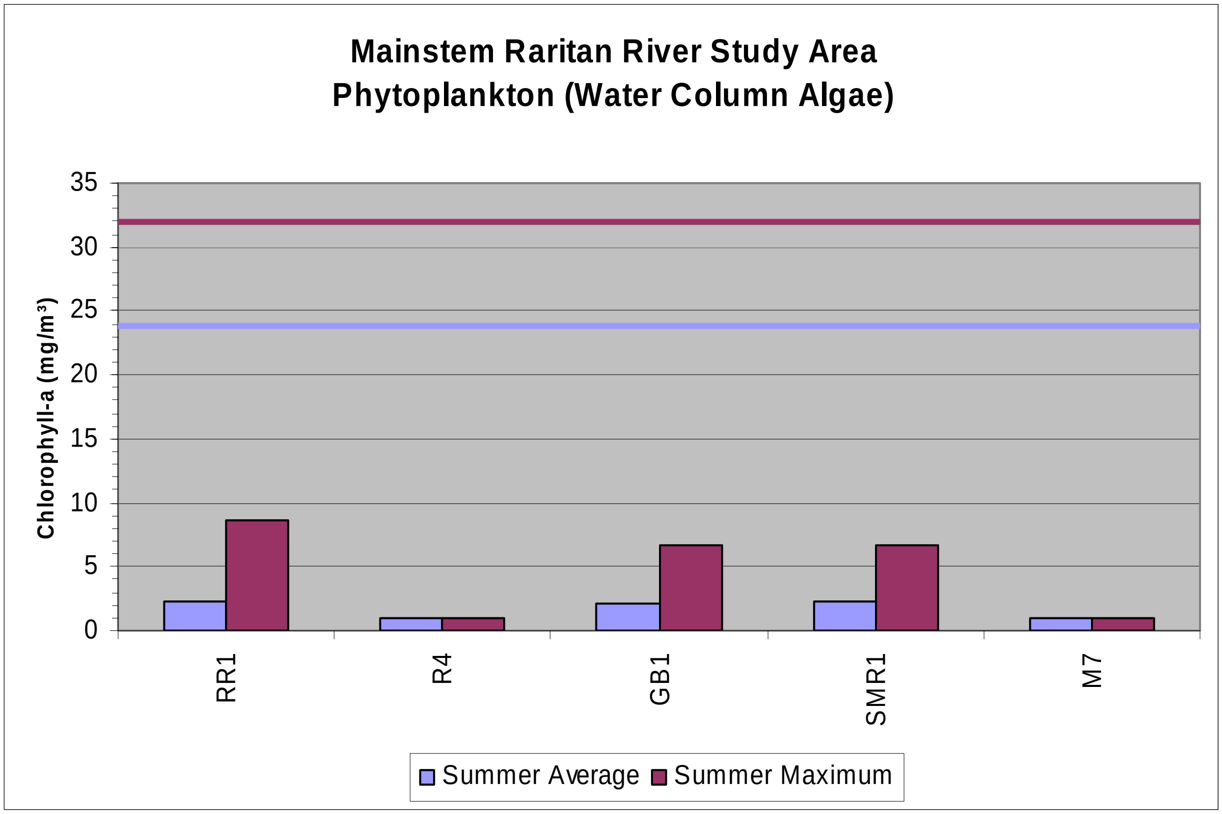
* Grab samples taken at the beginning and end of an event were taken at the exact location of the In-Situ Troll. All other grab samples were taken mid-stream, mid-depth.

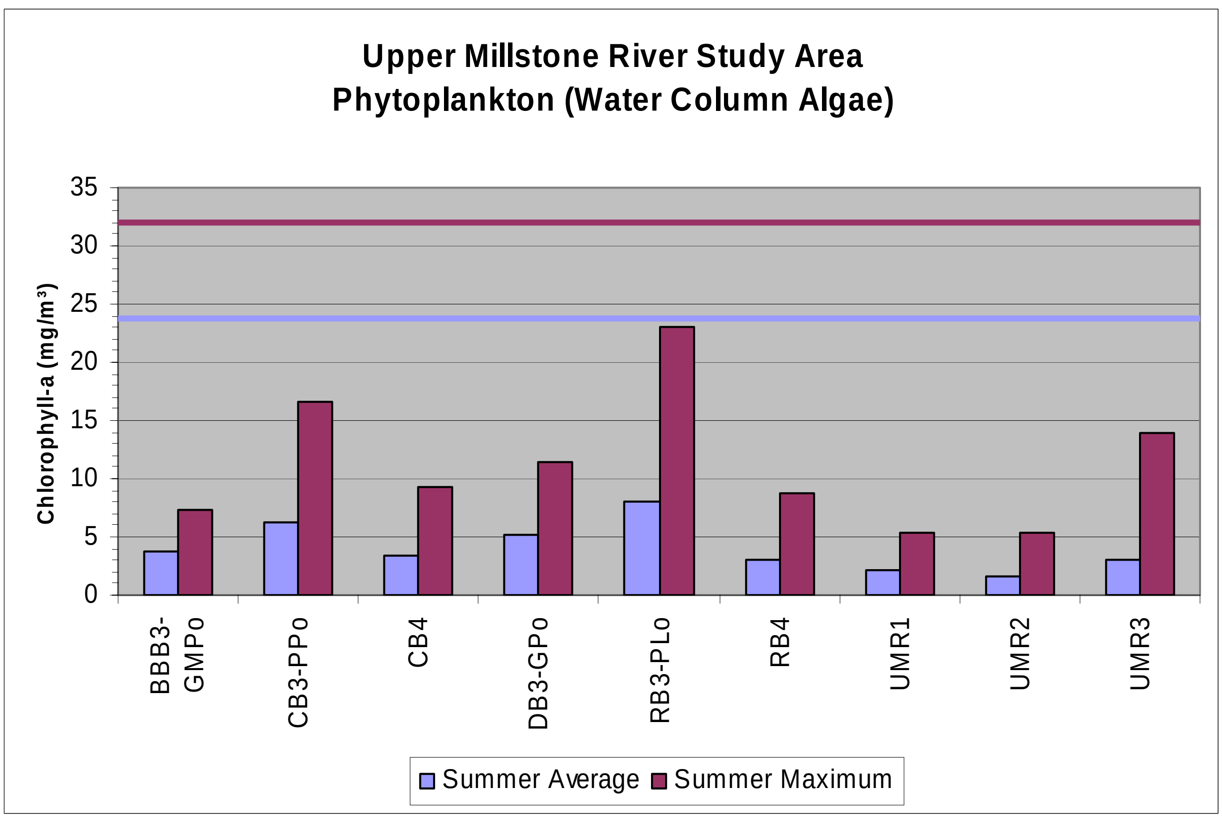
APPENDIX H

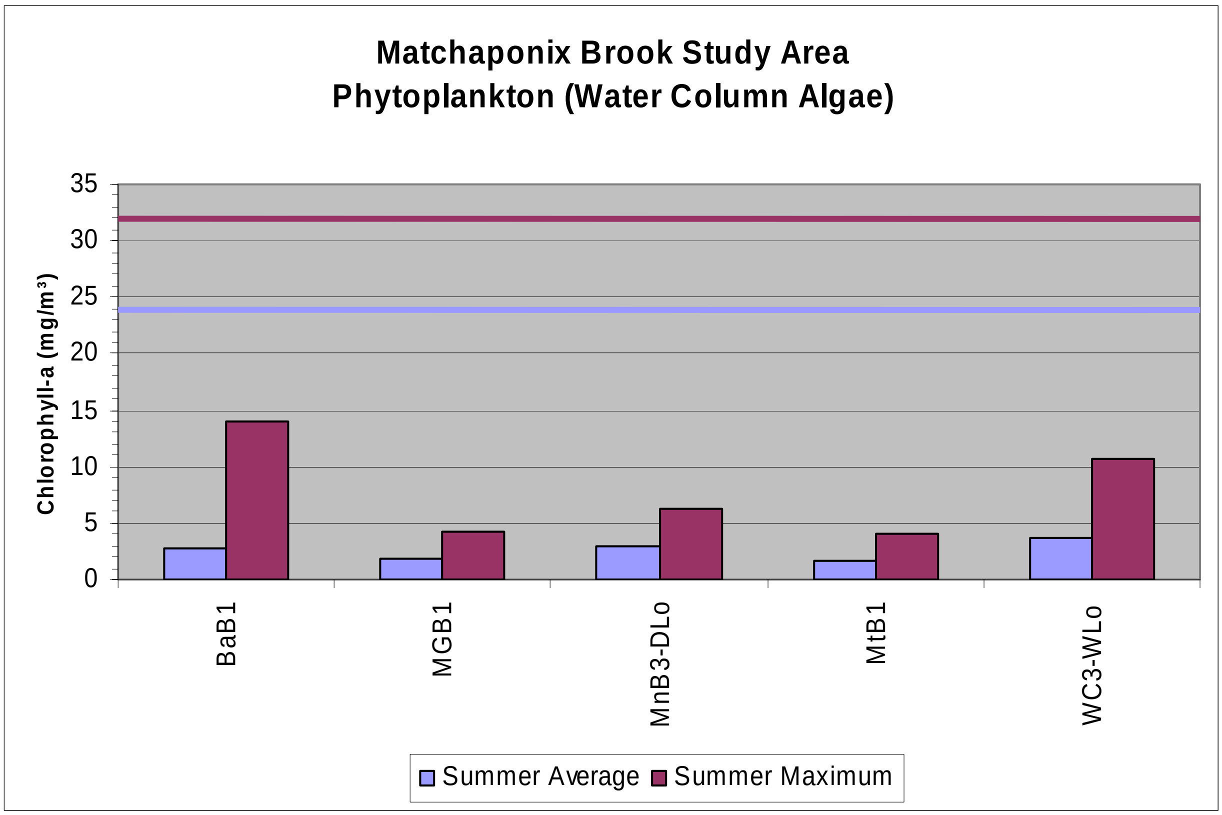
Water Column and Attached Algae Data Graphs

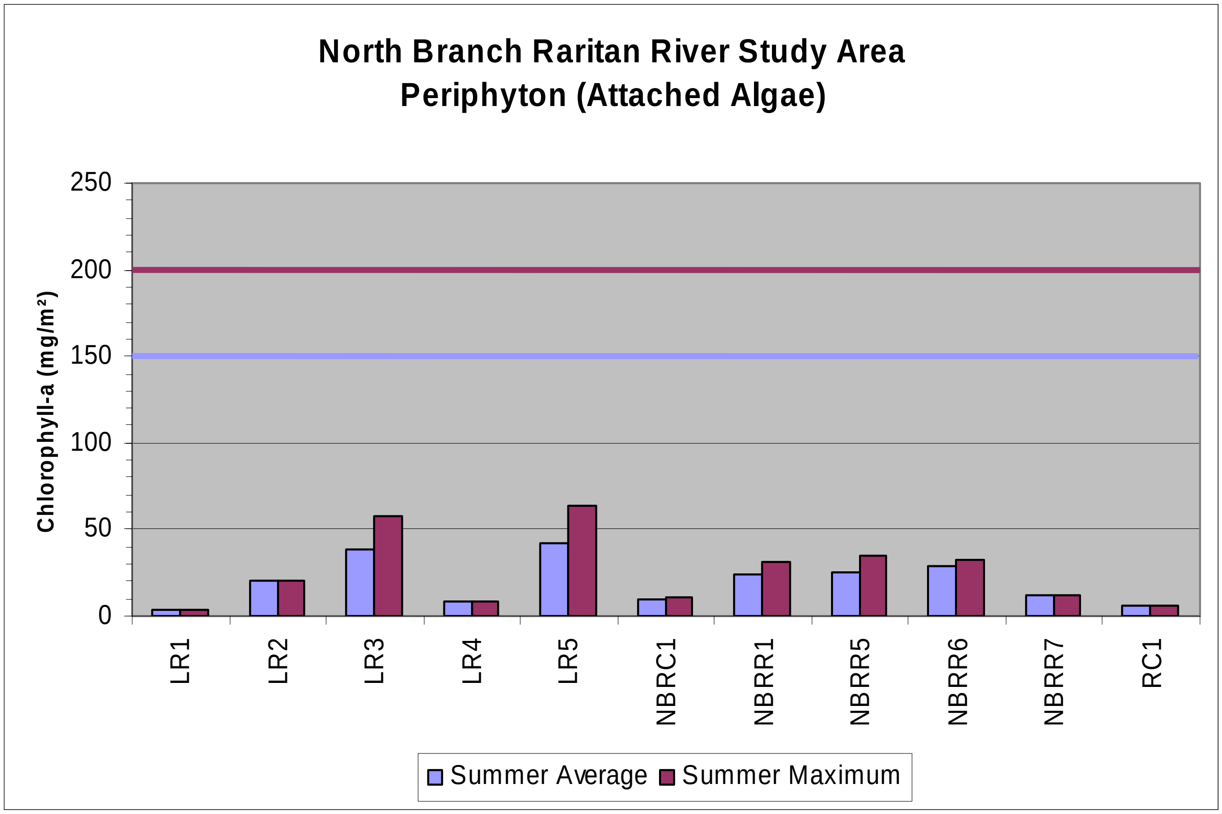

North Branch Raritan River Study Area
Phytoplankton (Water Column Algae)
Chlorophyll-a (mg/m³)
0
5
10
15
20
25
30
35
LR1
LR2
LR3
LR4
LR5
NBRC1
NBRR1
NBRR4-RLo
NBRR5
NBRR6
NBRR7
RC1
SBRC3-CLo
Summer Average
Summer Maximum

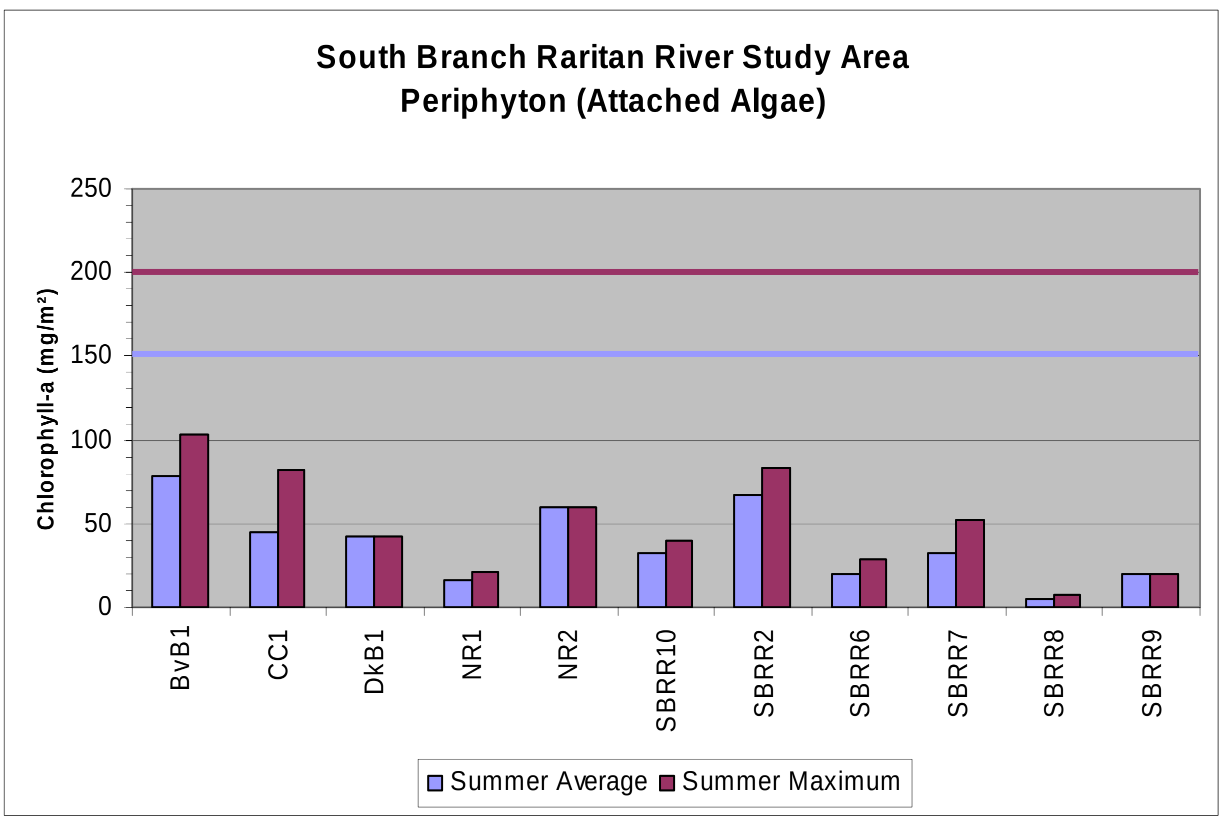

South Branch Raritan River Study Area
Phytoplankton (Water Column Algae)
Chlorophyll-a (mg/m³)
0
5
10
15
20
25
30
35
BvB1
CC1
DkB1
NR1
NR2
SBR4
SBRR10
SBRR2
SBRR5-SLo
SBRR6
SBRR7
SBRR8
SBRR9
Summer Average
Summer Maximum

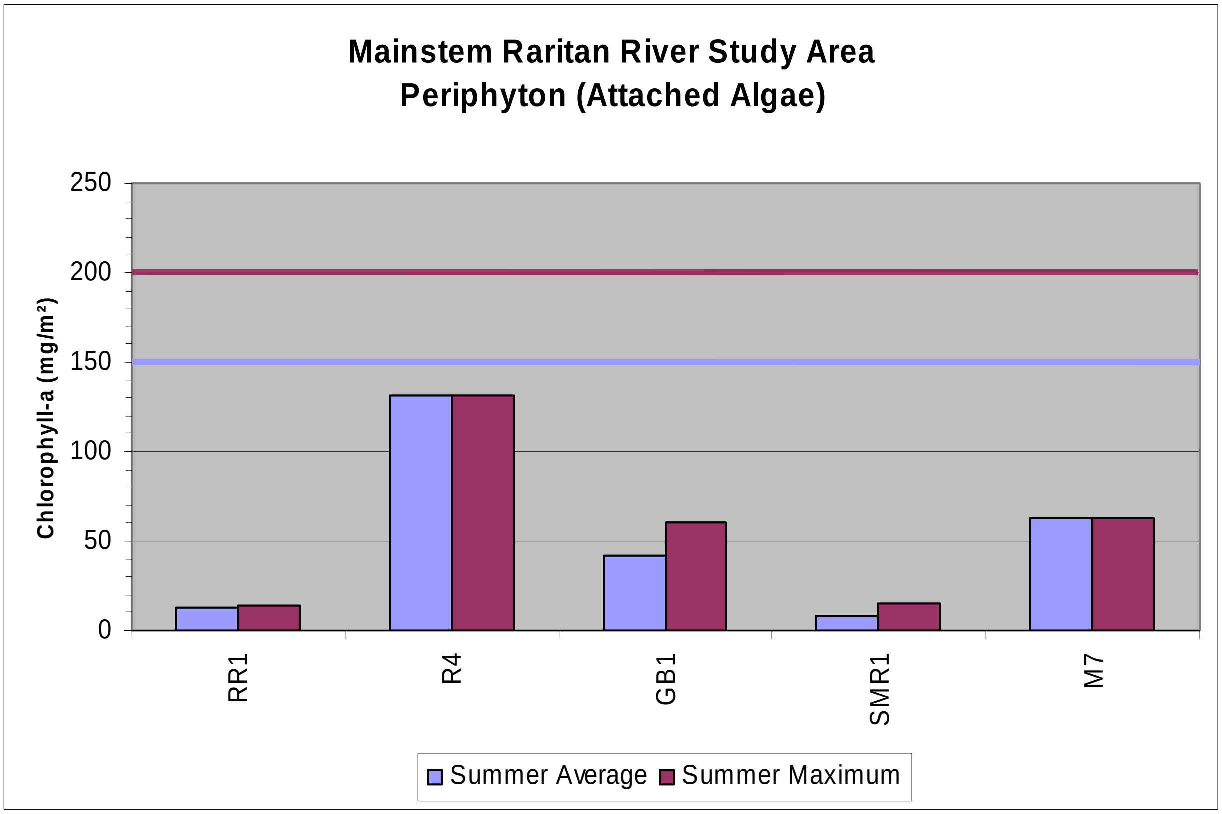

Mainstem Raritan River Study Area
Phytoplankton (Water Column Algae)
Chlorophyll-a (mg/m³)
0
5
10
15
20
25
30
35
RR1
R4
GB1
SMR1
M7
Summer Average
Summer Maximum

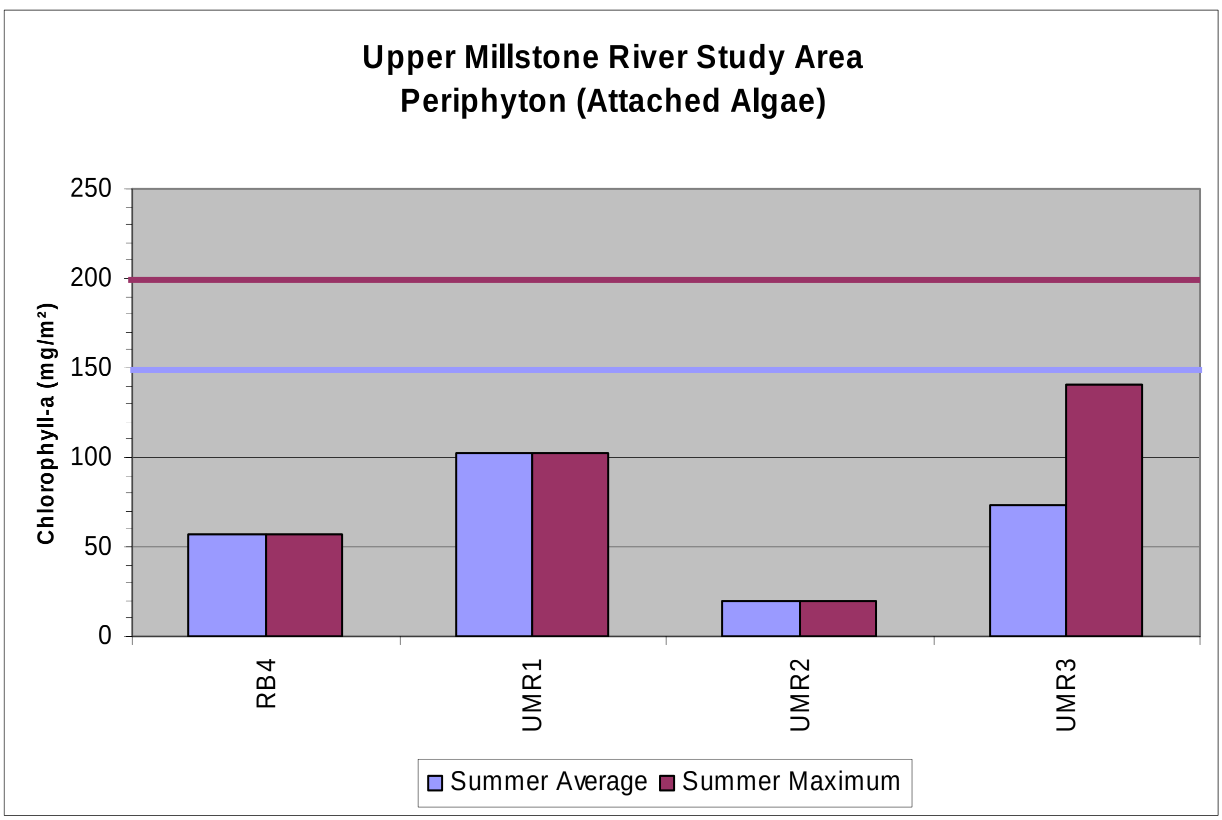

Upper Millstone River Study Area
Phytoplankton (Water Column Algae)
Chlorophyll-a (mg/m³)
0
5
10
15
20
25
30
35
BBB3-GMPo
CB3-PPo
CB4
DB3-GPo
RB3-PLo
RB4
UMR1
UMR2
UMR3
Summer Average
Summer Maximum

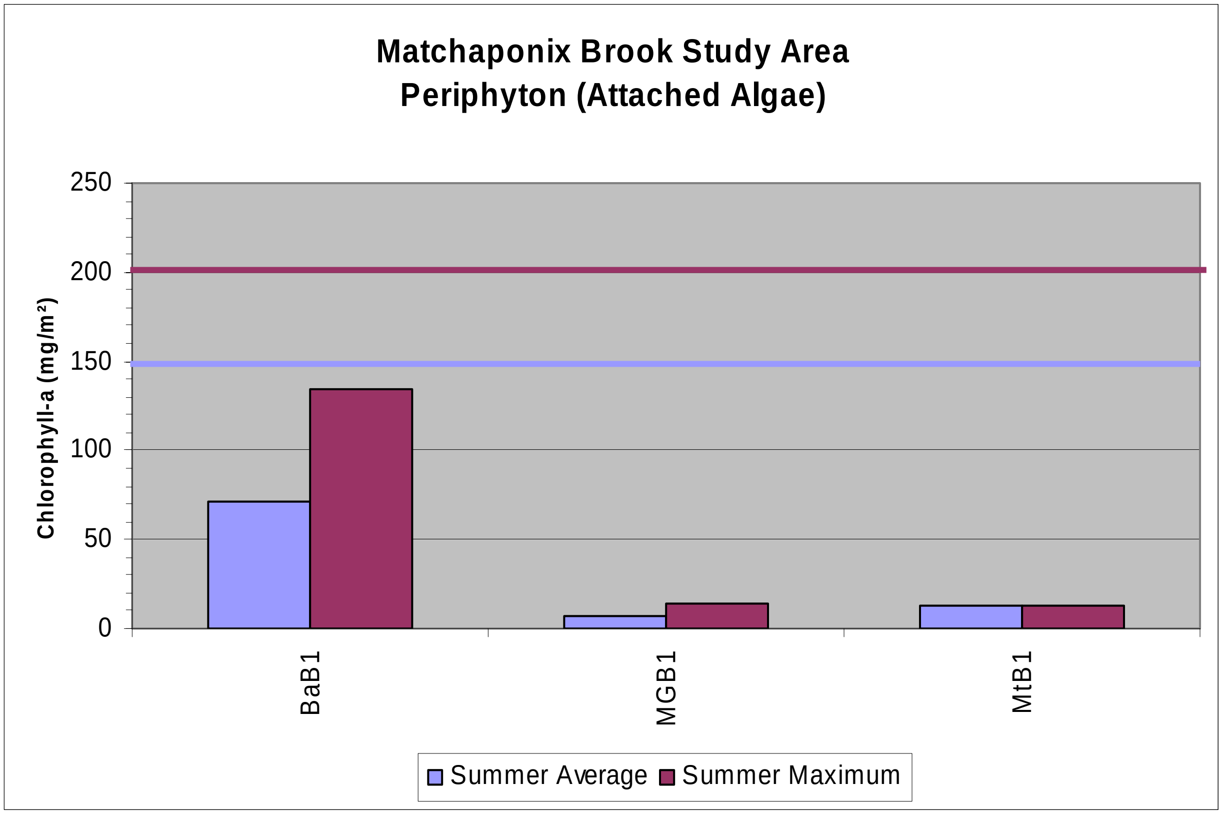

Matchaponix Brook Study Area
Phytoplankton (Water Column Algae)
Chlorophyll-a (mg/m³)
35
30
25
20
15
10
5
0
BaB1
MGB1
MnB3-DLo
MtB1
WC3-WLo
Summer Average
Summer Maximum

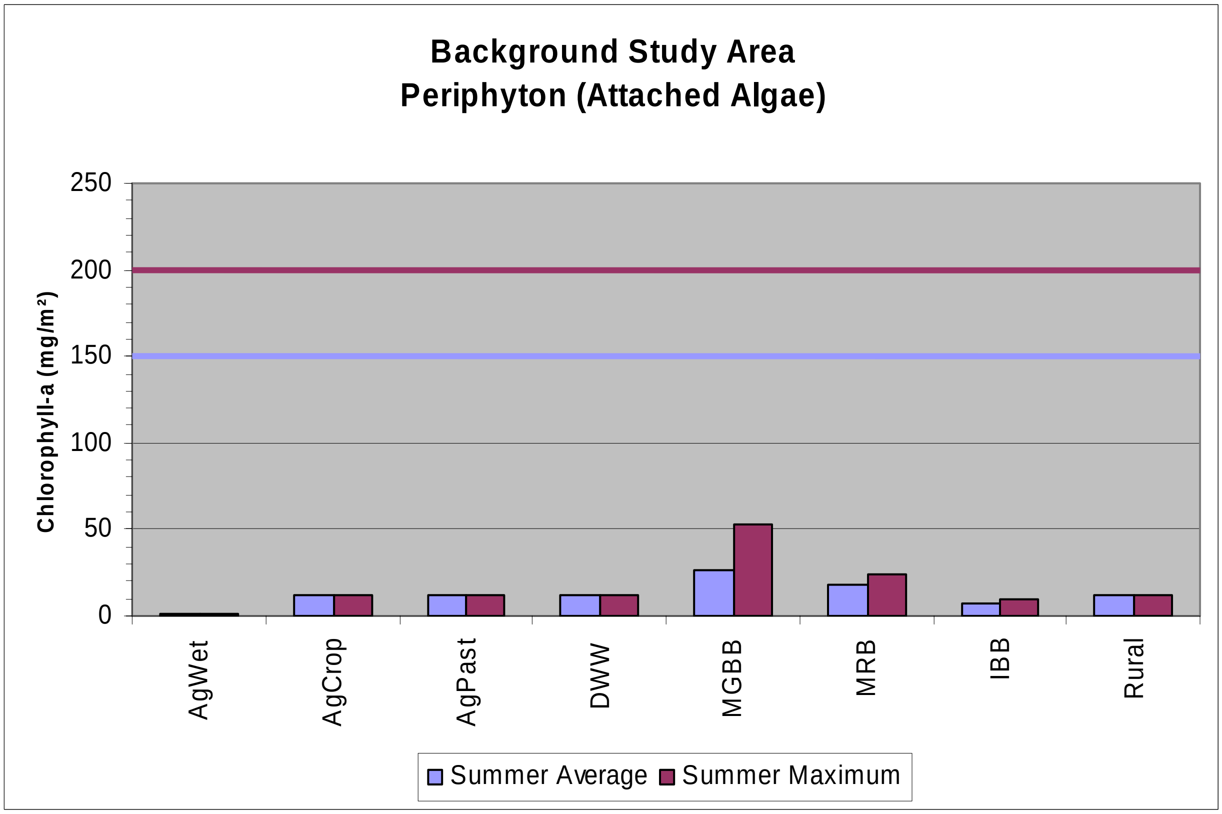

North Branch Raritan River Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
LR1
LR2
LR3
LR4
LR5
NBRC1
NBRR1
NBRR5
NBRR6
NBRR7
RC1
Summer Average
Summer Maximum


South Branch Raritan River Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
BvB1
CC1
DkB1
NR1
NR2
SBRR10
SBRR2
SBRR6
SBRR7
SBRR8
SBRR9
Summer Average
Summer Maximum


Mainstem Raritan River Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
RR1
R4
GB1
SMR1
M7
Summer Average
Summer Maximum

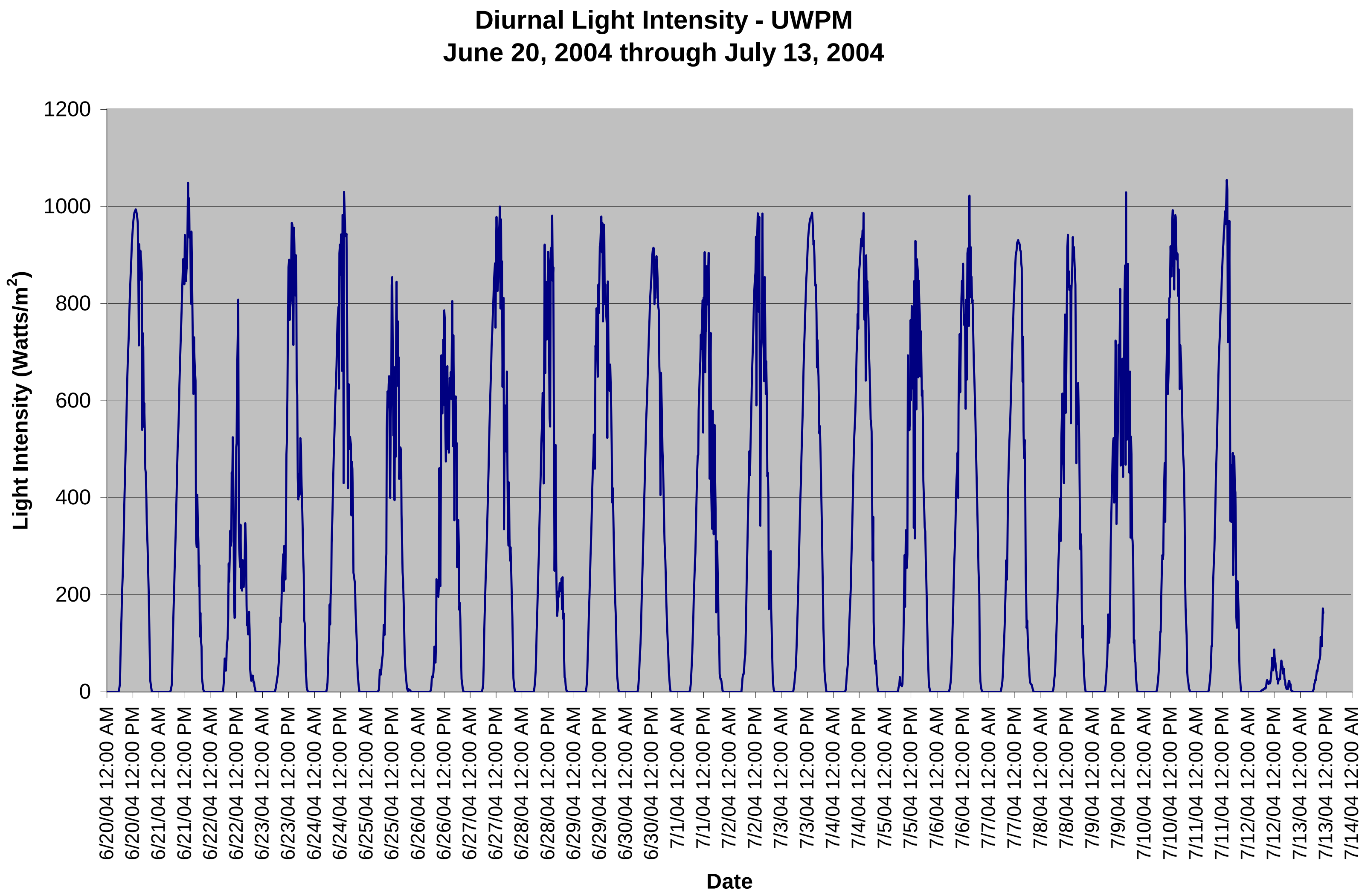

Upper Millstone River Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
RB4
UMR1
UMR2
UMR3
Summer Average
Summer Maximum


Matchaponix Brook Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
BaB1
MGB1
MtB1
Summer Average
Summer Maximum

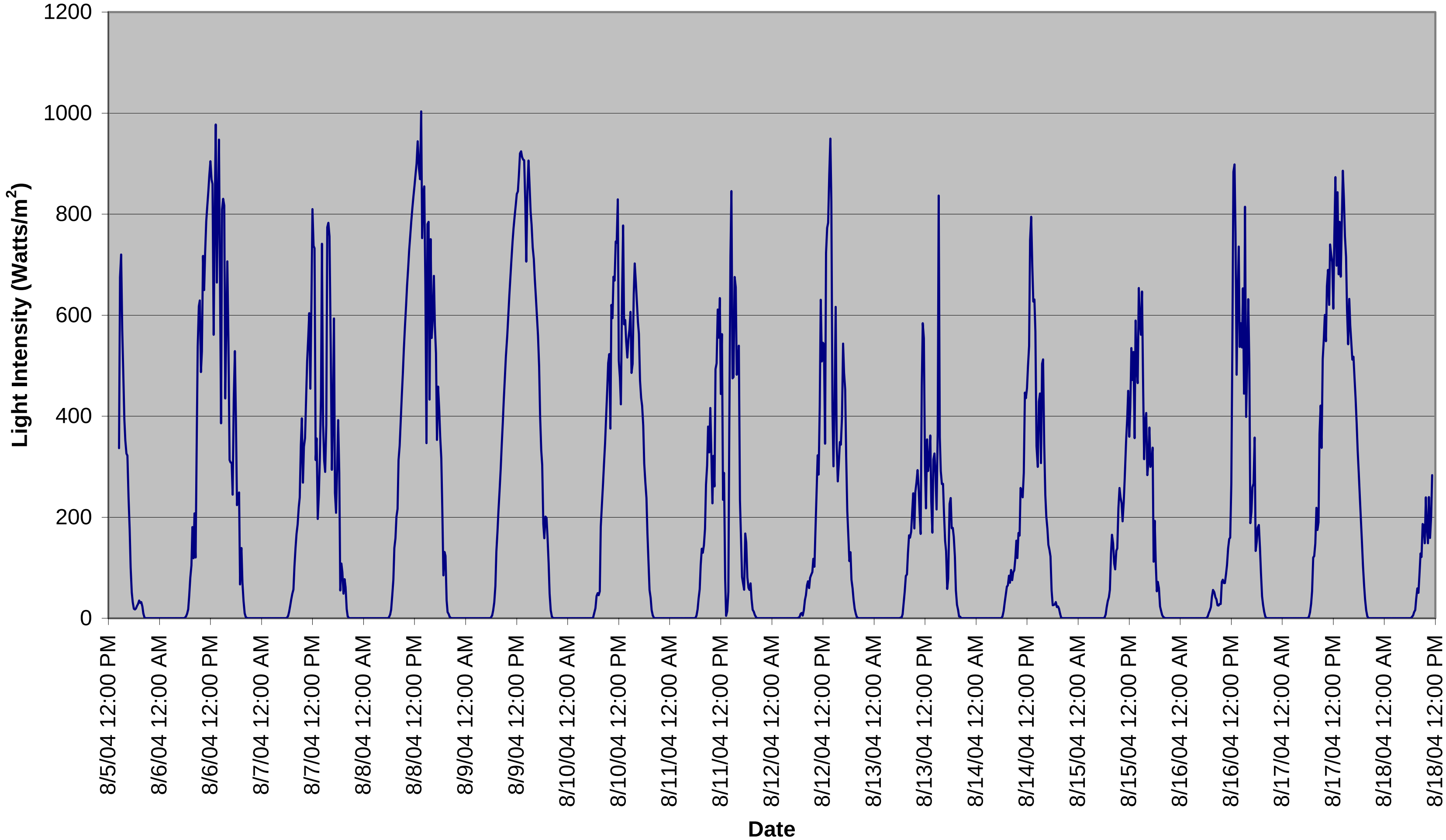

Background Study Area
Periphyton (Attached Algae)
Chlorophyll-a (mg/m²)
250
200
150
100
50
0
AgWet
AgCrop
AgPast
DWW
MGBB
MRB
IBB
Rural
Summer Average
Summer Maximum

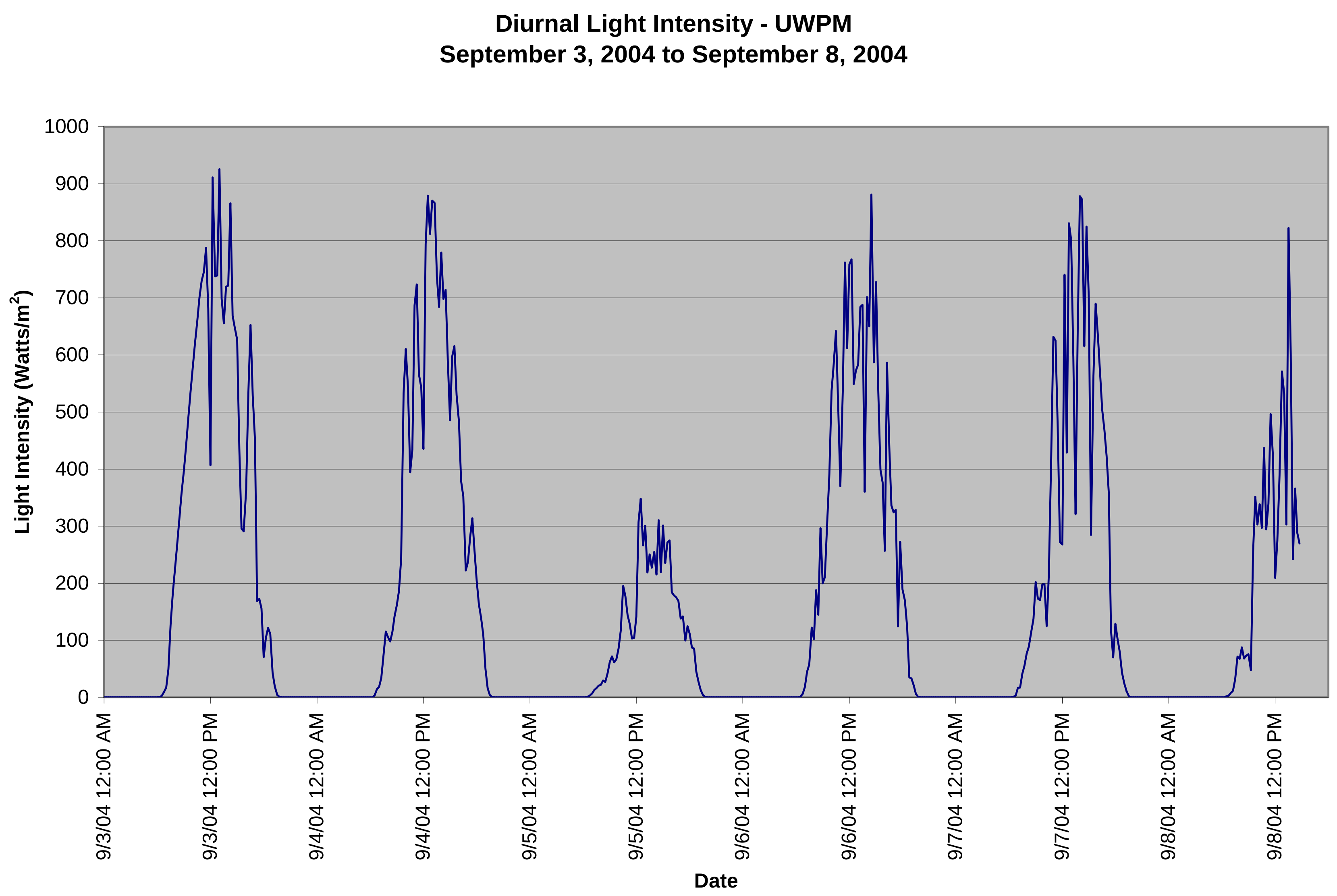
APPENDIX I

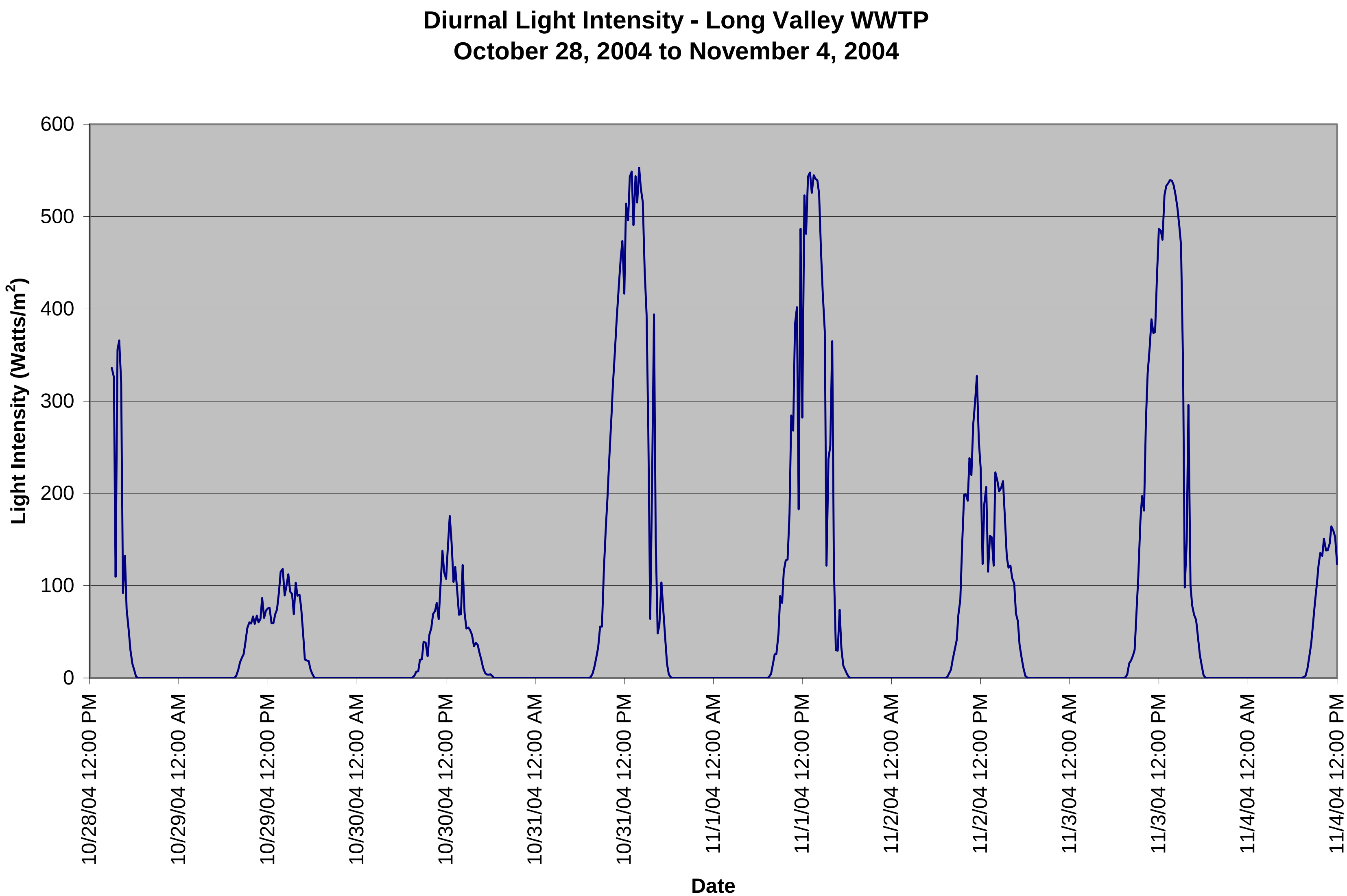
Diurnal Light Intensity Data Graphs

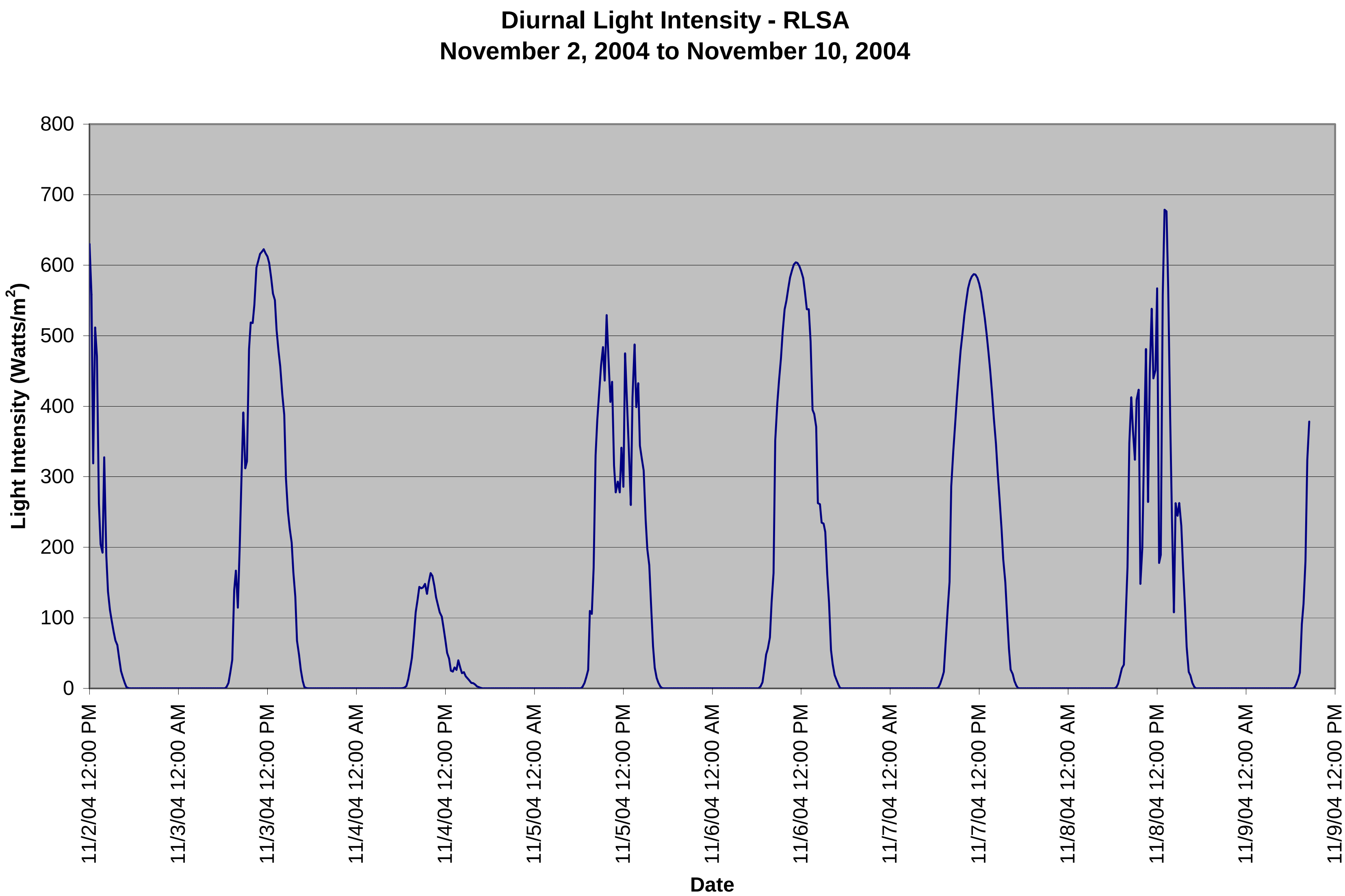

Diurnal Light Intensity - UWPM
June 20, 2004 through July 13, 2004
Light Intensity (Watts/m2)
0
200
400
600
800
1000
1200
6/20/04 12:00 AM
6/20/04 12:00 PM
6/21/04 12:00 AM
6/21/04 12:00 PM
6/22/04 12:00 AM
6/22/04 12:00 PM
6/23/04 12:00 AM
6/23/04 12:00 PM
6/24/04 12:00 AM
6/24/04 12:00 PM
6/25/04 12:00 AM
6/25/04 12:00 PM
6/26/04 12:00 AM
6/26/04 12:00 PM
6/27/04 12:00 AM
6/27/04 12:00 PM
6/28/04 12:00 AM
6/28/04 12:00 PM
6/29/04 12:00 AM
6/29/04 12:00 PM
6/30/04 12:00 AM
6/30/04 12:00 PM
7/1/04 12:00 AM
7/1/04 12:00 PM
7/2/04 12:00 AM
7/2/04 12:00 PM
7/3/04 12:00 AM
7/3/04 12:00 PM
7/4/04 12:00 AM
7/4/04 12:00 PM
7/5/04 12:00 AM
7/5/04 12:00 PM
7/6/04 12:00 AM
7/6/04 12:00 PM
7/7/04 12:00 AM
7/7/04 12:00 PM
7/8/04 12:00 AM
7/8/04 12:00 PM
7/9/04 12:00 AM
7/9/04 12:00 PM
7/10/04 12:00 AM
7/10/04 12:00 PM
7/11/04 12:00 AM
7/11/04 12:00 PM
7/12/04 12:00 AM
7/12/04 12:00 PM
7/13/04 12:00 AM
7/13/04 12:00 PM
7/14/04 12:00 AM
Date

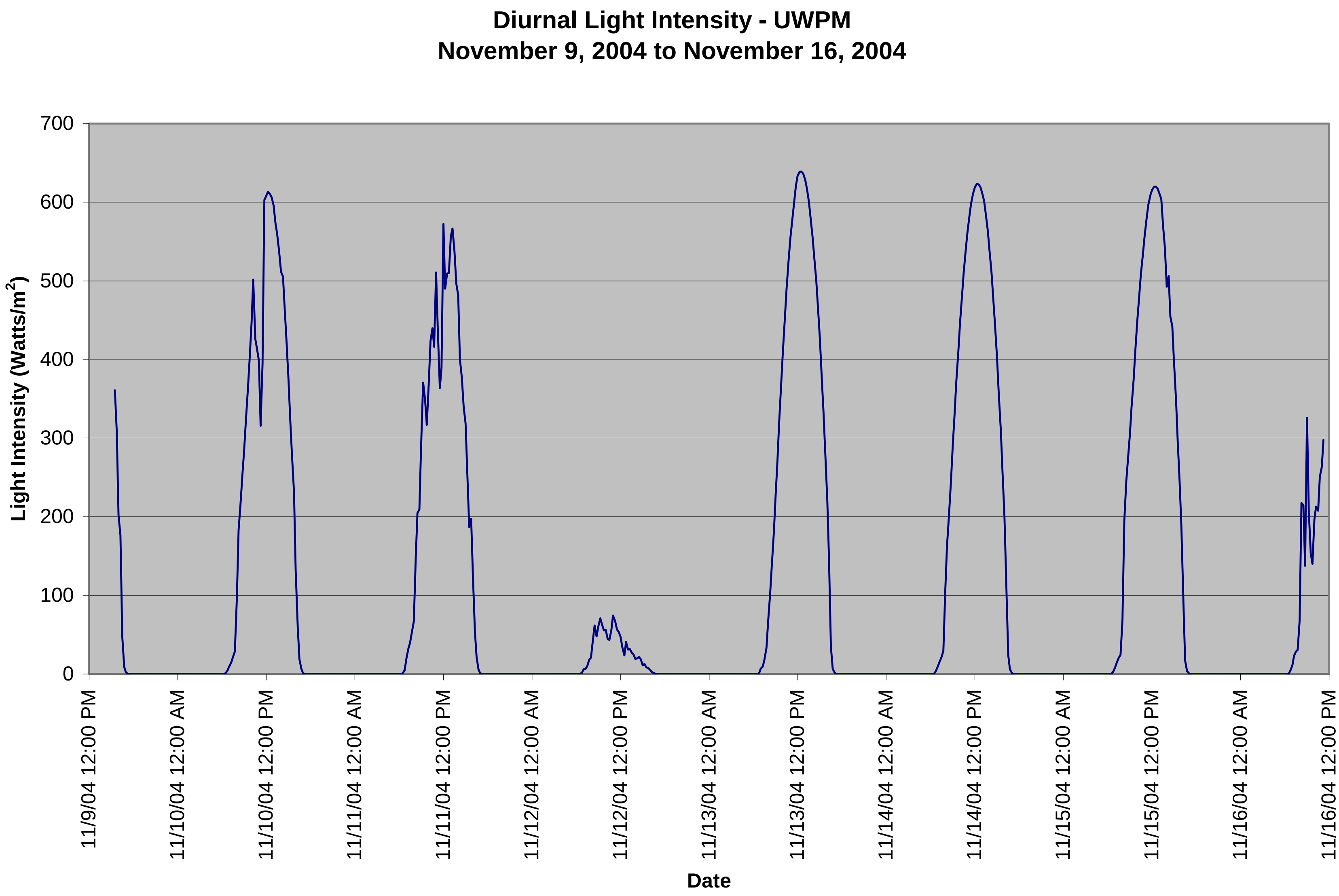
Diurnal Light Intensity - RLSA
August 5, 2004 to August 18, 2004

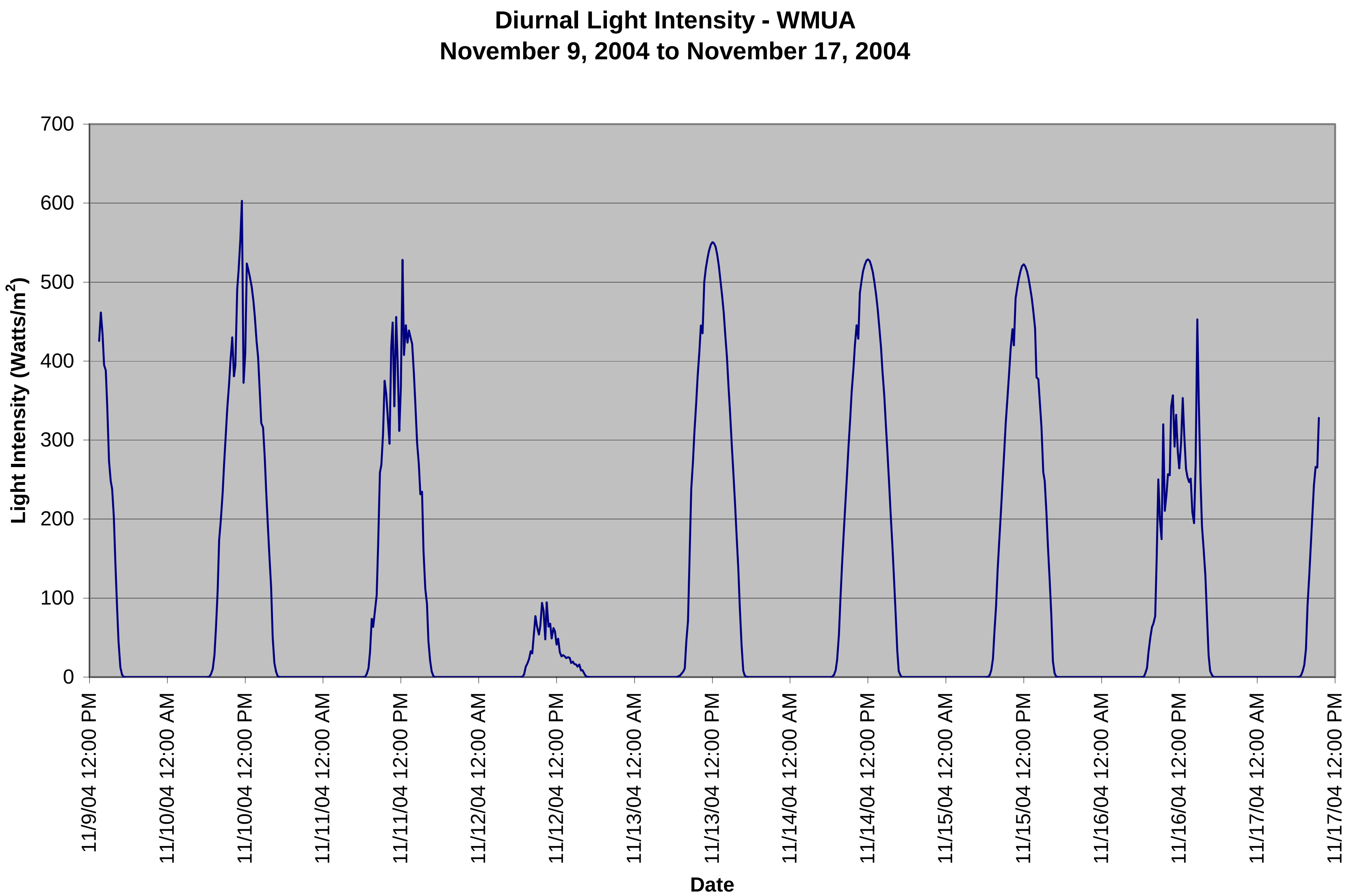


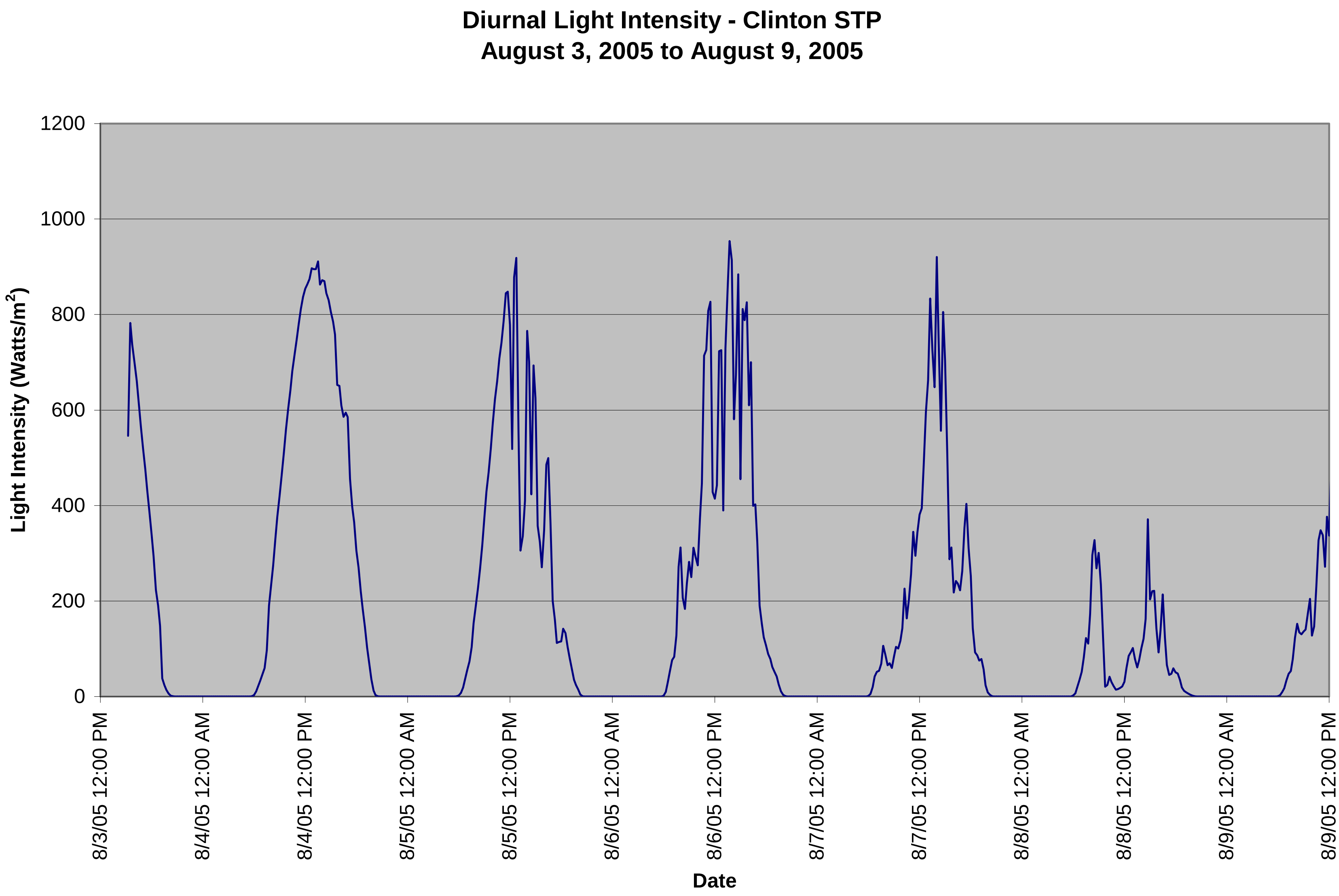

Diurnal Light Intensity - UWPM
September 3, 2004 to September 8, 2004
Light Intensity (Watts/m2)
1000
900
800
700
600
500
400
300
200
100
0
9/3/04 12:00 AM
9/3/04 12:00 PM
9/4/04 12:00 AM
9/4/04 12:00 PM
9/5/04 12:00 AM
9/5/04 12:00 PM
9/6/04 12:00 AM
9/6/04 12:00 PM
9/7/04 12:00 AM
9/7/04 12:00 PM
9/8/04 12:00 AM
9/8/04 12:00 PM
Date


Diurnal Light Intensity - Long Valley WWTP
October 28, 2004 to November 4, 2004
Light Intensity (Watts/m2)
600
500
400
300
200
100
0
10/28/04 12:00 PM
10/29/04 12:00 AM
10/29/04 12:00 PM
10/30/04 12:00 AM
10/30/04 12:00 PM
10/31/04 12:00 AM
10/31/04 12:00 PM
11/1/04 12:00 AM
11/1/04 12:00 PM
11/2/04 12:00 AM
11/2/04 12:00 PM
11/3/04 12:00 AM
11/3/04 12:00 PM
11/4/04 12:00 AM
11/4/04 12:00 PM
Date

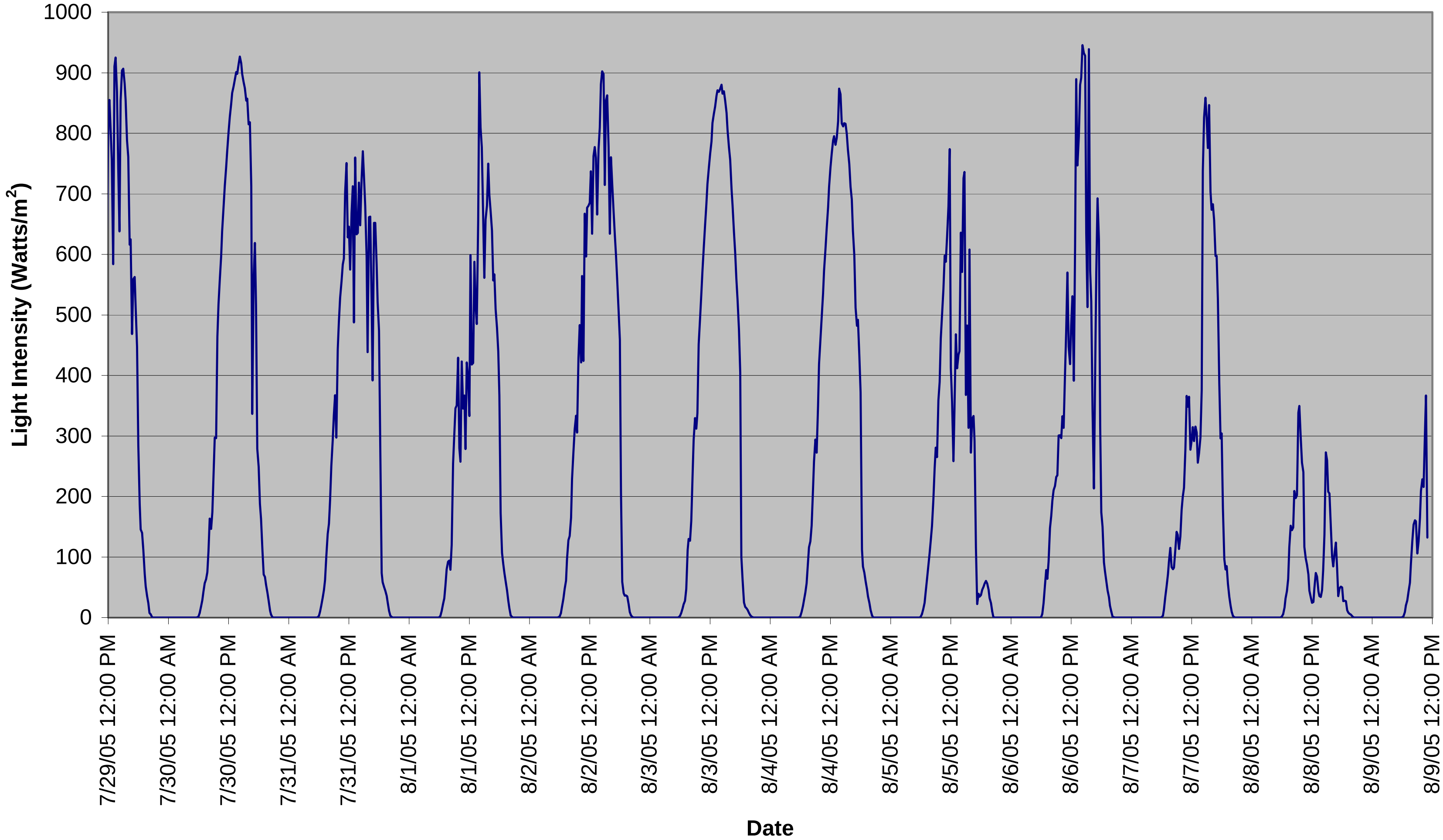

Diurnal Light Intensity - RLSA
November 2, 2004 to November 10, 2004
Light Intensity (Watts/m2)
800
700
600
500
400
300
200
100
0
11/2/04 12:00 PM
11/3/04 12:00 AM
11/3/04 12:00 PM
11/4/04 12:00 AM
11/4/04 12:00 PM
11/5/04 12:00 AM
11/5/04 12:00 PM
11/6/04 12:00 AM
11/6/04 12:00 PM
11/7/04 12:00 AM
11/7/04 12:00 PM
11/8/04 12:00 AM
11/8/04 12:00 PM
11/9/04 12:00 AM
11/9/04 12:00 PM
Date


Diurnal Light Intensity - UWPM
November 9, 2004 to November 16, 2004
Light Intensity (Watts/m2)
700
600
500
400
300
200
100
0
11/9/04 12:00 PM
11/10/04 12:00 AM
11/10/04 12:00 PM
11/11/04 12:00 AM
11/11/04 12:00 PM
11/12/04 12:00 AM
11/12/04 12:00 PM
11/13/04 12:00 AM
11/13/04 12:00 PM
11/14/04 12:00 AM
11/14/04 12:00 PM
11/15/04 12:00 AM
11/15/04 12:00 PM
11/16/04 12:00 AM
11/16/04 12:00 PM
Date


Diurnal Light Intensity - WMUA
November 9, 2004 to November 17, 2004
Light Intensity (Watts/m2)
700
600
500
400
300
200
100
0
11/9/04 12:00 PM
11/10/04 12:00 AM
11/10/04 12:00 PM
11/11/04 12:00 AM
11/11/04 12:00 PM
11/12/04 12:00 AM
11/12/04 12:00 PM
11/13/04 12:00 AM
11/13/04 12:00 PM
11/14/04 12:00 AM
11/14/04 12:00 PM
11/15/04 12:00 AM
11/15/04 12:00 PM
11/16/04 12:00 AM
11/16/04 12:00 PM
11/17/04 12:00 AM
11/17/04 12:00 PM
Date


Diurnal Light Intensity - Clinton STP
August 3, 2005 to August 9, 2005
1200
1000
800
600
400
200
0
Light Intensity (Watts/m2)
8/3/05 12:00 PM
8/4/05 12:00 AM
8/4/05 12:00 PM
8/5/05 12:00 AM
8/5/05 12:00 PM
8/6/05 12:00 AM
8/6/05 12:00 PM
8/7/05 12:00 AM
8/7/05 12:00 PM
8/8/05 12:00 AM
8/8/05 12:00 PM
8/9/05 12:00 AM
8/9/05 12:00 PM
Date

Diurnal Light Intensity - Long Valley WWTP
July 29, 2005 to August 9, 2005



APPENDIX J

Light Extinction and Lake DO, Temperature, and Phytoplankton Data

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m³)
North Branch Raritan	BuB1	08/10/04	0	10266.7	--	--	--
			2	1039	--	--	--
			4	872.4	--	--	--
			6	776.8	--	--	--
			8	693	--	--	--
North Branch Raritan	IB1	08/05/05	0	140.67	--	--	--
North Branch Raritan	LR1	08/10/04	0	949.6	--	--	--
			1	719.5	--	--	--
		10/28/04	0	79.03	--	--	--
			4	50.82	--	--	--
			6	47.48	--	--	--
			8	43.91	--	--	--
			10	41.99	--	--	--
		08/03/05	0	1120	--	--	--
			2	970	--	--	--
			3	630	--	--	--
North Branch Raritan	LR2	08/10/04	0	1375.8	--	--	--
			2	906.8	--	--	--
			5	847.6	--	--	--
			10	764.3	--	--	--
			13	686.5	--	--	--
		10/28/04	0	154.83	--	--	--
			3	108.73	--	--	--
			7	97.97	--	--	--
			10	88.39	--	--	--
			13	78.21	--	--	--
		08/03/05	0	1585	--	--	--
			3	1071.6	--	--	--
			6	1001.8	--	--	--
			9	947.3	--	--	--
			12	875.7	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	LR3	08/09/04	0	116.2	--	--	--
			2	84.24	--	--	--
			6	73.61	--	--	--
			9	66.56	--	--	--
			13	60.74	--	--	--
		10/28/04	0	1163.7	--	--	--
			2	672.6	--	--	--
			6	521.9	--	--	--
			12	464	--	--	--
			18	395	--	--	--
		08/03/05	0	1172.5	--	--	--
			3	847.5	--	--	--
			6	810.4	--	--	--
			9	722	--	--	--
			12	611.8	--	--	--
North Branch Raritan	LR4	08/09/04	0	915	--	--	--
			2	814	--	--	--
			5	768.4	--	--	--
			8.5	720.5	--	--	--
		10/28/04	0	1261	--	--	--
			2	831.5	--	--	--
			5	778.4	--	--	--
			8	644.8	--	--	--
			11	587.7	--	--	--
		07/29/05	0	1726.9	--	--	--
			5	1150.8	--	--	--
			10	1056.3	--	--	--
			15	928.5	--	--	--
			22	764.3	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m³)
North Branch Raritan	LR5	08/09/04	0	1172	--	--	--
			2	834.5	--	--	--
			4	762	--	--	--
			7	711.1	--	--	--
			10	586.3	--	--	--
		10/28/04	0	55.36	--	--	--
			5	28.57	--	--	--
			11	24.73	--	--	--
			17	21.29	--	--	--
			22	17.03	--	--	--
		07/29/05	0	823.3	--	--	--
			2.5	777.7	--	--	--
			5	643.3	--	--	--
			7.5	520.2	--	--	--
			10	480.1	--	--	--
North Branch Raritan	NBRC1	08/09/04	0	1035.7	--	--	--
			2	957.7	--	--	--
			4	876.8	--	--	--
			7	552	--	--	--
		10/27/04	0	165.1	--	--	--
			3	133.19	--	--	--
			6	127.81	--	--	--
			8	123.02	--	--	--
			12	114.22	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	NBRR1	08/10/04	0	804.1	--	--	--
			2	746.2	--	--	--
			4	626.7	--	--	--
			5	497.5	--	--	--
		10/28/04	0	56.05	--	--	--
			3	108.73	--	--	--
			7	97.97	--	--	--
			10	88.39	--	--	--
			13	78.21	--	--	--
		08/03/05	0	1180.5	--	--	--
			1	927.7	--	--	--
			3	858.4	--	--	--
			6	730.9	--	--	--
			9	670.6	--	--	--
North Branch Raritan	NBRR2-RLi	10/28/04	0	143.44	--	--	--
			4	78.84	--	--	--
			8	70.31	--	--	--
			12	65	--	--	--
			18	57.68	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	NBRR3-RL	09/15/04	0	648	--	--	--
			5	347.1	--	--	--
			15	247.2	--	--	--
			25	178.2	--	--	--
			35	132.4	--	--	--
		10/26/04	0	115.37	--	--	--
			6	52.77	--	--	--
			16	34.48	--	--	--
			26	22.5	--	--	--
			36	15.13	--	--	--
		08/11/05	0	1805.7	--	--	< 1.0
			1.5	--	--	--	
			3	--	--	--	
			4	--	--	--	
			4.5	--	--	--	
			5	1090.6	--	--	
			6.5	--	--	--	
			7.5	--	--	--	
			8	--	--	--	
			8.5	--	--	--	
			9.5	--	--	--	
			11	--	--	--	
			12	--	--	--	
			13.5	--	--	--	
			15	--	--	--	
			18	--	9.45	28.9	
			20	740.6	--	--	
			21	--	--	--	
			36	--	9.81	28.20	
			40	322.3	--	--	
			48	--	9.97	27.70	
			54	--	8.69	25.60	
			60	116.01	7.40	25.30	
			78	--	4.67	24.70	
			90	--	3.15	24.10	
			96	--	1.60	23.80	
			102	--	1.48	22.90	
			114	--	5.18	21.20	
			132	--	1.80	20.50	
			144	--	0.19	18.30	
			162	--	0.75	18.70	
			180	--	0.27	13.80	
			216	--	0.40	11.30	
			252	--	0.60	10.50	

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	NBRR3-RL	08/22/05	18	--	11.90	27.8	10.7
			54	--	12.10	27.4	
			66	--	8.25	25.0	
			114	--	1.75	23.1	
			162	--	0.09	18.3	
			210	--	0.22	13.3	
			234	--	0.14	11.5	
		10/04/05	0	382.9	--	--	18.7
			12	162.9	--	--	
			36	53.29	--	--	
			60	17.14	18.30	7.12	
			120	--	17.60	5.13	
			180	--	16.50	0.20	

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	NBRR4-Rlo	08/10/04	0	820.2	--	--	--
			2	583.6	--	--	--
			4	532.3	--	--	--
			7	415.7	--	--	--
			10.5	325.6	--	--	--
North Branch Raritan	NBRR5	08/09/04	0	128.98	--	--	--
			3	99.16	--	--	--
			8	71.54	--	--	--
			13	60.21	--	--	--
			18	55.2	--	--	--
		11/01/04	0	167.98	--	--	--
			5	108.06	--	--	--
			10	89.05	--	--	--
			15	76.58	--	--	--
			20	63.59	--	--	--
		08/03/05	0	1276.9	--	--	--
			2	1056.7	--	--	--
			4	1016.6	--	--	--
			8	906.2	--	--	--
			12	879.1	--	--	--
North Branch Raritan	NBRR6	08/09/04	0	94.2	--	--	--
			5	59.14	--	--	--
			12	50.71	--	--	--
			17	46.11	--	--	--
			22.5	41.5	--	--	--
		10/28/04	0	1258.5	--	--	--
			6	699.7	--	--	--
			12	626.2	--	--	--
			18	563.4	--	--	--
			24	497	--	--	--
		07/29/05	0	858.6	--	--	--
			6	653.3	--	--	--
			12	525.6	--	--	--
			18	444.3	--	--	--
			24	405.5	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	NBRR7	08/11/04	0	1999	--	--	--
			1	1494	--	--	--
			3	1307	--	--	--
			6	1225	--	--	--
			10	1129	--	--	--
			12	1071	--	--	--
		11/01/04	0	159.4	--	--	--
			4	102.27	--	--	--
			7	98.3	--	--	--
			10	62.55	--	--	--
			12	48.81	--	--	--
		07/29/05	0	646.3	--	--	--
			7	343.9	--	--	--
			14	273.3	--	--	--
			21	257.9	--	--	--
			27	243.1	--	--	--
North Branch Raritan	RC1	08/09/04	0	866.4	--	--	--
			3	789.6	--	--	--
			7	722	--	--	--
			15	618.8	--	--	--
			20.5	504.1	--	--	--
		10/27/04	0	236.6	--	--	--
			3	164.14	--	--	--
			6	160.07	--	--	--
			12	140.84	--	--	--
			18	124.77	--	--	--
		07/29/05	0	1620.5	--	--	--
			5	1054.2	--	--	--
			10	972.4	--	--	--
			15	923.5	--	--	--
			20	830.2	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m³)
North Branch Raritan	SBRC2-CL	09/15/04	0	295.6	--	--	--
			5	129.1	--	--	--
			10	85.3	--	--	--
			20	30.2	--	--	--
			30	9.1	--	--	--
		10/26/04	0	429.5	--	--	--
			5	218.7	--	--	--
			10	167.79	--	--	--
			20	94.47	--	--	--
			30	58.35	--	--	--
		08/11/05	0	1376.7	--	--	6.7
			5	720.1	--	--	
			6	--	16.50	27.50	
			10	482.8	--	--	
			15	--	16.70	27.40	
			20	265.4	--	--	
			27	--	16.40	27.00	
			33	--	15.90	26.60	
			39	--	12.60	25.20	
			40	76.73	--	--	
			45	--	10.00	24.90	
			51	--	7.06	24.20	
			57	--	6.00	24.40	
			60	11.09	--	--	
		08/22/05	18	--	15.70	27.9	23.4
			42	--	15.50	27.8	
			66	--	2.70	25.0	
			90	--	0.25	24.4	
			102	--	0.16	24.1	
		10/04/05	0	385.2	--	--	3.3
			24	93.1	--	--	
			48	32.4	--	--	
			60	15.4	17.90	8.0	
			120		17.20	4.9	

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
North Branch Raritan	SBRC3-CLo	08/09/04	0	1495.2	--	--	--
			3	1210.3	--	--	--
			6	1198.2	--	--	--
			8	1104.3	--	--	--
			11	998.3	--	--	--
South Branch Raritan	BvB1	08/09/04	0	1545.4	--	--	--
			1	1372.5	--	--	--
			2	1336.4	--	--	--
			4	1301.1	--	--	--
		10/27/04	0	109.03	--	--	--
			3	73.35	--	--	--
			6	72.5	--	--	--
			8	70.64	--	--	--
			12	56.61	--	--	--
		08/03/05	0	76.25	--	--	--
			2	46.34	--	--	--
			4	43.8	--	--	--
			6	41.86	--	--	--
			8	37.69	--	--	--
South Branch Raritan	CC1	08/09/04	0	1457	--	--	--
			5	1155.6	--	--	--
			8	1121.4	--	--	--
			11	1074.3	--	--	--
		10/27/04	0	224	--	--	--
			3	211.4	--	--	--
			6	203.2	--	--	--
			8	197.05	--	--	--
			12	178.45	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	DkB1	08/10/04	0	1136.4	--	--	--
			3	807.8	--	--	--
			6	755	--	--	--
			10	691.5	--	--	--
			14	645.1	--	--	--
		10/28/04	0	48.14	--	--	--
			3	30.28	--	--	--
			7	26.49	--	--	--
			10	23.91	--	--	--
			14	19.54	--	--	--
		08/03/05	0	1453.7	--	--	--
			3	968.7	--	--	--
			6	915.2	--	--	--
			9	860.5	--	--	--
			13	780.7	--	--	--
South Branch Raritan	NR1	08/11/04	0	222	--	--	--
			3	129	--	--	--
			7	92	--	--	--
			10	81	--	--	--
		10/28/04	0	135.16	--	--	--
			2	68.08	--	--	--
			5	64.96	--	--	--
			8	61.36	--	--	--
			11	60.25	--	--	--
		07/29/05	0	1647.8	--	--	--
			2	1115.5	--	--	--
			4	1034.4	--	--	--
			6	1011.6	--	--	--
			8	939.5	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m³)
South Branch Raritan	NR2	08/11/04	0	2202	--	--	--
			1	1583	--	--	--
			3	1468	--	--	--
			6	1360	--	--	--
			8	1292	--	--	--
		10/28/04	0	51.37	--	--	--
			3	39.03	--	--	--
			6	35.08	--	--	--
			10	32.41	--	--	--
			15	29.23	--	--	--
		07/29/05	0	1059.1	--	--	--
			4	863.4	--	--	--
			8	751	--	--	--
			12	647.7	--	--	--
			16	607.7	--	--	--
South Branch Raritan	SBR4	07/29/05	0	842.1	--	--	--
			4	554.4	--	--	--
			8	513.7	--	--	--
			12	506.2	--	--	--
			18	441.4	--	--	--
			0	813.6	--	--	--
			4	632.9	--	--	--
			8	585.5	--	--	--
			12	531.7	--	--	--
			18	434.4	--	--	--
		08/05/05	0	1343.1	--	--	--
			2	1127.5	--	--	--
			4	1043.6	--	--	--
			6	903	--	--	--
			8	645.3	--	--	--

Highlighted cells were repeated due to clouds.

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	SBRR2	08/09/04	0	37.19	--	--	--
			2	25.13	--	--	--
			3	21.23	--	--	--
			4	20.62	--	--	--
		07/29/05	0	394.3	--	--	--
			2	263.4	--	--	--
			4	249.9	--	--	--
			8	230.7	--	--	--
			12	207.1	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	SBRR4-SL	09/15/04	0	722.7	--	--	--
			5	418.4	--	--	--
			10	355.3	--	--	--
			15	298.7	--	--	--
			20	256.7	--	--	--
		10/26/04	0	355.2	--	--	--
			6	224.3	--	--	--
			12	186.95	--	--	--
			18	152.5	--	--	--
			24	125.58	--	--	--
		08/11/05	0	832.6	--	--	< 1.0
			3.6	--	6.75	23.0	
			5	463.7	--	--	
			15.6	--	6.65	22.7	
			20	157.32	--	--	
			27.6	--	6.59	22.6	
			39.6	--	6.50	22.4	
			40	76.8	--	--	
			45.6	--	6.34	22.5	
			51.6	--	6.05	22.3	
			60	34.22	--	--	
		08/22/05	18	--	6.37	23.4	3.3
			30	--	6.27	22.8	
			42	--	6.33	22.5	
			54	--	6.21	22.3	
			66	--	6.23	22.1	
			69	--	6.16	22.2	
		10/04/05	0	110.75	--	--	2.0
			12	60.15	--	--	
			24	40.65	--	--	
			36	23.45	--	--	
			42	--	15.40	8.84	
			72	--	14.80	8.04	

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	SBRR5-Slo	08/09/04	0	1459.6	--	--	--
			3	1203.1	--	--	--
			7	1150	--	--	--
			10	1068.7	--	--	--
South Branch Raritan	SBRR6	08/09/04	0	1891.1	--	--	--
			2.5	1435.9	--	--	--
			5	1226.9	--	--	--
			9	1191.2	--	--	--
		10/27/04	0	989.7	--	--	--
			4	756.5	--	--	--
			8	615.5	--	--	--
			12	581.3	--	--	--
			18	545.3	--	--	--
		08/03/05	0	1542.2	--	--	--
			4	1228	--	--	--
			8	1044.4	--	--	--
			12	885.8	--	--	--
			16	713.2	--	--	--
South Branch Raritan	SBRR7	08/09/04	0	1288.9	--	--	--
			4	1127	--	--	--
			8	1130	--	--	--
			12	1001.5	--	--	--
			16	967	--	--	--
		10/27/04	0	215.9	--	--	--
			3	177.78	--	--	--
			6	165.75	--	--	--
			8	158.14	--	--	--
			13	136.5	--	--	--
		07/29/05	0	1447.7	--	--	--
			3	1063	--	--	--
			6	802.7	--	--	--
			8	959.4	--	--	--
			12	721.2	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	SBRR8	08/09/04	0	1204.5	--	--	--
			3.5	1003.4	--	--	--
			7.5	932.9	--	--	--
			10	899.8	--	--	--
			14	849.3	--	--	--
		10/27/04	0	138.58	--	--	--
			3	127.7	--	--	--
			6	120.03	--	--	--
			10	116.49	--	--	--
			15	105.84	--	--	--
		07/29/05	0	1293.7	--	--	--
			2	1007.5	--	--	--
			4	942.9	--	--	--
			8	871.2	--	--	--
			12	758	--	--	--
South Branch Raritan	SBRR9	08/11/04	0	2331	--	--	--
			3	1611	--	--	--
			10	1489	--	--	--
			16	1154	--	--	--
		11/01/04	0	48.88	--	--	--
			3	30.29	--	--	--
			6	28.33	--	--	--
			9	26.23	--	--	--
			12	23.22	--	--	--
		07/29/05	0	1179.7	--	--	--
			3	934.4	--	--	--
			6	829.3	--	--	--
			8	807.8	--	--	--
			12	644.8	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	SBRR10	08/11/04	0	788	--	--	--
			1	542	--	--	--
			3	499	--	--	--
			6	465	--	--	--
			8	438	--	--	--
		11/01/04	0	249.8	--	--	--
			5	103.12	--	--	--
			9	91.17	--	--	--
			13	74.2	--	--	--
			17	61.88	--	--	--
		07/29/05	0	932.6	--	--	--
			5	666	--	--	--
			10	609.5	--	--	--
			15	441.6	--	--	--
			20	338.3	--	--	--
Mainstem Raritan River	RR1	08/11/04	0	1313	--	--	--
			3	1142	--	--	--
			6	1027	--	--	--
			12	932	--	--	--
			18	886	--	--	--
		11/01/04	0	1262.9	--	--	--
			3	1068	--	--	--
			7	750.6	--	--	--
			15	549.4	--	--	--
			17	672.3	--	--	--
		07/29/05	0	551.2	--	--	--
			6	429.1	--	--	--
			12	409.5	--	--	--
			18	338.2	--	--	--
			23	277.7	--	--	--
Mainstem Raritan River	R4	08/03/05	0	1863.9	--	--	--
			3	1208.2	--	--	--
			6	1162.8	--	--	--
			10	1102.8	--	--	--
			15	1011.8	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Mainstem Raritan River	GB1	08/11/04	0	1565	--	--	--
Mainstem Raritan River	GB1	08/11/04	1	1080	--	--	--
Mainstem Raritan River	GB1	08/11/04	2	994	--	--	--
Mainstem Raritan River	GB1	08/11/04	3	903	--	--	--
Mainstem Raritan River	GB1	08/11/04	5	828	--	--	--
Mainstem Raritan River	GB1	08/11/04	8	752	--	--	--
Mainstem Raritan River	GB1	11/01/04	0	1042.4	--	--	--
Mainstem Raritan River	GB1	11/01/04	3	702	--	--	--
Mainstem Raritan River	GB1	11/01/04	6	527.1	--	--	--
Mainstem Raritan River	GB1	11/01/04	9	441.5	--	--	--
Mainstem Raritan River	GB1	11/01/04	11	411.5	--	--	--
Mainstem Raritan River	GB1	08/03/05	0	1125.8	--	--	--
Mainstem Raritan River	GB1	08/03/05	2	1018.4	--	--	--
Mainstem Raritan River	GB1	08/03/05	4	949.1	--	--	--
Mainstem Raritan River	GB1	08/03/05	8	897.9	--	--	--
Mainstem Raritan River	GB1	08/03/05	14	194.7	--	--	--
Mainstem Raritan River	SMR1	07/09/04	0	1870	--	--	--
Mainstem Raritan River	SMR1	07/09/04	1	1210	--	--	--
Mainstem Raritan River	SMR1	07/09/04	2	1180	--	--	--
Mainstem Raritan River	SMR1	07/09/04	3	1160	--	--	--
Mainstem Raritan River	SMR1	07/09/04	4	1110	--	--	--
Mainstem Raritan River	SMR1	09/02/04	0	76.8	--	--	--
Mainstem Raritan River	SMR1	09/02/04	2	61.49	--	--	--
Mainstem Raritan River	SMR1	09/02/04	5	57.85	--	--	--
Mainstem Raritan River	SMR1	09/02/04	8	53.18	--	--	--
Mainstem Raritan River	SMR1	09/02/04	11	46.43	--	--	--
Upper Millstone	BBB2-GMP	09/01/05	6	--	9.83	25.9	6.7
Upper Millstone	BBB2-GMP	09/01/05	18	--	8.22	25.6	6.7
Upper Millstone	BBB2-GMP	09/01/05	30	--	7.26	25.3	6.7
Upper Millstone	BBB2-GMP	09/01/05	42	--	4.19	25.1	6.7
Upper Millstone	BBB2-GMP	10/20/05	0	263.4	--	--	--
Upper Millstone	BBB2-GMP	10/20/05	12	64.18	--	--	--
Upper Millstone	BBB2-GMP	10/20/05	24	23.55	--	--	--
Upper Millstone	BBB2-GMP	10/20/05	36	8.59	--	--	--
Upper Millstone	BBB2-GMP	10/20/05	46	0.23	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Upper Millstone	CB2-PP	09/03/04	0	829.7	--	--	--
			5	455.9	--	--	--
			9	406.5	--	--	--
			12	365.4	--	--	--
			16	305.6	--	--	--
Upper Millstone	DB2-GP	09/02/04	0	1585.1	--	--	--
			3	747.2	--	--	--
			6	581.3	--	--	--
			8	456.7	--	--	--
			11	345.5	--	--	--
Upper Millstone	RB2-PL	09/03/04	0	1876.0	--	--	--
			5	1047.4	--	--	--
			10	835.0	--	--	--
			20	594.2	--	--	--
			30	417.2	--	--	--
Upper Millstone	RB4	06/09/04	0	1731.6	--	--	--
			1	1411.7	--	--	--
			2	1277.9	--	--	--
			3	1206.1	--	--	--
			4	1054.6	--	--	--
		11/09/04	0	358.2	--	--	--
			2	130.51	--	--	--
			4	86.95	--	--	--
			8	77.6	--	--	--
			10	51.7	--	--	--
			13	41.7	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Upper Millstone	UMR1	07/09/04	0	510	--	--	--
			3	280	--	--	--
			6	216	--	--	--
			12	196	--	--	--
			18	137	--	--	--
		09/02/04	0	1491.9	--	--	--
			3	1091.7	--	--	--
			6	948.5	--	--	--
			12	754.7	--	--	--
			18	498.3	--	--	--
Upper Millstone	UMR2	07/09/04	0	620	--	--	--
			1	405	--	--	--
			3	377	--	--	--
			6	342	--	--	--
			12	291	--	--	--
			18	236	--	--	--
			24	214	--	--	--
		09/02/04	0	190.34	--	--	--
			2	145.12	--	--	--
			4	129.4	--	--	--
			8	106.83	--	--	--
			12	96.4	--	--	--
Upper Millstone	UMR3	07/09/04	0	2350	--	--	--
			1	1725	--	--	--
			2	1542	--	--	--
			3	1421	--	--	--
			6	1203	--	--	--
		09/03/04	0	255.3	--	--	--
			3	177.9	--	--	--
			6	151.5	--	--	--
			9	139.4	--	--	--
			12	128.6	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Matchaponix	BaB1	07/09/04	0	1267.8	--	--	--
		09/02/04	0	40.93	--	--	--
			1	36.68	--	--	--
			2	35.02	--	--	--
			3	32.16	--	--	--
			4	28.68	--	--	--
		11/09/04	0	836.9	--	--	--
			1	709.8	--	--	--
			2	508.3	--	--	--
			3	464.1	--	--	--
			4	358.8	--	--	--
			5	344.7	--	--	--
Matchaponix	MGB1	07/09/04	0	1653.4	--	--	--
			1	1115.1	--	--	--
			3	1023.4	--	--	--
			4	988	--	--	--
		09/02/04	0	36.39	--	--	--
			3	28.81	--	--	--
			5	26.19	--	--	--
			7	25.21	--	--	--
			11	21.17	--	--	--
		11/09/04	0	1076.7	--	--	--
			2	610.7	--	--	--
			4	564	--	--	--
			8	473.1	--	--	--
			12	449.5	--	--	--
			16	374.2	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Matchaponix	MnB2-DL	09/03/04	0	1829.7	--	--	--
			5	1108.7	--	--	--
			10	940.7	--	--	--
			15	761.2	--	--	--
			20	631.2	--	--	--
Matchaponix	MtB1	07/09/04	0	1201.6	--	--	--
			2	589.1	--	--	--
			4	445.4	--	--	--
			6	588.4	--	--	--
			12	378.2	--	--	--
		09/02/04	0	397.5	--	--	--
			3	323.4	--	--	--
			6	253.6	--	--	--
			12	226	--	--	--
			18	174.03	--	--	--
		11/09/04	0	992.3	--	--	--
			2	651	--	--	--
			4	609	--	--	--
			6	475.2	--	--	--
			12	400.7	--	--	--
			16	332.2	--	--	--
Matchaponix	WC1-Li	11/10/04	0	858.9	--	--	--
			1	575	--	--	--
			2	452.6	--	--	--
			6	304.9	--	--	--
			8	286.8	--	--	--
			10	223.4	--	--	--

Light Intensity Data

Study Area	Station ID	Date	Depth (inches)	Light Intensity (µmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
Matchaponix	WC2-WL	09/03/04	0	2037.0	--	--	--
			6	1076.0	--	--	--
			12	670.2	--	--	--
			16	528.2	--	--	--
			24	337.9	--	--	--
		09/01/05	18	--	8.95	24.9	9.3
			30	--	7.58	24.3	
			48	--	8.71	23.1	
			60	--	8.32	22.8	
		10/20/05	0	995.1	--	--	--
			12	536.9	--	--	--
			24	207.3	--	--	--
			36	148.41	--	--	--
			48	93.75	--	--	--
Matchaponix	WC3-WLO	07/09/04	0	1597	--	--	--
			1	1244.7	--	--	--
			3	1101.4	--	--	--
			5	903.2	--	--	--
			8	223.9	--	--	--
North Branch Raritan	IBB	08/10/04	0	1043.3	--	--	--
			1	805	--	--	--
South Branch Raritan	AgCrop	08/11/04	0	1515	--	--	--
			2	944	--	--	--
			3	675	--	--	--
			4	595	--	--	--
			5	508	--	--	--

Light Intensity Data

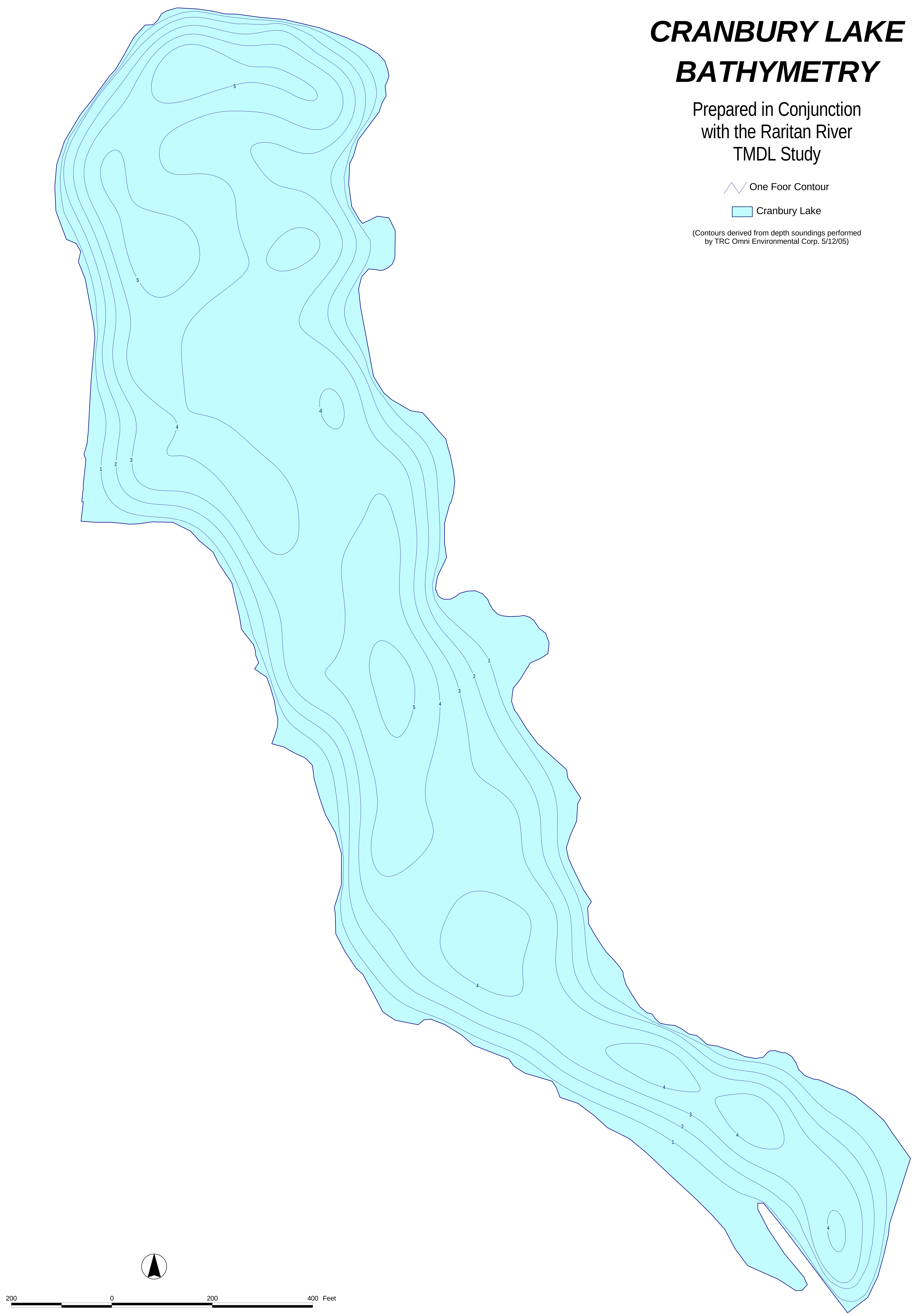
Study Area	Station ID	Date	Depth (inches)	Light Intensity (μmol/m·s)	Dissolved Oxygen (ppm)	Temp. (°C)	Phytoplankton Chlorophyll-a (mg/m^3)
South Branch Raritan	AgPast	08/11/04	0	658	--	--	--
			1	392	--	--	--
			2	322	--	--	--
			5	268	--	--	--
			9	210	--	--	--
Upper Millstone	AgWet	07/09/04	0	190.23	--	--	--
			1	90.1	--	--	--
			2	65.22	--	--	--
Upper Millstone	DWW	06/09/04	0	20.37	--	--	--
			1	12.33	--	--	--
			2	10.48	--	--	--
			3	9.26	--	--	--
			4	8.13	--	--	--
Upper Millstone	MRB	06/09/04	0	1976.3	--	--	--
			3	1147.4	--	--	--
			7	836.1	--	--	--
			10	693.1	--	--	--
			13	578.1	--	--	--
Matchaponix	MGBB	07/09/04	0	127.33	--	--	--
			1	95.22	--	--	--
			3	86.71	--	--	--
			5	82.97	--	--	--
		11/10/04	0	322.1	--	--	--
			2	305.2	--	--	--
			4	245.6	--	--	--
			6	156.4	--	--	--
			8	66.48	--	--	--

APPENDIX K

Lake Bathymetry Maps

CRANBURY LAKE BATHYMETRY

Prepared in Conjunction with the Raritan River TMDL Study



TRC Omni Environmental Corporation

September 1, 2005

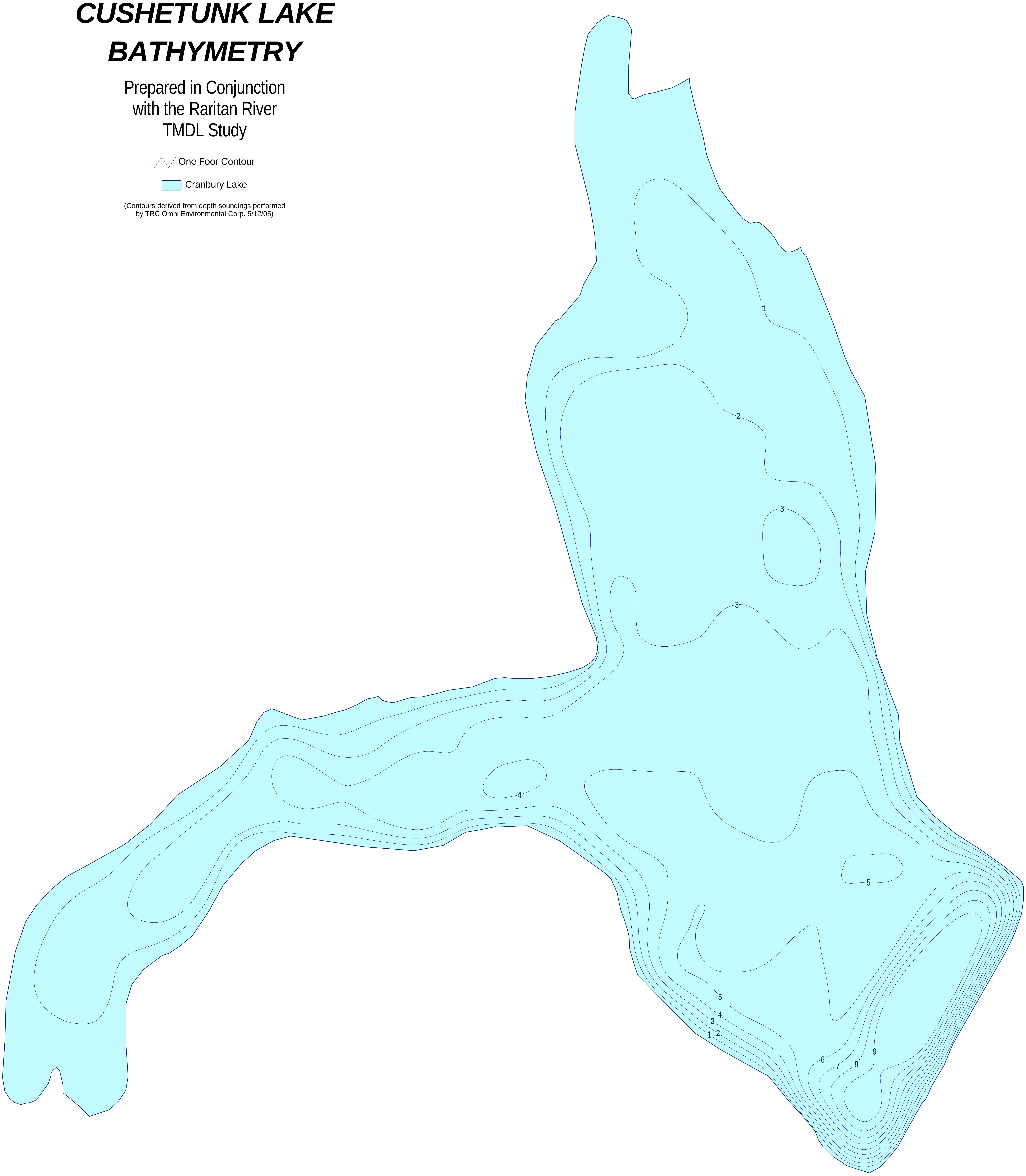
CUSHETUNK LAKE BATHYMETRY

Prepared in Conjunction
with the Raritan River
TMDL Study

One Foor Contour

Cranbury Lake

(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/12/05)



100 0 100 200 300 Feet

TRC Omni Environmental
Corporation

September 1, 2005

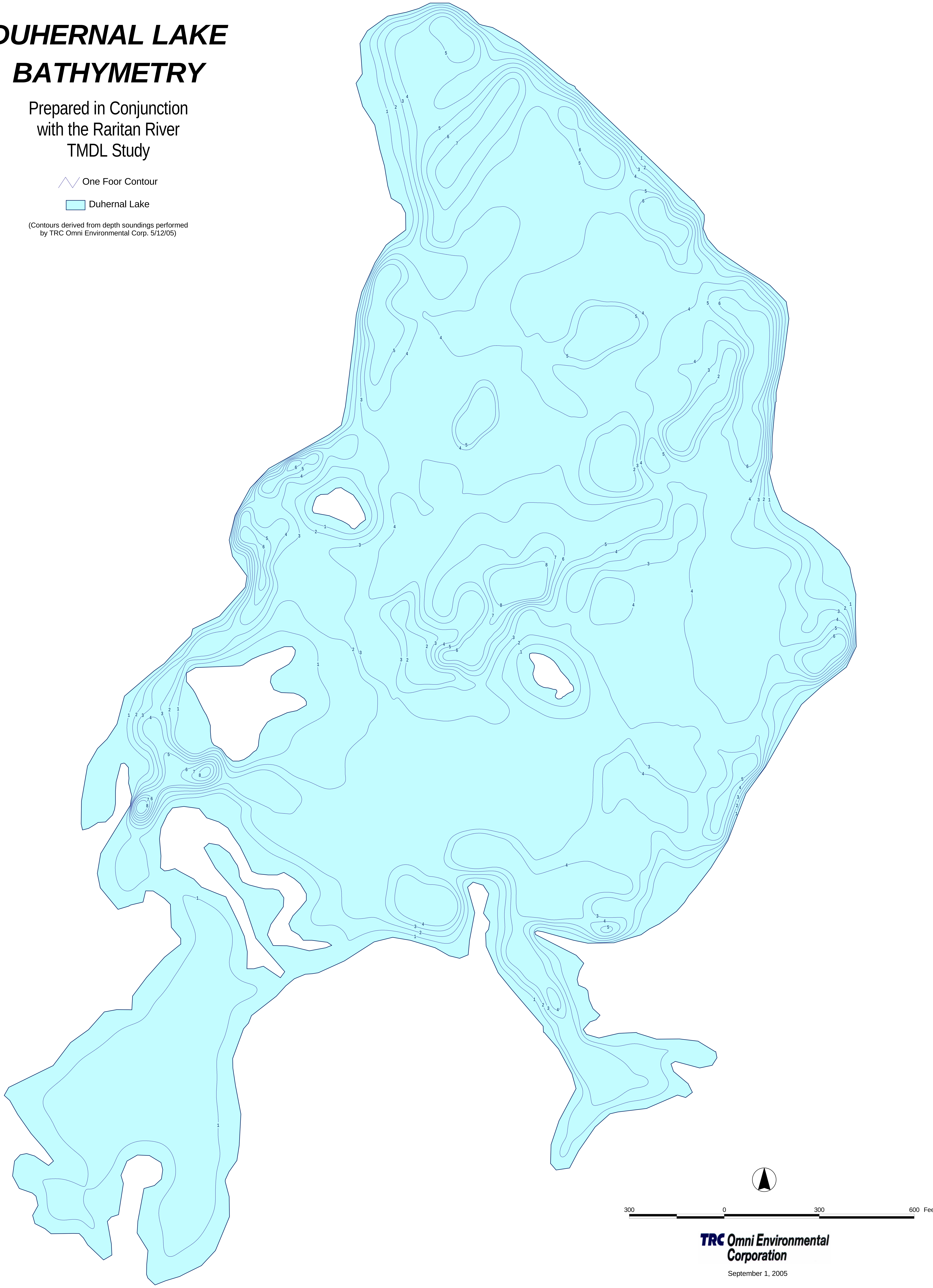
DUHERNAL LAKE BATHYMETRY

Prepared in Conjunction
with the Raritan River
TMDL Study

One Foor Contour

Duhernal Lake

(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/12/05)



TRC Omni Environmental Corporation

September 1, 2005

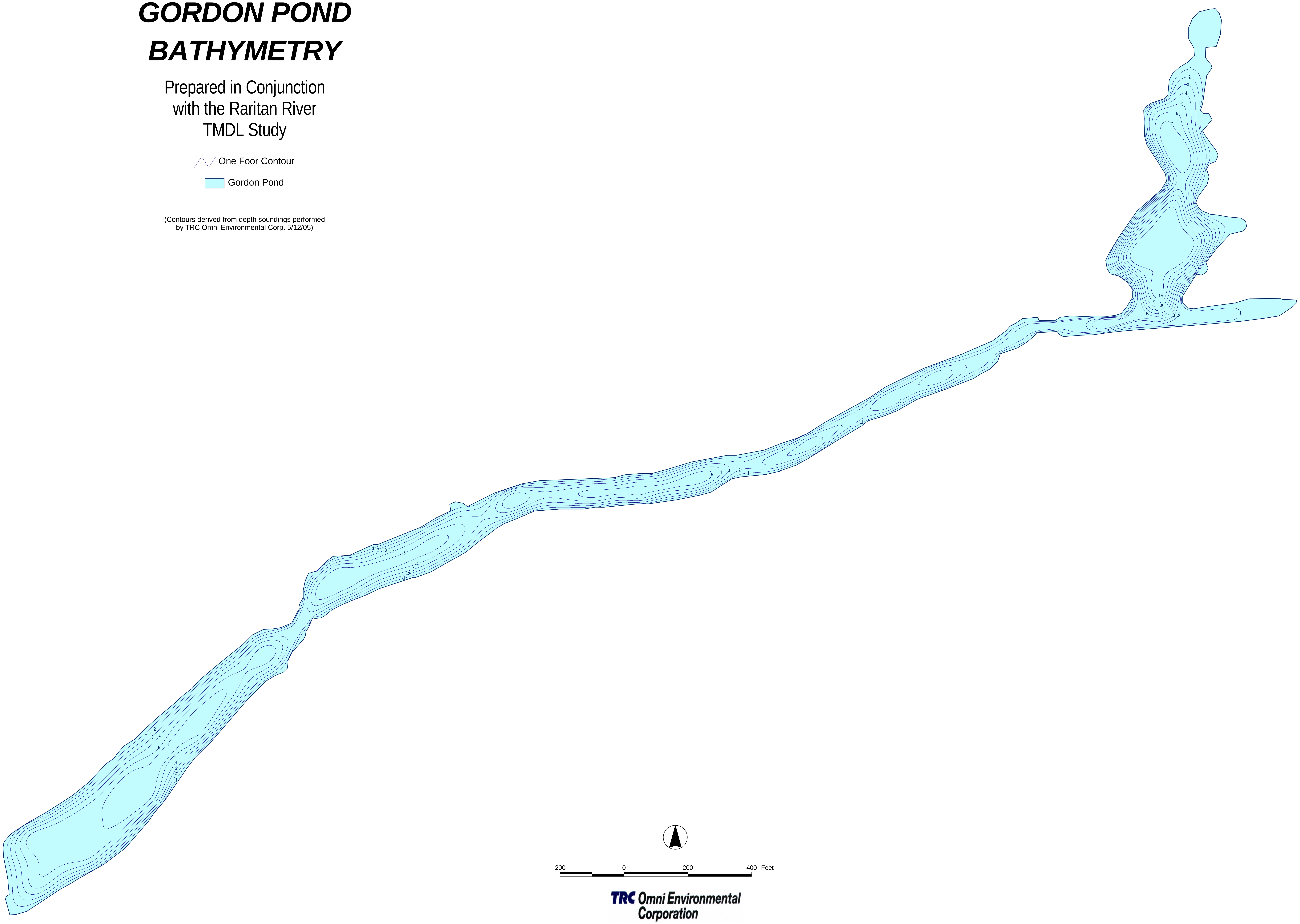
GORDON POND BATHYMETRY

Prepared in Conjunction with the Raritan River TMDL Study

One Foor Contour

Gordon Pond

(Contours derived from depth soundings performed by TRC Omni Environmental Corp. 5/12/05)



TRC Omni Environmental Corporation

September 1, 2005

GROVERS MILL POND BATHYMETRY

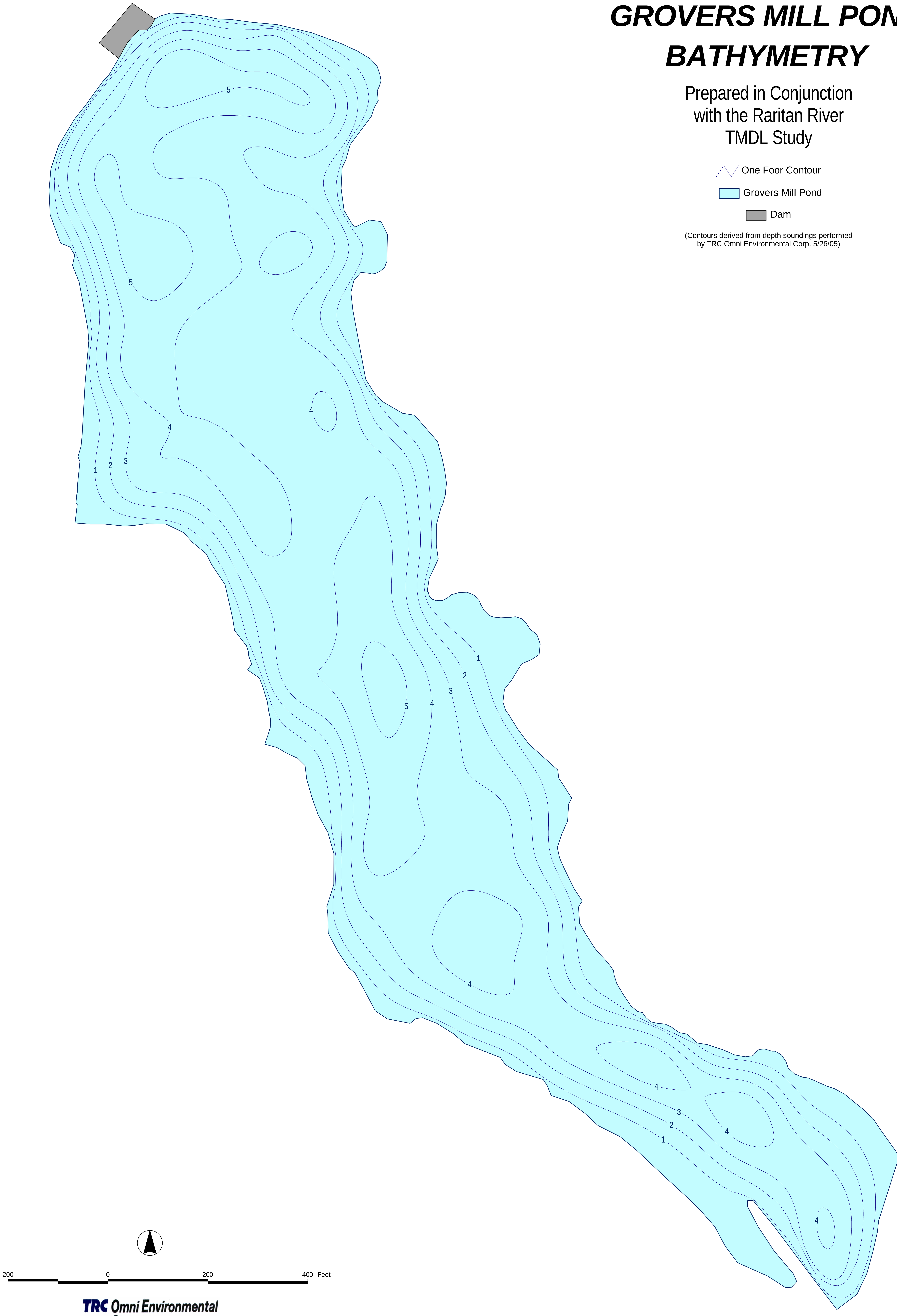
Prepared in Conjunction
with the Raritan River
TMDL Study

One Foor Contour

Grovers Mill Pond

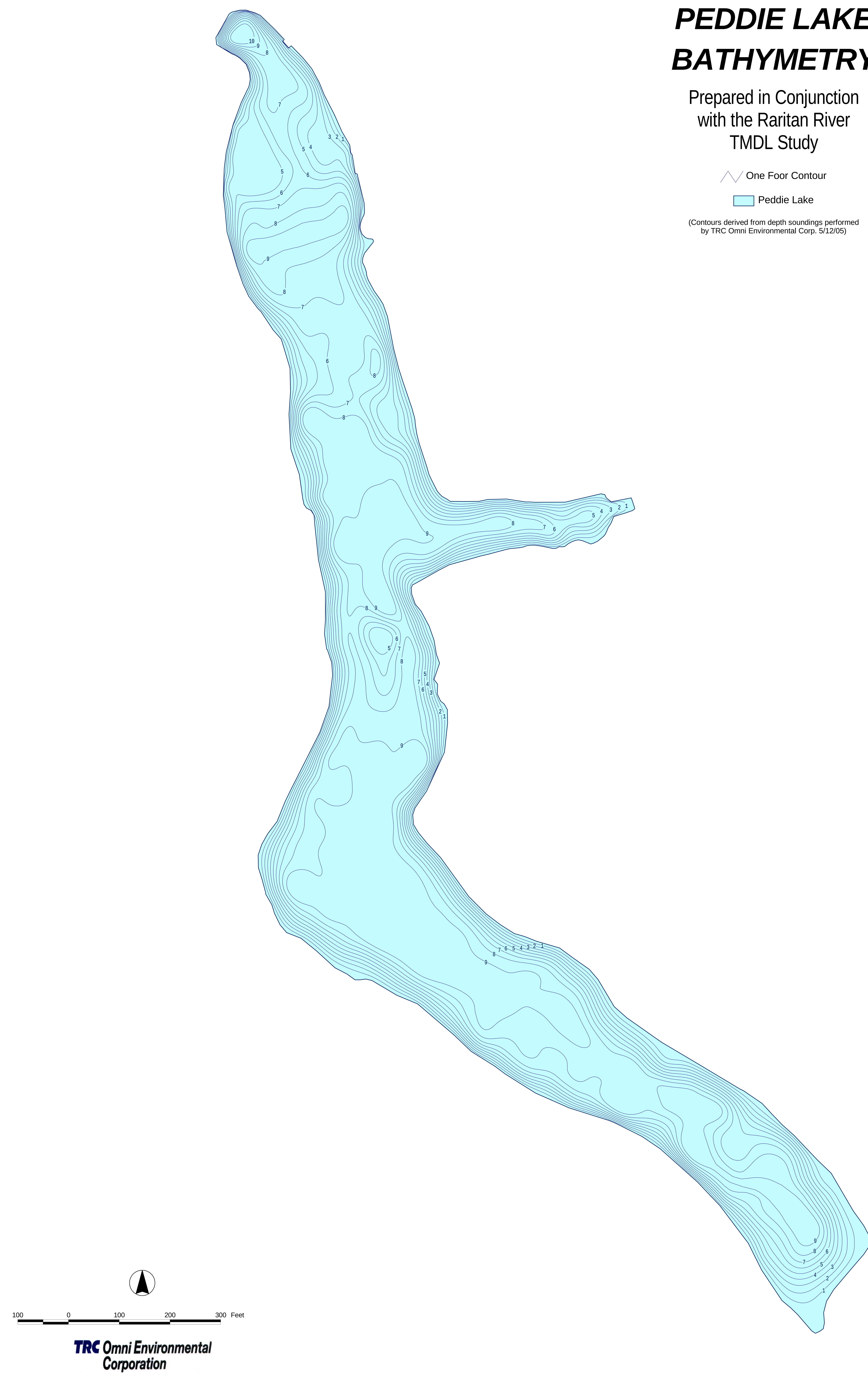
Dam

(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/26/05)



TRC Omni Environmental Corporation

September 1, 2005


PEDDIE LAKE BATHYMETRY
Prepared in Conjunction with the Raritan River TMDL Study
One Foor Contour
Peddie Lake
(Contours derived from depth soundings performed by TRC Omni Environmental Corp. 5/12/05)
100 0 100 200 300 Feet
TRC Omni Environmental Corporation
September 1, 2005

PLAINSBORO POND BATHYMETRY

Prepared in Conjunction
with the Raritan River
TMDL Study

One Foor Contour

Plainsboro Pond

Dam

(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/12/05)

300 0 300 600 Feet

TRC Omni Environmental
Corporation

November 2, 2005

RAVINE LAKE BATHYMETRY

Prepared in Conjunction with the Raritan River TMDL Study

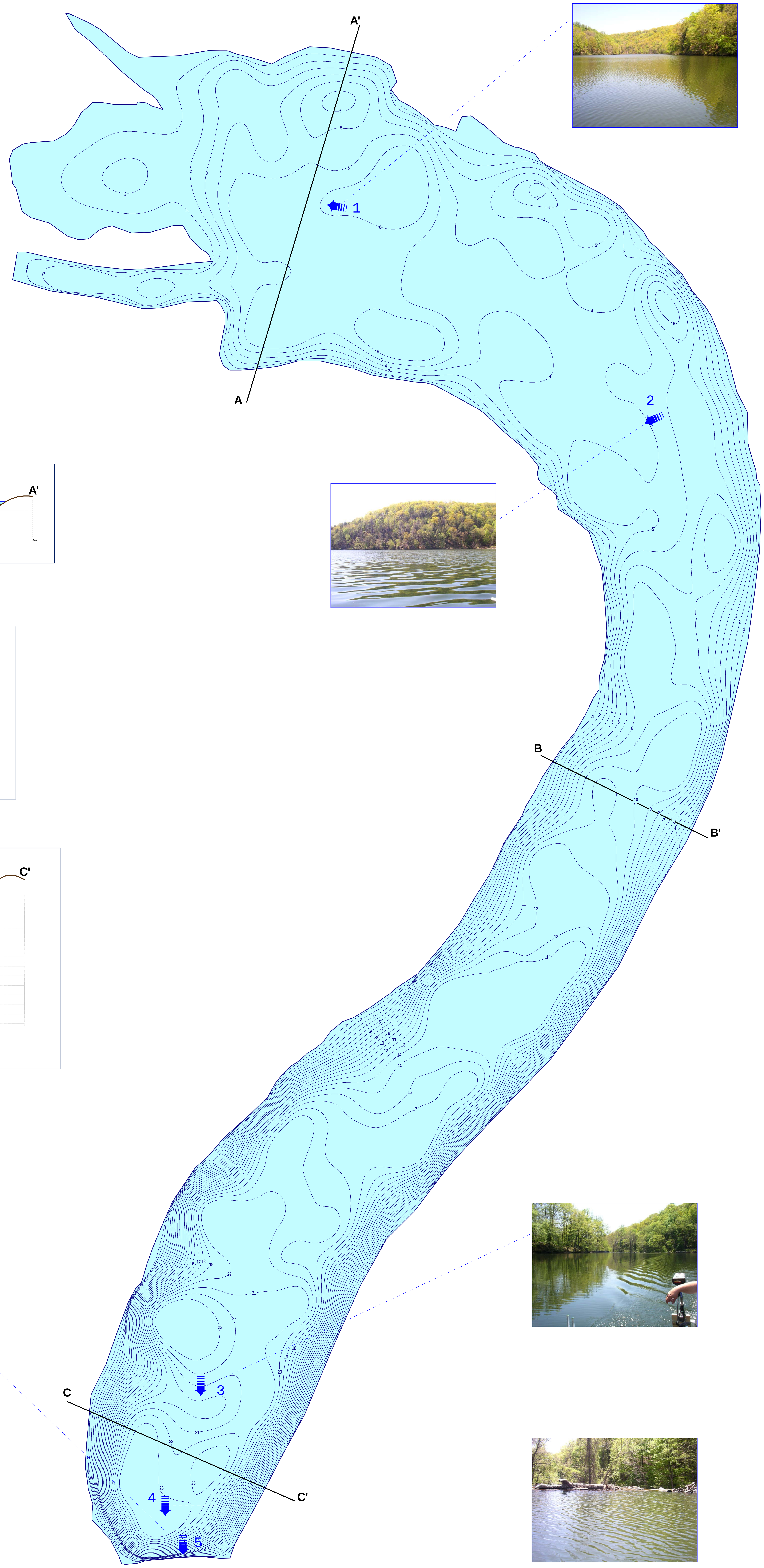
One Foor Contour

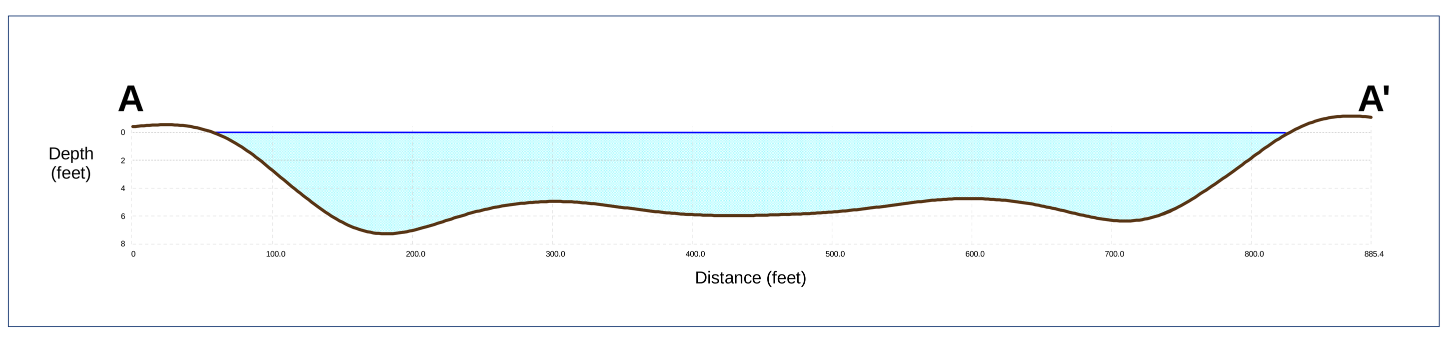
Photo Location & Direction

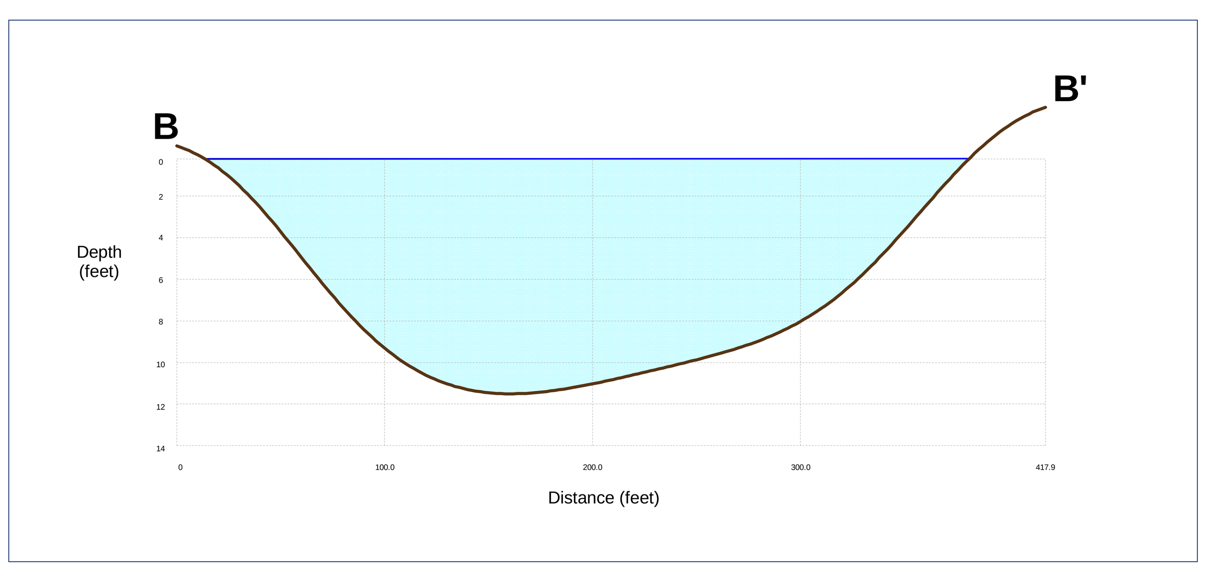
Profile Line

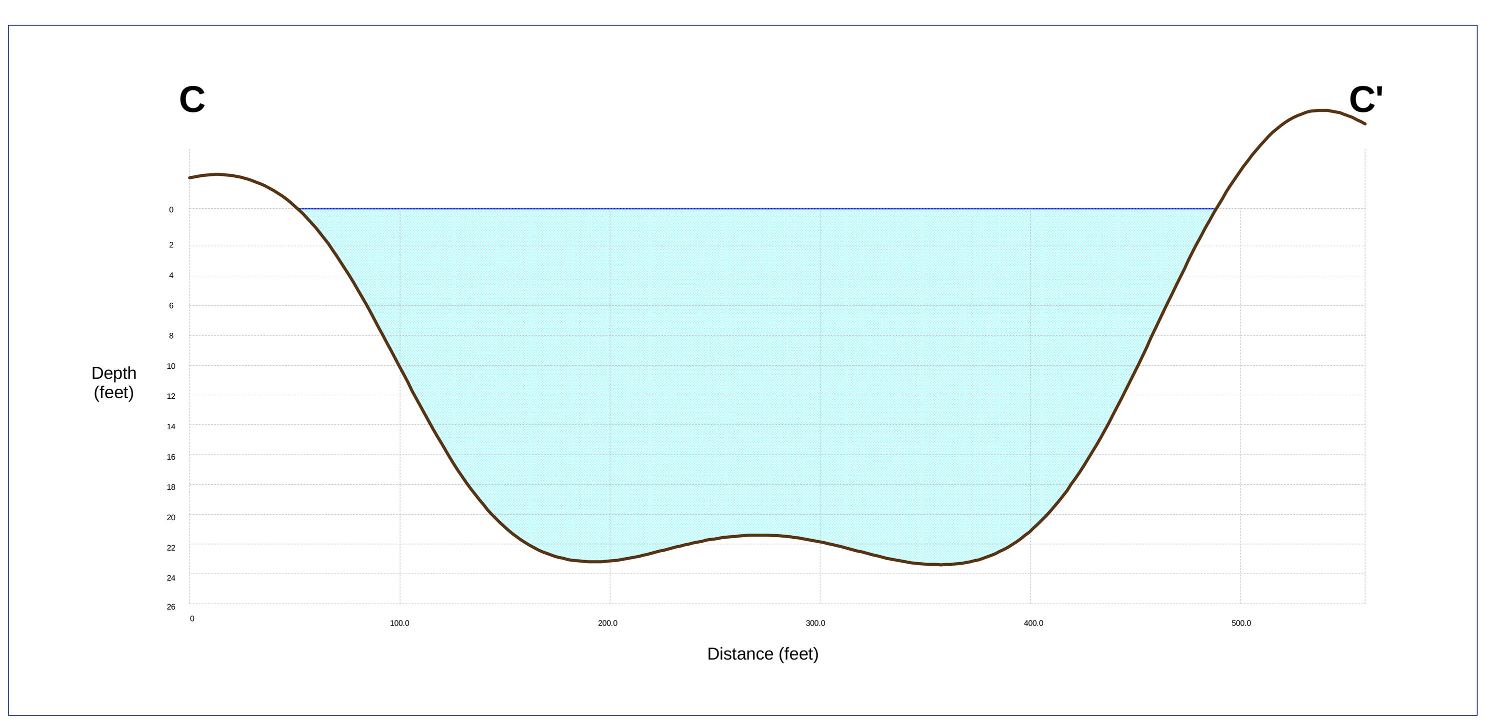
Ravine Lake

(Contours derived from depth soundings performed by TRC Omni Environmental Corp. 5/12/05)









USGS GAGE 01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS NJ. GAGE HEIGHT = 2.25 FEET

200 0 200 400 Feet

TRC Omni Environmental Corporation

July 6, 2005

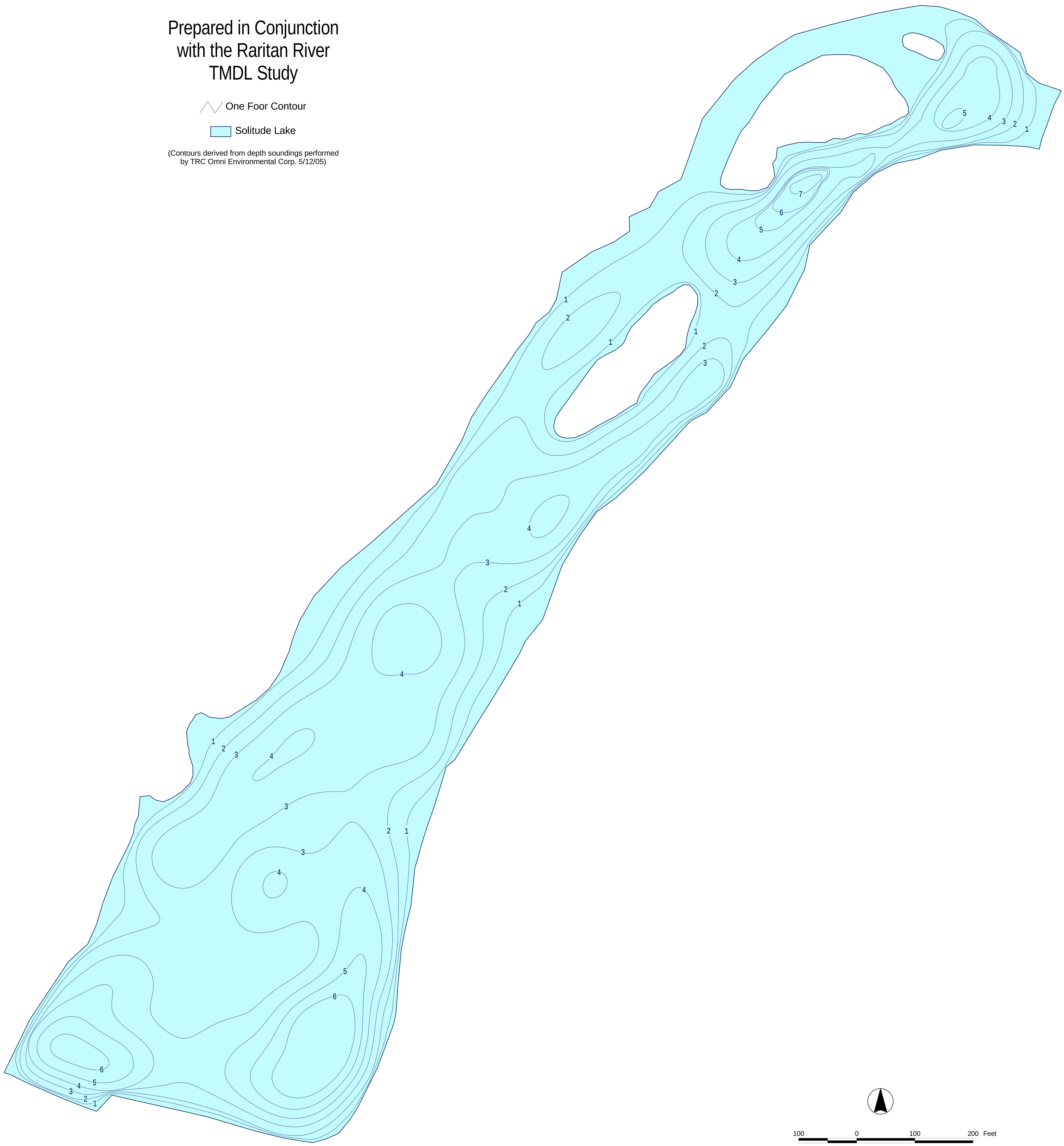
SOLITUDE LAKE BATHYMETRY

Prepared in Conjunction
with the Raritan River
TMDL Study

One Foor Contour

Solitude Lake

(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/12/05)



TRC Omni Environmental Corporation

September 1, 2005


WEAMACONK LAKE
BATHYMETRY
Prepared in Conjunction
with the Raritan River
TMDL Study
One Foor Contour
Weamaconk Lake
(Contours derived from depth soundings performed
by TRC Omni Environmental Corp. 5/12/05)
1
2
3
4
5
6
7
50
0
50
100 Feet
TRC Omni Environmental
Corporation
September 1, 2005