Appendix A

Terms of Reference

Niagara River (Ontario) RAP

Welland River Eutrophication Study

Purpose:

This Terms of Reference document outlines the purpose of the Welland River Eutrophication Study, the study goals, the *Technical Working Group* (TWG) membership, roles and responsibilities, meeting frequency, reporting requirements, timelines and reference documents.

The purpose of the Welland River Eutrophication Study is to refine and implement the Recommendations for Monitoring and Assessment as laid out by the technical review committee in Appendix H of the Technical Review Report.[1]

The **goals** of the study include the following:

- gather missing data about how the Welland River ecosystem is responding to nutrient inputs (e.g. with algal blooms or low oxygen levels),
- set delisting criteria for key parameters in the river, and
- set targets for tributary loads to meet the delisting criteria.

Background:

The Welland River watershed encompasses 81% of the Niagara River (Ontario) Area of Concern (AOC). With a total drainage area of 1023 km^2, the Welland River watershed is the largest, most diverse and most stressed watershed within the jurisdictional area of the Niagara Peninsula Conservation Authority (NPCA). The river has its origins in the Town of Ancaster, and is characterized by a wide range of agricultural activities, rural residential and urban development patterns along its course. Although it drops significantly (78m) over the first 55 kilometers, it is a meandering, sluggish river from Port Davidson downstream to its physical outlet at the Niagara River.

The entire flow of the Welland River is diverted at a point 6 kilometers west of its junction with the Niagara River into the Queenston-Chippawa Power Canal. The operation of the Power Canal and the Control Structure cause the section of the Welland River between Chippawa and the Queen Elizabeth Way (locally known as Chippawa Creek) to flow westward (upstream) as water is diverted from the Niagara River to the Power Canal. The regulated diversion of water in the lower Welland River creates a pattern of regular diurnal fluctuation in water levels that extends approximately 60 kilometers upstream of the diversion. The twice-daily vertical fluctuation of 30cm to 45cm has impacted on the river's ability to transport its sediment to an appropriate outlet or to maintain floodplain wetlands for fish habitat and erosion control purposes. The current

[1] The 2007 Technical Review of Impairments and Delisting Criteria

situation creates a dilemma in that the river can not drain effectively. Sediment that is deposited at a delta in other river systems is continually suspended within the Welland River.

By almost any standard of measurement, water quality in the Welland River is poor and in need of improvement. Water quality monitoring results continue to confirm the following:

- very high suspended sediment levels caused by excess topsoil erosion;
- excess algae growth caused by high phosphorus loads;
- stagnant flow and rotting algae combine to cause low dissolved oxygen levels in the river waters;
- unacceptably high bacteria levels at many locations from both human and livestock sources
- lack of forest cover through the entire drainage basin, and
- low abundance and diversity of fish species.

As it is the largest tributary to the Niagara River, consequently the Welland River is the focus of many of the Recommendations in the Niagara River Remedial Action Plan (RAP) reports. In order to delist the Niagara River AOC, it is imperative that the environmental problems within the Welland River watershed are addressed.

The Niagara River RAP Stage 2 review:

Between 2005 and 2007, a 10-year review of the framework for implementation of remedial actions was undertaken as part of the Niagara River (Ontario) Remedial Action Plan (RAP). This included review and, where applicable, revision of the status of Beneficial Use Impairments (BUIs), delisting criteria, monitoring and assessment priorities, and the implementation annex and RAP work plan. As part of the review of delisting criteria and BUIs, a number of recommendations were made for science-related activities (monitoring, assessment, and reporting) to be undertaken in the Niagara River (Ontario) Area of Concern (AOC).

Appendix H of the 2007 Technical Review of Impairments and Delisting Criteria lays out proposed Recommendations for monitoring and assessment to address the BUI: *Eutrophication and Undesirable Algae*, and briefly listed below.

Recommendations for Monitoring and Assessment:

A working group of MOE, NPCA, and Environment Canada staff (referred to as the Technical Working Group or TWG) will be assembled to refine and implement the recommendations below over the next 2-3 years. The lead agency is the NPCA. Recommendations are as follows:

1. *Characterize the biological response of the Welland River to high phosphorus inputs including the type, frequency, location, and timing of algal blooms, and whether oxygen depletion (anoxia) is occurring in relation to aquatic plant or algae overgrowth.*

A number of potential studies are suggested to implement this recommendation. This work is considered the highest priority for implementation. Details are provided in the Work Plan (dated January 30, 2008).

2. *Characterize concentrations of plant-available phosphorus versus sediment-bound phosphorus along the length of the Welland River.*

(Dependent on results from implementing recommendation 1)

3. *Develop delisting criteria for the Welland River upstream of the Old Welland Canal which identify the desired conditions in the river with regard to dissolved oxygen and abundance of algae/aquatic plants.*

This is the key purpose of the study. When the delisting criteria for nutrients have been developed then effective monitoring programs may be established for the Welland River.

4. *Develop phosphorus loading targets for different subwatersheds of the Welland River upstream of the Old Welland Canal to meet delisting criteria.*

This approach, using the AGNPS model at the NPCA, is based on the development of loading targets for the Hamilton Harbour RAP.

5. *Monitor success in meeting ambient targets for the Welland River through alterations to the existing AOC Tributary Monitoring Program.*

An existing program called the AOC Tributary Monitoring Program, designed for long-term monitoring of the state of AOC tributary water quality, is run by the NPCA. Necessary modifications would be determined at the time of developing delisting criteria.

Membership:

The Welland River Eutrophication Study TWG consists of partner agency representatives to implement the eutrophication study under the auspices of the RAP Science Committee.

The following agency representatives* will comprise the TWG:

- Martha Guy, Environment Canada (EC)
- Véronique Hiriart-Baer, EC
- Mary Ellen Scanlon, Ontario Ministry of the Environment (MOE)
- Sarah Day, MOE
- Tanya Labencki, MOE
- Annie Michaud, Niagara Peninsula Conservation Authority (NPCA)
- Josh Diamond, NPCA
- Valerie Cromie, NPCA

*Representatives from other agencies will be circulated information and/or solicited for input as the Study progresses.

The RAP Team will continue to provide the main coordination and oversight function for the RAP, with the Welland River Eutrophication Study TWG receiving direction from, and providing information to, the RAP Science Committee.

Roles and Responsibilities:

The NPCA representatives will facilitate meetings and work with the TWG to organize and schedule meetings and/or teleconferences, as required during the study. They will also liaise with the RAP Science Committee for the purpose of reporting on the Welland River Eutrophication Study activities and priorities, and to receive directives and information from the RAP Science Committee on behalf of the TWG.

As RAP Coordinator, the NPCA representatives will report on progress in the study to the RAP Team when requested.

The NPCA representatives will organize meetings and/or teleconferences, and keep records of the study activities and results in cooperation with the TWG.

Other members will attend related meetings and events, prepare and present information on their agency's activities and priorities as applicable, and coordinate relevant information flow between the Welland River Eutrophication Study and scientific personnel within their agency.

Meeting Frequency:

The Welland River Eutrophication Study TWG will generally meet and/or teleconference twice annually, in the summer and winter, although additional meetings may be arranged as required by the study.

The winter meeting will mainly be for the purpose of work planning for the coming monitoring season, and the summer meeting will be a review of progress and update on activities planned in the winter meeting.

Additional meetings and events (such as workshops) may be planned as the need arises.

Reporting requirements and timelines:

A report on the status of Welland River eutrophication, established delisting criteria, and loading targets to meet delisting criteria is required for March 2011. Progress reports will be submitted quarterly for 2008 – 2010 to the Niagara River RAP Science Committee.

Reference Documents:

The following documents will guide the Welland River Eutrophication Study TWG's work:

- The 2007 RAP Monitoring Plan
- The 2007 Technical Review of Impairments and Delisting Criteria
- The 2007 RAP Work plan
- The 1993 RAP Stage 1 and 1995 RAP Stage 2 reports
- A map showing the boundaries and key features of the Niagara River (Ontario) AOC is found in Figure 1 in this document.

Welland River Eutrophication Study: Workplan for 2009-2011

NOTE: Task 1 (formation of Technical Working Group) and Task 2 (literature review) have already been completed

Task	Lead	Details	Deliverable(s) & Costs	Completion Date
3. Characterize the biological response of the Welland River to high phosphorus inputs including the type, frequency, location, and timing of algal blooms, and whether oxygen depletion (anoxia) is occurring in relation to aquatic plant or algae overgrowth	NPCA	➢ Deploy 4 dissolved oxygen (DO)/temperature loggers for 2 week intervals from April through to October at each of the NPCA Welland River water quality monitoring stations to obtain diurnal trends. Logger will record hourly DO/temperature data at each station. For 2009 field season: • 2 sensors deployed by MOE at NPCA monitoring stations OS002 (Oswego Creek) and WR005 (Welland River) • 2 sensors deployed by NPCA at NPCA Welland River monitoring stations WR006 and WR009 ➢ Collect chlorophyll-a samples at time of monthly grab sample collection at all NPCA water quality monitoring stations in the Welland River watershed. ➢ Collect flow measurements at time of monthly grab sample collection at all NPCA water quality monitoring stations in the Welland River watershed.	➢ Sufficient quantity and quality of data to satisfy Task 3 ➢ Data collection and analysis: • diurnal DO/temperature variations • delineation of anoxic zone along Welland River • unit area loadings for Welland River tributaries ➢ Technical peer review of data and analysis by TWG ➢ Technical summary of monitoring results delivered to project partners (prepared by NPCA and peer reviewed by TWG) ➢ Costs: • none	➢ Field monitoring from April to November for 2009 and 2010
4. Characterize concentrations of plant-available phosphorus versus sediment-bound phosphorus along the length of the Welland River	NPCA	➢ This task is fulfilled by existing NPCA Water Quality Monitoring Program which collects monthly grab sample data for suspended solids, total phosphorus, and ortho-phosphate along the length of the Welland River and at the outlets of significant tributaries. May require more sensitive laboratory	➢ Sufficient quantity and quality of data to satisfy Task 4 ➢ Data collection and analysis: • Additional parameters included in 2009 (i.e. DOC, BOD) • MOE to provide lab	➢ Grab sampling by NPCA staff from April to November for 2009 and 2010

		detection limits for ortho-phosphate at non-PWQMN stations. ➢ Possibility of supplementing existing network with additional stations to meet agency needs and/or fill data gaps as per direction of the TWG.	analysis for nutrients ➢ Technical peer review of data and analysis by TWG ➢ Technical summary of monitoring results delivered to project partners (prepared by NPCA and peer reviewed by TWG) ➢ Costs: • Lab fees for monthly grab samples = $22,000 per year ($210/sample x 13 stations x 8 months) ➢ Lab fees for chlorophyll-a analysis = $3500 per year	
5. Develop delisting criteria for the Welland River which identify the desired conditions in the river with regard to dissolved oxygen, total phosphorus loadings, and abundance of algae/aquatic plants	EC/MOE/NPCA	➢ Develop ambient water quality targets for DO, turbidity, algal concentrations and/or biomass, aesthetic conditions, and loading targets for total phosphorus based on expert consensus. Targets will be set to prevent eutrophic conditions and undesirable algal growth in the Welland River.	➢ Revised delisting criteria for eutrophication Beneficial Use Impairment ➢ Technical report authored by TWG explaining the revised delisting criteria and water quality targets ➢ Costs: • none	➢ March 2011
6. Develop phosphorus loading targets for different subwatersheds of the Welland River upstream of the Old Welland Canal to meet delisting criteria	NPCA	➢ Develop phosphorus loading targets using monthly loading data obtained by NPCA. Run the AGNPS model using NPCA GIS, landuse data, water quality data and in-house expertise for Welland River tributaries not currently monitored to estimate total phosphorus loadings.	➢ Sufficient quantity and quality of data to satisfy Task 6 ➢ Subwatershed-specific loading targets for phosphorus ➢ Technical summary of loading data and model output for each subwatershed prepared by NPCA ➢ Costs: • none	➢ March 2011
7. Monitor new ambient water quality	NPCA	➢ This task is fulfilled by existing NPCA Water Quality Monitoring Program	➢ Sufficient quantity and quality of data to satisfy Task 7	➢ On-going (Note: this is a

targets for the Welland River through alterations to the existing AOC Tributary Monitoring Program		(which includes the AOC Tributary Monitoring Program) which collects monthly grab sample data for suspended solids, total phosphorus, and ortho-phosphate along the length of the Welland River and at the outlets of significant tributaries. ➢ Possibility of supplementing existing network with additional stations and/or parameters to meet agency needs and/or fill data gaps as per direction of the TWG	➢ Costs: • Approximately $25,000 per year	long-term task that will require years of on-going monitoring once the new delisting targets are implemented)
8. Reporting requirements	NPCA	➢ Quarterly status reports summarizing study progress and results will be prepared by NPCA and submitted to the Niagara River RAP Team and Science Committee. ➢ A final report on the status of Welland River eutrophication, established delisting criteria, and loading targets to meet delisting criteria	➢ Quarterly status reports completed by NPCA and submitted to the TWG, Niagara River RAP Team and Science Committee outlining study progress and results ➢ Technical report authored by TWG explaining the revised delisting criteria and water quality targets	➢ Final report submitted to Niagara River RAP Team and Science Committee in March 2011 ➢ Status reports submitted quarterly for 2008-2011

Appendix B

Minutes

Welland River Eutrophication Study – Technical Working Group Meeting # 1
Tuesday, January 29, 2008
Niagara Peninsula Conservation Authority, Welland

Members Present: Valerie Cromie (NPCA) co-chair, Sarah Day (NPCA), Josh Diamond (NPCA), Martha Guy (EC), Veronique Hiriart-Baer (EC), Tanya Labencki (MOE), Annie Michaud (NPCA) co-chair, Mary Ellen Scanlon (MOE), Michael Spencer (MOE)

Martha Guy (EC) participated by telephone.

Annie and Valerie called the meeting to order at 9.40am and welcomed everyone to the meeting. Each member present introduced themselves.

1. Welland River Eutrophication Study- Background

Valerie provided background to the group highlighting the development of various RAP stages and updates to the status of the designated Beneficial Use Impairments for the Niagara River AOC. Annie provided further background from her involvement with the Eutrophication & Undesireable Algae Technical Review Committee and RAP Monitoring Plan. Mary Ellen and Tanya also provide some background information from the Hamilton Harbour RAP. Annie explained the purpose of the Technical Working Group (TWG) and provided the TWG a drafted work plan for water quality monitoring for 2008-2010 addressing the data requirements specified in the eutrophication portion of the RAP Monitoring Plan.

2. Review of the Draft Work Plan

The TWG reviewed the Draft Work Plan provided by Annie.

Task #1: Create a Technical Working Group

All members that were present agreed to be part of the Technical Working Group. There was discussion about including other agencies/representatives on the TWG. It was agreed that a small focused TWG is needed and other agencies can be forwarded information such as City of Welland as the project develops, but the TWG will contact MNR and OMAFA for representation on TWG. Todd Howell (MOE) and Sue Watson (EC) will be forwarded TWG correspondences

Action Item:

- Valerie will contact Anne Yagi of MNR (fisheries rep);
- Mary Ellen will contact a member of OMAF for (agricultural rep)

Task #2: Literature Review- Water Quality in Welland River

The TWG decided that an annotated bibliography would be appropriate as a literature review. It was agreed that the 2008 deadline was appropriate.

Action Item:

- Josh will search through NPCA documents and files;
- Veronique will provide citations from scientific journal articles;
- Michael will provide relevant MOE documents/reports and historic PWQMN data for the Welland River watershed;
- Martha Guy will provide citations from relevant international documents/reports.

Task #3: Characterize the biological response of the Welland River to high phosphorus levels.

The TWG discussed the benefits of characterizing diurnal DO patterns in the Welland River. Annie and Josh provided some preliminary DO data taken in August 2007 in the Welland River. The TWG agreed that further DO data is required. Veronique cautioned that DO sensory is vulnerable to fouling and should be cleaned regularly through the duration of study. The NPCA currently has one DO sensor for deployment. Michael and Sarah offered two DO sensors from the MOE for use in the study. Mary Ellen pointed out that there may be funding through COA for additional DO sensors.

It was decided that DO sensors will be deployed at 4 sites in the spring (checked at 2 week intervals) and removed in the fall. Hourly measurements will be taken. The NPCA will deploy sensors at WR007 and BF001, and the MOE will deploy sensors at BV001 and OS001.

Action Item:

- Josh will provide Mary-Ellen with a cost estimate for a new DO sensor

The TWG discussed the validity of using chlorophyll-a as an indicator of algae growth. Martha noted there is some controversy of using chlorophyll-a in river systems but suggested it would still be an appropriate indicator. Josh provided the TWG with preliminary cost of $60 per sample of including chlorophyll-a as part of NPCA regular sample run. Veronique and Michael will check with their respective labs on costs. The TWG also discussed the monitoring of periphyton such as % cover on rocks/artificial habitat. Jenny Winter (MOE) was suggested as a contact for this.

Action Item:

- Veronique will check with Environment Canada lab;
- Michael will check with MOE lab;
- Josh will contact Jenny Winter about periphyton monitoring.

The TWG also discussed the importance of spot flow and turbidity measurements. At this time, no agency has equipment available for use in 2008. It was decided that NPCA would investigate purchasing additional equipment.

Action Item:

- Josh will provide Mary-Ellen with a cost estimate for a flow (velocity) sensor and a turbidity probe.

Task #4: Characterize concentrations of plant-available phosphorus versus sediment-bound phosphorus

The TWG discussed validity of using ortho-phosphate as an indicator. Martha noted that there are problems (filter residue) associated with the parameter. Annie added that there are issues with detection limits associated with each lab currently being used. TWG agreed that ortho-phosphate is an appropriate indicator for use in this study provided that detection limits are low enough.

Action Item:

- Annie/Josh will contact labs and determine if detection limits can be lowered

Sarah suggested it would be appropriate to take sediment samples at selected sites to identify sediment sources of phosphorus. It was decided that candidate sites would be selected based on water chemistry data with sediment samples to be taken in 2009. Michael and Sarah also suggested that based on 2008 findings that investigative work be conducted in 2009 and 2010 to track down sources of nutrients in suspect tributaries.

Action Item:

- Josh will provide a list of candidate sites for sediment samples based on NPCA WQ data.

Task #5: Develop Delisting Criteria for Welland River

Tanya inquired about the drivers for developing these delisting criteria for the Welland River – as an example she indicated that the Hamilton Harbour RAP delisting criteria were driven by fisheries and therefore DO was selected as a delisting target. The TWG discussed this issue and determined that it might be difficult to establish 1 or 2 drivers for delisting criteria for the Welland River given the broad numbers of uses and users as there is no single endpoint as the focus. The TWG also discussed that Task 5 might be a good opportunity to communicate Study data and findings to a broader audience for input (i.e. local municipalities). Michael added that he would be involved in reviewing the effluent discharge standards from the City of Welland's Sewage Treatment Plant and could bring the RAP perspective to this. Valerie also mentioned that the Eutrophication Study may provide a connection point to the NPCA's Central Welland River Watershed Plan.

The TWG noted the development of Delisting Criteria for eutrophication in Welland River requires additional data. It was agreed that the 2010 timeline found in the work plan is an appropriate timeframe for developing delisting criteria.

Task #6: Develop phosphorus loading targets for different Welland River subwatersheds to meet delisting criteria

Annie discussed how the AGNPS model can be used to estimate phosphorus loadings. Jeff Lee, who is a GIS technician with AGNPS expertise, is on staff at the NPCA. Annie suggested that when given confirmation by NPCA GIS staff that Jeff Lee could run AGNPS for the Eutrophication Study. Historic and 2008 NPCA water quality data could be used to calibrate the AGNPS model for use in 2009 or 2010.

Action Item:

- Annie and Josh will ask the NPCA GIS staff for assistance with AGNPS model.

3. The TWG agreed that the current work plan provided by Annie is appropriate for the Eutrophication Study provided that the minor changes suggested by the TWG are implemented. A follow-up meeting to discuss and coordinate water quality sampling was suggested for March before the field season begins.

Action Item:

- Annie will update work plan based on TWG recommendations

4. Next Meeting is scheduled for Wednesday March 19th 10:00am at the NPCA office in Welland.

5. Adjournment 1:00pm

Meeting Minutes

Welland River Eutrophication Study – Technical Working Group Meeting #2
Wednesday March 19, 2008
Niagara Peninsula Conservation Authority, Welland

Meeting Purpose

To review final details regarding the revised workplan; to discuss the progress since the first TWG meeting regarding Action Items; and to ensure members of the TWG who are participating in the 2008 field season are coordinated/prepared for sampling

Members Present: Valerie Cromie (NPCA), Tony D'Amario (NPCA), Josh Diamond (NPCA) chair, Martha Guy (EC), Veronique Hiriart-Baer (EC), Fayaz Khan (City of Welland), Tanya Labencki (MOE), Andrea Larsen (NPCA), Michael Spencer (MOE), Sarah Day (MOE), Steve Gillis (NPCA)

Martha Guy (EC) participated by telephone

Regrets: Sandra Kok (EC), Kyle Moat (RMN)

Josh Diamond called the meeting to order at 10:00 am and welcomed everyone, introductions followed.

Tanya Labencki reported that Todd Howell (MOE) is unable to attend the meetings and asked to be removed from the TWG distribution list.

Welland River fluctuation background
Tony D'Amario (NPCA) gave a short background presentation on the Welland River and how the river flow is influenced by the OPG. Tony explained because of the OPG's activities, the Welland River experiences episodes of flow reversal and ultimately outlets at Queenston Hydro Plant instead of in Chippawa.

Rap Review/update
Josh Diamond (NPCA) gave a presentation that illustrated an overview of the RAP of the last ten years. In 2002 to 2005 the Welland River has been sampled for phosphorous by the NPCA. In 2007 a dissolved oxygen sensor was put in Aug 10 to 30th for a test run where results indicate that levels reached near zero concentrations in the early morning and late evening. Anthropogenic sources have been identified which include NPS Agricultural land use, Welland WTTP, CSO's, Storm water. Data gaps include response of Welland River to high nutrients, algae blooms, DO and orthophosphate levels. The 2008-2010 monitoring program for the eutrophication study is an extension on the NPCA monitoring program where enhancements include chlorophyll-a sampling, increased detection limits for orthophosphate, turbidity levels, deploying DO sensors and carrying out flow measurements. Goals include developing a delisting criteria and loading targets for phosphorous.

Fayaz Khan (City of Welland)
Asked, if there was a way at the end of the study to illustrate recommendations and solutions on a municipality level. This way the municipality will be able to see why they should follow through with recommendations and how it relates to them. Fayaz would like to see this study isolate the impact to water quality by each municipality.

CSO
Fayaz Khan (city of Welland) was under the impression that they only have modelling data concerning CSO's and no loading/monitoring data, and there are about 30 CSO's (including storm sewers). Also there is no information on how/when CSO's are discharging (if they are) and

if there is no monitoring should they be monitored? And how much? The TWG agreed there is a significant data gap for CSOs in Welland.

The Welland Waste Water Treatment Plant
Mary Ellen Scanlon raised a concern regarding an EA report from XCG pertaining to the Welland WTTP and apparently no reference was made to RAP. The report is in draft form and is currently being reviewed by the MOE (Michael Spencer). When the review is finished comments will be sent out. Mike in his reviewing process will recommend that the RAP and Eutrophication perspective be incorporated into the EA. Tanya Labencki (MOE) indicated that the Hamilton Harbour C of A made sure it incorporated the RAP.

Review of the Minutes of last meeting and action items

- Literary review Josh Diamond will be combining the information
- Estimation given to Mary Ellen concerning money and equipment
- 0.03 mg/L detection limit for orthophosphate found to be the smallest at the labs NPCA uses

Coordinating Sampling Schedule

- NPCA water monitoring program is starting in April (14, 15) will coordinate with EC for lab drop off. Veronique said NPCA can submit 29 samples to EC for chlorophyll-a and the EC may be able to process some additional phosphorus samples for wet weather events.
- DO loggers will be deployed by the NPCA and MOE in May. Josh will coordinate with MOE staff.

Flow Measurements
Josh asked about flow measurements, how many and where they should be taken. Recommendations revealed taking 3 to 4 low flow measurements and 2 to 3 high flow measurements. Josh will investigate further with the NPCA engineering department. Tanya Labencki (MOE) discussed possibility to calculate phosphorous loadings with BEALE estimator however it may need many samples to make calculation. This first season of sampling may be used to determine what is going on, also to gather wet weather data it may be worth to including additional samples.

Item for 2009
The possible use of an auto-sampler for the Welland River was suggested to capture wet weather events. The NPCA will have an auto-sampler available for use in 2009.

Quarterly Reporting
Progress reports will be given out in quarterly stages. In addition sampling data will be given out (maybe August?) to make sure the results are obtainable and if any changes to sampling need to be made.

<u>Summary of Action Items</u>

Action Items: Josh Diamond

- E-mail a map of the AOC with the municipality boundaries and sampling locations
- Send a copy of the AOC Tributary Monitoring Reports for 2003 and 2004 reports to TWG
- Send all AOC raw WQ data to TWG
- Update work plan-section 4.0 i.e. sediment sampling 2009, additional phosphorus samples to CCIW
- Send Mike and Sarah sample site locations for DO sensors
- Send Veronique lab procedures for orthophosphate

- Provide a mid-summer update-distribute raw data
- Investigate CSO flow monitor for the Welland River with Kyle Moat or Bob Steele (as per Sandra Kok's email dated March 18, 2008).

Action Items: Tanya Labencki

- Send the Water quality review of Hamilton Harbour to Josh Diamond
- Provide information regarding the BEALE estimator

Action Items: Mike Spencer

- Michael Spencer (MOE) will ask and see if the MOE could take on the samples as they have an orthophosphate <0.01 detection limit however they may be too busy
- MOE, Michael Spencer will send Josh Diamond cost estimate for sediment sampling.
- Request that RAP be included in the EA document for expansion of the City of Welland's WWTP.

Action Item: Fayaz Khan

- Will ask at the City of Welland about discharging/monitoring of CSO's and if there is any data that the city has concerning them. Also will look into who is responsible for the CSO's.

Next Meeting

January 14, 2009

Proposed agenda items:

- Auto-sampler for capturing wet weather events in 2009.
- Discussion: What is driving the study? Aesthetics? Fisheries? Other?

Meeting Minutes

Welland River Eutrophication Study – Technical Working Group Meeting #3
Wednesday February 18, 2009
Niagara Peninsula Conservation Authority, Welland
9:30 am – 2:00 pm.

Meeting Purpose

To review 2008 field results; modify work plan to address data gaps; and to ensure members of the TWG who are participating in the 2009 field season are coordinated and prepared for sampling.

Members Present: Valerie Cromie (NPCA), Josh Diamond (NPCA) chair, Veronique Hiriart-Baer (EC), Drew Semple (Region of Niagara), Tanya Labencki (MOE), Andrea Larsen (NPCA), Sarah Day (MOE), David Gale (Conservation Halton), Mary Ellen Scanlon (MOE), Annie Michaud (NPCA), Jocelyn Baker (NPCA)

Martha Guy (EC) participated by telephone

Regrets: Dan McDonell (EC), Erik Nickel (City of Welland) and Anne Yagi (MNR)

Josh Diamond called the meeting to order at 9:30 AM, welcomed everyone and introductions followed. Josh gave a quick overview of Niagara AOC.

Discussion: What is the primary issue we are trying to solve?

- The TWG agreed that the purpose of the study was to determine the scope /scale of eutrophication in the Welland River and currently data is being collected through this study to develop scientifically defensible delisting targets.
- Tanya mentioned that the group should use area-weighted loadings for comparison between stations as it is standardized and higher unit area loadings will indicate anomalies and reveal problem areas.
- There was discussion about how the flow fluctuation of the river magnifies the scale of the problem in the Welland River. It was also noted that the recent decision not to mitigate the flow fluctuations with an engineering solution will mean this problem will continue. It was agreed that delisting criteria will have to account for fluctuations of the river.
- The TWG discussed using a reference river system for comparison with the Welland River. Twenty Mile Creek was suggested but there was concern due to subsurface geology differences. The group continued to discuss what the Welland River should be compared to. There was an idea that in Long Point Region Watershed there may be a system close to Welland as they have the clay plain. Tanya wondered if there was anything in the states however Mary Ellen interjected in that the states have different land uses.

Review of 2008 Results

Josh presented to the TWG the results from the 2008 field season. A 2008 update report was sent to the TWG via email on Feb 12th. Total phosphorus, phosphate, nitrate, total Kjeldahl nitrogen, un-ionized ammonia, total suspended solids, chlorophyll-a concentrations and loading were presented.

General comments about water quality monitoring data

- What was the relationship between precipitation and nutrients?
- It was suggested that it would be valuable to separate wet vs. dry data to see if there is a difference in concentrations.
- It may be possible to deploy the ISCO auto-sampler in 2010 to collect wet weather event data at a selected monitoring point.
- Josh is going to talk to NPCA engineering department in order to get flow data from measurements taken off bridges where water levels were too high to measure.
- There was much discussion about the analysis of phosphate with different methodologies for measuring phosphate. Josh talked about the difference in lab results as each sample was sent to the MOE for lab QC since the results were pretty high in differences. Veronique said that it would depend on the holding time of the sample at the lab and Martha concurred and said depending on when the sample is filtered the holding time is critical. Martha also went on to talk about how soluble reactive phosphorus in a river system has some controversy as it seems to be linked to total suspended solids. Tanya wondered why some of the results had the soluble phosphate higher than the total phosphorus; Josh will look into the data as there may be issues with laboratory reporting methods (i.e. units). Martha interjected with the problem that total phosphorus vs suspended solids should be looked at and the graph of phosphate may be off due to the total suspended solid levels.
- Veronique mentioned that she thought the station WR00A may have been mislabelled and the units of $P0_4$ and TP should be looked at for this site. Josh will look at the data table.
- Josh asked if it would be possible to send phosphate samples to the MOE lab again. Sarah would investigate this.
- The TWG agreed it would be valuable if a correlation analysis was completed on the variables in this study. The NPCA would run these analyses in March.
- Martha mentioned about possibly sampling the rocks as it was a good way of obtaining chlorophyll-a. She also asked when algae complaints occurred and Josh indicated it was usually late August, September and it usually turned out to be duck weed. Annie asked if chlorophyll-a should be sampled the same way again and it was decided that maybe in late July/ August/ September a few sites would be sampled with the rock methodology. Martha will look into the exact methodology and forward to Josh.
- Veronique requested that all the data be sent to the TWG in a single spreadsheet.

Sediment Samples

Sarah and Brian from MOE carried out sediment sampling in 2008. Sarah indicated that the results did not really stand out from other watersheds in southern Ontario. Sarah mentioned that next year they can do additional sampling at sites that indicate potential problems, possibly Coyle and Grassy sampling stations.

Study on Right Path?

Tanya mentioned that maybe the next field season should be modified and have more frequent sampling and less number of sites. For example, sites with particularly poor water quality could be targeted for more investigative sampling. Drew inquired why OS001 had particularly high nutrient concentrations. Annie thought it was high due to the large watershed size and that other problem areas may turn out to be Coyle and Grassy once the area-weighted loads are calculated as they are small watersheds with high concentrations. There was a question about Combine Sewer Overflows (CSOs) and Drew replied that he would look into finding the data from the Niagara Region. David interjected that if the data is not available there are models to give estimations of CSO flows. Mary Ellen interjected that there is a management response for CSOs already in place (e.g. F-5-5, etc.) and suggested the question would be if there are issues in, for example Owego Creek, for which there is no management response. It was noted that the Niagara Region has recently completed a project to identify all CSOs in the Niagara Region but that CSO flows are a significant data gap. Mary Ellen mentioned that the City of Welland was applying for provincial funding to collect CSO flow data. Mary Ellen wondered how the Welland River compared to other similar areas/ watersheds and Drew wondered why the Welland River was being focused on. Annie replied that the Welland River's nutrient concentrations are much higher than other comparable watercourses in Southern Ontario based on data gathered during the Beneficial Use Impairment Delisting Criteria review. Annie indicated there is the possibility that the river has higher nutrient concentrations due to the flow moving back and forth -- nutrients accumulate and remain suspended in the water column, and cannot drain at the outlet due to the flow reversal. Drew was interested in the engineering aspect of the Welland River and Mary Ellen replied that the decision had already been made in that the engineering of the River would stay the same for hydro reasons. Drew told the TWG that he is the new contact person for Niagara Water Smart and that funding is available for projects in 2009.

Project Budget

Josh presented a break-down of the budget from 2008 and revealed there was $6127.31 remaining. Drew mentioned the possibility of having money in the future for programs however was not ready to receive applications at this point. Mary Ellen confirmed that there will be a $20,000 transfer from MOE this March (for 2009-2010) and a further allocation of $15,000 available for the third year (i.e. 2010-2011) after April 1, 2009.

Project Schedule

Josh provided the TWG with a project schedule update.

- Veronique asked what the TWG wanted to base the delisting targets on. The National Agri-Environmental Standards Initiative (NAESI) was suggested as guide because this study produced acceptable water quality levels in an agricultural landscape. Martha provided an overview of the NAESI. This same methodology may be applied on the Welland River watershed to find acceptable loading of nutrients in agricultural land watersheds. The idea used a percentile approach and reference conditions sites. The approach can work for nutrients if data is available for 10 years, and Martha indicated it could work as NPCA has data from 2003.
- Tanya asked the group what the driving force was behind the parameters, should it be aesthetics, aquatic life etc. Jocelyn indicated aesthetic level for duckweed and Tanya mentioned a balance between biological and aesthetics. Tanya asked if any BOD data had been obtained on the river and Veronique suggested maybe adding DOC to the list as well since oxygen is an issue in the watershed.
- Mary Ellen was interested in knowing how watershed planning was related to this project. Jocelyn explained that watershed plans were very broad and that data was not being overlapped.
- Everyone agreed upon the field work outlined and changes may occur by adding Biological Oxygen Demand, and Dissolved Organic Carbon. There will also be an attempt to have benthic sampling carried out. When unit area loads are calculated the decision will be made as to where DO sensors will be placed.
- Mary Ellen asked if analysis of correlations and unit area loads can be accomplished before the field season, then if changes are needed they can occur before sampling has begun. Veronique asked if an Isco (auto sampler) can be used, or if one should be bought in order to get a better handle on the loads in the Welland watershed. Sarah will look into what the MOE has in terms of equipment but isn't making any promises.
- An idea was put out that maybe grab samples could be taken for wet weather events and measured just for one parameter, eg. total phosphorus.
- Valerie made the suggestion as to a possible teleconference in April once the data analysis has been finished.
- The MOE confirmed they will be able to deploy DO loggers for the 2009 field season.

Action Items:

- NPCA will run correlation analyses on selected variables.
- NPCA will review the phosphate data for any input and/or unit errors (i.e. WR00A).
- NPCA will calculate unit area loads before the beginning of the 2009 field season.
- NPCA will review available precipitation data from local rain gauges to identify wet weather samples
- NPCA will look into obtaining flow data for unwadable sites
- Sarah will look into using the MOE lab for the extra sampling again.
- Martha will look into methodology for chlorophyll A sampling from rocks.
- Martha will send report on NAESI for determining delisting criteria.
- NPCA staff will organize a teleconference in April to coordinate field sampling with study partners.

Meeting adjourned at 2:00 pm

Meeting Minutes

Welland River Eutrophication Study – Technical Working Group Meeting #4
Thursday February 11th, 2010
Niagara Peninsula Conservation Authority, Welland
9:30 am – 2:00 pm

Meeting Purpose

To review the 2009 field results, address data gaps, discuss delisting criteria, and ensure that members of the Technical Working Group (TWG) who are participating in the 2010 field season are coordinated and prepared for sampling.

Members Present: Annie Michaud (NPCA) Chair, Valerie Cromie (NPCA), Dan McDonell (EC), Josh Diamond (NPCA), Mary Lou Tanner (Region of Niagara), Tanya Labencki (MOE), Ilze Andzans (Region of Niagara), Sarah Day (MOE), Mike Spencer (MOE), Mary Ellen Scanlon (MOE), and Brian Wright (NPCA)

Martha Guy (EC) and Jenny Winter (MOE) participated via telephone.

Regrets: Anne Yagi (MNR), Lara Widdifield (City of Welland), Erik Nickel (City of Welland), Veronique Hiriart-Baer (EC) [*Veronique is on maternity leave]

Annie called the meeting to order at 9:30 am, welcomed everyone and members introduced themselves.

Prior to this meeting Annie had sent the Welland River Eutrophication Study Update Report: February 2010 and meeting agenda to the TWG on February 4th via email for review.

Niagara River RAP Stage 2 Update

Valerie provided details about the RAP Stage 2 Update that was recently completed and circulated for review. She is currently receiving comments for this document until the end of February 2010. Mary Ellen noted that it is hoped that over the next five years all of the remaining actions will be completed and the Niagara RAP will be the focus of intense work to delist in the upcoming years.

Welland River Eutrophication Study Presentation

Annie presented to the TWG an overview of the Welland River Eutrophication Study. This included a review of the steps which led to the recommendation for monitoring and assessment to address the BUI Eutrophication and Undesirable Algae in the Niagara River RAP. Annie noted that existing delisting criteria for total phosphorus of 30 µg/L is unrealistic given the predominantly agricultural landuse in the Welland River watershed. The study objectives from the Terms of Reference were highlighted as well as the current work plan for this study.

Josh presented the 2009 water quality results for the Welland River Eutrophication Study. The parameters that were presented included total phosphorus (TP), phosphate, chlorophyll-a, and

dissolved oxygen (DO) concentrations. Sarah presented the sediment sampling results. Highlights of the results included:

- 100% of the samples collected in 2008-2009 exceeded the Provincial Water Quality Objective (PWQO) for TP of 30 µg/L.

- Phosphate concentrations were generally high at most stations relative to TP.

- 87% of samples analyzed for chlorophyll-a in 2008-2009 meet the Final Target for chlorophyll-a for the Hamilton Harbour RAP of 10 µg/L.

- Diurnal DO fluctuations were observed at all stations monitored in 2009. A zone of low DO (i.e. < 4mg/L) in the summer months was observed in the Welland River from approximately Wellandport to the first siphon in the City of Welland. This zone roughly coincides with an area of peak TP concentrations and walleye avoidance in the Welland River (as identified by the MNR, 2008). Steep declines in DO were observed in this stretch of the Welland River immediately following a rain event captured in August. Welland River station WR005 located upstream of Wellandport and Oswego Creek station OS002 were less impacted by low DO.

- Correlation analysis on several key parameters related to eutrophication detected significant positive linear relationships between TP and turbidity and between TP and total suspended solids; however, TP and phosphate were found not to be correlated with chlorophyll-a concentrations.

- All monitoring stations sampled for sediment analysis in 2008-2009 had TP concentrations greater than the LEL (600 to 2000 µg/g). Beaver Creek station BV001 had a TP concentration at the SEL (2000 µg/g). Although these concentrations are high, they are not significantly different than other equivalent watersheds in southern Ontario. Based on this analysis, the TWG concluded that sediment sampling will not be included in the 2010 field season.

- The data indicates that phosphorus concentrations are high and DO is low, but algae blooms were not observed in 2008-2009, chlorophyll-a concentrations are very low and turbidity is high – so what is causing the reduced DO if it's not algae?

Annie presented the proposed method for determining the delisting criteria for TP for the Niagara River RAP. She noted the different approaches that have been used such as the NAESI method, Eco-Region method, the PWQO and AECOM's export coefficient method that was prepared for and adopted by the St. Lawrence River/Cornwall AOC. Annie noted that the recommended TP criteria from both the NAESI and Eco-Region methods reflect background or pristine watershed conditions and do not address landuse directly. They also closely resemble the PWQO, which was deemed to be inappropriate for the Welland River watershed. Annie indicated that the approaches used for the Hamilton Harbour RAP and Cootes Paradise were not appropriate for the Welland River since the primary source of nutrients in those areas are wastewater treatment plants. The AECOM approach for determining TP delisting criteria was therefore selected as a proposed method. Annie explained that this method was appropriate because of similarities between the Niagara River AOC and the St. Lawrence River/Cornwall AOC in terms of watershed characteristics and nutrient impairments. This method generates realistic TP targets based on tributary landuse and nutrient export loads.

Annie provided a detailed overview on how TP delisting criteria are calculated using the AECOM method and published export coefficients. As an alternative to using published export coefficients, TP delisting criteria were also calculated using Coyle Creek as a reference tributary owing to its low percent agricultural landuse and low TP export coefficients under modelled flow conditions. The range of export coefficients calculated using these methods provide more achievable TP targets for each of the Welland River tributaries. Annie ended by recommending the AECOM approach for the Welland River watershed and asked the TWG for consensus on the method and thoughts/concerns about using Coyle Creek as the reference tributary.

Annie concluded the presentation by noting the Welland River Eutrophication Study is proceeding as scheduled and meeting the study objectives as written in the Terms of Reference.

TWG Discussion

CSOs:

Dan requested that more information re: CSO be incorporated into the Welland River Eutrophication Study. The TWG agreed with this point, however there is very little data available regarding the CSOs that discharge to the Welland River. Annie indicated that if flow and water quality data were provided she could determine TP loads and include the CSOs as "tributaries" for comparison purposes. Ilze noted that she may be able to provide funding through the Niagara Water Strategy for CSO flow monitoring to fill this data gap. Mike inquired about the role of the Welland wastewater treatment plant in this study since the study objectives specifically address the Welland River upstream of the old siphon. Annie indicated that since the wastewater treatment plant is located downstream of the old siphon it technically falls outside the scope of the study, but noted that the flow reversal may result in nutrient loads from the wastewater treatment plant periodically affecting water quality within the study area.

Chlorophyll-a:

The TWG discussed the low concentrations of chlorophyll-a found in the Welland River despite the nutrient availability and low DO levels. Sestonic algae blooms have only been documented anecdotally and the current data do not support their regular occurrences. Jenny noted that there is no record of nuisance algae blooms for the Welland River in the MOE database. Martha cautioned that 2-3 years of chlorophyll-a data is insufficient for trend analysis, especially since 2008 and 2009 were wetter than average years, and recommended collecting 10+ years of data for adequate analysis. Martha noted that duckweed outbreaks are likely the equivalent of sestonic algae blooms on the Welland River. The group discussed the possibility of monitoring the occurrence of duckweed but there was little information available re: monitoring protocols or sampling methods.

Delisting Criteria:

The TWG agreed to proceed with using the AECOM method to determine TP delisting criteria on a tributary or subwatershed scale for the Welland River watershed. The TWG also agreed that there should be some flexibility incorporated into the delisting criteria (i.e. a range of concentrations) as more data becomes available over time. There is concern that using Coyle Creek as reference tributary may not be appropriate without considering other data. Jenny recommended that we look for other published export coefficients as well as consider data from reference sites in watersheds outside of the NPCA to include them into the range of export

coefficients. This range of values can be used to assess the suitability of a particular export coefficient. The Grand River was mentioned as a possible reference site. Mary Ellen suggested Steward Sweeney at OMAFRA as a contact for nutrient export coefficients.

Dissolved Oxygen:

There was discussion about what was causing the low DO in the Welland River in the absence of algae. Martha noted that it is very difficult to link TP with DO directly as there are many factors that need to be considered. The TWG group discussed several additional water quality parameters such as BOD, SOD, NOD and DOC. Annie noted that BOD was collected in 2009 and that concentrations were low (i.e. < 5 mg/L) at all stations. Tanya inquired about the role of nitrogen, but Annie indicated that nitrate, nitrite and ammonia concentrations throughout the watershed are quite low. Annie told the TWG that DOC was also collected in 2009 but was unsure how to use the DOC data. The TWG agreed that BOD and DOC sampling will continue in 2010. There was also discussion about what was causing the zone of low DO in the Welland River between stations WR005 and the old siphon. It was noted that tributaries with high TP loads discharge into that zone (i.e. OS001, BV001, BF001). The TWG recommended increased sampling frequency at these tributaries in order to capture more wet weather events.

2010 Field Season

- The NPCA will continue to sample its network of tributary and Welland River stations.
- Sarah and Mike will secure the MOE lab allotment for the phosphate analysis similar to 2008 and 2009
- Chlorophyll-a samples will again be collected at all stations and the Environment Canada lab at CCIW will be contacted for this service.
- DO loggers will be deployed at 6 sites for 2010. Three loggers will be deployed by the NPCA and three loggers by the MOE. Locations will include the Welland River between WR005 and the old siphon, and tributaries discharging within that zone. The NPCA will purchase an additional DO logger as soon as funding is confirmed to be ready for the 2010 field season.
- Increased sampling frequency at selected tributary stations during wet weather conditions (i.e. OS001, BF001, BV001).
- Monitoring duckweed occurrences (protocol to be determined).

Funding Sources

- Dan noted that Great Lake Sustainability Fund will have potential funding available in June 2010.
- Mary Ellen indicated that MOE funding may be available on May1st 2010.
- Ilze indicated that there is funding available through the Niagara Water Strategy.
- Mary Lou indicated that there is funding available through the Region of Niagara for infrastructure projects completed in partnership with local municipalities.

Next Steps

Annie indicated that a monitoring plan with projected costs for 2010 will be prepared and forwarded to the TWG. The TWG agreed to meet via conference call sometime in the early fall for a mid-season status update. Annie thanked the TWG for their participation in the meeting and dismissed the members. Meeting adjourned at 2:00 pm.

Meeting Minutes

Welland River Eutrophication Study – Technical Working Group Meeting #5
Thursday February 24th, 2011
Niagara Peninsula Conservation Authority, Welland
10:00 am – 3:00 pm

Meeting Purpose

To review the 2010 field results, address, discuss and establish delisting criteria for total Phosphorus (TP).

Members Present: Josh Diamond (NPCA) Chair, Valerie Cromie (NPCA), Ryan Kitchen (NPCA), Lisa Moreira (NPCA), Jocelyn Baker (NPCA), Brian Wright (NPCA), Steve Gillis (NPCA), Tanya Labencki (MOE), Sarah Day (MOE), Anne Yagi (MNR), Lara Widdifield (City of Welland)

Veronique Hiriart-Baer (EC) participated via telephone.

Regrets: Sandra Kok (EC), Dan McDonell (EC), Martha Guy (EC), Mary Ellen Scanlon (MOE), Marvin Ingebrigsten (City of Welland)

Josh called the meeting to order at 10:15 am, welcomed everyone and members introduced themselves.

Prior to this meeting Josh had sent the Welland River Eutrophication Study Update Report: February 2011 and meeting agenda to the TWG on February 22nd via email for review.

Welland River Eutrophication Study Presentation

Josh began the meeting with an informal presentation reviewing the Niagara River RAP and study objectives. Water quality data results for the Welland River Eutrophication Study 2008-2010 field seasons were discussed following the brief overview. This included a review of the steps which led to the recommendation for monitoring and assessment to address the BUI Eutrophication and Undesirable Algae in the Niagara River RAP. Valerie noted that through the Technical review there was not enough data and that the existing delisting criteria were unattainable. She had also noted that this meeting was a milestone meeting for concluding the Welland River Eutrophication Study and finalizing delisting criteria.

The parameters that were presented included Phosphorus, Nitrogen, chlorophyll-a, and dissolved oxygen (DO) concentrations.

TWG Discussion

Phosphorus

Josh presented on the mean Total Phosphorus (TP) and Phosphate (PO_4) concentrations showing and comparing all subwatersheds within the AOC and identified that there is a Phosphorus problem. Anne noted the need for confidence limits, standard deviations,

regression and correlation analysis between the sites. She noted that pooled data does not show the variability between sites and seasons. The importance of this allows for the identification of reference site that could be significantly better than the others for instance Coyle Creek. Josh noted the "worst offenders" which included Beaver Creek (BV001), Oswego Creek (OS001) and Big Forks Creek (BF001). It was evident that from the weekly TP graph that Big Forks Creek had a significant peak in late July early August. In relation to the spike Jocelyn noted that there are many livestock operations along Big Forks, perhaps there was a lot of spreading/manure container emptying during that time frame. Sarah noted that the watercourse did smell more of manure than usual at one point during the summer but wasn't sure if it coincided with that sampling event. Josh compared the loading of TP, modeled vs. actual and it was shown that the values differed significantly. There was concern regarding which method is most reliable; Josh explained that GRCA uses a combination of modeled and actual. Anne mentioned that choosing similar "wetland streams" when choosing methodology would be more appropriate in other jurisdictions some named were Maple Creek, Sunfish Creek and Sulphur Creek.

Nitrogen

Josh presented on mean Nitrate-Nitrogen monitoring, showing that the levels within the AOC are far below the CCME water quality guideline of 2.93mg/L. The same was true for the levels of Mean Un-ionized Ammonia concentrations (0.02mg/L). It was noted that there is no governmental guideline for Total Kjeldahl Nitrogen to compare to. A graph showing Mean total Nitrogen concentrations between stations showed that many within the AOC exceed a published concentration for eutrophic water quality conditions for streams (1.5mg/L) by research scientists in the USA.

Chlorophyll-a:

Josh presented pooled chlorophyll-a data for all monitoring stations within the AOC for each study year (2008-2010) showing that the highest chlorophyll-a was reached in 2010; it was noted that this may be attributed to the lower precipitation amounts. Mean monthly chlorophyll-a was shown to follow the normal pattern over the season as explained by Anne. It was also mentioned by Anne that more specific correlations of each station is required to understand the relationships more closely.

Dissolved Oxygen:

The results from the DO study were presented and showed some unexplained changes, although when plotted for a specific site (Beaver Creek) over time, there seemed to be a strong correlation with temperature. Anne mentioned that it is normal to see low DO levels in the summer and winter which causes avoidance and die-offs in fish. Due to the ice cover in winter, Anne explained that there is no oxygen exchange with the water. Josh agreed, noting that oxygen exchange is paramount for both fish and aesthetic reasons. Anne wanted to know if the sites with low DO correlate to sites with high TP. Tanya added that DO depletion due to the conversion from ammonia to nitrate should be investigated and that data for COD and BOD must also be studied (sewage treatment plant Certificate of Approval limits could provide some context on severity of measured values). Anne suggested a limit of 4 mg/L is an acceptable value for the type of system and fish species of the Welland River. Due to the lack of data it was recommended that more studies should be conducted on DO in the Welland River relating it back to certain parameters such as TP.

Correlations:

Josh reviewed the correlations of TP concentrations with total suspended solids (TSS), Turbidity and chlorophyll-a, as well he reviewed the relationship with Phosphate concentrations and chlorophyll-a. It was found that there were poor relationships with all correlations. The relationship between sediment TP concentrations and surface water Mean TP concentrations was the best relationship. It was reiterated that more studies and a reorganization of the data are needed to examine the data more effectively.

Delisting Criteria:

CSO's

The TWG agreed with Josh's recommendation to apply MOE regulation F-5-5 for a 90% reduction target as the CSO delisting target.

Josh developed three options for developing delisting targets for tributary TP loads:

- Approach 1 is to use the AECOM approach using Winters and Duthie 2000 export coefficients and run-off values from Natural Resources Canada. This is the lowest Mean annual outlet TP concentration.
    - Lara was worried that AECOM approach did not include the input from Combined Sewer Outfalls in calculating the runoff values for urban areas
    - Others expressed concern that we would not be using values representative of the from the Welland River watershed if this option was chosen.

- Approach 2 also uses Export Coefficients and incorporates runoff values that have been derived by the NPCA Source Water Protection Water Budget (2009)
    - Lara mentioned using run-off values for our own land use seems more reasonable, but still seems overly ambitious

- Approach 3 uses export coefficients derived for Coyle Creek as a reference tributary as well as the NPCA Source Water Protection Water Budget (2009). This scenario of the three results in the highest mean annual outlet TP concentration. Outlet refers to the Old siphon in the city of Welland
    - Veronique supports option three because we are using our own reference conditions

Many concerns were raised by the TWG over the ability to achieve even the least stringent approach which is approach three. Tanya acknowledges that the AOC will never be a "normal" system due to the flow reversal and other permanent alterations to the watershed, and perhaps should not be held to such a high standard. She also expressed concern regarding the lack of clarity on the overarching goals of proposed TP reductions (i.e. aesthetics, improved DO) and suggested that percent reduction criteria for TP may be more attainable, given that the delisting approaches presented for some scenarios equated to a reduction in TP concentration of greater than 80%. Tanya mentioned that there could be issues with delisting the AOC if targets are not

met because they were set too high and were over-ambitious; 30 ug/L was agreed to be un-attainable however there is no demonstration that the updated targets are attainable, and that they will address DO and/or other biological endpoint issues. Veronique disagreed with the suggestion of less stringent TP targets and noted that we should be ambitious when setting delisting criteria. Brian suggested that a phased approach may be used with the chosen criteria. The majority of people in attendance thought a phased approach over time in order to be realistic. Both Anne and Lara suggested that a focused approach be centred on one particular subwatershed in order to investigate what is involved in reaching the recommended targets. Steve discussed some of the limitations behind targeting and implementing restoration efforts on a one subwatershed through the NPCA's restoration program. Josh also acknowledged that in order to implement this there would have to be a balance between political pressures and environmental concerns.

The motion to accept a phased approach was generally agreed upon to be added to the recommendations. Anne then suggested that we use a 5year (Approach 3), 10year (Approach 2) and 30year (Approach 1) with additional DO studies recommended. The TWG by and large agreed upon this suggestion and will recommend it to the Niagara RAP Science Committee including caveats, more monitoring and a focus on a pilot watershed. The action Item of creating caveats for the suggested approach was assigned to Tanya and Sarah. Josh will send the TWG a copy of the presentation.

Next Steps

The final report will be completed by the end of March 2011 and will include the recommendations chosen during this meeting. The meeting adjourned at 2:15 pm.

NIAGARA RIVER
Remedial Action Plan

Meeting Minutes

Welland River Eutrophication Study – Technical Working Group Meeting #6
Wednesday December 7th, 2011
Niagara Peninsula Conservation Authority, Welland
10:00 am – 1:30 pm

Meeting Purpose

This is the final meeting to discuss the Welland River Eutrophication Study Final Report with the Technical Working Group (TWG).

Members Present: Josh Diamond (NPCA) Chair, Valerie Cromie (NPCA), Ryan Kitchen (NPCA), Jocelyn Baker (NPCA), Brian Wright (NPCA), Steve Gillis (NPCA), Dan McDonell (EC), Sandra Kok (EC), Veronique Hiriart-Baer (EC), Mary Ellen Scanlon (MOE), Tanya Labencki (MOE), Sarah Day (MOE), Anne Yagi (MNR), Lara Widdifield (City of Welland)

Martha Guy (EC) participated via telephone.

Josh called the meeting to order at 10:10 am, welcomed everyone and members introduced themselves.

Prior to this meeting Josh had sent the Draft Welland River Eutrophication Study for comment on August 2nd 2011 for review.

Welland River Eutrophication Study Presentation

J. Diamond began the meeting with an informal presentation reviewing the Niagara River RAP, the formulation of the Welland River Eutrophication Study and its objectives. Water quality data results for the Welland River Eutrophication Study 2008-2010 field seasons were discussed following the brief overview. This included a review of the findings for Total Phosphorus (TP), Phosphate (PO_4), Sestonic Chlorophyll-a (Chl-a), Dissolved Oxygen (DO) and TP sediment Sampling.

Phosphorus and Phosphate

J. Diamond presented on the mean Total Phosphorus (TP) and Phosphate (PO_4) concentrations showing and comparing subwatersheds within the AOC and identified that there is a phosphorus problem. Box and Whisker plots of TP were used to demonstrate this problem and through this the "worst offenders" were identified. Beaver Creek (BV001), Oswego Creek (OS001, OS002), Big Forks Creek (BF001), Buckhorn Creek (BU000, BU001) and Tee Creek (TE001) were identified as having the highest concentration of TP. Biologically available phosphorus or Phosphate (PO_4) was also determined to be in high concentrations through the central portions of the Welland River watershed.

Sestonic Chlorophyll-a

It was determined that there is not a strong relation between TP and PO_4 with sestonic Chlorophyll-a. This line of evidence leads TWG to believe that the perceived algae problems

noted in the Welland River may be duckweed blooms. In addition, periphyton production should not be discounted as well.

Dissolved Oxygen

The results from the DO loggers were presented for Beaver Creek, Big Forks Creek, Oswego Creek and the Welland River at O'Reillys Bridge. It was found that there were sustained low DO concentrations through the summer time months, especially throughout the central portions of the Welland River. However the drivers that influence the low concentrations of DO are still not fully understood. At TWG meeting #5 and #6 it was determined that further studies of DO are necessary.

TP Sediment Sampling

Sediment sampling for TP was also briefly reviewed and it was found that there was a relationship between the Lowest Effect Level (LEL) of sediment TP and surface water concentrations of TP.

TWG Recommendations

1. Dissolved Oxygen Study on the Welland River

Through the Welland River Eutrophication Study it was confirmed that the central portions of the Welland River have sustained low summer time DO concentrations. In order to further understand what may be driving the impairment more studies are required. Studies to look at the relationship between Nitrogenous Oxygen Demand (NOD), Sediment Oxygen Demand (SOD), and Chemical Oxygen Demand (COD)and DO are recommended. As well what is the role of periphyton algae (benthic algae), macrophytes and duckweed on DO, with surveys to look at species density and composition? What effect does the altered flow conditions of the Welland River on the DO concentrations and winter time DO concentrations would be important in the understanding of the seasonal trends of DO.

2. Target Specific Watersheds for Restoration

The "worst offenders" for being extremely enriched with TP have been identified. The TWG recommends intensively implementing BMP works in these subwatersheds and ensuring the water quality parameters are monitored in order to see the results.

3. *Delisting Criteria*

City of Welland CSO's and Waste Water Treatment Plant

The TWG agreed with J. Diamond's recommendation to apply MOE regulation F-5-5 for a 90% reduction target as the CSO delisting target. The TWG agrees that there is no further action required for the WTTP, because the final effluent discharge is outside the study area as well the WTTP is regulated by an MOE Certificate of Approval.

Tributary Delisting Criteria

The TWG evaluated several delisting options for TP and it has identified that there is no strong relationship between phosphorus and the major Beneficial Use Impairments associated with the

Welland River. This has made it difficult for strongly advocating for a specific TP delisting criteria, although it is agreed that there is a problem with eutrophication and undesirable conditions within the Welland River watershed. J. Diamond provided two tables that show nine different options developed by the TWG. First table showed the delisting concentration for each Welland River tributary. The second table outlined the percent reduction in TP for the tributaries.

- Option #1 is to use the RAP Stage 2 delisting criteria of 30 µg/L as the target concentration this would cause a 77% to 94% reduction in TP concentration for the tributaries.
- Option #2 is use the export coefficient approach #1. This is the AECOM approach which uses Winters and Duthie 2000 export coefficients and run-off values from Natural Resources Canada. This is the lowest Mean annual outlet TP concentration with 25% to 89% reduction in TP concentrations across the tributaries.
- Option #3 is to use export coefficient approach #2. This method uses the AECOM approach but substitutes the Natural Resources Canada run-off values with the NPCA's Source Water Protection water budget (2009). This approach produces a 25% to 84% reduction in TP across the tributaries.
- Option #4 is to use a reference condition approach for locally deriving export coefficients and the NPCA's Source Water Protection water budget (2009). Coyle Creek was used as the reference tributary for deriving the export coefficients. This method would achieve no reduction in TP up to a 71% reduction.
- Option #5 is to use options two, three, and four in a phased approach. This option has been ruled out as viable delisting criteria.
- Option #6 is to use the 25th percentile of TP concentrations as the delisting criteria. This would allow for a 23% to 58% reduction in TP.
- Option #7 is to use either the Grand River or Twenty Mile creek as a reference for the Welland River. The mean TP concentrations for these systems would be used as the delisting criteria.
- Option #8 would look at what percentage of a watershed should BMPs and stewardship works be implemented.
- Option #9 is to not set any delisting criteria.

4. Continued Water Quality Monitoring in the Niagara River AOC

The TWG recommends that further water quality monitoring in the Niagara River AOC continue. The TWG also recommends that wet weather/event based sampling be incorporated into future water quality monitoring.

Comments and Discussion

Benthic Chlorophyll-a

Two different Statistical Methods for analyzing water quality data

Specific TWG recommendation for TP Delisting Criteria

D. McDonell asked instead of choosing one, is there any that we could drop. Specifically Option #2 seeing the run-off values are not from the Niagara Region and they have been improved on

in Option #3 and #4. J. Baker does not recommend Option #1. M. Scanlon recommends leaving the nine options on the table because there is no perfect solution to a complex system like the Welland River.

Percentage of BMP implementation should be considered a delisting target

J. Baker, there needs to be a method for focusing stewardship efforts and BMP from a phosphorus perspective. A. Yagi asked how effective are BMPs in reducing Phosphorus. J. Baker what would an 86% reduction in phosphorus look like in Beaver creek and would need to be done in order to achieve the reduction. Over 2000 BMPs have been implemented in the NPCA's jurisdiction and for every one installed three are destroyed, there is never a net gain. D. McDonell, what is the efficiency of BMP's? If we dump money into the Welland River, what effect will it have on the Niagara River and Lake Ontario? Through the Oswego Creek BMP practise it was noted that there was not a good response or uptake to the project.

Is the City of Welland meeting F-5-5 requirements

An email from Lara Widdifield was sent to J. Diamond and read by J. Diamond in regards to how the City of Welland is doing with regards to meeting the requirements of regulation F-5-5. L. Widdifield notes that the City of Welland is in better shape than they were in 2003. In 2003 they were at 75% capture, procedure F-5-5 requires 90% capture. M. Scanlon requests' that this email be sent to the TWG.

Action: J. Diamond is to send a copy of the email sent from L. Widdifield to the TWG.

Should the final report include a budget for future monitoring?

M. Scanlon recommends including a budget for future monitoring as an appendix or separate memo as it is important to know for future monitoring. All recommendations and possible future monitoring should be included in the budget. As Josh's supervisor, B. Wright would like to see a separate memo for the budget and does not want it included in the report.

How much commitment is there for Objective #5?

A. Yagi asked to have a copy of GPS locations for our water quality sampling stations. There is some commitment for future monitoring but there is a tight timeline for proposals. Proposals should be in by the end of January. Possible future monitoring could include nutrient track down on Beaver Creek and the "worst offenders", increased event based sampling and a more focused DO study that looks at the different drivers affecting DO in the central Welland watershed.

Action: NPCA to send A. Yagi GPS locations for water quality sampling stations.

Appendix C

WR00A – Monitoring Station

WR000 – Monitoring Station

WR001 – Monitoring Station

WR002 – Monitoring Station

WR003 – Monitoring Station

WR004 – Monitoring Station

WR005 – Monitoring Station

WR006 – Monitoring Station

WR007 – Monitoring Station

WR010 – Monitoring Station

BF001 – Monitoring Station

BU000 – Monitoring Station

BU001 – Monitoring Station

BV001 – Monitoring Station

CO001 – Monitoring Station

DR001 – Monitoring Station

EL001 – Monitoring Station

GR001 – Monitoring Station

LY003 – Monitoring Station

MI001 – Monitoring Station

OS001 – Monitoring Station

OS002 – Monitoring Station

TE001 – Monitoring Station

Appendix D

Monitoring Station - BF001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	188	0.31	0.06	0.03	<0.001	0.04	<0.25	<0.001	73	46	0.003	0.0004	622
26-May-08	N	176	0.56	0.05	0.03	<0.001	0.04	<0.25	<0.0001	76	56	0.003	0.0005	610
23-Jun-08	N	219	0.16	0.05	0.04	<0.001	0.06	<0.25	<0.0001	107	59	0.002	0.0003	795
28-Jul-08	Y	157	0.22	0.13	0.03	<0.001	0.05	<0.25	<0.0001	63	39	0.002	0.0003	532
25-Aug-08	Y	270	0.12	0.04	0.03	<0.001	0.05	<0.25	<0.0001	104	52	0.003	0.0004	737
29-Sep-08	N	271	0.28	0.04	0.04	<0.001	0.05	<0.25	<0.0001	94	65	0.002	0.0003	841
27-Oct-08	Y	227	0.51	0.03	0.05	<0.001	0.05	<0.25	<0.0001	92	40	0.003	0.0004	709
17-Nov-08	Y	196	1.3	0.03	0.05	<0.001	0.04	<0.25	0.0001	73	36	0.003	0.0005	616
20-Apr-09	Y	231	0.78	0.06	0.04	<0.001	0.03	<0.25	<0.0001	81	42	0.004	0.0005	674
25-May-09	N	179	0.41	0.07	0.03	<0.001	0.04	<0.25	<0.0001	57	45	0.005	0.0005	577
15-Jun-09	N	187	0.6	0.07	0.02	<0.001	0.04	<0.25	<0.0001	55	57	0.002	0.0006	596
20-Jul-09	N	213	0.04	0.15	0.02	<0.001	0.03	<0.25	<0.0001	74	55	0.003	0.0002	671
10-Aug-09	Y	115	1.01	0.06	0.03	<0.001	0.04	<0.25	<0.0001	44	18	0.001	0.0005	337
28-Sep-09	N	174	0.34	0.05	0.02	<0.001	0.05	<0.25	<0.0001	60	55	0.002	0.0003	609
26-Oct-09	Y	266	0.4	0.07	0.05	<0.001	0.04	<0.25	<0.0001	107	47	0.002	0.0004	784
23-Nov-09	N	293	0.27	0.08	0.05	<0.001	0.03	<0.25	<0.0001	117	49	<0.005	0.0004	869
27-Apr-10	N	256	0.21	0.02	0.03	<0.001	0.03	<0.25	<0.0001	92	46	0.003	0.0004	727
25-May-10	N	234	0.25	0.1	0.03	<0.001	0.03	<0.25	<0.0001	74	36	0.001	0.0004	653
28-Jun-10	N	264	0.3	0.14	0.03	<0.001	0.06	<0.25	<0.0001	86	42	0.002	0.0005	698
19-Jul-10	N	214	0.13	0.03	0.02	<0.001	0.04	<0.25	<0.0001	78	55	0.002	0.0004	683
30-Aug-10	N	204	0.13	<0.02	0.03	<0.001	0.03	<0.25	<0.0001	78	66	<0.001	0.0003	728
27-Sep-10	N	242	0.17	<0.02	0.03	<0.001	0.01	0.71	<0.0001	82	75	0.003	0.0003	800
25-Oct-10	Y	265	0.14	0.03	0.05	<0.001	0.05	<0.25	<0.0001	122	100	0.002	0.0003	1010
22-Nov-10	Y	250	0.5	0.06	0.05	<0.01	<0.1	<0.25	<0.01	109	61	<0.05	<0.01	894

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.003	49	0.22	248	0.36	<0.001	16	0.04	<0.005	<0.005	<0.10	<0.10	8.26	0.15
26-May-08	0.002	29	0.21	276	0.44	<0.001	21	0.03	<0.005	<0.005	<0.10	<0.10	8.46	0.18
23-Jun-08	0.003	71	0.23	354	0.1	<0.001	21	0.02	<0.005	<0.005	6.09	0.18	8.11	0.11
28-Jul-08	0.003	50	0.21	207	0.29	<0.001	12	0.02	<0.005	<0.005	1.52	<0.10	7.86	0.26
25-Aug-08	0.002	130	0.15	338	0.2	<0.001	19	0.06	<0.005	<0.005	<0.10	<0.10	8.06	0.3
29-Sep-08	0.002	150	0.22	325	0.3	<0.001	22	0.12	<0.005	<0.005	<0.10	<0.10	8.04	0.28
27-Oct-08	0.005	150	0.23	316	0.63	<0.001	21	0.02	<0.005	<0.005	5.82	<0.10	7.94	0.28
17-Nov-08	0.004	680	0.2	248	0.88	0.001	16	0.03	<0.005	<0.005	4.41	<0.10	8	0.36
20-Apr-09	0.003	69	0.14	281	0.61	<0.001	19	0.08	<0.005	<0.005	1.17	<0.10	8.1	0.23
25-May-09	0.003	39	0.22	237	0.57	<0.001	23	0.1	<0.005	<0.005	<0.10	<0.10	8.18	0.35
15-Jun-09	0.011	170	0.24	240	0.68	0.002	25	0.07	<0.005	<0.005	<0.10	<0.10	8.36	0.59
20-Jul-09	0.001	43	0.23	288	0.05	<0.001	25	<0.01	<0.005	<0.005	<0.10	<0.10	8.26	0.27
10-Aug-09	0.003	930	0.21	151	0.64	0.002	10	0.04	<0.005	<0.005	1.85	<0.10	7.87	0.59
28-Sep-09	0.001	1180	0.19	212	0.38	<0.001	15	0.04	<0.005	<0.005	0.6	<0.10	7.93	0.53
26-Oct-09	0.004	10	0.23	362	0.42	<0.001	23	0.04	<0.005	<0.005	2.78	<0.10	8	0.23
23-Nov-09	0.003	29	0.22	395	0.3	<0.001	25	0.02	<0.005	<0.005	3.52	<0.10	7.99	0.11
27-Apr-10	0.002	84	0.22	324	0.32	<0.001	23	0.05	<0.005	<0.005	0.48	<0.10	8.37	0.19
25-May-10	0.002	15	0.24	271	0.34	<0.001	21	0.04	<0.005	<0.005	0.93	<0.10	8.38	0.27
28-Jun-10	0.002		0.28	305	0.47	<0.001	22	0.16	<0.005	<0.005	0.15	<0.10	8.26	0.68
19-Jul-10	0.001	6	0.28	273	0.22	<0.001	19	0.03	<0.005	<0.005	<0.1	<0.1	8.48	0.75
30-Aug-10	<0.001	1000	0.24	273	0.22	<0.001	19	0.03	<0.005	<0.005	<0.10	<0.10	8.05	0.45
27-Sep-10	<0.001	9	0.25	287	0.4	<0.001	20	0.14	<0.005	<0.005	<0.01	<0.01	8.05	0.87
25-Oct-10	0.001		0.23	403	0.15	<0.001	24	0.04	<0.005	<0.005	0.13	<0.1	8.03	0.26
22-Nov-10	<0.01		0.23	367	0.7	<0.01	23	0.02	<0.01	<0.01	5.02	<0.1	8.13	0.11

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		57	3	1	<0.0001	23	0.376	<0.0001	0.02	404	1.62	470	29	0.0004	<0.01
26-May-08	0.116	53	3	1.5	<0.0001	32	0.364	<0.0001	0.04	397	1.16	405	8	0.006	<0.01
23-Jun-08	0.0711	83	4	1.5	<0.0001	33	0.504	<0.0001	<0.01	517	1.41	517	<2	0.005	<0.01
28-Jul-08	0.24	43	5	4.5	<0.0001	25	0.366	<0.0001	0.01	346	1.16	356	4	0.004	<0.01
25-Aug-08	0.238	50	5	1.3	<0.0001	27	0.5	<0.0001	<0.01	479	1.29	486	7	0.005	<0.01
29-Sep-08	0.234	66	7	1.6	<0.0001	31	0.547	<0.0001	0.02	547	1.21	558	11	0.004	<0.01
27-Oct-08	0.207	55	9	6.4	<0.0001	21	0.357	<0.0001	0.04	461	1.42	480	19	0.007	<0.01
17-Nov-08	0.238	42	10	6.2	<0.0001	14	0.303	<0.0001	0.05	400	1.29	431	31	0.006	<0.01
20-Apr-09	0.0913	60	4	2.6	<0.0001	21	0.354	<0.0001	0.03	438	0.6	372	24	0.005	<0.01
25-May-09	0.174	49	2	1	<0.0001	25	0.33	<0.0001	0.01	375	1.43	420	41	0.004	<0.01
15-Jun-09	0.362	31	<1	1	<0.0001	34	0.353	<0.0001	0.02	387	0.94	468	17	0.006	0.01
20-Jul-09	0.253	56	<1	0.6	<0.0001	30	0.44	<0.0001	<0.01	436	0.74	439	3	0.005	<0.01
10-Aug-09	0.845	17	6	4.1	<0.0001	11	0.233	<0.0001	0.03	219	1.23	288	69	0.004	<0.01
28-Sep-09	0.434	46	6	1.8	<0.0001	35	0.433	<0.0001	0.01	396	0.7	417	21	0.004	<0.01
26-Oct-09	0.184	77	10	5.1	<0.0001	22	0.482	<0.0001	0.02	510	1.25	521	11	0.003	<0.01
23-Nov-09	0.0756	95	6	4.6	<0.0001	22	0.487	<0.0001	0.01	565	1.07	570	5	0.004	<0.01
27-Apr-10	0.154	55	4	1.3	<0.0001	26	0.449	<0.0001	0.01	473	0.72	556	7	0.006	<0.01
25-May-10		52	4	0.7	<0.0001	19	0.399	<0.0001	<0.01	424	1.08	447	23	0.003	<0.01
28-Jun-10	0.513	40	4	1.4	<0.0001	24	0.472	<0.0001	0.01	454	1.34	517	13	0.004	<0.01
19-Jul-10	0.798	56	4	1.3	<0.0001	31	0.449	<0.0001	<0.01	444	1.13	451	7	0.004	<0.01
30-Aug-10	0.403	71	7	1.9	<0.0001	41	0.608	<0.0001	<0.01	473	1.14	481	8	0.002	<0.01
27-Sep-10	0.186	50	10	1.5	<0.0001	43	0.55	<0.0001	0.01	520	0.83	538	18	0.002	<0.01
25-Oct-10	0.233	106	9	3.9	<0.0001	57	0.765	<0.0001	<0.01	657	0.34	706	3	0.002	<0.01
22-Nov-10	0.0857	102	6	5	<0.01	28	0.47	<0.01	<0.1	581	0.94	584	7	<0.05	<0.05

Monitoring Station - BU000

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (umhos/cm)	Copper (mg/L)
28-Apr-08	N	183	0.983	<0.01	0.047	<0.0001	<0.0001	95.6	105	0.003	1080	0.004
26-May-08	N	233	0.715	<0.05	0.046	<0.0001	<0.0001	112	130	0.002	1300	<0.002
23-Jun-08	N	247	0.694	0.09	0.037	<0.0001	<0.0001	101	91	<0.002	1120	0.002
28-Jul-08	N	81	8.95	0.05	0.061	0.0003	<0.0001	33.7	28.9	0.009	376	0.011
25-Aug-08	Y	159	2.3	0.05	0.033	<0.0001	<0.0001	58.7	45.7	0.004	779	0.005
29-Sep-08	N	246	1.23	0.09	0.035	<0.0001	<0.0001	85	71	0.002	860	0.003
27-Oct-08	Y	134	4.51	<0.01	0.045	0.0001	<0.0001	59.6	73.6	0.005	695	0.007
17-Nov-08	Y	91	11.3	<0.01	0.068	0.0003	<0.0001	43.9	29	0.012	430	0.013
21-Apr-09	Y	254	2.05	0.07	0.05	<0.0001	<0.0001	110	85.9	<0.002	1300	0.004
25-May-09	N	314	3.02	0.06	0.064	<0.0001	<0.0001	121	122	0.003	1400	0.004
15-Jun-09	N	330	1.37	0.06	0.057	<0.0001	<0.0001	122	128	<0.002	1360	0.003
20-Jul-09	N	203	2.12	0.12	0.049	<0.0001	<0.0001	90	83.6	0.003	972	0.003
10-Aug-09	Y	84	9.5	0.1	0.063	0.0003	<0.0001	36.6	34.6	0.01	417	0.012
26-Sep-09	N	236	4.53	0.06	0.063	0.0001	<0.0001	71.3	46.6	0.006	707	0.003
27-Oct-09	N	140	2.15	0.06	0.043	<0.0001	<0.0001	76.7	90.2	0.003	890	0.005
23-Nov-09	N	186	1.89	0.08	0.045	<0.0001	<0.0001	91.1	110	0.002	1040	0.003
27-Apr-10	N	296	1.08	0.03	0.046	<0.0001	<0.0001	130	106	0.002	1520	0.002
25-May-10	N	273	1.98	0.05	0.047	<0.0001	<0.0001	109	84.2	0.002	1220	<0.002
29-Jun-10	N	299	1.68	0.19	0.05	<0.0001	<0.0001	104	116	0.002	1200	<0.002
19-Jul-10	N	137	2.04	0.09	0.043	<0.0001	<0.0001	86.2	89.8	<0.001	977	<0.002
30-Aug-10	N	178	1.15	0.05	0.053	<0.0001	<0.0001	106	123	0.001	1200	<0.002
27-Sep-10	N	216	3.43	0.06	0.07	<0.0001	<0.0001	104	125	0.004	1170	<0.002
26-Oct-10		199	1.31	0.03	0.043	<0.0001	<0.0001	103	76.4	0.001	1080	0.003
22-Nov-10		191	2.69	0.05	0.048	<0.0001	0.0001	97.8	60.7	0.003	949	0.003

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	330	395	0.971	<0.001	38	0.168	<0.005	<0.005	<0.02	<0.01	<0.01	7.82
26-May-08	360	477	0.692	<0.001	47.9	0.131	<0.005	<0.005	<0.1	<0.1	<0.01	8.03
23-Jun-08	460	437	0.724	<0.001	44.8	0.45	<0.005	<0.005	0.5	0.5	0.04	8.01
28-Jul-08	1600	135	7.14	0.002	12.3	0.082	<0.005	0.008	1.18	1.18	<0.1	7.64
25-Aug-08	5600	235	1.72	<0.001	21.4	0.084	<0.005	<0.005	<0.1	<0.05	<0.05	7.76
29-Sep-08	90	336	1.42	<0.001	30	0.556	<0.005	<0.005	<0.1	<0.05	<0.05	8.01
27-Oct-08	3000	241	3.5	<0.001	22.4	0.06	<0.005	<0.005	1.94	1.94	<0.05	7.83
17-Nov-08	1200	175	9.25	0.002	15.8	0.088	<0.005	0.009	4.87	4.87	<0.05	7.76
21-Apr-09	40	553	1.87	<0.001	67.6	0.126	<0.005	<0.005	0.51	0.51	<0.05	8
25-May-09	50	557	2.58	0.0012	62	0.675	<0.005	<0.005	<0.1	<0.05	<0.05	8.12
15-Jun-09	180	548	1.34	<0.001	59	0.49	<0.005	<0.005	<0.1	<0.05	<0.05	8.21
20-Jul-09	150	366	1.84	<0.0010	34.2	0.319	<0.005	<0.005	<0.02	<0.01	<0.01	8.16
10-Aug-09	3900	148	7.36	0.0025	13.8	0.077	<0.005	0.007	0.28	0.28	<0.05	7.73
26-Sep-09	400	288	4.61	0.002	26.6	0.92	<0.005	<0.005	<0.1	<0.05	<0.05	8.08
27-Oct-09	1500	317	1.83	<0.0010	30.4	0.053	<0.005	<0.005	4.83	4.83	<0.05	7.78
23-Nov-09	300	386	1.8	<0.0010	38.4	0.091	<0.005	<0.005	1.01	1.01	<0.05	7.91
27-Apr-10	140	660	1.25	<0.0010	81.5	0.165	<0.005	<0.005	<0.1	<0.05	<0.05	8.18
25-May-10	290	556	1.56	<0.0010	69	0.516	<0.005	<0.005	<0.1	<0.05	<0.05	8.29
29-Jun-10	80	452	1.46	<0.0010	46.6	0.886	<0.005	<0.005	<0.05	<0.1	<0.05	8.15
19-Jul-10	540	352	1.62	<0.0010	33.1	0.173	<0.005	<0.005	0.65	0.61	0.04	8.11
30-Aug-10	70	424	1.13	<0.0010	38.7	0.621	<0.005	<0.005	<0.02	<0.01	<0.01	8.08
27-Sep-10	350	427	2.99	0.0013	40.6	0.842	<0.005	<0.005	<0.1	<0.05	<0.05	8.02
26-Oct-10	190	459	1.13	<0.0010	48.9	0.051	<0.005	<0.005	0.88	0.88	<0.05	7.71
22-Nov-10	400	435	2.27	<0.0010	46.3	0.082	<0.005	<0.005	1.51	1.51	<0.05	8.11

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.222	4.69	76.4	1.86	0.018	684	1.1	760	23.7	13	<0.002	0.005
26-May-08	0.0023	0.151	2.68	89	2.16	0.014	818	1	823	12.2	11.5	<0.002	0.008
23-Jun-08	0.054	0.218	3.29	71.7	1.94	0.012	784	1.5	785	6	11.1	<0.002	<0.005
28-Jul-08	0.229	0.444	6.84	20.2	0.554	0.135	298	1.8	369	62.6	160	0.015	0.025
25-Aug-08	0.194	0.399	6.05	67.9	1.24	0.077	506	1.5	481	12.4	27.4	0.004	0.011
29-Sep-08	0.0737	0.269	5.81	55	1.49	0.022	598	1.6	576	19	21.5	0.003	0.006
27-Oct-08	0.219	0.472	9.15	42.5	1.21	0.09	496	1.5	533	20.2	71	0.008	0.019
17-Nov-08	0.338	0.77	9.59	16.2	0.662	0.157		2.8			172	0.018	0.037
21-Apr-09	0.016	0.385	4.71	71.8	2.26	0.037	934	0.8	961	23.8	14.4	0.003	0.01
25-May-09	0.0209	0.359	4.61	95.7	2.32	0.048	952	1.2	1020	66.8	55.6	0.006	0.009
15-Jun-09	0.0281	0.376	4.32	87.6	2.32	0.024	972	1.3	1010	31.1	26.8	0.004	0.006
20-Jul-09	0.0423	0.316	5.48	62	1.5	0.036	644	1.4	690	40.4	36.3	0.005	0.007
10-Aug-09	0.322	0.467	9.83	22.4	0.589	0.134	387	1.1	421	20	142	0.016	0.025
26-Sep-09	0.0616	0.414	7.54	39.1	1.24	0.072	394	1.9	444	88.6	95.1	0.008	0.015
27-Oct-09	0.179	0.323	9.98	53.4	1.58	0.036	566	1.7	684	17	39.7	0.004	0.009
23-Nov-09	0.0419	0.206	7.7	63.7	1.81	0.04	484	1.6	524	13	16.9	0.003	0.007
27-Apr-10	0.0338	0.123	3.53	88.5	2.55	0.02	600	0.8	1130	22.8	19.8	0.003	0.006
25-May-10	0.0446	0.386	2.86	73.1	2.26	0.03	888	0.8	936	31.3	30.7	0.004	0.009
29-Jun-10	0.172	0.587	4.19	83.6	1.99	0.026	824	2.1	824	29	29.5	0.005	0.009
19-Jul-10	0.157	0.542	7.93	63.4	1.67	0.036	642	1.1	568	20.4	33	0.004	0.007
30-Aug-10	0.0692	0.416	7.18	77.8	2.08	0.02	802	1	883	16	20.7	0.003	0.008
27-Sep-10	0.0692	0.502	8.74	78.2	2.04	0.053	772	1.3	840	68.8	61.6	0.007	0.014
26-Oct-10	0.0717	0.351	5.31	58.3	1.88	0.022	704	1	822	8.9	20.7	0.003	0.008
22-Nov-10	0.0029	0.473	7.64	49.8	1.7	0.043	610	1	736	15.2	40.8	0.005	0.015

Monitoring Station - BU001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (µs/cm)	Copper (mg/L)
28-Apr-08	N	172	4.01	<0.01	0.055	0.0001	<0.0001	86.8	90.3	0.005	942	0.007
26-May-08	N	200	0.224	<0.05	0.034	<0.0001	<0.0001	108	130	<0.002	1220	<0.002
23-Jun-08	N	272	0.672	0.02	0.027	<0.0001	<0.0001	123	180	<0.002	1420	0.012
28-Jul-08	Y	101	2.94	0.02	0.038	<0.0001	<0.0001	46.8	44.8	0.003	519	0.007
25-Aug-08	Y	71	4.69	<0.01	0.037	0.0001	<0.0001	25.4	18.1	0.006	347	0.007
29-Sep-08	N	242	0.479	0.06	0.023	<0.0001	<0.0001	76.7	68.9	<0.002	816	0.002
27-Oct-08	Y	120	10.5	<0.01	0.067	0.0003	<0.0001	52.3	61	0.025	632	0.01
17-Nov-08	Y	83	11.5	<0.01	0.069	0.0003	<0.0001	38.5	30.4	0.012	398	0.013
20-Apr-09	Y	220	0.526	0.05	0.044	<0.0001	<0.0001	106	106	<0.002	1280	0.004
25-May-09	N	286	0.913	0.1	0.045	<0.0001	<0.0001	112	145	<0.002	1360	0.003
15-Jun-09	N	175	0.215	0.05	0.065	<0.0001	<0.0001	176	470	<0.002	2780	0.002
20-Jul-09	N	178	0.949	0.07	0.05	<0.0001	<0.0001	142	299	0.001	1990	0.003
10-Aug-09	Y	86	13.7	0.08	0.082	0.0004	<0.0001	33.5	47.4	0.015	429	0.017
28-Sep-09	Y	277	1.77	0.2	0.042	<0.0001	<0.0001	85.4	61.8	0.002	866	<0.002
26-Oct-09	N	143	2.09	0.06	0.042	<0.0001	<0.0001	78.8	89.9	0.002	945	0.005
23-Nov-09	N	189	2.19	0.06	0.047	<0.0001	<0.0001	97.7	116	0.003	1130	0.002
27-Apr-10	N	242	0.413	0.05	0.046	<0.0001	<0.0001	135	120	<0.001	1500	<0.002
25-May-10	N	221	0.362	0.13	0.035	<0.0001	<0.0001	109	91.6	<0.001	1140	<0.002
28-Jun-10	N	253	1.03	0.14	0.036	<0.0001	<0.0001	79.5	117	0.001	1030	0.002
19-Jul-10	N	153	1.87	0.07	0.197	<0.0001	<0.0001	466	192	<0.001	1310	<0.002
30-Aug-10	N	177	0.244	0.06	0.042	<0.0001	<0.0001	104	132	<0.001	1200	<0.002
27-Sep-10	N	244	0.099	0.05	0.04	<0.0001	<0.0001	98.4	132	<0.001	1170	<0.002
25-Oct-10		176	2.12	0.04	0.045	<0.0001	<0.0001	92.2	82.9	0.002	1020	0.004
23-Nov-10		150	3.34	0.06	0.047	<0.0001	<0.0001	79.2	63.4	0.004	823	0.004

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	3000	343	3.81	0.002	30.7	0.36	<0.005	<0.005	<0.02	<0.01	<0.01	7.93
26-May-08	<100	427	0.415	<0.001	38.3	0.189	<0.005	<0.005	<0.1	<0.1	<0.01	7.98
23-Jun-08	300	498	0.811	<0.001	46.3	1.02	<0.005	<0.005	<0.1	<0.1	0.05	8.05
28-Jul-08	670	177	2.37	<0.001	14.6	0.053	<0.005	<0.005	0.62	0.62	<0.1	7.72
25-Aug-08	12800	101	3.36	<0.001	9.06	0.059	<0.005	<0.005	<0.1	<0.05	<0.05	7.6
29-Sep-08	870	297	0.805	<0.001	25.5	0.397	<0.005	<0.005	0.16	0.16	<0.05	7.94
27-Oct-08	4200	223	8.38	0.003	22.5	0.11	<0.005	0.007	1.16	1.16	<0.05	7.8
17-Nov-08	1700	158	9.67	0.002	15.1	0.095	<0.005	0.01	3.18	3.18	<0.05	7.73
20-Apr-09	110	504	0.935	<0.001	58.1	0.289	<0.005	<0.005	<0.1	<0.05	<0.05	7.84
25-May-09	170	495	0.947	<0.001	52.2	0.674	<0.005	<0.005	<0.1	<0.05	<0.05	8.13
15-Jun-09	10	735	0.284	<0.001	71.7	0.447	<0.005	<0.005	<0.1	<0.05	<0.05	8.02
20-Jul-09	80	546	0.909	<0.0010	46.6	0.493	<0.005	<0.005	<0.02	<0.01	<0.01	8.16
10-Aug-09	2800	139	11.6	0.0047	13.4	0.153	<0.005	0.012	0.21	0.21	<0.05	7.68
28-Sep-09	7000	341	1.91	<0.0010	31.1	1.04	<0.005	<0.005	0.13	0.13	<0.05	8.06
26-Oct-09	1100	331	1.73	<0.0010	32.7	0.063	<0.005	<0.005	4.37	4.37	<0.05	7.89
23-Nov-09	360	419	2.14	0.0012	42.5	0.138	<0.005	<0.005	0.32	0.32	<0.05	8
27-Apr-10	150	622	0.824	<0.0010	69.3	0.205	<0.005	<0.005	<0.1	<0.05	<0.05	8.14
25-May-10	380	491	0.543	<0.0010	53.1	0.814	<0.005	<0.005	<0.1	<0.05	<0.05	8.23
28-Jun-10	770	356	1.01	<0.0010	38.3	0.254	<0.005	<0.005	0.09	0.15	0.06	8.14
19-Jul-10	570	1860	2.96	<0.0010	168	0.744	<0.005	<0.005	0.1	0.08	0.02	8.14
30-Aug-10	410	406	0.423	<0.0010	35.6	0.143	<0.005	<0.005	0.03	0.03	<0.01	8.08
27-Sep-10	70	403	0.524	<0.0010	38.2	0.566	<0.005	<0.005	<0.1	<0.05	<0.05	7.96
25-Oct-10	320	399	1.65	<0.0010	41.1	0.047	<0.005	<0.005	0.6	0.6	<0.05	7.79
23-Nov-10	120	341	2.89	0.0012	34.9	0.077	<0.005	<0.005	1.09	1.09	<0.05	8.09

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		<0.05	6.23	65.5	1.83	0.07	576	1.3	718	96.2	44.6	0.006	0.016
26-May-08	0.0121	<0.01	3.73	87.1	2.32	0.005	743	1.2	790	4.5	5.77	<0.002	0.005
23-Jun-08	0.0249	0.02	4.72	115	2.81	0.013	796	1.3	1030	13.3	3.61	<0.002	0.03
28-Jul-08	0.167	<0.5	6.02	31.6	0.937	0.047	336	1	385	<9	40.8	0.005	0.014
25-Aug-08	0.245	0.503	7.64	26.1	0.662	0.111	294	1.6	254	24.4	62.4	0.008	0.02
29-Sep-08	0.0889	0.227	5.61	53.8	1.48	0.009	542	1	522	<9	9.04	<0.002	<0.005
27-Oct-08	0.287	0.577	10.4	38	1.14	0.172	536	1.7	572	42	163	0.017	0.031
17-Nov-08	0.335	0.775	10	16.5	0.617	0.166		3.6			188	0.018	0.036
20-Apr-09	0.0316	0.326	5.57	77.5	2.32	0.01	900	0.7	903	5.6	13.4	<0.002	0.005
25-May-09	0.0628	0.321	4.93	105	2.49	0.02	909	1.2	971	19	16.6	0.003	<0.005
15-Jun-09	0.0277	0.308	7.24	234	4.65	0.004	2040	0.8	2050	8.8	2.63	<0.002	<0.005
20-Jul-09	0.0938	0.397	8.4	208	3.46	0.018	1290	0.9	1310	14.1	8.14	0.004	<0.005
10-Aug-09	0.41	0.57	10.4	29.8	0.72	0.185	468	1.5	510	56	247	0.023	0.046
28-Sep-09	0.083	0.248	10.2	51.7	1.69	0.03	508	1.5	716	23.6	32.3	0.004	0.007
26-Oct-09	0.238	0.366	9.31	59.2	1.65	0.036	621	1.4	718	7.5	37.3	0.004	0.008
23-Nov-09	0.0315	0.189	8	73	1.98	0.04	506	1.1	536	29.7	19.7	0.004	0.012
27-Apr-10	0.0501	0.138	4.82	92.8	2.97	0.008	1040	0.7	1090	6.8	8.49	<0.002	0.005
25-May-10	0.0488	0.409	5.99	72.2	2.66	0.007	808	1.2	856	4.2	7.57	<0.002	<0.005
28-Jun-10	0.0985	0.447	4.92	77.2	1.74	0.019	667	1.5	667	9.5	18.8	0.003	0.007
19-Jul-10	0.0947	2.17	47.9	624	12.2	0.034	820	0.8	768	4.9	7.9	0.008	0.015
30-Aug-10	0.0539	0.356	9.33	86.8	2.16	0.005	802	0.8	835	<4	6.09	<0.002	<0.005
27-Sep-10	0.0888	0.42	11.5	79.9	2.09	0.002	742	0.9	770	5.2	4.41	<0.002	<0.005
25-Oct-10	0.0837	0.387	6.82	61.3	1.9	0.032	652	1	536	6.6	30.9	0.004	0.009
23-Nov-10	0.156	0.52	9.38	44.8	1.44	0.051	505	1.1	650	18.4	27	0.006	0.015

Monitoring Station - BV001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	Y	86	0.14	0.17	0.02	<0.001	0.03	<0.25	<0.0001	28	24	0.002	0.0008	315
26-May-08	N	107	0.52	0.02	0.02	<0.001	0.03	<0.25	<0.0001	36	35	0.003	0.0004	382
23-Jun-08	N	109	0.58	0.03	0.02	<0.001	0.04	<0.25	<0.0001	44	52	0.002	0.0004	489
28-Jul-08	Y	81	0.62	0.07	0.02	<0.001	0.04	<0.25	<0.0001	23	15	0.002	0.0004	245
25-Aug-08	Y	110	0.46	0.1	0.02	<0.001	0.04	<0.25	<0.0001	33	21	0.002	0.0015	335
29-Sep-08	N	125	0.25	0.04	0.02	<0.001	0.03	<0.25	<0.0001	29	15	0.001	0.0013	300
27-Oct-08	Y	91	1.06	0.15	0.03	<0.001	0.04	<0.25	<0.0001	34	22	0.002	0.0006	382
17-Nov-08	Y	82	1.69	0.06	0.03	<0.001	0.03	<0.25	<0.0001	22	21	0.003	0.0006	323
20-Apr-09	Y	94	0.73	0.06	0.02	<0.001	0.02	<0.25	<0.0001	27	25	0.002	0.0004	301
25-May-09	N	141	0.24	0.07	0.02	<0.001	0.02	<0.25	<0.0001	35	19	0.001	0.0006	346
15-Jun-09	N	151	0.37	0.04	0.02	<0.001	0.03	<0.25	<0.0001	40	27	0.002	0.0006	400
20-Jul-09	N	136	0.43	0.04	0.01	<0.001	0.02	<0.25	<0.0001	50	49	0.003	0.0004	491
10-Aug-09	Y	56	1.29	0.03	0.03	<0.001	0.04	<0.25	<0.0001	17	10	0.001	0.0007	204
29-Sep-09	N	141	0.15	0.07	<0.01	<0.001	0.03	<0.25	<0.0001	35	22	0.002	0.0007	351
26-Oct-09	N	126	0.22	0.78	0.02	<0.001	0.03	<0.25	<0.0001	52	55	0.002	0.0004	613
23-Nov-09	N	97	0.36	0.03	0.02	<0.001	0.03	<0.25	<0.0001	36	37	0.003	0.0005	451
27-Apr-10	N	127	0.21	0.02	0.02	<0.001	0.03	<0.25	<0.0001	39	33	0.002	0.0004	441
25-May-10	N	120	0.16	0.05	0.02	<0.001	0.03	<0.25	<0.0001	29	24	<0.001	0.0005	331
28-Jun-10	N	97	1.05	0.07	0.03	<0.001	0.05	<0.25	<0.0001	45	27	0.002	0.0008	475
19-Jul-10	N	170	0.18	0.03	<0.01	<0.001	0.03	<0.25	<0.0001	42	31	0.002	0.0006	428
30-Aug-10	N	102	0.13	0.03	0.02	<0.001	0.04	<0.25	<0.0001	38	34	<0.001	0.0004	452
28-Sep-10	N	179	0.12	<0.02	0.01	<0.001	0.03	0.49	<0.0001	43	39	0.002	0.0005	482
25-Oct-10	Y	1131	0.31	0.03	0.02	<0.001	0.03	<0.25	<0.0001	45	42	0.002	0.0005	486
22-Nov-10	Y	91	2.5	0.03	0.03	<0.01	<0.1	<0.25	<0.01	33	34	<0.05	<0.01	424

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.004	38	0.15	111	1.58	0.001	10	0.13	<0.005	<0.005	<0.1	<0.1	7.68	0.32
26-May-08	0.003	353	0.17	139	0.77	<0.001	12	0.03	<0.005	<0.005	<0.1	<0.1	8.14	0.19
23-Jun-08	0.003	63	0.16	172	1.04	<0.001	15	0.03	<0.005	<0.005	0.51	<0.1	7.97	0.27
28-Jul-08	0.002	160	0.17	90	1.56	<0.001	8	0.08	<0.005	<0.005	0.16	<0.1	7.6	0.62
25-Aug-08	0.003	380	0.16	128	3.27	<0.001	11	0.51	<0.005	<0.005	0.27	<0.1	7.66	0.89
29-Sep-08	0.002	80	0.18	114	2.54	<0.001	10	0.47	<0.005	<0.005	<0.1	<0.1	7.83	0.52
27-Oct-08	0.003	1250	0.16	147	1.31	0.002	15	0.06	<0.005	<0.005	2.4	<0.1	7.71	0.75
17-Nov-08	0.004	11200	0.12	92	1.59	0.002	9	0.05	<0.005	<0.005	2.02	<0.1	7.82	0.67
20-Apr-09	0.002	75	0.15	109	1.17	<0.001	10	0.05	<0.005	<0.005	<0.10	<0.10	7.8	0.27
25-May-09	0.002	127	0.21	141	2.28	0.003	13	0.12	<0.005	<0.005	<0.10	<0.10	8.04	0.65
15-Jun-09	0.002	80	0.23	162	1.61	0.002	15	0.09	<0.005	<0.005	<0.10	<0.10	8.3	0.52
20-Jul-09	0.001	22	0.19	203	0.64	<0.001	19	0.04	<0.005	<0.005	<0.10	<0.10	9.25	0.34
10-Aug-09	0.005	320	0.19	80	1.11	0.002	9	0.05	<0.005	<0.005	1.54	<0.10	7.47	1.2
29-Sep-09	<0.001	80	0.18	137	1.38	<0.001	12	0.78	<0.005	<0.005	0.11	<0.10	7.77	0.39
26-Oct-09	0.003	31	0.12	212	0.72	<0.001	20	0.17	<0.005	<0.005	0.47	<0.10	7.92	0.23
23-Nov-09	0.002	11	0.13	148	0.77	<0.001	14	0.15	<0.005	<0.005	0.17	<0.10	8	0.12
27-Apr-10	0.002	55	0.2	167	1.48	<0.001	17	0.1	<0.005	<0.005	0.17	<0.10	8.03	0.33
25-May-10	0.001	94	0.21	118	2.16	<0.001	11	0.1	<0.005	<0.005	<0.10	<0.10	7.92	0.48
28-Jun-10	0.003		0.22	182	1.36	0.002	17	0.12	<0.005	<0.005	4.73	0.11	7.78	0.45
19-Jul-10	<0.001	22	0.22	167	0.86	<0.001	15	0.13	<0.005	<0.005	<0.1	<0.1	8.01	0.32
30-Aug-10	<0.001	50	0.16	153	1.7	<0.001	14	0.06	<0.005	<0.005	<0.10	<0.10	7.64	0.34
28-Sep-10	<0.001	7	0.23	173	0.7	<0.001	16	0.45	<0.005	<0.005	<0.10	<0.10	7.91	0.27
25-Oct-10	0.001		0.16	182	0.89	<0.001	17	0.29	<0.005	<0.005	<0.10	<0.1	7.84	0.17
22-Nov-10	<0.01		0.15	132	2.4	<0.01	12	0.05	<0.01	0.02	1.16	<0.1	7.78	0.21

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08	0.58	23	5	2.7	<0.001	17	0.13	<0.0001	<0.01	205	2.52	230	7	0.002	0.01
26-May-08	0.28	24	4	2.8	<0.0001	25	0.169	<0.0001	0.03	248	1.62	269	21	0.004	<0.01
23-Jun-08	0.52	47	5	4.7	<0.0001	33	0.207	<0.0001	0.03	318	1.66	332	14	0.003	<0.01
28-Jul-08	1.41	14	5	8	<0.0001	11	0.117	<0.0001	0.04	159	2.16	208	19	0.003	<0.01
25-Aug-08	1.99	22	8	5.9	<0.0001	12	0.18	<0.0001	0.02	218	2.25	246	28	0.004	<0.01
29-Sep-08	1.17	4	5	7.5	<0.0001	11	0.138	<0.0001	0.01	195	1.51	208	13	0.003	0.01
27-Oct-08	1.36	43	9	6.2	<0.0001	15	0.143	<0.0001	0.03	248	2.55	314	66	0.004	0.02
17-Nov-08	1.26	26	9	6	<0.0001	12	0.119	<0.0001	0.05	210	1.19	267	57	0.004	<0.01
20-Apr-09	0.57	18	5	2.3	<0.0001	16	0.127	<0.0001	0.02	196	1.22	172	8	0.003	<0.01
25-May-09	0.09	5	3	2.5	<0.0001	17	0.177	<0.0001	0.01	225	1.74	296	25	0.003	<0.01
15-Jun-09	1.01	12	4	2.8	<0.0001	24	0.21	<0.0001	0.01	260	1.18	320	21	0.006	<0.01
20-Jul-09	0.6	46	5	3.7	<0.0001	30	0.243	<0.0001	0.02	319	1.62	328	9	0.005	<0.01
10-Aug-09	1.94	18	10	4.1	<0.0001	5	0.094	<0.0001	0.02	133	2.78	231	98	0.003	0.01
29-Sep-09	0.5	6	7	8.1	<0.0001	17	0.17	<0.0001	<0.01	228	1.38	239	11	0.003	<0.01
26-Oct-09	0.42	100	10	6.3	<0.0001	29	0.338	<0.0001	0.01	398	1.91	412	14	0.001	<0.01
23-Nov-09	0.25	62	7	3.4	<0.0001	21	0.209	<0.0001	0.01	293	0.95	303	10	0.002	<0.01
27-Apr-10	0.7	35	5	1.8	<0.0001	23	0.237	<0.0001	0.01	287	0.95	336	7	0.003	<0.01
25-May-10	1.4	8	3	1.8	<0.0001	17	0.168	<0.0001	<0.01	215	1.24	224	9	0.002	<0.01
28-Jun-10	0.98	69	8	5	<0.0001	19	0.302	<0.0001	0.02	309	1.66	500	61	0.003	0.01
19-Jul-10	0.73	3	5	5.7	<0.0001	21	0.225	<0.0001	0.01	278	1.72	287	9	0.003	<0.01
30-Aug-10	0.64	64	10	6.7	<0.0001	21	0.21	<0.0001	<0.01	294	2.68	305	11	<0.001	<0.01
28-Sep-10	0.05	5	9	6.5	<0.0001	23	0.228	<0.0001	<0.01	313	2.2	323	10	0.002	<0.01
25-Oct-10	0.26	51	8	4.9	<0.0001	26	0.229	<0.0001	0.01	316	1.21	386	21	0.002	<0.01
22-Nov-10	0.47	46	8	9	<0.01	17	0.18	<0.01	0.1	276	1.44	290	16	<0.05	<0.05

Monitoring Station - CO001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	173	0.46	0.14	0.06	<0.002	0.04	<0.25	<0.0001	63	30	0.003	0.0004	552
26-May-08	N	192	0.87	0.04	0.06	<0.001	0.04	<0.25	<0.0001	75	36	0.003	0.0006	586
23-Jun-08	N	181	0.79	0.05	0.08	<0.001	0.09	<0.25	<0.0001	72	43	0.003	0.0006	617
28-Jul-08	Y	174	0.57	0.05	0.07	<0.001	0.07	<0.25	<0.0001	58	41	0.002	0.0006	583
25-Aug-08	Y	173	0.27	0.02	0.05	<0.001	0.06	<0.25	<0.0001	55	35	0.002	0.0006	556
29-Sep-08	N	200	0.26	0.02	0.08	<0.001	0.05	<0.25	<0.0001	64	34	0.002	0.0005	613
27-Oct-08	Y	132	0.93	0.02	0.06	<0.001	0.05	<0.25	<0.0001	45	27	0.003	0.0006	444
17-Nov-08	Y	132	1.28	0.03	0.06	<0.001	0.04	<0.25	<0.0001	45	24	0.002	0.0005	433
20-Apr-09	Y	181	0.47	<0.02	0.06	<0.001	0.03	<0.25	<0.0001	61	31	0.002	0.0004	535
25-May-09	N	209	0.19	0.11	0.06	<0.001	0.03	<0.25	<0.0001	61	33	0.001	0.0004	588
15-Jun-09	N	177	0.56	0.03	0.05	<0.001	0.04	<0.25	<0.0001	54	32	0.002	0.0004	533
20-Jul-09	N	171	0.32	0.05	0.04	<0.001	0.04	<0.25	<0.0001	50	25	0.003	0.0004	473
10-Aug-09	Y	71	1.05	0.06	0.05	<0.001	0.03	<0.25	<0.0001	24	8	0.002	0.0006	202
29-Sep-09	Y	175	0.36	0.02	0.05	<0.001	0.03	<0.25	<0.0001	54	28	0.002	0.0003	506
26-Oct-09	Y	171	0.64	0.03	0.07	<0.001	0.04	<0.25	<0.0001	61	33	0.002	0.0004	547
23-Nov-09	N	181	0.43	0.03	0.05	<0.001	0.04	<0.25	<0.0001	61	33	0.005	0.0003	577
27-Apr-10	N	210	0.34	0.03	0.06	<0.001	0.03	<0.25	<0.0001	64	33	0.003	0.0004	591
25-May-10	N	201	0.24	0.08	0.07	<0.001	0.03	<0.25	<0.0001	59	31	0.001	0.0007	566
28-Jun-10	N	187	0.5	0.04	0.07	<0.001	0.03	<0.25	<0.0001	58	27	0.001	0.0006	504
19-Jul-10	N	145	0.22	0.05	0.06	<0.001	0.07	<0.25	<0.0001	52	33	0.002	0.0005	525
30-Aug-10	N	157	0.19	<0.02	0.08	<0.001	0.07	0.34	<0.0001	73	64	<0.001	0.0004	763
27-Sep-10	N	152	0.11	<0.02	0.02	<0.001	0.02	<0.25	<0.0001	70	69	0.003	0.0004	756
25-Oct-10		165	0.41	<0.02	0.08	<0.001	0.06	<0.25	<0.0001	86	63	0.003	0.0005	776
22-Nov-10	Y	161	1.6	0.02	0.07	<0.01	<0.1	<0.25	<0.01	60	42	<0.05	<0.01	627

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.002	860	0.15	231	0.42	<0.001	18	0.14	<0.005	<0.005	<0.10	<0.10	8.22	0.12
26-May-08	0.002	158	0.15	282	0.61	<0.001	23	0.07	<0.005	<0.005	<0.10	<0.10	8.38	0.09
23-Jun-08	0.004	202	0.18	262	0.67	<0.001	20	0.09	<0.005	<0.005	1.89	<0.10	8.17	0.15
28-Jul-08	0.003	120	0.2	223	0.49	<0.001	19	0.1	<0.005	<0.005	0.64	<0.10	8.17	0.24
25-Aug-08	0.002	30	0.16	203	0.36	<0.001	16	0.12	<0.005	<0.005	<0.10	<0.10	7.82	0.14
29-Sep-08	0.002	40	0.18	246	0.42	<0.001	21	0.5	<0.005	<0.005	<0.10	<0.10	8.11	0.17
27-Oct-08	0.004	440	0.17	178	1.27	0.002	16	0.05	<0.005	<0.005	1.01	<0.10	7.95	0.33
17-Nov-08	0.003	750	0.15	166	1.13	0.001	13	0.06	<0.005	<0.005	1.44	<0.10	8.06	0.3
20-Apr-09	0.002	47	0.14	235	0.38	<0.001	20	0.09	<0.005	<0.005	<0.10	<0.10	8.17	0.12
25-May-09	0.001	30	0.17	243	0.21	<0.001	22	0.2	<0.005	<0.005	<0.10	<0.10	8.2	0.09
15-Jun-09	0.002	370	0.16	234	0.38	<0.001	24	0.05	<0.005	<0.005	<0.10	<0.10	8.34	0.12
20-Jul-09	0.002	62	0.18	203	0.34	<0.001	19	0.1	<0.005	<0.005	<0.10	<0.10	8.26	0.09
10-Aug-09	0.003	820	0.14	89	0.98	0.002	7	0.09	<0.005	<0.005	0.59	<0.10	7.86	0.48
29-Sep-09	0.002	590	0.15	213	0.39	<0.001	19	0.07	<0.005	<0.005	<0.10	<0.10	8.06	0.18
26-Oct-09	0.004	19	0.17	226	0.69	<0.001	18	0.07	<0.005	<0.005	0.54	<0.10	8.03	0.23
23-Nov-09	0.002	53	0.16	231	0.5	<0.001	19	0.06	<0.005	<0.005	1.59	<0.10	8.06	0.14
27-Apr-10	0.002	54	0.17	250	0.39	<0.001	22	0.16	<0.005	<0.005	<0.10	<0.10	8.24	0.06
25-May-10	0.002	27	0.19	230	0.39	<0.001	20	0.23	<0.005	<0.005	0.19	<0.10	8.15	0.1
28-Jun-10	0.002		0.17	227	0.73	<0.001	20	0.26	<0.005	<0.005	0.22	<0.10	8.19	0.15
19-Jul-10	0.003	410	0.2	196	0.39	<0.001	16	0.27	<0.005	<0.005	0.11	<0.1	8.07	0.15
30-Aug-10	0.014	40	0.21	269	0.36	<0.001	21	0.12	<0.005	<0.005	<0.10	<0.10	8.05	0.12
27-Sep-10	0.002	14	0.22	270	0.3	<0.001	23	0.54	<0.005	<0.005	<0.10	<0.10	8.01	0.1
25-Oct-10	0.002		0.19	314	0.5	<0.001	24	0.13	<0.005	<0.005	<0.10	<0.1	8.06	0.09
22-Nov-10	<0.01		0.17	224	1.6	<0.01	18	0.11	<0.01	<0.01	0.81	<0.1	8.1	0.13

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		65	3	1.7	<0.0001	19	0.31	<0.0001	0.02	359	1.07	260	24	0.003	<0.01
26-May-08	0.0152	63	2	2.2	<0.0001	24	0.32	<0.0001	0.04	381	0.58	403	22	0.005	<0.01
23-Jun-08	0.0717	65	4	5	<0.0001	29	0.5	<0.0001	0.03	401	1.21	438	37	0.005	0.01
28-Jul-08	0.153	62	7	5.5	<0.0001	29	0.567	<0.0001	0.02	379	0.94	388	20	0.004	<0.01
25-Aug-08	0.0668	53	5	2	<0.0001	23	0.503	<0.0001	0.01	361	0.74	371	10	0.004	<0.01
29-Sep-08	0.0656	57	6	5.2	<0.0001	22	0.485	<0.0001	<0.01	398	0.75	417	19	0.004	0.01
27-Oct-08	0.157	41	9	7.5	<0.0001	19	0.335	<0.0001	0.06	289	0.85	412	46	0.005	0.01
17-Nov-08	0.138	39	7	6.1	<0.0001	14	0.3	<0.0001	0.04	281	1.7	313	32	0.004	0.01
20-Apr-09	0.0139	57	3	1.6	<0.0001	19	0.27	<0.0001	0.01	348	0.19	292	25	0.003	<0.01
25-May-09	0.0299	51	2	1	<0.0001	20	0.356	<0.0001	<0.01	382	0.82	380	14	0.003	<0.01
15-Jun-09	0.0279	53	2	1.6	<0.0001	22	0.333	<0.0001	0.02	346	0.54	384	13	0.005	<0.01
20-Jul-09	0.0452	36	3	1.5	<0.0001	17	0.35	<0.0001	0.01	307	0.5	323	16	0.005	<0.01
10-Aug-09	0.206	13	5	3.7	<0.0001	5	0.155	<0.0001	0.03	131	1.08	235	104	0.003	0.01
29-Sep-09	0.0736	47	5	2	<0.0001	17	0.368	<0.0001	0.01	329	0.64	358	29	0.004	<0.01
26-Oct-09	0.158	61	8	5.5	<0.0001	20	0.462	<0.0001	0.02	356	0.73	374	18	0.003	<0.01
23-Nov-09	0.0742	67	6	4.3	<0.0001	20	0.443	<0.0001	0.01	375	0.63	395	20	0.002	<0.01
27-Apr-10	0.0259	50	3	1.5	<0.0001	21	0.349	<0.0001	0.01	384	0.46	472	13	0.004	<0.01
25-May-10		45	3	1.8	<0.0001	19	0.377	<0.0001	<0.01	368	0.48	406	38	0.002	<0.01
28-Jun-10	0.0742	32	3	4.2	<0.0001	16	0.325	<0.0001	0.01	328	0.23	402	47	0.003	<0.01
19-Jul-10	0.0855	63	6	2.2	<0.0001	20	0.414	<0.0001	<0.01	341	0.61	360	19	0.003	<0.01
30-Aug-10	0.0536	119	6	2.5	<0.0001	43	0.67	<0.0001	<0.01	496	0.92	507	11	0.002	<0.01
27-Sep-10	0.0556	106	2	1.2	<0.0001	13	0.586	<0.0001	<0.01	491	0.41	503	12	0.002	<0.01
25-Oct-10	0.0425	133	7	3.5	<0.0001	44	0.67	<0.0001	0.01	504	0.78	561	36	0.003	<0.01
22-Nov-10	0.0587	90	6	6	<0.01	23	0.45	<0.01	<0.1	408	0.68	368	25	<0.05	<0.05

Monitoring Station - DR001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	177	0.24	0.08	0.04	<0.001	0.04	<0.25	<0.0001	73	67	0.004	0.0003	718
26-May-08	N	191	0.45	0.12	0.04	<0.001	0.04	<0.25	<0.0001	84	83	0.004	0.0003	815
23-Jun-08	N	202	0.38	0.12	0.05	<0.001	0.06	<0.25	<0.0001	81	62	0.002	0.0003	759
28-Jul-08	Y	166	0.35	0.05	0.05	<0.001	0.06	<0.25	<0.0001	74	37	0.002	0.0003	583
25-Aug-08	Y	113	0.44	0.04	0.04	<0.001	0.06	<0.25	<0.0001	47	28	0.003	0.0003	423
29-Sep-08	N	234	0.22	0.05	0.06	<0.001	0.05	<0.25	<0.0001	89	98	0.003	0.0003	956
27-Oct-08	Y	109	0.76	0.02	0.03	<0.001	0.04	<0.25	<0.0001	39	18	0.002	0.0003	372
17-Nov-08	Y	146	0.98	0.06	0.05	<0.001	0.04	<0.25	<0.0001	51	22	0.002	0.0003	478
20-Apr-09	Y	77	0.85	0.18	0.04	<0.001	0.02	<0.25	<0.0001	30	38	0.005	0.0004	352
25-May-09	N	223	0.54	0.27	0.04	<0.001	0.04	<0.25	<0.0001	76	85	0.003	0.0004	839
15-Jun-09	N	197	0.54	0.09	0.04	<0.001	0.05	<0.25	<0.0001	67	50	0.002	0.0004	648
20-Jul-09	N	160	0.47	0.06	0.04	<0.001	0.04	<0.25	0.0001	60	41	0.003	0.0003	582
10-Aug-09	Y	57	1.12	0.03	0.03	<0.001	0.03	<0.25	0.0001	24	8	0.001	0.0004	201
28-Sep-09	Y	95	0.38	0.06	0.03	<0.001	0.04	<0.25	<0.0001	40	31	0.002	0.0003	407
26-Oct-09	Y	146	0.34	0.03	0.04	<0.001	0.03	<0.25	<0.0001	58	36	0.002	0.0003	535
23-Nov-09	N	189	0.29	0.11	0.04	<0.001	0.03	<0.25	<0.0001	68	34	0.007	0.0003	612
27-Apr-10	N	207	0.21	<0.02	0.05	<0.001	0.03	<0.25	<0.0001	74	64	0.004	0.0003	762
25-May-10	N	206	0.41	0.12	0.05	<0.001	0.04	<0.25	<0.0001	67	72	0.002	0.0005	768
28-Jun-10	N	126	0.4	0.04	0.04	<0.001	0.05	<0.25	<0.0001	47	39	0.001	0.0003	470
19-Jul-10	N	219	0.26	0.05	0.05	<0.001	0.06	<0.25	<0.0001	74	60	0.003	0.0003	762
30-Aug-10	N	178	0.15	<0.02	0.04	<0.001	0.04	<0.25	<0.0001	60	45	<0.001	0.0003	632
27-Sep-10	N	169	0.25	0.14	0.06	<0.001	0.13	0.92	<0.0001	70	109	0.004	0.0002	870
25-Oct-10		165	0.27	0.02	0.05	<0.001	0.05	<0.25	<0.0001	67	46	0.002	0.0002	646
22-Nov-10	Y	80	0.35	0.09	0.02	<0.001	0.02	<0.25	<0.0001	29	16	0.002	0.0002	288

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.003	680	0.16	281	0.34	<0.001	24	0.14	<0.005	<0.005	0.15	<0.10	8.17	0.08
26-May-08	0.003	630	0.18	321	0.45	<0.001	27	0.21	<0.005	<0.005	0.16	<0.10	8.23	0.1
23-Jun-08	0.002	185	0.2	297	0.4	<0.001	23	0.12	<0.005	<0.005	0.82	<0.10	8.1	0.13
28-Jul-08	0.003	280	0.21	263	0.36	<0.001	19	0.11	<0.005	<0.005	0.38	<0.10	8.09	0.18
25-Aug-08	0.003	800	0.12	167	0.46	<0.001	12	0.09	<0.005	<0.005	0.35	<0.10	7.97	0.14
29-Sep-08	0.002	50	0.23	329	0.65	<0.001	26	0.17	<0.005	<0.005	0.24	<0.10	8.18	0.15
27-Oct-08	0.004	980	0.15	143	0.56	0.001	11	0.04	<0.005	<0.005	0.31	<0.10	7.93	0.16
17-Nov-08	0.003	510	0.16	185	0.95	<0.001	14	0.09	<0.005	<0.005	0.38	<0.10	8.08	0.16
20-Apr-09	0.006	202	<0.10	112	0.63	0.002	9	0.12	<0.005	<0.005	0.28	<0.10	7.84	0.22
25-May-09	0.002	1180	0.21	305	0.64	<0.001	28	0.23	<0.005	<0.005	<0.10	<0.10	8.24	0.17
15-Jun-09	0.002	350	0.2	262	0.63	0.001	23	0.19	<0.005	<0.005	0.31	<0.10	8.27	0.28
20-Jul-09	0.002	315	0.22	240	0.46	0.002	22	0.11	<0.005	<0.005	0.3	<0.10	8.16	0.14
10-Aug-09	0.003	1000	0.13	85	0.9	0.001	6	0.04	<0.005	<0.005	0.86	<0.10	7.61	0.2
28-Sep-09	0.003	4180	0.14	145	0.47	0.001	11	0.1	<0.005	<0.005	0.3	<0.10	7.8	0.25
26-Oct-09	0.003	102	0.12	215	0.42	<0.001	17	0.07	<0.005	<0.005	<0.10	<0.10	7.99	0.13
23-Nov-09	0.002	92	0.16	256	0.43	<0.001	21	0.13	<0.005	<0.005	0.19	<0.10	8.11	0.08
27-Apr-10	0.002	68	0.2	292	0.31	<0.001	26	0.11	<0.005	<0.005	0.15	<0.10	8.32	0.06
25-May-10	0.003	119	0.22	258	0.66	0.001	22	0.21	<0.005	<0.005	0.4	<0.10	8.08	0.15
28-Jun-10	0.003		0.15	175	0.46	0.001	14	0.13	<0.005	<0.005	0.45	<0.10	8.07	0.17
19-Jul-10	0.002	260	0.22	292	0.37	<0.001	26	0.1	<0.005	<0.005	0.42	<0.1	8.21	0.15
30-Aug-10	0.005	410	0.18	232	0.26	<0.001	20	0.06	<0.005	<0.005	0.14	<0.10	8.17	0.1
27-Sep-10	0.004	1060	0.22	265	0.34	<0.001	22	0.08	<0.005	<0.005	0.48	<0.10	8.03	0.12
25-Oct-10	0.002		0.2	250	0.32	<0.001	20	0.08	<0.005	<0.005	0.22	<0.1	8.01	0.08
22-Nov-10	0.004		0.1	109	0.35	0.001	9	0.08	<0.005	<0.005	0.44	<0.1	7.62	0.12

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		92	3	1.3	<0.001	38	0.674	<0.001	0.02	467	0.84	410	10	0.003	<0.01
26-May-08	0.0305	111	3	2.5	<0.0001	52	0.766	<0.0001	0.02	530	0.74	542	12	0.004	<0.01
23-Jun-08	0.0754	98	3	5.8	<0.0001	39	0.864	<0.0001	0.02	493	1.1	507	14	0.004	<0.01
28-Jul-08	0.0946	77	4	4.1	<0.0001	28	0.831	<0.0001	0.01	379	0.73	416	11	0.004	<0.01
25-Aug-08	0.0818	55	3	3.1	<0.0001	19	0.482	<0.0001	0.02	275	0.55	301	26	0.004	<0.01
29-Sep-08	0.0826	104	4	6.5	<0.0001	54	1.07	<0.0001	0.02	621	1.04	640	19	0.003	0.02
27-Oct-08	0.0874	43	4	3.8	<0.0001	13	0.478	<0.0001	0.03	242	0.43	216	19	0.003	0.01
17-Nov-08	0.0806	61	5	5.1	<0.0001	13	0.583	<0.0001	0.03	311	1.36	325	14	0.003	0.01
20-Apr-09	0.0349	37	2	2.6	<0.0001	24	0.503	<0.0001	0.02	229	0.58	224	50	0.003	0.03
25-May-09	0.0686	86	3	2.9	<0.0001	44	0.877	<0.0001	0.02	545	0.7	528	30	0.004	<0.01
15-Jun-09	0.137	62	4	3.8	<0.0001	33	0.743	<0.0001	0.02	421	0.82	404	56	0.005	<0.01
20-Jul-09	0.0744	75	3	4.3	<0.0001	27	0.653	<0.0001	0.02	378	0.47	396	18	0.005	0.01
10-Aug-09	0.0764	21	4	3.9	<0.0001	5	0.246	<0.0001	0.04	131	0.72	177	46	0.003	0.01
28-Sep-09	0.0854	56	4	2.1	<0.0001	19	0.581	<0.0001	0.01	265	0.56	313	48	0.002	<0.01
26-Oct-09	0.0588	71	6	3.9	<0.0001	21	0.653	<0.0001	<0.01	348	0.89	357	9	0.002	<0.01
23-Nov-09	0.0371	80	4	4.1	<0.0001	22	0.694	<0.0001	0.01	398	0.54	407	9	0.002	<0.01
27-Apr-10	0.0226	83	3	1.7	<0.0001	40	0.786	<0.0001	<0.01	495	0.39	588	9	0.003	<0.01
25-May-10		75	3	2.5	<0.0001	40	0.85	<0.0001	<0.01	499	0.8	537	38	0.002	0.02
28-Jun-10	0.0906	40	3	2.7	<0.0001	26	0.543	<0.0001	0.02	306	0.44	350	32	0.002	0.01
19-Jul-10	0.108	83	3	4.3	<0.0001	33	0.871	<0.0001	0.01	495	0.66	515	20	0.004	<0.01
30-Aug-10	0.088	74	3	3.1	<0.0001	27	0.813	<0.0001	<0.01	411	0.77	426	15	0.001	<0.01
27-Sep-10	0.0828	89	6	2.4	<0.0001	67	0.91	<0.0001	0.01	565	2.35	577	11	0.002	<0.01
25-Oct-10	0.0527	99	4	3.1	<0.0001	27	0.948	<0.0001	0.01	420	0.29	434	6	0.002	0.02
22-Nov-10	0.083	38	3	1.9	<0.0001	10	0.48	<0.0001	0.01	187	0.53	197	23	0.002	0.01

Monitoring Station - EL001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	127	0.56	0.05	0.03	<0.001	0.03	<0.25	<0.0001	55	39	0.003	0.0004	539
26-May-08	N	171	0.39	0.08	0.02	<0.001	0.03	<0.25	<0.0001	73	56	0.003	0.0003	666
23-Jun-08	N	180	0.16	0.02	0.02	<0.001	0.07	<0.25	<0.0001	81	87	0.002	0.0002	802
28-Jul-08	Y	95	1.2	0.1	0.03	<0.001	0.04	<0.25	<0.0001	33	24	0.003	0.0005	356
25-Aug-08	Y	94	1.34	0.04	0.03	<0.001	0.04	<0.25	<0.0001	36	27	0.003	0.0005	327
29-Sep-08	N	183	0.26	<0.02	0.02	<0.001	0.04	<0.25	<0.0001	49	38	0.002	0.0003	547
27-Oct-08	Y	173	0.96	0.1	0.03	<0.001	0.04	<0.25	<0.0001	79	87	0.004	0.0004	866
17-Nov-08	Y	79	1.54	0.05	0.04	<0.001	0.03	<0.25	<0.0001	30	18	0.002	0.0006	340
20-Apr-09	Y	141	0.93	0.05	0.03	<0.001	0.02	<0.25	<0.0001	59	46	0.003	0.0004	607
25-May-09	N	224	0.17	0.03	0.02	<0.001	0.02	<0.25	<0.0001	70	47	0.002	0.0004	693
15-Jun-09	N	250	0.2	0.03	0.02	<0.001	0.04	<0.25	<0.0001	84	91	0.003	0.0003	919
20-Jul-09	N	163	0.09	<0.02	0.02	<0.001	0.07	<0.25	<0.0001	93	83	0.004	0.0004	967
10-Aug-09	Y	79	2.19	0.04	0.03	<0.001	0.04	<0.25	0.0001	29	17	0.002	0.0006	296
28-Sep-09	N	209	0.26	0.05	0.02	<0.001	0.05	0.27	<0.0001	78	83	0.003	0.0003	808
26-Oct-09	Y	122	0.75	0.47	0.03	<0.001	0.03	<0.25	<0.0001	67	54	0.002	0.0005	712
23-Nov-09	N	155	0.8	0.06	0.03	<0.001	0.04	<0.25	<0.0001	79	61	0.003	0.0082	867
27-Apr-10	N	194	0.33	<0.02	0.03	<0.001	0.03	<0.25	<0.0001	66	58	0.004	0.0005	745
25-May-10	N	177	0.3	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	58	44	0.001	0.0005	619
28-Jun-10	N	229	0.2	0.02	0.02	<0.001	0.04	<0.25	<0.0001	68	57	0.003	0.0004	706
19-Jul-10	N	178	0.17	0.04	0.03	<0.001	0.07	0.34	<0.0001	77	87	0.004	0.0003	881
30-Aug-10	N	152	0.18	0.04	0.04	<0.001	0.05	<0.25	<0.0001	94	70	<0.001	0.0003	916
27-Sep-10	N	163	0.2	<0.02	0.03	<0.001	0.05	0.64	<0.0001	98	101	0.003	0.0003	995
25-Oct-10	Y	132	0.56	0.02	0.02	<0.001	0.03	<0.25	<0.0001	57	36	0.002	0.0003	577
22-Nov-10	Y	126	3.6	<0.02	0.04	<0.01	<0.1	<0.25	<0.01	39	48	<0.05	<0.01	560

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.003	980	0.18	211	0.57	<0.001	18	0.16	<0.005	<0.005	<0.10	<0.10	7.96	0.08
26-May-08	0.002	43	0.19	281	0.42	<0.001	24	0.1	<0.005	<0.005	<0.10	<0.10	8.18	0.06
23-Jun-08	0.002	240	0.27	297	0.14	<0.001	23	0.09	<0.005	<0.005	0.73	<0.10	7.9	0.07
28-Jul-08	0.003	150	0.19	128	1.09	<0.001	11	0.07	<0.005	<0.005	0.19	<0.10	7.65	0.29
25-Aug-08	0.004	1250	0.17	123	1	0.001	8	0.04	<0.005	<0.005	<0.10	<0.10	7.69	0.5
29-Sep-08	0.002	60	0.23	196	0.49	<0.001	18	0.3	<0.005	<0.005	<0.10	<0.10	8.01	0.2
27-Oct-08	0.003	230	0.2	317	0.82	<0.001	29	0.07	<0.005	<0.005	0.49	<0.10	7.88	0.22
17-Nov-08	0.003	1450	0.15	120	0.98	0.001	11	0.04	<0.005	<0.005	1.34	<0.10	7.86	0.72
20-Apr-09	0.002	6	0.19	246	0.9	<0.001	24	0.1	<0.005	<0.005	<0.10	<0.10	7.91	0.17
25-May-09	0.002	15	0.25	282	0.36	<0.001	26	0.34	<0.005	<0.005	0.18	<0.10	8.09	0.14
15-Jun-09	0.001	10	0.29	346	0.18	<0.001	33	0.13	<0.005	<0.005	<0.10	<0.10	8.28	0.09
20-Jul-09	0.001	11	0.24	376	0.2	<0.001	35	0.6	<0.005	<0.005	0.12	<0.10	8.05	0.15
10-Aug-09	0.004	250	0.23	114	1.33	0.001	10	0.04	<0.005	<0.005	0.37	<0.10	7.62	0.46
28-Sep-09	<0.001	600	0.27	289	0.38	<0.001	23	0.36	<0.005	<0.005	0.14	<0.10	7.78	0.23
26-Oct-09	0.004	23	0.22	258	0.83	<0.001	22	0.05	<0.005	<0.005	3.23	0.12	7.88	0.21
23-Nov-09	0.004	30	0.21	317	0.84	<0.001	29	0.06	<0.005	<0.005	1.24	<0.10	7.9	0.17
27-Apr-10	0.002	47	0.23	272	0.73	<0.001	26	0.22	<0.005	<0.005	<0.10	<0.10	8.07	0.13
25-May-10	0.001	124	0.24	240	0.75	<0.001	23	0.29	<0.005	<0.005	<0.10	<0.10	8.06	0.14
28-Jun-10	0.002		0.3	281	0.35	<0.001	27	0.27	<0.005	<0.005	<0.10	<0.10	8.16	0.23
19-Jul-10	0.001	43	0.3	291	0.34	<0.001	24	0.54	<0.005	<0.005	<0.1	<0.1	7.92	0.26
30-Aug-10	0.002	70	0.22	354	0.28	<0.001	29	0.09	<0.005	<0.005	1.33	<0.10	7.97	0.08
27-Sep-10	0.001	23	0.3	372	0.25	<0.001	31	0.15	<0.005	<0.005	<0.10	<0.10	8.03	0.12
25-Oct-10	0.002		0.18	225	0.48	<0.001	20	0.07	<0.005	<0.005	<0.1	<0.1	7.94	0.09
22-Nov-10	<0.01		0.16	151	3.6	<0.01	13	0.06	<0.01	<0.01	0.28	<0.1	7.97	0.11

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		77	5	2.2	<0.0001	29	1.07	<0.0001	0.04	350	1.27	510	15	0.003	<0.01
26-May-08	0.0073	87	1	1.3	<0.0001	42	1.26	<0.0001	0.02	433	1.27	440	7	0.004	<0.01
23-Jun-08	0.0142	103	3	2.1	<0.0001	57	1.73	<0.0001	<0.01	521	1.25	525	4	0.003	<0.01
28-Jul-08	0.17	38	6	7.1	<0.0001	17	0.628	<0.0001	0.06	231	1.31	328	32	0.004	<0.01
25-Aug-08	0.284	24	6	4.8	<0.0001	19	0.326	<0.0001	0.03	213	1.14	141	46	0.004	0.01
29-Sep-08	0.14	30	5	5.5	<0.0001	25	1.09	<0.0001	0.01	356	1.37	373	17	0.003	0.01
27-Oct-08	0.132	132	9	4.9	<0.0001	52	1.54	<0.0001	0.04	563	1.26	579	16	0.004	<0.01
17-Nov-08	0.293	50	7	5.3	<0.0001	13	0.519	<0.0001	0.04	221	0.85	263	42	0.004	0.01
20-Apr-09	0.0694	124	5	3	<0.0001	29	1.22	<0.0001	0.03	395	0.72	400	17	0.003	<0.01
25-May-09	0.0308	71	2	0.8	<0.0001	41	1.58	<0.0001	<0.01	450	1.47	472	14	0.004	<0.01
15-Jun-09	0.0236	90	2	0.8	<0.0001	66	2.3	<0.0001	<0.01	597	1.03	600	8	0.006	<0.01
20-Jul-09	0.114	190	5	2.9	<0.0001	63	1.94	<0.0001	<0.01	629	0.93	633	4	0.004	<0.01
10-Aug-09	0.28	31	7	7.7	<0.0001	13	0.508	<0.0001	0.08	192	1.55	249	57	0.005	0.02
28-Sep-09	0.158	90	6	2	<0.0001	59	2.25	<0.0001	0.01	525	1.16	532	7	0.005	<0.01
26-Oct-09	0.095	133	9	4	<0.0001	36	1.46	<0.0001	0.02	463	1.82	476	13	0.002	0.01
23-Nov-09	0.0401	185	7	3.6	<0.0001	40	1.53	<0.0001	0.04	564	1.49	601	37	0.003	<0.01
27-Apr-10	0.0425	106	5	1.2	<0.0001	39	1.57	<0.0001	0.01	484	1.51	652	30	0.004	<0.01
25-May-10	0.0638	71	3	1	<0.0001	33	1.34	<0.0001	<0.01	402	0.94	424	22	0.002	<0.01
28-Jun-10	0.152	49	3	1.1	<0.0001	42	1.63	<0.0001	0.01	459	1.44	502	9	0.002	<0.01
19-Jul-10	0.188	122	5	1.2	<0.0001	52	2.07	<0.0001	<0.01	573	1.35	653	11	0.003	<0.01
30-Aug-10	0.031	196	6	3	<0.0001	50	2.22	<0.0001	<0.01	595	1.57	603	8	<0.001	<0.01
27-Sep-10	0.078	172	6	1.1	<0.0001	65	2.3	<0.0001	<0.01	647	0.71	656	9	0.002	<0.01
25-Oct-10	0.0559	95	5	4.4	<0.0001	26	1.02	<0.0001	0.02	375	1.08	430	5	0.002	<0.01
22-Nov-10	0.077	69	3	12	<0.01	40	1.61	<0.01	0.2	364	1.55	406	40	<0.05	<0.05

Monitoring Station - GR001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	127	0.29	0.09	0.02	<0.001	0.03	<0.25	<0.0001	56	111	0.006	0.0004	771
26-May-08	N	189	0.7	0.08	0.03	<0.001	0.04	<0.25	<0.0001	71	58	0.004	0.0005	653
23-Jun-08	N	126	0.62	0.05	0.03	<0.001	0.08	<0.25	<0.0001	53	43	0.002	0.0005	537
28-Jul-08	Y	116	1	0.07	0.03	<0.001	0.06	<0.25	0.0001	39	20	0.003	0.0004	373
25-Aug-08	Y	136	0.53	0.03	0.02	<0.001	0.04	<0.25	<0.0001	51	27	0.003	0.0004	450
29-Sep-08	N	215	0.48	0.04	0.02	<0.001	0.04	<0.25	<0.0001	59	35	0.002	0.0004	605
27-Oct-08	Y	95	1.25	0.02	0.03	<0.001	0.05	<0.25	<0.0001	30	18	0.003	0.0005	336
17-Nov-08	Y	95	2.18	0.03	0.04	<0.001	0.04	<0.25	0.0001	27	14	0.003	0.0006	308
20-Apr-09	Y	123	0.97	0.05	0.03	<0.001	0.02	<0.25	<0.0001	55	54	0.003	0.0006	574
25-May-09	N	237	0.3	0.02	0.04	<0.001	0.03	<0.25	<0.0001	72	118	0.004	0.0005	998
15-Jun-09	N	157	0.68	0.03	0.03	<0.001	0.04	<0.25	<0.0001	61	75	0.002	0.0004	722
20-Jul-09	N	221	0.49	<0.02	0.02	<0.001	0.04	<0.25	<0.0001	62	35	0.003	0.0005	560
10-Aug-09	Y	58	1.05	0.02	0.03	<0.001	0.03	<0.25	<0.0001	16	9	<0.001	0.0005	166
28-Sep-09	Y	101	0.43	0.06	0.02	<0.001	0.02	<0.25	<0.0001	49	22	0.001	0.0004	420
26-Oct-09	Y	105	0.59	0.04	0.03	<0.001	0.04	<0.25	<0.0001	45	35	0.002	0.0004	505
23-Nov-09	N	122	1.7	0.04	0.02	<0.001	0.04	<0.25	<0.0001	44	21	0.005	0.0005	458
27-Apr-10	N	206	0.25	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	67	53	0.003	0.0004	678
25-May-10	N	184	0.28	0.07	0.02	<0.001	0.03	<0.25	<0.0001	50	29	0.002	0.0005	529
28-Jun-10	N	71	1.29	0.08	0.03	<0.001	0.05	<0.25	<0.0001	32	33	0.002	0.0006	349
19-Jul-10	N	163	0.33	0.03	0.04	<0.001	0.05	<0.25	<0.0001	64	108	0.004	0.0005	854
30-Aug-10	N	138	0.38	<0.02	0.03	<0.001	0.04	<0.25	<0.0001	55	105	<0.001	0.0003	802
27-Sep-10	N	140	0.46	<0.02	0.03	<0.001	0.03	0.86	<0.0001	54	95	0.003	0.0002	786
25-Oct-10	Y	104	0.43	<0.02	0.03	<0.001	0.04	<0.25	<0.0001	71	30	0.001	0.0003	641
22-Nov-10	Y	67	1.01	0.02	0.03	<0.001	0.03	<0.25	<0.0001	47	39	0.002	0.0003	531

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.003	2800	0.2	206	0.41	<0.001	16	0.05	<0.005	<0.005	0.11	<0.10	8.05	0.08
26-May-08	0.003	162	0.24	272	0.67	<0.001	23	0.05	<0.005	0.005	<0.10	<0.10	8.25	0.1
23-Jun-08	0.005	36	0.21	198	1.1	<0.001	16	0.07	<0.005	<0.005	<0.10	<0.10	7.92	0.21
28-Jul-08	0.005	120	0.22	147	1.32	0.001	12	0.05	<0.005	<0.005	<0.10	<0.10	7.85	0.29
25-Aug-08	0.003	1320	0.16	185	0.69	<0.001	14	0.04	<0.005	<0.005	<0.10	<0.10	7.92	0.2
29-Sep-08	0.002	10	0.24	234	0.59	<0.001	21	0.1	<0.005	<0.005	<0.10	<0.10	8.09	0.19
27-Oct-08	0.005	350	0.18	124	1.26	0.002	12	0.03	<0.005	<0.005	0.67	<0.10	7.81	0.44
17-Nov-08	0.004	420	0.16	109	1.55	0.002	10	0.03	<0.005	<0.005	0.46	<0.10	7.91	0.51
20-Apr-09	0.003	37	0.11	211	0.96	<0.001	18	0.08	<0.005	<0.005	0.32	<0.10	7.86	0.28
25-May-09	0.003	125	0.3	287	0.28	<0.001	26	0.12	<0.005	<0.005	<0.5	<0.10	8.2	0.24
15-Jun-09	0.002	40	0.24	239	0.46	0.001	21	0.16	<0.005	<0.005	<0.10	<0.10	8.18	0.16
20-Jul-09	0.001	120	0.28	241	0.57	<0.001	21	0.08	<0.005	<0.005	<0.10	<0.10	8.18	0.19
10-Aug-09	0.003	220	0.18	65	1.24	0.002	6	0.06	<0.005	<0.005	<0.10	<0.10	7.55	0.54
28-Sep-09	0.001	1450	0.1	172	0.5	<0.001	12	0.23	<0.005	<0.005	0.15	<0.10	7.74	0.24
26-Oct-09	0.004	51	0.12	174	0.91	<0.001	15	0.03	<0.005	<0.005	0.25	<0.10	7.78	0.3
23-Nov-09	0.004	12	0.18	180	1.13	<0.001	17	0.05	<0.005	<0.005	<0.10	<0.10	7.83	0.34
27-Apr-10	0.002	5	0.25	270	0.96	<0.001	25	0.08	<0.005	<0.005	<0.10	<0.10	8.19	0.14
25-May-10	0.002	2	0.25	199	1	0.001	18	0.09	<0.005	<0.005	<0.10	<0.10	8.09	0.27
28-Jun-10	0.003		0.23	129	1.22	0.002	12	0.08	<0.005	<0.005	2.33	<0.10	7.7	0.66
19-Jul-10	0.002	280	0.3	242	0.46	<0.001	20	0.2	<0.005	<0.005	<0.1	<0.1	8.02	0.19
30-Aug-10	0.002	30	0.2	207	0.34	<0.001	17	0.07	<0.005	<0.005	<0.10	<0.10	8.02	0.11
27-Sep-10	0.002	12	0.23	205	0.37	<0.001	17	0.07	<0.005	<0.005	<0.10	<0.10	7.95	0.17
25-Oct-10	0.002		0.15	268	0.41	<0.001	22	0.02	<0.005	<0.005	<0.1	<0.1	7.96	0.07
22-Nov-10	0.004		0.12	183	0.64	<0.001	16	0.02	<0.005	<0.005	<0.1	<0.1	7.59	0.17

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		83	4	3.2	<0.0001	68	0.594	<0.0001	0.01	501	1.45	500	3	0.002	<0.01
26-May-08	0.0262	58	2	5.4	<0.0001	45	0.528	<0.0001	0.05	424	1.05	434	10	0.005	<0.01
23-Jun-08	0.144	77	2	6.8	<0.0001	34	0.441	<0.0001	0.02	349	1.66	362	13	0.004	<0.01
28-Jul-08	0.271	35	4	7.4	<0.0001	18	0.337	<0.0001	0.05	242	1.47	312	14	0.004	<0.01
25-Aug-08	0.152	52	4	4.6	<0.0001	20	0.386	<0.0001	0.03	293	1.2	318	25	0.004	<0.01
29-Sep-08	0.116	39	5	8.6	<0.0001	27	0.522	<0.0001	0.03	393	1.15	409	16	0.004	<0.01
27-Oct-08	0.236	36	7	7.2	<0.0001	14	0.214	<0.0001	0.06	218	1.02	265	47	0.004	<0.01
17-Nov-08	0.243	30	7	7.1	<0.0001	11	0.203	<0.0001	0.07	200	1.13	270	70	0.005	0.01
20-Apr-09	0.0707	86	5	4	<0.0001	36	0.512	<0.0001	0.02	373	0.86	416	63	0.003	<0.01
25-May-09	0.0113	77	3	0.9	<0.0001	77	0.917	<0.0001	<0.01	649	1.7	652	37	0.005	<0.01
15-Jun-09	0.0523	86	3	2.2	<0.0001	56	0.687	<0.0001	0.02	469	0.94	440	18	0.004	<0.01
20-Jul-09	0.146	21	3	4.6	<0.0001	30	0.525	<0.0001	0.02	364	1.23	391	27	0.007	<0.01
10-Aug-09	0.392	11	4	4	<0.0001	4	0.142	<0.0001	0.02	108	1.6	196	88	0.003	<0.01
28-Sep-09	0.0849	76	6	2.9	<0.0001	18	0.394	<0.0001	0.02	273	0.64	310	37	0.002	0.01
26-Oct-09	0.172	87	10	5.6	<0.0001	28	0.431	<0.0001	0.02	328	1.97	343	15	0.002	<0.01
23-Nov-09	0.26	74	9	6.3	<0.0001	16	0.412	<0.0001	0.04	298	1.06	315	17	0.004	<0.01
27-Apr-10	0.0765	58	4	1.3	<0.0001	36	0.616	<0.0001	<0.01	441	0.91	536	7	0.003	<0.01
25-May-10	0.174	37	2	2.6	<0.0001	22	0.515	<0.0001	<0.01	344	1.44	377	33	0.002	0.05
28-Jun-10	0.241	35	6	5.1	<0.0001	13	0.277	<0.0001	0.03	227	1.99	422	57	0.003	<0.01
19-Jul-10	0.161	87	6	1.7	<0.0001	79	0.676	<0.0001	<0.01	555	1.49	572	17	0.004	<0.01
30-Aug-10	0.0593	105	5	1.8	<0.0001	82	0.781	<0.0001	0.01	521	0.4	525	4	0.002	<0.01
27-Sep-10	0.129	92	5	2	<0.0001	77	0.636	<0.0001	0.02	511	0.29	517	6	0.002	<0.01
25-Oct-10	0.0311	162	4	3.8	<0.0001	25	0.568	<0.0001	0.01	417	0.55	444	7	0.001	<0.01
22-Nov-10	0.125	124	8	5.5	<0.0001	28	0.437	<0.0001	0.04	345	0.61	341	7	0.002	<0.01

Monitoring Station - LY003

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	110	0.13	0.12	0.02	<0.001	0.03	<0.25	<0.0001	36	29	0.002	0.0002	367
26-May-08	N	104	0.15	0.03	0.02	<0.001	0.03	<0.25	<0.0001	39	29	<0.001	<0.0002	355
23-Jun-08	N	114	0.45	0.04	0.02	<0.001	0.04	<0.25	<0.0001	42	56	0.002	0.0002	489
28-Jul-08	Y	85	0.88	0.04	0.02	<0.001	0.03	<0.25	<0.0001	27	26	0.002	0.0003	309
25-Aug-08	Y	103	0.09	0.03	0.01	<0.001	0.03	<0.25	<0.0001	31	25	0.002	<0.0002	324
29-Sep-08	N	111	0.14	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	34	25	<0.001	<0.0002	356
27-Oct-08	Y	86	0.84	0.03	0.03	<0.001	0.04	<0.25	<0.0001	28	23	0.001	0.0003	319
17-Nov-08	Y	83	1.1	0.04	0.03	<0.001	0.04	<0.25	<0.0001	25	16	0.002	0.0003	277
20-Apr-09	Y	97	0.57	97	0.03	<0.001	0.02	<0.25	<0.0001	33	33	0.002	0.0002	349
25-May-09	N	108	0.08	0.04	0.02	<0.001	0.02	<0.25	<0.0001	37	26	<0.001	<0.0002	351
15-Jun-09	N	107	0.14	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	36	28	<0.001	<0.0002	356
20-Jul-09	N	111	0.11	0.5	0.01	<0.001	0.03	<0.25	<0.0001	32	26	0.002	<0.0002	347
10-Aug-09	Y	46	1	0.03	0.02	<0.001	0.03	<0.25	<0.0001	15	9	0.001	0.0004	153
28-Sep-09	N	105	0.07	0.03	0.02	<0.001	0.02	<0.25	<0.0001	35	23	<0.001	<0.0002	331
26-Oct-09	N	95	0.49	0.03	0.03	<0.001	0.03	<0.5	<0.0001	33	25	0.002	0.0003	358
23-Nov-09	N	88	0.75	0.06	0.02	<0.001	0.03	<0.25	<0.0001	29	21	0.004	0.0003	320
27-Apr-10	N	106	0.16	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	37	31	<0.001	0.0002	384
25-May-10	N	91	0.12	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	29	24	<0.001	0.0003	321
28-Jun-10	N	87	0.33	0.1	0.02	<0.001	0.04	<0.25	<0.0001	27	24	<0.001	0.0002	300
19-Jul-10	N	104	0.15	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	33	24	<0.001	<0.0002	323
30-Aug-10	N	109	0.04	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	35	29	<0.001	<0.0002	365
27-Sep-10	N	105	0.04	<0.02	0.02	<0.001	0.02	<0.25	<0.0001	34	25	<0.001	<0.0002	337
25-Oct-10	Y	110	0.08	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	43	41	0.002	<0.0002	461
22-Nov-10	Y	94	0.99	<0.02	0.03	<0.001	0.03	<0.25	<0.0001	41	36	0.002	0.0003	461

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.001	74	0.18	135	0.42	<0.001	11	0.09	<0.005	<0.005	<0.10	<0.10	8.1	0.14
26-May-08	0.001	14	0.15	143	0.26	<0.001	11	0.02	<0.005	<0.005	<0.10	<0.10	8.29	0.08
23-Jun-08	0.002	19	0.17	158	0.56	<0.001	13	0.04	<0.005	<0.005	<0.10	<0.10	8.04	0.12
28-Jul-08	0.002	30	0.16	104	0.95	<0.001	9	0.05	<0.005	<0.005	<0.10	<0.10	7.86	0.13
25-Aug-08	<0.001	40	0.14	114	0.54	<0.001	9	0.05	<0.005	<0.005	<0.10	<0.10	7.8	0.15
29-Sep-08	0.001	<10	0.17	130	0.56	<0.001	11	0.05	<0.005	<0.005	<0.10	<0.10	7.93	0.12
27-Oct-08	0.003	1200	0.15	115	0.98	0.001	11	0.03	<0.005	<0.005	0.21	<0.10	7.81	0.37
17-Nov-08	0.003	460	0.12	100	1.16	0.002	9	0.03	<0.005	<0.005	<0.10	<0.10	7.89	0.29
20-Apr-09	0.002	5	0.15	128	0.82	<0.001	11	0.06	<0.005	<0.005	<0.10	<0.10	7.94	0.18
25-May-09	<0.001	34	0.16	142	0.32	<0.001	12	0.04	<0.005	<0.005	<0.10	<0.10	8.19	0.1
15-Jun-09	<0.001	20	0.16	135	0.35	<0.001	11	0.03	<0.005	<0.005	<0.10	<0.10	8.14	0.11
20-Jul-09	<0.001	5	0.19	125	0.58	<0.001	11	0.06	<0.005	<0.005	<0.10	<0.10	8.03	0.19
10-Aug-09	0.003	490	0.14	62	1.08	0.002	6	0.05	<0.005	<0.005	0.23	<0.10	7.55	0.48
28-Sep-09	<0.001	70	0.14	129	0.29	<0.001	10	0.04	<0.005	<0.005	<0.10	<0.10	7.93	0.09
26-Oct-09	0.003	25	0.16	128	0.83	<0.001	11	0.04	<0.005	<0.005	<0.10	<0.10	7.78	0.19
23-Nov-09	0.003	52	0.13	118	1.04	<0.001	11	0.06	<0.005	<0.005	<0.10	<0.10	7.69	0.23
27-Apr-10	0.002	4	0.18	142	0.52	<0.001	12	0.09	<0.005	<0.005	<0.10	<0.10	8.07	0.07
25-May-10	0.001	6	0.18	114	0.57	<0.001	10	0.07	<0.005	<0.005	<0.10	<0.10	7.97	0.09
28-Jun-10	0.001		0.17	104	0.96	<0.001	9	0.12	<0.005	<0.005	<0.10	<0.10	7.91	0.26
19-Jul-10	<0.001	6	0.17	119	0.4	<0.001	9	0.05	<0.005	<0.005	<0.1	<0.1	8.04	0.16
30-Aug-10	<0.001	30	0.14	129	0.13	<0.001	10	0.02	<0.005	<0.005	<0.10	<0.10	8.02	0.11
27-Sep-10	<0.001	9	0.14	126	0.12	<0.001	10	0.02	<0.005	<0.005	<0.10	<0.10	8	0.07
25-Oct-10	<0.001		0.15	161	0.15	<0.001	13	0.02	<0.005	<0.005	<0.1	<0.1	8.1	0.05
22-Nov-10	0.002		0.14	160	0.73	<0.001	14	0.02	<0.005	<0.005	0.32	<0.10	7.79	0.08

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		25	2	0.4	<0.0001	19	0.312	<0.0001	<0.01	239	2.4	270	14	0.002	<0.01
26-May-08	0.0281	25	1	0.4	<0.0001	20	0.264	<0.0001	<0.01	231	0.5	238	7	0.002	<0.01
23-Jun-08	0.0682	36	2	3.1	<0.0001	38	0.354	<0.0001	0.02	318	1.23	327	9	0.003	<0.01
28-Jul-08	0.166	20	4	4.5	<0.0001	20	0.248	<0.0001	0.05	201	1.02	176	10	0.003	<0.01
25-Aug-08	0.112	20	2	1.9	<0.0001	19	0.289	<0.0001	<0.01	211	0.65	218	7	0.002	<0.01
29-Sep-08	0.0726	25	3	2.1	<0.0001	18	0.318	<0.0001	<0.01	231	0.55	239	8	0.002	<0.01
27-Oct-08	0.156	31	7	4	<0.0001	17	0.203	<0.0001	0.03	207	0.77	232	25	0.003	<0.01
17-Nov-08	0.193	24	7	4.7	<0.0001	10	0.212	<0.0001	0.03	180	1.92	195	15	0.003	<0.01
20-Apr-09	0.0512	29	3	1.5	<0.0001	20	0.258	<0.0001	0.01	227	0.34	208	26	0.003	<0.01
25-May-09	0.0166	27	1	0.4	<0.0001	18	0.284	<0.0001	<0.01	228	0.5	256	13	0.002	<0.01
15-Jun-09	0.061	27	1	0.6	<0.0001	19	0.294	<0.0001	<0.01	231	0.59	292	7	0.002	<0.01
20-Jul-09	0.162	21	2	1	<0.0001	20	0.324	<0.0001	<0.01	226	0.98	231	5	0.003	<0.01
10-Aug-09	0.208	12	6	3.4	<0.0001	7	0.11	<0.0001	0.03	100	1.01	168	69	0.003	<0.01
28-Sep-09	0.0428	24	3	0.6	<0.0001	15	0.276	<0.0001	<0.01	215	0.46	222	7	0.001	<0.01
26-Oct-09	0.106	39	8	2.9	<0.0001	17	0.289	<0.0001	<0.01	233	1.43	255	22	0.002	<0.01
23-Nov-09	0.0685	33	6	3.7	<0.0001	14	0.268	<0.0001	0.02	208	1.27	224	16	0.002	<0.01
27-Apr-10	0.0254	29	2	0.4	<0.0001	21	0.321	<0.0001	<0.01	250	0.64	460	22	0.002	<0.01
25-May-10	0.0447	24	2	0.7	<0.0001	15	0.276	<0.0001	<0.01	209	<0.10	217	8	0.001	<0.01
28-Jun-10	0.178	20	2	1.6	<0.0001	18	0.264	<0.0001	0.01	195	0.52	223	14	0.002	<0.01
19-Jul-10	0.0993	18	1	0.6	<0.0001	16	0.254	<0.0001	<0.01	210	0.36	220	10	0.002	<0.01
30-Aug-10	0.0408	24	2	0.6	<0.0001	2	0.287	<0.0001	<0.01	237	0.4	240	3	<0.001	<0.01
27-Sep-10	0.0351	28	2	0.3	<0.0001	15	0.264	<0.0001	<0.01	219	0.26	222	3	0.001	<0.01
25-Oct-10	0.0245	56	3	0.5	<0.0001	26	0.361	<0.0001	<0.01	300	0.29	268	4	<0.001	<0.01
22-Nov-10	0.0565	68	5	3.2	<0.0001	27	0.371	<0.0001	0.04	300	0.59	295	8	0.002	<0.01

Monitoring Station - MI001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	101	0.41	0.07	0.02	<0.001	0.03	<0.25	<0.0001	33	21	0.002	0.0005	340
26-May-08	N	99	0.39	0.16	0.02	<0.001	0.03	<0.25	<0.0001	35	18	0.002	0.0003	329
23-Jun-08	N	128	0.17	0.05	0.01	<0.001	0.04	<0.25	<0.0001	44	20	0.004	0.0002	371
28-Jul-08	Y	172	0.55	0.02	0.02	<0.001	0.04	<0.25	<0.0001	46	14	0.002	0.0003	382
25-Aug-08	Y	61	0.92	0.05	0.01	<0.001	0.03	<0.25	<0.0001	18	8	0.002	0.0004	170
29-Sep-08	N	139	0.37	<0.02	0.01	<0.001	0.03	<0.25	<0.0001	37	15	0.001	0.0004	347
27-Oct-08	Y	145	0.87	<0.02	0.02	<0.001	0.04	<0.25	<0.0001	42	21	0.002	0.0003	403
17-Nov-08	Y	63	1.46	0.04	0.03	<0.001	0.03	<0.25	<0.0001	21	13	0.002	0.0005	239
20-Apr-09	Y	105	0.91	0.03	0.02	<0.001	0.02	<0.25	<0.0001	33	21	0.002	0.0003	337
25-May-09	N	161	0.16	0.03	0.01	<0.001	0.02	<0.25	<0.0001	42	18	<0.001	0.0004	389
15-Jun-09	N	128	0.17	<0.02	<0.01	<0.001	0.03	<0.25	<0.0001	34	89	0.002	0.0003	620
20-Jul-09	N	138	0.23	0.04	0.01	<0.001	0.05	<0.25	<0.0001	50	37	0.002	0.0003	511
10-Aug-09	Y	84	2.24	0.02	0.03	<0.001	0.04	<0.25	<0.0001	25	10	0.003	0.0005	228
28-Sep-09	N	180	0.16	0.03	<0.01	<0.001	0.03	<0.25	<0.0001	43	26	0.002	0.0002	429
26-Oct-09	Y	102	0.55	0.03	0.02	<0.001	0.03	<0.25	<0.0001	44	30	0.002	0.0003	441
23-Nov-09	N	105	0.87	0.03	0.03	<0.001	0.03	<0.25	<0.0001	37	25	0.004	0.0005	412
27-Apr-10	N	132	0.27	0.02	0.02	<0.001	0.03	<0.25	<0.0001	42	29	0.002	0.0004	413
25-May-10	N	120	0.23	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	32	21	<0.001	0.0004	356
28-Jun-10	N	145	0.16	0.04	0.01	<0.001	0.03	<0.25	<0.0001	38	17	0.003	0.0003	334
19-Jul-10	N	114	0.1	0.03	<0.01	<0.001	0.03	<0.25	<0.0001	26	73	0.003	0.0003	509
30-Aug-10	N	110	0.14	<0.02	0.02	<0.001	0.05	<0.25	<0.0001	45	32	<0.001	0.0003	469
27-Sep-10	N	146	0.08	0.08	0.02	<0.001	0.03	0.61	<0.0001	46	54	0.002	0.0002	565
25-Oct-10	Y	116	0.34	<0.02	0.02	<0.001	0.03	<0.25	<0.0001	41	22	0.001	0.0003	407
22-Nov-10	Y	81	5.2	<0.02	<0.1	<0.01	<0.1	<0.25	<0.0001	24	15	<0.01	<0.002	288

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.004	150	0.15	128	0.61	0.001	11	0.13	<0.005	<0.005	<0.10	<0.10	7.68	0.18
26-May-08	0.002	125	0.14	133	0.48	<0.001	11	0.03	<0.005	<0.005	<0.10	<0.10	8.01	0.14
23-Jun-08	<0.001	48	0.15	168	0.93	<0.001	14	0.02	<0.005	<0.005	<0.10	<0.10	8.22	0.02
28-Jul-08	0.002	171	0.16	177	0.74	<0.001	15	0.08	<0.005	<0.005	<0.10	<0.10	8.01	0.1
25-Aug-08	0.003	1350	0.11	70	0.9	<0.001	6	0.05	<0.005	<0.005	<0.10	<0.10	7.52	0.34
29-Sep-08	0.002	60	0.17	146	0.64	0.001	13	0.11	<0.005	<0.005	<0.10	<0.10	8.09	0.13
27-Oct-08	0.002	640	0.15	167	0.83	<0.001	15	0.02	<0.005	<0.005	0.2	<0.10	7.88	0.22
17-Nov-08	0.003	1050	0.11	85	1.1	0.003	8	0.03	<0.005	<0.005	0.83	<0.10	7.78	0.54
20-Apr-09	0.002	66	0.15	132	1	<0.001	12	0.06	<0.005	<0.005	<0.10	<0.10	7.83	0.19
25-May-09	0.002	94	0.2	167	0.46	<0.001	15	0.09	<0.005	<0.005	<0.10	<0.10	8.3	0.11
15-Jun-09	0.002	10	0.21	155	0.16	0.001	17	0.02	<0.005	<0.005	<0.10	<0.10	8.81	0.04
20-Jul-09	0.001	8	0.19	207	0.32	<0.001	20	0.06	<0.005	<0.005	<0.10	<0.10	8.15	0.06
10-Aug-09	0.003	390	0.17	104	1.38	0.001	10	0.04	<0.005	<0.005	0.17	<0.10	7.71	0.5
28-Sep-09	<0.001	40	0.21	177	0.24	<0.001	17	0.29	<0.005	<0.005	<0.10	<0.10	7.94	0.09
26-Oct-09	0.002	168	0.14	168	0.71	<0.001	14	0.02	<0.005	<0.005	1.83	<0.10	7.85	0.09
23-Nov-09	0.003	155	0.14	150	0.93	0.001	14	0.09	<0.005	<0.005	0.65	<0.10	7.78	0.25
27-Apr-10	0.002	720	0.18	167	0.81	<0.001	15	0.18	<0.005	<0.005	<0.10	<0.10	8.07	0.17
25-May-10	0.002	192	0.18	129	0.89	<0.001	12	0.1	<0.005	<0.005	<0.10	<0.10	7.98	0.1
28-Jun-10	0.001		0.2	148	0.35	<0.001	13	0.02	<0.005	<0.005	<0.10	<0.10	8.47	0.14
19-Jul-10	0.001	5	0.19	118	0.19	<0.001	13	0.14	<0.005	<0.005	<0.1	<0.1	8.31	0.09
30-Aug-10	0.001	30	0.16	174	0.29	<0.001	15	0.14	<0.005	<0.005	<0.10	<0.10	7.84	0.1
27-Sep-10	<0.001	14	0.21	193	0.24	<0.001	19	0.41	<0.005	<0.005	<0.10	<0.10	7.74	0.18
25-Oct-10	0.002		0.15	156	0.4	<0.001	13	0.06	<0.005	<0.005	<0.1	<0.1	7.97	0.11
22-Nov-10	<0.01		0.13	97	3.1	<0.01	9	<0.1	<0.05	<0.05	0.25	<0.1	7.79	0.17

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		31	5	1.7	<0.0001	15	0.211	<0.0001	0.01	221	1.2	276	13	0.003	<0.01
26-May-08	0.0137	32	4	1.8	<0.0001	15	0.246	<0.0001	0.02	214	1.13	260	51	0.003	<0.01
23-Jun-08	0.0625	28	2	2.6	<0.0001	19	0.281	<0.0001	<0.01	241	0.78	268	27	0.003	<0.01
28-Jul-08	0.15	10	2	5.3	<0.0001	16	0.221	<0.0001	0.03	248	1.13	253	5	0.003	<0.01
25-Aug-08	0.192	10	5	4.1	<0.0001	3	0.128	<0.0001	0.04	111	1.35	141	30	0.003	<0.01
29-Sep-08	0.0557	13	5	2.4	<0.0001	13	0.245	<0.0001	0.02	226	1.5	235	9	0.002	0.01
27-Oct-08	0.127	25	7	4.5	<0.0001	17	0.257	<0.0001	0.03	262	1.02	288	26	0.003	<0.01
17-Nov-08	0.325	26	7	4.8	<0.0001	7	0.128	<0.0001	0.04	155	1.61	200	45	0.004	<0.01
20-Apr-09	0.0953	33	4	2.5	<0.0001	16	0.23	<0.0001	0.02	219	0.6	220	11	0.003	<0.01
25-May-09	0.0356	15	2	0.5	<0.0001	17	0.307	<0.0001	<0.01	253	1.14	268	11	0.003	<0.01
15-Jun-09	0.002	40	2	0.5	<0.0001	66	0.42	<0.0001	<0.01	403	0.87	400	4	0.003	<0.01
20-Jul-09	0.0093	62	5	1.6	<0.0001	25	0.395	<0.0001	<0.01	332	0.98	345	13	0.003	<0.01
10-Aug-09	0.308	13	6	6.8	<0.0001	6	0.17	<0.0001	0.08	148	1.59	219	71	0.006	<0.01
28-Sep-09	0.0236	8	5	1.4	<0.0001	20	0.364	<0.0001	<0.01	279	1.21	284	5	0.003	<0.01
26-Oct-09	0.0715	61	9	3.2	<0.0001	17	0.309	<0.0001	0.01	287	0.88	297	10	0.002	<0.01
23-Nov-09	0.0788	49	10	3.8	<0.0001	15	0.289	<0.0001	0.02	268	1.41	283	15	0.003	<0.01
27-Apr-10	0.061	27	4	1	<0.0001	21	0.327	<0.0001	<0.01	268	1.31	428	19	0.003	<0.01
25-May-10	0.082	25	3	1	<0.0001	17	0.266	<0.0001	<0.01	231	0.74	253	22	0.002	<0.01
28-Jun-10	0.083	9	3	1	<0.0001	16	0.294	<0.0001	<0.01	217	1.35	174	5	0.002	<0.01
19-Jul-10	0.0499	19	4	0.4	<0.0001	51	0.382	<0.0001	<0.01	331	0.84	335	4	0.002	0.01
30-Aug-10	0.0311	73	6	2.9	<0.0001	22	0.338	<0.0001	<0.01	305	1.49	311	6	<0.001	<0.01
27-Sep-10	0.0922	45	7	0.5	<0.0001	37	0.405	<0.0001	<0.01	367	0.95	373	6	0.001	<0.01
25-Oct-10	0.0513	50	6	2.5	<0.0001	16	0.29	<0.0001	<0.01	265	1.17	315	6	0.002	<0.01
22-Nov-10	0.141	30	5	12	<0.001	10	0.18	<0.001	0.2	187	1.45	256	15	<0.01	<0.1

Monitoring Station - OS001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	105	2.1	0.35	0.06	<0.001	0.07	<0.25	0.0002	47	31	0.003	0.0018	436
26-May-08	N	127	0.58	0.06	0.04	<0.001	0.11	<0.25	<0.0001	63	46	0.002	0.0009	554
23-Jun-08	N	176	0.4	<0.02	0.04	<0.001	0.14	<0.25	<0.0001	84	52	0.002	0.0006	713
28-Jul-08	Y	74	1.02	0.12	0.02	<0.001	0.04	<0.25	<0.0001	24	13	0.002	0.0003	235
25-Aug-08	Y	125	0.34	0.09	0.02	<0.001	0.07	<0.25	<0.0001	41	22	0.002	0.0005	351
29-Sep-08	N	116	0.43	0.03	0.02	<0.001	0.07	<0.25	<0.0001	35	22	0.001	0.0004	365
27-Oct-08	Y	144	1.05	0.09	0.04	<0.001	0.09	<0.25	<0.0001	62	48	0.003	0.0007	611
17-Nov-08	Y	97	1.27	0.14	0.04	<0.001	0.05	<0.25	0.0001	35	28	0.002	0.0007	419
20-Apr-09	Y	106	<0.1	0.09	0.04	<0.001	0.05	<0.25	<0.0001	44	29	0.002	0.0007	405
25-May-09	N	157	0.45	0.03	0.04	<0.001	0.07	<0.25	<0.0001	60	34	0.002	0.0008	529
15-Jun-09	N	188	0.45	0.03	0.04	<0.001	0.09	<0.25	<0.0001	65	43	0.002	0.0007	626
20-Jul-09	N	179	0.29	0.79	0.04	<0.001	0.07	<0.25	<0.0001	68	64	0.003	0.0005	689
10-Aug-09	Y	114	1.03	0.14	0.04	<0.001	0.06	<0.25	<0.0001	40	23	0.002	0.0007	389
28-Sep-09	N	158	0.34	0.05	0.03	<0.001	0.08	<0.25	<0.0001	59	35	0.002	0.0006	505
26-Oct-09	Y	150	0.29	0.04	0.03	<0.001	0.07	<0.25	<0.0001	65	46	0.002	0.0004	619
23-Nov-09	N	148	0.52	0.14	0.02	<0.001	0.08	<0.25	<0.0001	60	48	0.005	0.0004	631
27-Apr-10	N	145	0.57	0.02	0.03	<0.001	0.06	<0.25	<0.0001	57	32	0.003	0.0011	525
25-May-10	N	120	0.38	0.06	0.03	<0.001	0.05	<0.25	<0.0001	37	21	0.001	0.0006	386
28-Jun-10	N	131	1.07	0.1	0.05	<0.001	0.08	<0.25	<0.0001	48	30	0.002	0.0011	457
19-Jul-10	N	180	0.41	0.24	0.04	<0.001	0.09	0.25	<0.0001	61	53	0.003	0.0009	617
30-Aug-10	N	117	0.36	0.03	0.03	<0.001	0.13	<0.25	<0.0001	55	46	<0.001	0.0005	600
28-Sep-10	N	152	0.19	<0.02	0.04	<0.001	0.08	0.68	<0.0001	64	56	0.003	0.0004	664
25-Oct-10	Y	134	0.65	0.05	0.03	<0.001	0.06	<0.25	<0.0001	54	41	0.002	0.0006	549
22-Nov-10	Y	88	6.4	0.07	0.05	<0.01	<0.1	<0.25	<0.01	30	22	<0.05	<0.01	351

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.005	150	0.18	167	2.08	0.004	12	0.37	<0.005	<0.005	0.6	<0.10	8.03	1.58
26-May-08	0.003	16	0.21	231	1.21	0.002	18	0.22	<0.005	<0.005	0.28	<0.10	8.17	0.45
23-Jun-08	0.002	56	0.22	304	0.61	<0.001	23	0.11	<0.005	<0.005	4.24	0.12	8.03	0.21
28-Jul-08	0.003	30	0.16	89	1.03	<0.001	7	0.05	<0.005	<0.005	0.2	<0.10	7.6	0.33
25-Aug-08	0.002	150	0.17	152	0.9	<0.001	12	0.16	<0.005	<0.005	<0.10	<0.10	7.92	0.39
29-Sep-08	0.002	50	0.19	133	1.04	<0.001	11	0.14	<0.005	<0.005	<0.10	<0.10	7.95	0.35
27-Oct-08	0.005	1650	0.22	233	0.99	0.002	19	0.09	<0.005	<0.005	3.66	<0.10	7.89	0.64
17-Nov-08	0.005	1630	0.17	137	1.08	0.002	12	0.07	<0.005	<0.005	4.59	<0.10	7.85	0.7
20-Apr-09	0.003	60	0.12	168	1.39	0.002	14	0.12	<0.005	<0.005	0.53	<0.10	7.89	0.56
25-May-09	0.002	13	0.21	232	0.86	0.001	20	0.22	<0.005	<0.005	<0.10	<0.10	8.12	0.33
15-Jun-09	0.002	190	0.26	249	0.72	0.002	21	0.16	<0.005	<0.005	<0.10	<0.10	8.26	0.38
20-Jul-09	0.002	12	0.28	256	0.62	0.001	21	0.17	<0.005	<0.005	<0.10	<0.10	8.09	0.29
10-Aug-09	0.005	880	0.24	149	0.83	0.002	12	0.06	<0.005	<0.005	2.54	<0.10	7.76	0.78
28-Sep-09	0.001	40	0.22	217	0.69	<0.001	17	0.19	<0.005	<0.005	0.13	<0.10	7.94	0.35
26-Oct-09	0.002	22	0.2	241	0.66	<0.001	19	0.08	<0.005	<0.005	0.68	<0.10	8.01	0.2
23-Nov-09	0.003	148	0.18	232	0.82	<0.001	20	0.08	<0.005	<0.005	0.98	<0.10	7.87	0.21
27-Apr-10	0.003	148	0.21	221	1.36	0.002	19	0.23	<0.005	<0.005	1.16	<0.10	8.17	0.38
25-May-10	0.002	2	0.21	142	0.82	<0.001	12	0.1	<0.005	<0.005	0.35	<0.10	7.99	0.22
28-Jun-10	0.003		0.25	182	1.17	0.001	15	0.28	<0.005	<0.005	1.77	<0.10	7.96	0.44
19-Jul-10	0.002	24	0.29	226	0.93	<0.001	18	0.29	<0.005	<0.005	<0.1	<0.1	7.99	0.67
30-Aug-10	0.002	280	0.23	216	0.78	<0.001	19	0.19	<0.005	<0.005	<0.10	<0.10	7.81	0.35
28-Sep-10	0.001	11	0.27	242	0.39	<0.001	20	0.16	<0.005	<0.005	<0.10	<0.10	7.92	0.26
25-Oct-10	0.003		0.2	219	0.89	0.001	18	0.1	<0.005	<0.005	1.33	<0.1	7.98	0.32
22-Nov-10	<0.01		0.16	116	5.9	<0.01	10	0.07	<0.01	<0.01	1.21	<0.1	7.77	0.24

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		53	5	1.7	<0.001	21	0.668	<0.0001	0.02	283	1.76	400	82	0.007	0.02
26-May-08	0.0757	78	5	1.1	<0.0001	29	0.576	<0.0001	0.02	360	1.79	887	527	0.006	<0.01
23-Jun-08	0.0697	99	5	3.1	<0.0001	30	0.734	<0.0001	0.01	463	1.59	512	49	0.005	<0.01
28-Jul-08	0.289	17	6	5.6	<0.0001	9	0.316	<0.0001	0.05	153	1.16	184	14	0.004	<0.01
25-Aug-08	0.281	19	5	1.6	<0.0001	16	0.511	<0.0001	0.01	228	1.7	273	45	0.004	<0.01
29-Sep-08	0.213	26	6	4.6	<0.0001	15	0.475	<0.0001	0.03	237	1.37	272	35	0.003	<0.01
27-Oct-08	0.278	64	10	4.6	<0.0001	26	0.477	<0.0001	0.03	397	1.43	502	105	0.005	<0.01
17-Nov-08	0.363	45	8	4.6	<0.001	13	0.385	<0.0001	0.03	272	1.63	380	108	0.004	0.01
20-Apr-09	0.162	51	5	3.7	<0.0001	19	0.506	<0.0001	0.02	263	0.62	356	112	0.004	<0.01
25-May-09	0.0833	59	5	1.2	<0.0001	24	0.715	<0.0001	0.01	344	1.99	432	81	0.005	<0.01
15-Jun-09	0.0936	63	8	1.2	<0.0001	29	0.874	<0.0001	0.01	407	0.91	488	68	0.006	<0.01
20-Jul-09	0.135	77	8	1.1	<0.0001	36	0.796	<0.0001	<0.01	448	1.6	482	34	0.007	<0.01
10-Aug-09	0.56	28	8	4.6	<0.0001	17	0.396	<0.0001	0.02	253	2.27	368	115	0.004	<0.01
28-Sep-09	0.13	44	9	1.7	<0.0001	24	0.716	<0.0001	0.01	328	1.73	384	56	0.005	<0.01
26-Oct-09	0.0842	94	9	2.6	<0.0001	27	0.817	<0.0001	0.01	402	1.18	420	18	0.002	<0.01
23-Nov-09	0.0945	97	7	3.2	<0.0001	26	0.817	<0.0001	0.01	410	1.26	431	21	0.003	0.02
27-Apr-10	0.267	59	8	1	<0.0001	21	0.607	<0.0001	0.01	341	2.05	548	104	0.004	<0.01
25-May-10	0.154	35	5	2.5	<0.0001	13	0.487	<0.0001	<0.01	251	0.94	284	33	0.003	<0.01
28-Jun-10	0.314	37	7	5.9	<0.0001	20	0.599	<0.0001	0.06	297	1.6	488	125	0.006	0.02
19-Jul-10	0.626	45	10	3.4	<0.0001	29	0.772	<0.0001	0.01	401	1.92	461	60	0.006	<0.01
30-Aug-10	0.325	99	8	3.6	<0.0001	29	0.987	<0.0001	<0.01	390	1.58	129	39	0.003	<0.01
28-Sep-10	0.119	95	10	1.4	<0.0001	35	0.88	<0.0001	<0.01	432	1.15	461	29	0.003	<0.01
25-Oct-10	0.283	73	8	4.5	<0.0001	26	0.688	<0.0001	0.01	357	1.63	443	36	0.004	<0.01
22-Nov-10	0.233	42	6	21	<0.01	12	0.38	<0.01	0.4	228	2.03	358	46	<0.05	<0.05

Monitoring Station - OS002

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	104	0.5	0.28	0.03	<0.001	0.17	0.25	<0.0001	68	48	0.005	0.0006	644
26-May-08	N	124	0.73	0.03	0.04	<0.001	0.25	0.44	<0.0001	87	60	0.003	0.0005	778
23-Jun-08	N	131	0.48	0.11	0.03	<0.001	0.23	0.38	<0.0001	73	64	0.003	0.0005	706
28-Jul-08	Y	73	0.86	0.09	0.03	<0.001	0.06	<0.25	<0.0001	27	14	0.002	0.0003	253
25-Aug-08	Y	97	1.2	0.06	0.02	<0.001	0.06	<0.25	<0.0001	35	25	0.003	0.0006	345
29-Sep-08	N	132	0.39	0.13	0.02	<0.001	0.15	0.31	<0.0001	54	37	0.002	0.0003	564
27-Oct-08	Y	112	1.25	0.22	0.04	<0.001	0.09	<0.25	<0.0001	52	31	0.003	0.0007	542
17-Nov-08	Y	66	1.55	0.13	0.03	<0.001	0.04	<0.25	<0.0001	22	15	0.002	0.0006	271
20-Apr-09	Y	101	0.92	0.1	0.03	<0.001	0.13	0.32	<0.0001	57	46	0.003	0.0006	556
25-May-09	N	158	0.27	0.03	0.04	<0.001	0.3	0.75	<0.0001	94	76	0.002	0.0006	966
15-Jun-09	N	172	0.59	0.02	0.11	<0.001	0.92	3	<0.0001	247	290	0.006	0.0007	2440
20-Jul-09	N	171	0.23	0.02	0.06	<0.001	0.69	1.66	<0.0001	198	180	0.005	0.0005	1940
10-Aug-09	Y	104	1.16	0.1	0.03	<0.001	0.06	<0.25	0.0002	34	16	0.002	0.0006	328
28-Sep-09	Y	146	0.27	0.42	0.05	<0.001	0.5	2.01	<0.0001	159	182	0.004	0.0005	1590
26-Oct-09	Y	111	1	0.07	0.03	<0.001	0.06	<0.25	<0.0001	51	29	0.002	0.0007	507
23-Nov-09	N	106	0.98	0.16	0.02	<0.001	0.06	<0.25	<0.0001	41	24	0.005	0.0004	450
27-Apr-10	N	140	0.43	0.07	0.03	<0.001	0.2	0.4	<0.0001	89	55	0.004	0.0007	821
25-May-10	N	118	0.48	0.08	0.02	<0.001	0.13	<0.25	<0.0001	49	33	0.001	0.0007	541
28-Jun-10	N	161	0.41	0.02	0.04	<0.001	0.32	0.72	<0.0001	94	88	0.002	0.0007	992
19-Jul-10	N	162	0.38	0.17	0.07	<0.001	0.55	2.14	<0.0001	161	190	0.005	0.0006	1680
30-Aug-10	N	127	0.42	0.05	0.03	<0.001	0.19	0.34	<0.0001	80	61	<0.001	0.0006	801
28-Sep-10	N	162	0.2	0.03	0.01	<0.001	0.74	6.62	<0.0001	264	316	0.005	0.0005	2550
25-Oct-10	Y	116	1.43	0.04	0.03	<0.001	0.09	<0.25	<0.0001	54	36	0.003	0.0007	553
22-Nov-10	Y	79	5	0.03	0.04	<0.01	<0.1	<0.25	<0.01	32	18	<0.05	<0.01	355

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.003	205	0.2	265	0.87	0.001	23	0.33	<0.005	<0.005	<0.10	<0.10	7.93	0.2
26-May-08	0.002	76	0.22	337	0.76	<0.001	29	0.34	<0.005	<0.005	<0.10	<0.10	8.1	0.29
23-Jun-08	0.003	26	0.21	285	0.74	<0.001	25	0.34	<0.005	<0.005	<0.10	<0.10	7.9	0.14
28-Jul-08	0.003	200	0.16	100	0.94	<0.001	8	0.05	<0.005	<0.005	0.11	<0.10	7.64	0.24
25-Aug-08	0.004	1450	0.18	133	1.07	<0.001	11	0.07	<0.005	<0.005	0.12	<0.10	7.72	0.39
29-Sep-08	0.002	130	0.23	217	0.89	<0.001	20	0.16	<0.005	<0.005	<0.10	<0.10	7.89	0.2
27-Oct-08	0.005	1500	0.21	212	1.07	0.002	20	0.07	<0.005	<0.005	3.76	<0.10	7.83	0.69
17-Nov-08	0.004	1920	0.14	88	1.09	0.001	8	0.05	<0.005	<0.005	1.98	<0.10	7.79	0.66
20-Apr-09	0.003	130	0.18	225	1.12	0.002	20	0.17	<0.005	<0.005	<0.10	<0.10	7.77	0.3
25-May-09	0.002	78	0.29	366	0.66	0.001	32	0.65	<0.005	<0.005	<0.10	<0.10	8.05	0.25
15-Jun-09	0.002	180	0.4	1020	0.72	0.001	97	1.06	<0.005	0.005	<0.10	<0.10	8.11	0.2
20-Jul-09	0.002	82	0.45	832	0.32	<0.001	82	0.25	<0.005	0.005	<0.10	<0.10	8	0.12
10-Aug-09	0.004	330	0.23	134	0.86	0.002	12	0.05	<0.005	<0.005	0.5	<0.10	7.78	0.48
28-Sep-09	0.003	430	0.32	656	0.4	<0.001	63	0.28	<0.005	<0.005	6.83	0.16	7.76	0.38
26-Oct-09	0.004	80	0.18	201	1.33	<0.001	18	0.07	<0.005	<0.005	0.88	<0.10	7.8	0.38
23-Nov-09	0.003	140	0.17	168	0.9	<0.001	16	0.05	<0.005	<0.005	0.43	<0.10	7.83	0.24
27-Apr-10	0.002	111	0.24	362	0.85	0.001	34	0.34	<0.005	<0.005	<0.10	<0.10	8.01	0.15
25-May-10	0.002	125	0.22	201	0.97	<0.001	19	0.34	<0.005	<0.005	0.18	<0.10	7.96	0.17
28-Jun-10	0.002		0.29	379	0.73	<0.001	35	0.49	<0.005	<0.005	<0.10	<0.10	8.01	0.2
19-Jul-10	0.002	65	0.36	653	0.59	<0.001	61	0.66	<0.005	0.005	<0.1	<0.1	7.92	0.26
30-Aug-10	0.002	60	0.24	307	0.66	<0.001	26	0.17	<0.005	<0.005	<0.10	<0.10	7.91	0.18
28-Sep-10	0.0002	17	0.43	1100	0.37	<0.001	106	0.7	<0.005	0.006	<0.10	<0.10	7.92	0.14
25-Oct-10	0.004		0.19	213	1.13	<0.001	19	0.11	<0.005	<0.005	0.15	<0.1	7.88	0.19
22-Nov-10	<0.01		0.15	125	4.4	<0.01	11	0.06	<0.01	<0.01	0.78	<0.1	7.8	0.16

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		133	4	2	0.0006	32	1.1	<0.0001	0.02	419	1.83	480	48	0.004	0.01
26-May-08	0.0456	170	3	2.6	<0.0001	40	1.25	<0.0001	0.03	506	1.25	532	26	0.004	<0.01
23-Jun-08	0.0805	138	3	2.1	<0.0001	38	1.21	<0.0001	0.02	459	1.14	472	13	0.004	<0.01
28-Jul-08	0.175	24	5	5.2	<0.0001	11	0.409	<0.0001	0.04	164	1.12	224	19	0.003	<0.01
25-Aug-08	0.265	33	8	5.9	<0.0001	16	0.478	<0.0001	0.05	224	1.79	268	44	0.005	<0.01
29-Sep-08	0.0853	88	5	4.3	<0.0001	22	0.907	<0.0001	0.02	367	1.26	387	20	0.003	<0.01
27-Oct-08	0.282	88	7	5.5	<0.0001	19	0.671	<0.0001	0.04	352	1.74	471	119	0.004	0.01
17-Nov-08	0.323	29	8	5	<0.0001	9	0.314	<0.0001	0.03	176	0.74	246	70	0.004	<0.01
20-Apr-09	0.0845	128	5	2.3	<0.0001	28	0.88	<0.0001	0.03	361	0.63	396	55	0.004	<0.01
25-May-09	0.0349	225	3	0.8	<0.0001	39	1.83	<0.0001	<0.01	628	1.22	760	58	0.004	<0.01
15-Jun-09	0.0368	682	9	1.7	<0.0001	164	5.1	<0.0001	0.03	1830	0.67	2080	48	0.006	<0.01
20-Jul-09	0.0369	624	7	0.8	<0.0001	108	3.77	<0.0001	0.01	1460	0.75	1470	17	0.005	<0.01
10-Aug-09	0.272	28	6	5.2	<0.0001	11	0.536	<0.0001	0.03	213	1.78	297	84	0.003	0.01
28-Sep-09	0.165	391	12	1.7	<0.0001	102	2.93	<0.0001	0.01	1110	2.54	1140	25	0.003	<0.01
26-Oct-09	0.166	95	10	4.5	<0.0001	18	0.929	<0.0001	0.02	330	1.67	355	25	0.003	<0.01
23-Nov-09	0.0627	79	7	3.8	<0.0001	14	0.787	<0.0001	0.03	293	1.34	310	17	0.003	<0.01
27-Apr-10	0.0563	199	5	1.4	<0.0001	37	1.56	<0.0001	0.01	534	0.96	764	41	0.004	<0.01
25-May-10	0.0986	100	4	1.7	<0.0001	21	1.03	<0.0001	0.01	352	0.93	372	20	0.002	<0.01
28-Jun-10	0.124	193	5	1.7	<0.0001	49	1.93	<0.0001	<0.01	645	1.23	894	45	0.003	<0.01
19-Jul-10	0.163	432	8	1.6	<0.0001	104	3.11	<0.0001	0.02	1180	1.89	1210	30	0.004	0.01
30-Aug-10	0.0936	171	8	3.3	<0.0001	34	7.71	<0.0001	0.01	521	1.55	533	12	0.003	<0.01
28-Sep-10	0.0654	717	11	0.7	<0.0001	180	4.93	<0.0001	<0.01	1910	0.95	1940	24	0.003	<0.01
25-Oct-10	0.0983	103	6	5.6	<0.0001	23	0.882	<0.0001	0.05	359	0.93	493	44	0.004	<0.01
22-Nov-10	0.163	52	6	17	<0.01	11	0.47	<0.01	0.3	231	1.44	322	28	<0.05	<0.05

Monitoring Station - TE001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	87	0.36	0.15	0.02	<0.001	0.02	<0.25	<0.0001	27	13	0.003	0.0008	247
26-May-08	N	99	0.25	0.03	0.01	<0.001	0.03	<0.25	<0.0001	30	17	0.002	0.0006	260
23-Jun-08	N	127	0.36	0.02	0.02	<0.001	0.05	<0.25	<0.0001	43	68	0.003	0.0004	513
28-Jul-08	Y	70	0.54	0.05	0.02	<0.001	0.06	<0.25	0.0001	24	15	0.002	0.0004	215
25-Aug-08	Y	78	0.2	0.03	0.02	<0.001	0.03	<0.25	<0.0001	23	17	0.002	0.0006	224
29-Sep-08	N	111	0.07	0.04	0.02	<0.001	0.03	<0.25	<0.0001	28	15	0.001	0.0078	273
27-Oct-08	Y	73	1.15	0.03	0.03	<0.001	0.05	<0.25	<0.0001	23	13	0.002	0.0004	239
17-Nov-08	Y	72	1.34	0.03	0.03	<0.001	0.03	<0.25	<0.0001	19	11	0.002	0.0004	216
20-Apr-09	Y	86	0.83	86	0.02	<0.001	0.02	<0.25	<0.0001	23	16	0.002	0.0006	214
25-May-09	N	103	0.25	0.1	0.02	<0.001	0.02	<0.25	<0.0001	26	11	0.001	0.0008	238
15-Jun-09	N	121	0.39	0.04	0.01	<0.001	0.03	<0.25	<0.0001	32	11	0.002	0.0008	274
20-Jul-09	N	113	0.2	0.11	<0.1	<0.01	<0.1	<0.25	<0.001	28	24	<0.01	0.005	301
10-Aug-09	Y	41	1.31	0.04	0.02	<0.001	0.03	<0.25	<0.0001	11	5	0.001	0.0004	121
28-Sep-09	N	115	0.27	0.47	0.02	<0.001	0.03	<0.25	<0.0001	39	14	0.001	0.0013	355
26-Oct-09	Y	69	0.51	0.08	0.02	<0.001	0.03	<0.25	<0.0001	20	10	0.001	0.0004	206
23-Nov-09	N	67	0.54	0.05	0.02	<0.001	0.03	<0.25	<0.0001	19	13	0.003	0.0004	215
27-Apr-10	N	103	0.29	0.04	0.02	<0.001	0.02	<0.25	<0.0001	28	31	0.001	0.0005	334
25-May-10	N	75	0.42	0.18	0.02	<0.001	0.02	<0.25	<0.0001	20	14	<0.001	0.0009	207
28-Jun-10	N	90	0.51	0.15	0.03	<0.001	0.03	<0.25	<0.0001	27	15	<0.001	0.0013	247
19-Jul-10	N	119	0.68	0.08	0.04	<0.001	0.03	<0.25	<0.0001	38	25	0.001	0.0018	342
30-Aug-10	N	129	0.27	<0.02	0.08	<0.001	0.1	<0.25	<0.0001	99	186	<0.001	0.003	1240
27-Sep-10	N	129	0.26	<0.02	0.13	<0.001	0.1	<0.25	<0.0001	142	262	0.003	0.0006	1570
25-Oct-10	Y	95	0.52	<0.02	0.06	<0.001	0.05	<0.25	<0.0001	115	187	0.002	0.0005	1340
22-Nov-10	Y	68	0.79	0.02	0.03	<0.001	0.03	<0.25	<0.0001	43	39	0.002	0.0005	508

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.004	440	0.15	100	2.23	<0.001	8	0.16	<0.005	0.015	<0.10	<0.10	7.83	0.14
26-May-08	0.002	60	0.17	112	1.9	<0.001	9	0.2	<0.005	0.013	<0.10	<0.10	8.06	0.22
23-Jun-08	0.002	35	0.18	161	1.01	<0.001	13	0.08	<0.005	0.009	<0.10	<0.10	7.92	0.14
28-Jul-08	0.004	30	0.15	89	1.9	<0.001	7	0.04	<0.005	0.012	<0.10	<0.10	7.59	0.32
25-Aug-08	0.002	380	0.12	86	3.82	<0.001	7	0.1	<0.005	0.006	<0.10	<0.10	7.53	0.57
29-Sep-08	<0.001	70	0.18	107	5.6	<0.001	9	3.67	<0.005	0.006	<0.10	<0.10	7.66	0.45
27-Oct-08	0.004	4200	0.13	95	1.3	0.002	9	0.02	<0.005	0.006	0.15	<0.10	7.75	0.47
17-Nov-08	0.004	320	0.12	76	1.35	0.002	7	0.02	<0.005	0.006	<0.10	<0.10	7.82	0.36
20-Apr-09	0.002	26	0.13	90	1.66	<0.001	8	0.09	<0.005	0.008	<0.10	<0.10	7.39	0.33
25-May-09	0.001	14	0.18	98	5.62	<0.001	8	0.14	<0.005	0.007	<0.10	<0.10	7.83	0.79
15-Jun-09	0.001	110	0.2	117	2.92	<0.001	9	0.22	<0.005	0.005	<0.10	<0.10	8.03	0.53
20-Jul-09	<0.01	58	0.18	107	8.8	<0.01	9	2.2	<0.05	<0.05	<0.10	<0.10	7.63	0.8
10-Aug-09	0.003	770	0.14	44	1.15	0.002	4	0.02	<0.005	<0.005	0.23	<0.10	7.38	0.38
28-Sep-09	0.001	263000	0.14	147	2.39	<0.001	12	1.8	<0.005	<0.005	0.11	<0.10	7.61	0.51
26-Oct-09	0.003	99	0.14	79	1.18	<0.001	7	0.04	<0.005	0.006	<0.10	<0.10	7.78	0.16
23-Nov-09	0.002	33	0.12	76	1.1	<0.001	7	0.04	<0.005	<0.005	<0.10	<0.10	7.62	0.21
27-Apr-10	0.001	39	0.18	111	1.43	<0.001	10	0.07	<0.005	0.005	<0.10	<0.10	8.1	0.2
25-May-10	0.002	6	0.2	65	3.97	0.001	7	0.09	<0.005	0.007	0.16	<0.10	7.8	0.79
28-Jun-10	0.002		0.18	100	4.72	0.001	8	0.43	<0.005	0.006	0.26	<0.10	7.86	0.53
19-Jul-10	0.004	400	0.26	140	4.18	0.004	11	0.78	<0.005	0.006	0.17	<0.1	8	0.58
30-Aug-10	0.002	10	0.22	363	0.63	<0.001	28	0.41	<0.005	<0.005	<0.10	<0.10	7.97	0.18
27-Sep-10	0.002	0	0.22	523	0.53	<0.001	41	0.42	<0.005	<0.005	<0.10	<0.10	8.06	0.11
25-Oct-10	0.003		0.13	427	0.43	<0.001	34	0.11	<0.005	0.006	<0.1	<0.1	7.93	0.07
22-Nov-10	0.003		0.1	165	0.7	0.002	14	0.05	<0.005	0.007	0.3	<0.1	7.56	0.09

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		13	3	2	<0.0001	11	0.184	<0.0001	0.01	161	2.29	220	18	0.003	<0.01
26-May-08	0.147	5	1	1.2	<0.0001	15	0.189	<0.0001	0.01	169	1.57	180	11	0.003	<0.01
23-Jun-08	0.108	20	3	5.4	<0.0001	42	0.352	<0.0001	0.02	333	1.56	339	6	0.003	<0.01
28-Jul-08	0.272	10	5	4.7	<0.0001	12	0.179	<0.0001	0.02	140	1.62	200	10	0.003	<0.01
25-Aug-08	0.488	7	5	4.9	<0.0001	11	0.181	<0.0001	<0.01	146	1.53	174	28	0.003	<0.01
29-Sep-08	0.313	3	3	6.6	<0.0001	12	0.221	<0.0001	<0.01	177	2.11	193	16	0.003	<0.01
27-Oct-08	0.245	19	7	5.3	<0.0001	9	0.162	<0.0001	0.04	155	0.74	205	50	0.003	<0.01
17-Nov-08	0.218	15	6	5.4	<0.0001	7	0.162	<0.0001	0.04	140	1.9	169	29	0.004	<0.01
20-Apr-09	0.179	10	4	2.1	<0.0001	11	0.155	<0.0001	0.02	139	0.83	172	16	0.003	<0.01
25-May-09	0.765	2	1	2.1	<0.0001	11	0.219	<0.0001	<0.01	155	1.7	264	24	0.003	<0.01
15-Jun-09	0.342	1	3	3.6	<0.0001	14	0.248	<0.0001	0.01	178	1.54	260	25	0.004	<0.01
20-Jul-09		3	3	5	<0.001	18	0.24	<0.001	<0.1	196	1.68	215	19	<0.01	<0.1
10-Aug-09	0.231	9	4	4.1	<0.0001	4	0.094	<0.0001	0.04	79	1.03	147	68	0.003	<0.01
28-Sep-09	0.166	42	8	3.9	<0.0001	13	0.29	<0.0001	<0.01	231	1.51	260	29	0.003	<0.01
26-Oct-09	0.099	17	6	4.3	<0.0001	6	0.217	<0.0001	0.01	134	0.96	151	17	0.002	<0.01
23-Nov-09	0.0751	15	5	4.3	<0.0001	8	0.18	<0.0001	0.01	140	0.82	151	11	0.002	<0.01
27-Apr-10	0.137	10	3	1.1	<0.0001	20	0.271	<0.0001	<0.01	217	0.93	296	14	0.002	<0.01
25-May-10	0.542	6	3	2.1	<0.0001	10	0.179	<0.0001	<0.01	135	1.19	158	23	0.003	<0.01
28-Jun-10	0.821	11	3	4.5	<0.0001	12	0.233	<0.0001	0.01	161	1.46	266	35	0.003	<0.01
19-Jul-10	0.476	13	4	5.5	<0.0001	18	0.297	<0.0001	0.01	222	2.25	267	45	0.008	<0.01
30-Aug-10	0.0342	160	19	0.9	<0.0001	83	1.32	<0.0001	<0.01	806	0.7	826	20	0.002	<0.01
27-Sep-10	0.0502	215	32	0.6	<0.0001	104	1.61	<0.0001	0.01	1020	0.8	1040	23	0.002	<0.01
25-Oct-10	0.0367	266	8	3.9	<0.0001	112	0.873	<0.0001	0.02	871	0.63	964	10	0.002	<0.01
22-Nov-10	0.0672	110	7	4.6	<0.0001	29	0.409	<0.0001	0.02	330	0.86	358	10	0.002	<0.01

Monitoring Station - WR000

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (umhos/cm)	Copper (mg/L)
28-Apr-08	N	193	0.211	0.01	0.049	<0.0001	<0.0001	74	61.8	<0.002	661	0.002
26-May-08	N	208	0.593	<0.05	0.07	<0.0001	<0.0001	86.3	70	<0.002	787	<0.002
23-Jun-08	N	196	1.88	<0.01	0.093	<0.0001	<0.0001	86	77	<0.002	770	0.004
28-Jul-08	Y	216	0.169	0.04	0.058	<0.0001	<0.0001	84.8	57.3	<0.002	687	0.003
25-Aug-08	Y	252	0.196	0.02	0.06	<0.0001	<0.0001	87.7	28.4	<0.002	733	<0.002
29-Sep-08	N	261	0.057	0.02	0.065	<0.0001	<0.0001	86.6	51.5	<0.002	740	<0.002
27-Oct-08	Y	257	0.094	0.02	0.055	<0.0001	<0.0001	97	59.5	<0.002	754	0.002
17-Nov-08	Y	227	0.336	0.02	0.045	<0.0001	<0.0001	89.6	57.2	0.005	683	0.002
20-Apr-09	Y	202	0.059	0.02	0.039	<0.0001	<0.0001	75.7	67.9	0.002	664	0.004
25-May-09	N	213	0.117	0.07	0.043	<0.0001	<0.0001	73.1	55.3	<0.002	658	<0.002
15-Jun-09	N	267	0.058	0.02	0.058	<0.0001	<0.0001	92.9	36.9	<0.002	731	<0.002
20-Jul-09	N	244	0.095	0.04	0.056	<0.0001	<0.0001	84.5	39.9	<0.001	681	<0.002
10-Aug-09	Y	214	0.416	0.05	0.036	<0.0001	<0.0001	72	28.4	<0.001	522	0.005
28-Sep-09	Y	238	1.34	0.05	0.076	<0.0001	<0.0001	85.5	34.3	0.001	642	0.002
26-Oct-09	Y	268	0.108	<0.01	0.056	<0.0001	<0.0001	101	51.2	<0.001	746	<0.002
23-Nov-09	N	270	0.13	0.02	0.057	<0.0001	<0.0001	99.2	52.6	<0.001	772	<0.002
27-Apr-10	N	268	0.058	0.07	0.061	<0.0001	<0.0001	98.2	39	0.001	737	<0.002
25-May-10	N	234	0.082	0.07	0.06	<0.0001	<0.0001	86.8	49.6	<0.001	679	<0.002
29-Jun-10	N	254	0.193	0.1	0.08	<0.0001	<0.0001	92.5	41.9	<0.001	726	<0.002
19-Jul-10	N	276	0.075	0.1	0.093	<0.0001	<0.0001	108	29	<0.001	775	<0.002
30-Aug-10	N	222	0.286	0.03	0.077	<0.0001	<0.0001	77.3	32.4	<0.001	643	<0.002
27-Sep-10	N	268	0.138	0.03	0.086	<0.0001	0.0001	94.7	26.9	<0.001	727	<0.002
25-Oct-10	Y	248	0.037	<0.01	0.057	<0.0001	<0.0001	43.5	98.3	<0.001	710	<0.002
22-Nov-10	Y	243	0.154	0.02	0.056	<0.0001	<0.0001	102	47.3	<0.001	702	<0.002

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	1100	252	0.444	<0.001	16.4	0.317	<0.005	<0.005	0.09	0.09	<0.01	7.93
26-May-08	160	299	0.953	<0.001	20.4	0.474	<0.005	<0.005	<0.1	<0.1	<0.01	7.94
23-Jun-08	330	299	2.89	<0.001	20.5	0.574	<0.005	<0.005	0.4	0.4	0.02	7.89
28-Jul-08	140	281	0.392	<0.001	16.8	0.202	<0.005	<0.005	0.69	0.69	<0.05	7.87
25-Aug-08	130	306	0.438	<0.001	21.1	0.424	<0.005	<0.005	<0.1	<0.05	<0.05	7.92
29-Sep-08	250	306	0.368	<0.001	21.9	0.517	<0.005	<0.005	<0.1	<0.05	<0.05	7.93
27-Oct-08	250	327	0.334	<0.001	20.7	0.307	<0.005	<0.005	0.79	0.79	<0.05	7.98
17-Nov-08	260	295	0.549	<0.001	17.4	0.187	<0.005	<0.005	1.99	1.99	<0.05	8
20-Apr-09	20	262	0.311	<0.001	17.6	0.283	<0.005	<0.005	<0.1	0.06	<0.05	7.83
25-May-09	90	268	0.67	<0.001	20.7	0.597	<0.005	<0.005	0.11	0.11	<0.05	7.85
15-Jun-09	1000	339	0.36	<0.001	26.1	0.33	<0.005	<0.005	<0.1	<0.05	<0.05	7.99
20-Jul-09	300	301	0.344	<0.0010	21.8	0.909	<0.005	<0.005	<0.1	0.06	<0.05	8.23
10-Aug-09	360	231	0.556	<0.0010	12.5	0.112	<0.005	<0.005	0.46	0.46	<0.05	8.07
28-Sep-09	7700	292	2.51	0.0017	19	0.882	<0.005	<0.005	0.14	0.14	<0.05	7.79
26-Oct-09	150	339	0.626	<0.0010	21	0.435	<0.005	<0.005	0.31	0.31	<0.05	7.97
23-Nov-09	160	332	0.544	<0.0010	20.5	0.506	<0.005	<0.005	0.4	0.4	<0.05	7.97
27-Apr-10	60	337	0.714	<0.0010	22.2	1.18	<0.005	<0.005	0.1	0.1	<0.05	7.95
25-May-10	170	305	0.487	<0.0010	21.4	0.66	<0.005	<0.005	0.09	0.08	0.01	8.25
29-Jun-10	370	328	0.782	<0.0010	23.5	0.802	<0.005	<0.005	0.11	0.11	<0.05	8.12
19-Jul-10	280	369	0.636	<0.0010	24.1	0.757	<0.005	<0.005	0.25	0.22	0.03	8.17
30-Aug-10	490	277	0.559	<0.0010	20.3	0.139	<0.005	<0.005	0.09	0.09	<0.01	8.17
27-Sep-10	140	339	0.314	<0.0010	25	0.174	<0.005	<0.005	<0.02	<0.01	<0.01	8.02
25-Oct-10	10	328	0.208	<0.0010	20.1	0.155	<0.005	<0.005	0.39	0.39	<0.05	7.8
22-Nov-10	190	340	0.402	<0.0010	20.8	0.282	<0.005	<0.005	0.82	0.82	<0.05	8.11

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08	<50.0	0.248	2.92	37.2	1.13	0.004	348	0.4	370	5.5	4.43	<0.002	0.007
26-May-08	0.0107	0.2	2.43	44.6	1.6	0.01	427	0.6	502	6.6	4.02	<0.002	0.012
23-Jun-08	0.0338	0.288	2.77	40.9	2.13	0.033	493	0.6	565	45.5	19.7	0.004	0.013
28-Jul-08	0.0282	0.169	2.56	29	1.75	0.003	400	0.5	377	<8	1.84	<0.002	0.006
25-Aug-08	0.0335	0.167	1.89	32.8	2.09	0.005	428	0.5	395	<5	3.02	<0.002	<0.005
29-Sep-08	0.0296	0.124	2.16	34.1	1.91	0.001	484	0.2	474	<7	2.58	<0.002	<0.005
27-Oct-08	0.0175	0.177	3.02	30.3	1.81	0.002	452	0.6	470	<8	3.43	<0.002	<0.005
17-Nov-08	0.016	0.332	3.72	23.3	1.28	0.006		0.6			7.77	<0.002	0.007
20-Apr-09	0.0037	0.24	2.26	34.5	1.1	0.002	414	0.5	387	<5	2.81	<0.002	<0.005
25-May-09	0.0565	0.313	1.83	32.8	1.48	0.002	416	0.5	410	5.4	4.26	<0.002	<0.005
15-Jun-09	0.0314	0.102	1.3	23.9	2.77	<0.001	536	0.4	489	4.2	2.79	<0.002	<0.005
20-Jul-09	0.0474	0.276	2.61	25	2.56	0.002	412	0.5	453	<3	2.85	<0.002	<0.005
10-Aug-09	0.0466	0.16	3.39	17.2	1.09	0.007	308	0.9	328	7.2	9.03	<0.002	<0.005
28-Sep-09	0.0648	0.295	6.5	21.6	1.57	0.024	355	1.2	458	28.9	31.2	0.003	0.011
26-Oct-09	0.0113	0.111	2.92	27.3	1.74	0.003	437	0.8	530	25.6	13.6	<0.002	<0.005
23-Nov-09	0.0063	0.106	2.34	24.3	1.65	0.002	462	0.6	484	5	6.62	<0.002	<0.005
27-Apr-10	0.0283	0.108	2.07	22.2	2.13	0.001	478	0.5	488	<3	6.5	<0.002	<0.005
25-May-10	0.0288	0.414	2.28	28.6	2.26	0.002	464	0.5	460	<4	4.85	<0.002	<0.005
29-Jun-10	0.0417	0.353	2.97	26.8	2.79	0.003	442	0.6	468	<8	6.9	<0.002	0.009
19-Jul-10	0.0421	0.329	3.05	19.6	4.57	0.001	496	0.5	526	<8	3..25	<0.002	<0.005
30-Aug-10	0.0463	0.349	3.96	20.8	3.2	0.004	449	0.7	429	<5	9.76	<0.002	0.007
27-Sep-10	0.0337	0.34	3.59	18.1	3.91	0.003	545	0.3	500	3.6	3.7	<0.002	<0.005
25-Oct-10	0.0098	0.273	3.58	21.1	2.09	<0.001	420	0.4	480	<2	1.86	<0.002	<0.005
22-Nov-10	0.0105	0.405	3.69	22.5	1.6	0.003	402	0.6	485	4	5.37	<0.002	<0.005

Monitoring Station - WR001

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (µs/cm)	Copper (mg/L)
28-Apr-08	N	109	0.137	0.72	0.029	<0.0001	0.0001	52.4	46.2	<0.002	518	0.004
26-May-08	N	277	0.402	<0.05	0.079	<0.0001	<0.0001	140	200	<0.002	1540	0.004
23-Jun-08	N	293	0.068	0.05	0.079	<0.0001	<0.0001	129	200	<0.002	1370	0.002
28-Jul-08	Y	217	0.046	0.03	0.057	<0.0001	<0.0001	88.5	82.5	<0.002	807	0.003
25-Aug-08	Y	256	0.019	0.03	0.061	<0.0001	<0.0001	103	48.2	<0.002	972	<0.002
29-Sep-08	N	341	0.029	0.04	0.085	<0.0001	<0.0001	138	173	<0.002	1400	<0.002
27-Oct-08	Y	198	0.015	0.02	0.05	<0.0001	<0.0001	84.2	77.7	<0.002	775	<0.002
17-Nov-08	Y	252	0.036	0.02	0.055	<0.0001	<0.0001	104	68.8	<0.002	883	0.002
20-Apr-09	Y	195	0.314	2.96	0.053	<0.0001	0.0002	98.9	105	<0.002	990	0.006
25-May-09	N	320	0.653	0.07	0.08	<0.0001	<0.0001	147	182	<0.002	1400	0.004
15-Jun-09	N	293	0.105	0.05	0.071	<0.0001	<0.0001	134	158	<0.002	1260	0.002
20-Jul-09	N	296	0.26	0.03	0.068	<0.0001	<0.0001	127	141	<0.001	1190	<0.002
10-Aug-09	Y	237	0.099	0.04	0.047	<0.0001	<0.0001	80.8	34.4	<0.001	621	0.005
26-Sep-09	Y	66	1.34	0.08	0.027	<0.0001	0.0001	30.2	10.1	0.002	242	0.005
26-Oct-09	Y	256	0.157	0.01	0.072	<0.0001	<0.0001	118	102	<0.001	1040	0.003
23-Nov-09	N	279	0.182	0.02	0.069	<0.0001	<0.0001	122	123	<0.001	1100	<0.002
27-Apr-10	N	239	0.039	0.03	0.065	<0.0001	<0.0001	131	121	<0.001	1170	<0.002
25-May-10	N	278	0.04	0.03	0.068	<0.0001	<0.0001	122	102	<0.001	1010	<0.002
29-Jun-10	N	234	0.086	0.02	0.059	<0.0001	<0.0001	101	85.2	<0.001	880	<0.002
19-Jul-10	N	238	0.057	0.01	0.059	<0.0001	<0.0001	106	63.1	<0.001	841	<0.002
30-Aug-10	N	322	1.34	0.02	0.084	<0.0001	<0.0001	130	116	0.003	1170	<0.002
27-Sep-10	N	291	0.089	0.03	0.208	<0.0001	<0.0001	124	131	<0.001	1180	<0.002
25-Oct-10	Y	186	0.034	<0.01	0.05	<0.0001	<0.0001	38.8	81.9	<0.001	636	<0.002
22-Nov-10	Y	175	3.46	0.04	0.074	0.0001	0.0007	94.8	46.8	0.006	652	0.013

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	92	177	0.209	<0.001	11.3	0.062	<0.005	<0.005	4.88	4.39	0.49	7.93
26-May-08	140	501	0.632	<0.001	36.7	0.186	0.008	<0.005	1.8	1.8	0.02	8.1
23-Jun-08	2100	452	0.186	<0.001	31.6	0.162	0.006	<0.005	1.8	1.8	0.02	8.08
28-Jul-08	620	298	0.126	<0.001	18.7	0.075	<0.005	<0.005	1.46	1.46	<0.1	7.98
25-Aug-08	740	356	0.114	<0.001	24.1	0.102	0.005	<0.005	0.53	0.53	<0.05	8.05
29-Sep-08	50	499	0.148	<0.001	37.6	0.098	<0.005	<0.005	0.38	0.38	<0.05	8.1
27-Oct-08	20	292	0.038	<0.001	19.8	0.064	<0.005	<0.005	0.95	0.95	<0.05	8.01
17-Nov-08	10	358	0.062	<0.001	23.9	0.054	<0.005	<0.005	1.67	1.67	<0.05	8.08
20-Apr-09	<10	357	0.548	0.001	26.7	0.117	<0.005	<0.005	4.25	4.01	0.24	7.79
25-May-09	80	530	1.39	0.001	39.5	0.297	<0.005	<0.005	0.43	0.43	<0.05	8.05
15-Jun-09	1600	472	0.265	<0.001	33.4	0.137	<0.005	<0.005	0.33	0.33	<0.05	8.08
20-Jul-09	330	442	0.423	<0.0010	30.4	0.014	0.005	<0.005	0.31	0.31	<0.05	8.15
10-Aug-09	1300	268	0.177	<0.0010	16	0.058	<0.005	<0.005	0.73	0.73	<0.05	8.11
26-Sep-09	6500	104	1.49	0.0026	6.86	0.12	<0.005	<0.005	0.66	0.66	<0.05	7.83
26-Oct-09	140	409	0.261	<0.0010	27.8	0.162	0.005	<0.005	1.17	1.17	<0.05	8.04
23-Nov-09	70	427	0.311	<0.0010	29.6	0.19	<0.005	<0.005	1.08	1.08	<0.05	8.09
27-Apr-10	70	458	0.152	<0.0010	31.8	0.121	0.006	<0.005	7.93	7.93	<0.05	8.02
25-May-10	50	424	0.152	<0.0010	28.9	0.147	<0.005	0.015	1.66	1.66	<0.05	8.21
29-Jun-10	1700	349	0.16	<0.0010	23.4	0.095	<0.005	<0.005	0.9	0.9	<0.05	8.05
19-Jul-10	600	357	0.097	<0.0010	22.4	0.086	<0.005	<0.005	1.29	1.28	0.01	8.26
30-Aug-10	160	451	1.49	<0.0010	30.6	0.098	<0.005	<0.005	0.47	0.47	<0.01	8.15
27-Sep-10	80	435	0.154	<0.0010	30.5	0.077	<0.005	<0.005	0.54	0.54	<0.05	8.1
25-Oct-10	60	281	0.08	<0.0010	18.6	0.069	0.006	<0.005	0.8	0.8	<0.05	7.88
22-Nov-10	640	335	5.06	0.008	23.8	0.342	<0.005	<0.005	1.24	1.24	<0.05	8.12

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.124	1.77	29.3	2.93	0.003	284	1.6	360	<3	3.21	<0.002	0.038
26-May-08	0.0005	0.163	3.34	123	8.84	0.007	897	1	1100	18.3	3.91	<0.002	0.055
23-Jun-08	0.0117	0.131	2.01	102	8.8	0.002	898	0.4	929	<4	0.68	<0.002	0.028
28-Jul-08	0.0092	0.161	1.92	47.5	5.46	<0.001	466	0.4	408	<8	0.61	<0.002	0.026
25-Aug-08	0.0141	0.126	1.64	60.1	6.41	<0.001	630	0.3	564	<5	0.47	<0.002	0.023
29-Sep-08	0.0126	0.1	2.13	100	8.78	<0.001	902	0.2	873	<6	0.78	<0.002	0.015
27-Oct-08	0.0069	0.135	2.16	43.9	6.28	<0.001	468	0.2	494	<8	0.33	<0.002	0.022
17-Nov-08	0.0086	0.299	2.78	44.6	6.64	<0.001		0.4			0.52	<0.002	0.039
20-Apr-09	0.0005	0.33	3.78	59.7	4.79	0.007	686	12.4	674	10.3	4.26	<0.002	0.051
25-May-09	0.0065	0.307	3.37	93.2	8.58	0.013	887	0.5	957	21	2.08	<0.002	0.072
15-Jun-09	0.0097	0.094	2.27	89.6	8.95	0.002	852	0.6	758	3.9	0.83	<0.002	0.027
20-Jul-09	0.0118	0.242	2.25	74.5	8.47	0.005	764	0.4	810	10.1	2.24	<0.002	0.022
10-Aug-09	0.0204	0.074	2.6	24.7	4.05	0.002	380	0.3	390	<2	2.47	<0.002	0.023
26-Sep-09	0.0259	0.147	2.57	7.98	1.95	0.023	122	0.5	214	44.6	17	0.003	0.046
26-Oct-09	0.0074	0.069	3.1	54.9	9.15	0.004	649	0.4	742	<3	1.61	<0.002	0.025
23-Nov-09	0.0093	0.074	2.58	60.2	8.02	0.003	700	0.3	758	18.6	5.91	<0.002	0.023
27-Apr-10	0.0035	0.05	3.25	66.6	7.55	<0.001	751	0.4	820	<2	0.9	<0.002	0.046
25-May-10	0.0052	0.407	2.98	57.2	7.99	<0.001	716	0.4	728	<3	1.28	<0.002	0.047
29-Jun-10	0.011	0.297	2.37	50.3	6.62	0.001	554	0.6	578	<3	1.26	<0.002	0.034
19-Jul-10	0.0147	0.321	2.33	39.6	7.17	0.001	532	0.4	602	<5	1.59	<0.002	0.018
30-Aug-10	0.0179	0.327	2.42	67.6	10	0.024	755	0.4	812	5.4	4.68	0.003	0.023
27-Sep-10	0.014	0.321	2.38	71.6	9.82	0.002	734	0.4	870	24.4	2.9	<0.002	0.02
25-Oct-10	0.0058	0.271	2.07	22.7	6.03	<0.001	388	0.4	428	<2	0.79	<0.002	0.03
22-Nov-10	0.0088	0.453	3.2	30.1	5.54	0.063	400	1	633	148	48.3	0.008	0.199

Monitoring Station - WR002

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (umhos/cm)	Copper (mg/L)
28-Apr-08	N	62	0.496	0.16	0.02	<0.0001	<0.0001	44.2	162	0.004	774	0.005
26-May-08	N	176	0.137	<0.05	0.072	<0.0001	<0.0001	183	680	<0.002	3000	0.003
23-Jun-08	N	185	0.286	0.02	0.072	<0.0001	<0.0001	167	670	<0.002	2720	0.003
28-Jul-08	Y	177	0.034	0.02	0.048	<0.0001	<0.0001	97.4	379	<0.002	1610	0.005
25-Aug-08	Y	189	0.034	0.03	0.054	<0.0001	<0.0001	115	207	<0.002	1820	<0.002
29-Sep-08	N	199	0.369	0.04	0.078	<0.0001	<0.0001	168	586	<0.002	2550	0.003
27-Oct-08	Y	186	0.296	0.02	0.052	<0.0001	<0.0001	107	396	<0.002	1740	0.005
17-Nov-08	Y	275	0.037	0.02	0.071	<0.0001	<0.0001	154	543	<0.002	2410	0.002
20-Apr-09	Y	82	0.617	0.29	0.025	<0.0001	<0.0001	62.2	314	0.003	1300	0.007
25-May-09	N	271	0.066	<0.01	0.118	<0.0001	0.0002	291	1360	<0.002	4860	0.002
15-Jun-09	N	257	0.217	<0.01	0.108	<0.0001	0.0002	255	1210	<0.002	4240	0.003
20-Jul-09	N	288	0.025	<0.01	0.104	<0.0001	<0.0001	242	842	<0.001	3620	0.003
10-Aug-09	Y	274	0.084	0.03	0.054	<0.0001	<0.0001	102	208	<0.001	1290	0.009
26-Sep-09	Y	34	0.512	0.13	0.011	<0.0001	<0.0001	17.6	24.6	0.002	205	0.004
26-Oct-09	Y	270	0.174	<0.01	0.09	<0.0001	<0.0001	190	737	0.001	2980	<0.002
23-Nov-09	N	286	1.36	<0.01	0.107	<0.0001	0.0003	232	199	0.003	3300	0.004
27-Apr-10	N	233	0.042	<0.01	0.08	<0.0001	<0.0001	191	988	<0.001	3830	0.002
25-May-10	N	276	0.029	0.02	0.099	<0.0001	<0.0001	243	1030	<0.001	3500	<0.002
29-Jun-10	N	181	0.045	<0.01	0.059	<0.0001	0.0001	122	425	<0.001	1870	<0.002
19-Jul-10	N	233	0.16	0.01	0.079	<0.0001	<0.0001	166	663	<0.001	2770	<0.002
30-Aug-10	N	300	0.203	<0.01	0.113	<0.0001	0.0002	248	1060	<0.001	4080	<0.002
27-Sep-10	N	275	0.114	0.02	0.074	<0.0001	0.0002	249	1020	<0.001	3960	<0.002
25-Oct-10	Y	186	0.294	<0.01	0.051	<0.0001	<0.0001	315	112	<0.001	1470	0.003
22-Nov-10	Y	49	0.849	0.31	0.019	<0.0001	0.0002	29.9	59.9	0.004	363	0.006

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	114	146	0.526	0.002	8.7	0.072	<0.005	<0.005	0.63	0.63	<0.01	7.76
26-May-08	2	626	0.211	<0.001	41.1	0.118	<0.005	<0.005	1.1	1.1	<0.01	7.86
23-Jun-08	480	576	0.435	<0.001	38.5	0.141	<0.005	<0.005	0.9	0.9	0.03	7.84
28-Jul-08	120	325	0.09	<0.001	19.8	0.058	<0.005	<0.005	0.47	0.47	<0.1	7.74
25-Aug-08	30	394	0.09	<0.001	25.9	0.055	<0.005	<0.005	0.25	0.25	<0.05	7.76
29-Sep-08	<10	586	0.504	<0.001	40.4	0.066	0.005	<0.005	0.66	0.66	<0.05	7.85
27-Oct-08	10	369	0.377	<0.001	24.7	0.088	<0.005	<0.005	0.45	0.45	<0.1	7.75
17-Nov-08	30	536	0.083	<0.001	36.8	0.069	0.006	<0.005	1.39	1.39	<0.1	7.92
20-Apr-09	10	213	0.711	0.0026	14	0.09	<0.005	<0.005	1.01	1.01	<0.05	7.72
25-May-09	<10	1050	0.105	<0.001	78.9	0.087	0.008	<0.005	1.15	1.15	<0.05	7.87
15-Jun-09	400	899	0.243	<0.001	63.6	0.049	0.01	<0.005	1.16	1.16	<0.05	7.78
20-Jul-09	60	866	0.047	<0.0010	63.5	0.084	<0.005	<0.005	0.22	0.22	<0.05	8.01
10-Aug-09	900	336	0.163	<0.0010	19.7	0.067	<0.005	<0.005	0.41	0.41	<0.05	8.04
26-Sep-09	5300	60	0.554	0.0034	3.84	0.047	<0.005	<0.005	0.2	0.2	<0.1	7.71
26-Oct-09	270	668	0.261	0.0011	47.1	0.071	0.007	<0.005	0.75	0.75	<0.05	7.89
23-Nov-09	<10	827	1.92	0.0099	60.1	0.231	0.006	0.005	0.51	0.51	<0.05	7.92
27-Apr-10	<10	677	0.095	<0.0010	48.7	0.104	0.01	<0.005	2.17	2.17	<0.05	8.03
25-May-10	890	857	0.163	<0.0010	60.8	0.256	0.006	<0.005	1.34	1.34	<0.05	8.11
29-Jun-10	2000	418	0.078	<0.0010	27.5	0.028	<0.005	<0.005	0.77	0.77	<0.05	7.85
19-Jul-10	970	568	0.253	0.0013	37.3	0.129	<0.005	<0.005	1.54	1.54	<0.01	8.1
30-Aug-10	170	870	0.22	<0.0010	60.9	0.02	0.005	<0.005	0.58	0.58	<0.01	7.92
27-Sep-10	1300	864	0.327	<0.0010	58.8	0.119	0.008	<0.005	0.82	0.82	<0.05	7.96
25-Oct-10	130	387	0.415	<0.0010	26	0.127	<0.005	<0.005	0.6	0.6	<0.05	7.63
22-Nov-10	1100	104	1.07	0.0042	7.11	0.081	<0.005	<0.005	0.46	0.46	<0.01	7.87

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.136	1.13	91.6	1.82	0.009	414	0.8	487	18.1	15.8	<0.002	0.047
26-May-08	0.0005	0.132	3.62	340	6.97	0.002	1790	0.5	2140	14.7	1.29	<0.002	0.091
23-Jun-08	0.0033	0.135	3.21	319	6.96	0.005	1820	0.3	1990	8.3	1.36	<0.002	0.087
28-Jul-08	0.0047	0.158	2.08	184	4.34	<0.001	948	0.2	909	<8	0.99	<0.002	0.047
25-Aug-08	0.005	0.145	2.34	207	5.21	<0.001	1100	0.5	1110	<6	0.44	<0.002	0.063
29-Sep-08	0.0045	0.119	3	277	6.77	0.007	1710	0.7	1650	28.4	2.98	<0.002	0.082
27-Oct-08	0.0058	0.139	2.3	197	5.38	0.006	1030	0.4	1080	<8	1.61	<0.002	0.077
17-Nov-08	0.0109	0.309	3.46	289	9.04	<0.001		0.3			1.31	<0.002	0.059
20-Apr-09	0.0024	0.349	2.15	170	3.1	0.012	786	0.8	776	16.6	17	0.003	0.047
25-May-09	0.0052	0.236	5.71	533	13.7	0.001	3210	0.4	3310	5.3	0.62	<0.002	0.133
15-Jun-09	0.0024	0.067	4.64	486	13.7	0.004	2910	0.5	2770	31	0.98	<0.002	0.135
20-Jul-09	0.0058	0.24	4.05	383	12.7	<0.001	2560	0.2	2420	15.1	1.21	<0.002	0.135
10-Aug-09	0.0355	0.091	3.87	130	4.82	0.001	761	0.3	785	2.4	2.34	<0.002	0.032
26-Sep-09	0.0214	0.1	1.03	17.6	0.715	0.01	82	0.4	150	12.2	14.7	0.003	0.037
26-Oct-09	0.0055	0.083	3.73	350	12.4	0.003	1930	0.3	2020	7.7	1.59	<0.002	0.108
23-Nov-09	0.0068	0.164	4.08	360	12.1	0.026	2300	0.3	2210	15.7	4.36	0.004	0.19
27-Apr-10	0.0039	0.053	4.24	538	13.8	<0.001	2250	0.4	2430	2.9	0.78	<0.002	0.067
25-May-10	0.0046	0.386	4.75	460	14.3	<0.001	2610	0.3	2540	<2	1.27	<0.002	0.05
29-Jun-10	0.0061	0.299	2.66	201	6.51	<0.001	1160	0.3	1190	<3	1.35	<0.002	0.08
19-Jul-10	0.0108	0.312	3.8	356	9.93	0.003	1760	0.4	1850	<5	33.2	<0.002	0.039
30-Aug-10	0.0059	0.267	5.15	472	14.6	0.003	2610	0.3	2810	12.4	2.88	<0.002	0.113
27-Sep-10	0.0116	0.304	4.61	453	13.3	0.002	2700	0.1	2720	9.2	1.91	<0.002	0.044
25-Oct-10	0.0098	0.295	2.21	147	5.39	0.005	868	0.3	948	11.4	4.44	<0.002	0.033
22-Nov-10	0.0398	0.371	1.47	34	1.26	0.017	194	0.9	272	22	23.1	0.004	0.057

Monitoring Station - WR003

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (µs/cm)	Copper (mg/L)
28-Apr-08	N	171	3.01	<0.01	0.063	0.0001	<0.0001	77.8	127	0.004	883	0.006
26-May-08	N	215	0.798	<0.05	0.051	<0.0001	<0.0001	87.9	170	<0.002	1040	<0.002
23-Jun-08	N	188	1.31	<0.01	0.045	<0.0001	<0.0001	69.7	120	<0.002	792	0.005
28-Jul-08	Y	127	5.01	<0.05	0.051	0.0001	<0.0001	49.1	66	0.006	535	0.008
25-Aug-08	Y	219	1.62	0.02	0.041	<0.0001	<0.0001	71.7	45	0.002	737	0.003
29-Sep-08	N	213	1.48	0.07	0.045	<0.0001	<0.0001	71.8	82.3	0.003	748	0.004
27-Oct-08	Y	217	3.35	<0.01	0.044	<0.0001	<0.0001	80.9	112	0.004	854	0.005
17-Nov-08	Y	123	4.8	0.03	0.047	0.0001	<0.0001	53.5	66	0.006	561	0.009
20-Apr-09	Y	182	1.88	0.06	0.04	<0.0001	<0.0001	70.9	101	<0.002	749	0.003
25-May-09	N	177	1.42	0.04	0.036	<0.0001	<0.0001	63	75.8	<0.002	624	0.004
15-Jun-09	N	153	1.39	0.05	0.031	<0.0001	<0.0001	55.6	81	<0.002	594	0.002
20-Jul-09	N	138	1.58	0.04	0.03	<0.0001	<0.0001	48.3	53.9	0.002	485	0.003
10-Aug-09	Y	117	6.27	0.07	0.046	0.0002	<0.0001	37.3	31.6	0.006	362	0.009
26-Sep-09	Y	113	1.15	0.05	0.025	<0.0001	<0.0001	42.5	29.3	0.001	375	<0.002
26-Oct-09	Y	154	0.413	0.03	0.025	<0.0001	<0.0001	59.3	60.9	<0.001	574	<0.002
23-Nov-09	N	208	0.336	0.03	0.028	<0.0001	<0.0001	76.6	87.7	0.002	751	<0.002
27-Apr-10	N	152	1.81	0.03	0.034	<0.0001	<0.0001	57.3	60.1	0.002	547	<0.002
25-May-10	N	144	2.09	0.08	0.04	<0.0001	<0.0001	54.2	57.3	0.002	506	<0.002
29-Jun-10	N	127	1	0.05	0.026	<0.0001	<0.0001	47.1	42.6	0.001	427	<0.002
19-Jul-10	N	120	2.64	0.09	0.039	<0.0001	<0.0001	50.3	54.3	<0.001	505	<0.002
30-Aug-10	N	104	1.13	0.04	0.027	<0.0001	<0.0001	41	39.6	0.001	404	<0.002
27-Sep-10	N	99	1.52	0.07	0.029	<0.0001	<0.0001	39.3	32.3	0.002	376	<0.002
25-Oct-10	Y	136	1.2	0.02	0.034	<0.0001	<0.0001	52.5	58.9	0.001	527	<0.002
22-Nov-10	Y	150	0.4	0.02	0.028	<0.0001	<0.0001	66.9	64.3	<0.001	599	<0.002

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	340	260	3.18	0.002	15.9	0.265	<0.005	<0.005	<0.02	<0.01	<0.01	8.01
26-May-08	84	293	0.839	<0.001	17.9	0.107	<0.005	<0.005	<0.1	<0.1	<0.01	8.24
23-Jun-08	70	233	1.4	<0.001	14.2	0.127	<0.005	<0.005	<0.1	<0.1	<0.01	8.1
28-Jul-08	1000	167	4.55	0.001	10.8	0.1	<0.005	<0.005	0.68	0.68	<0.1	7.81
25-Aug-08	1000	239	1.52	<0.001	14.5	0.099	<0.005	<0.005	<0.1	<0.05	<0.05	8.02
29-Sep-08	360	243	1.64	<0.001	15.5	0.107	<0.005	<0.005	<0.1	<0.05	<0.05	8.12
27-Oct-08	1600	281	2.74	<0.001	19.2	0.065	<0.005	<0.005	0.63	0.63	<0.05	8
17-Nov-08	1600	190	4.74	<0.001	13.7	0.079	<0.005	<0.005	1.65	1.65	<0.05	7.85
20-Apr-09	60	244	1.81	0.001	16.2	0.132	<0.005	<0.005	<0.1	<0.05	<0.05	8.09
25-May-09	130	215	1.42	<0.001	14.1	0.133	<0.005	<0.005	<0.1	<0.05	<0.05	8.07
15-Jun-09	30	194	1.28	<0.001	13.5	0.077	<0.005	<0.005	<0.1	<0.05	<0.05	8.19
20-Jul-09	50	168	1.38	<0.0010	11.6	0.285	<0.005	<0.005	<0.1	<0.05	<0.05	8.14
10-Aug-09	2700	130	5.67	0.0022	8.92	0.091	<0.005	0.005	0.13	0.13	<0.05	7.93
26-Sep-09	500	146	1.08	<0.0010	9.67	0.067	<0.005	<0.005	<0.1	<0.05	<0.05	7.99
26-Oct-09	110	203	0.508	<0.0010	13.4	0.043	<0.005	<0.005	<0.1	0.06	<0.05	7.99
23-Nov-09	80	262	0.445	<0.0010	17.1	0.047	<0.005	<0.005	0.11	0.11	<0.05	8.1
27-Apr-10	290	198	1.79	<0.0010	13.4	0.169	<0.005	<0.005	0.27	0.27	<0.05	8.22
25-May-10	80	188	1.88	<0.0010	12.7	0.187	<0.005	<0.005	0.15	0.15	<0.01	8.21
29-Jun-10	220	162	1.03	<0.0010	10.9	0.094	<0.005	0.007	0.1	0.1	<0.05	8.12
19-Jul-10	1400	171	2.27	0.0014	11.1	0.131	<0.005	<0.005	0.29	0.27	0.02	8.18
30-Aug-10	370	140	1.08	<0.0010	9.23	0.089	<0.005	<0.005	0.08	0.08	<0.01	8.12
27-Sep-10	200	136	1.38	<0.0010	9.3	0.108	<0.005	<0.005	0.15	0.15	<0.01	7.97
25-Oct-10	120	206	1.24	<0.0010	14.2	0.124	<0.005	<0.005	0.2	0.2	<0.05	7.87
22-Nov-10	40	231	0.491	<0.0010	15.6	0.049	<0.005	<0.005	0.29	0.29	<0.05	8.2

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.282	4.46	79.9	1.39	0.053	498	1.4	591	64	54.5	0.006	0.013
26-May-08	0.0106	0.163	2.49	96.7	1.64	0.014	562	0.8	640	12.7	11.2	0.002	0.007
23-Jun-08	0.0303	0.222	3.09	69.1	1.29	0.021	490	1.2	497	14.3	17.4	0.003	0.008
28-Jul-08	0.0932	0.347	5.11	41.7	0.836	0.078	346	1.1	379	42	81.9	0.009	0.019
25-Aug-08	0.0499	0.233	3.76	58.9	1.38	0.051	478	1	462	20.4	19.1	0.004	0.009
29-Sep-08	0.0361	0.181	4.33	59.7	1.39	0.024	478	1.1	529	17.6	23.7	0.004	0.008
27-Oct-08	0.0794	0.281	6.47	68.8	1.47	0.073	536	0.3	566	<20	52.2	0.006	0.013
17-Nov-08	0.121	0.52	8.79	39.2	0.882	0.08		1.5			78.3	0.008	0.024
20-Apr-09	0.014	0.39	3.74	55.9	1.18	0.038	462	0.5	472	33.8	31.5	0.003	0.007
25-May-09	0.0234	0.276	2.25	45.4	0.906	0.024	375	0.6	385	28.5	24.6	0.003	0.007
15-Jun-09	0.0205	0.146	1.87	43	0.813	0.021	392	0.9	344	23.3	20.3	0.003	0.006
20-Jul-09	0.0261	0.272	3.09	28.6	0.62	0.027	288	0.6	325	21	23.3	0.003	<0.005
10-Aug-09	0.169	0.303	6.12	21.2	0.545	0.092	298	1	338	40	103	0.011	0.021
26-Sep-09	0.0297	0.122	2.97	16.7	0.408	0.02	205	0.5	252	13.6	18	0.003	0.007
26-Oct-09	0.0199	0.098	4.28	33.1	0.768	0.009	323	0.5	376	6.4	6.94	<0.002	0.009
23-Nov-09	0.015	0.086	4.01	47.5	1.15	0.007	446	0.4	466	7.4	6.99	<0.002	<0.005
27-Apr-10	0.0275	0.125	2.74	32.6	0.694	0.028	328	0.5	370	31.2	27.1	0.004	0.012
25-May-10	0.0419	0.412	2.62	31.2	0.651	0.03	310	0.6	346	35.9	35.2	0.004	0.01
29-Jun-10	0.0277	0.327	2.48	23.3	0.512	0.016	258	0.4	266	8	8.27	0.002	0.01
19-Jul-10	0.0519	0.372	4.66	32.1	0.622	0.043	319	0.7	338	32	28.6	0.005	0.011
30-Aug-10	0.0271	0.338	2.82	20.2	0.41	0.018	248	0.4	269	19	20.2	0.003	0.006
27-Sep-10	0.0375	0.321	2.76	14.3	0.271	0.023	210	0.4	228	21.2	22.5	0.003	0.006
25-Oct-10	0.0261	0.35	4.01	28.3	0.744	0.02	306	0.3	376	16.6	18.8	0.003	0.007
22-Nov-10	0.0206	0.361	4.51	36.9	1	0.008	335	0.4	391	5.2	7.39	<0.002	<0.005

Monitoring Stations - WR004

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (µs/cm)	Copper (mg/L)
28-Apr-08	N	79	1.77	0.05	0.034	<0.0001	<0.0001	35.4	61.4	0.003	433	0.003
26-May-08	N	91	0.834	0.06	0.026	<0.0001	<0.0001	38.9	58	<0.002	466	<0.002
23-Jun-08	N	107	1.44	0.4	0.034	<0.0001	<0.0001	42.4	72	<0.002	496	0.003
28-Jul-08	Y	112	0.674	0.56	0.037	<0.0001	<0.0001	43	72.4	<0.002	503	0.003
25-Aug-08	Y	111	1.62	0.22	0.052	<0.0001	<0.0001	42.5	36.6	0.002	514	0.003
29-Sep-08	N	120	1.87	0.05	0.051	<0.0001	<0.0001	47.4	70	0.002	542	0.003
27-Oct-08	Y	123	1.14	0.03	0.043	<0.0001	<0.0001	52.2	75.2	<0.002	544	<0.002
17-Nov-08	Y	123	0.303	0.1	0.032	<0.0001	<0.0001	46.9	79.5	<0.002	545	<0.002
20-Apr-09	Y	99	1.52	0.04	0.027	<0.0001	<0.0001	39.9	68.3	0.003	475	0.005
25-May-09	N	123	1.29	0.18	0.036	<0.0001	<0.0001	48.6	68.9	<0.002	537	0.004
15-Jun-09	N	134	1.44	0.3	0.037	<0.0001	<0.0001	50.3	73.2	<0.002	548	0.003
20-Jul-09	N	130	1.04	0.15	0.034	<0.0001	<0.0001	51.1	68.2	0.001	545	0.003
10-Aug-09	Y	133	0.467	0.25	0.036	<0.0001	<0.0001	46	61.1	<0.001	502	0.002
26-Sep-09	Y	123	1.62	0.1	0.04	<0.0001	<0.0001	44.1	44.6	0.003	441	<0.002
26-Oct-09	Y	120	0.594	0.05	0.031	<0.0001	<0.0001	43.4	48	0.001	443	<0.002
23-Nov-09	N	122	0.382	0.04	0.029	<0.0001	<0.0001	44.1	47.6	0.002	450	<0.002
27-Apr-10	N	123	0.718	0.07	0.031	<0.0001	<0.0001	47.8	57	0.001	499	<0.002
25-May-10	N	124	0.506	0.17	0.027	<0.0001	<0.0001	48.8	59.4	<0.001	491	<0.002
29-Jun-10	N	132	1.21	0.33	0.035	<0.0001	<0.0001	48.1	53.8	0.002	496	<0.002
19-Jul-10	N	144	1.7	0.53	0.038	<0.0001	<0.0001	47.3	54.8	<0.001	506	<0.002
30-Aug-10	N	130	1.17	0.27	0.086	<0.0001	<0.0001	44.4	52.6	0.001	486	<0.002
27-Sep-10	N	119	1.08	0.03	0.038	<0.0001	<0.0001	45	54.9	0.04	472	<0.002
25-Oct-10	Y	120	0.765	0.07	0.034	<0.0001	<0.0001	53.5	45.6	0.001	470	<0.002
22-Nov-10	Y	124	0.732	0.17	0.033	<0.0001	<0.0001	48.6	52	0.001	481	<0.002

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	150	116	1.41	<0.001	6.8	0.089	<0.005	<0.005	0.95	0.95	<0.01	7.95
26-May-08	14	128	0.785	<0.001	7.38	0.116	<0.005	<0.005	0.5	0.5	0.02	8.23
23-Jun-08	210	139	1.28	<0.001	7.96	0.486	<0.005	<0.005	0.2	0.1	0.09	8
28-Jul-08	20	141	0.709	<0.001	8.22	0.716	<0.005	<0.005	<0.1	<0.05	<0.05	7.96
25-Aug-08	20	142	1.39	<0.001	8.71	0.396	<0.005	<0.005	<0.1	<0.05	<0.05	8.02
29-Sep-08	20	159	1.88	<0.001	9.76	0.284	<0.005	<0.005	<0.1	<0.05	<0.05	7.99
27-Oct-08	40	175	1.07	<0.001	10.8	0.134	<0.005	<0.005	<0.1	<0.05	<0.05	7.99
17-Nov-08	10	156	0.285	<0.001	9.42	0.031	<0.005	<0.005	<0.1	0.06	<0.05	8.18
20-Apr-09	10	134	1.28	<0.001	8.36	0.038	<0.005	<0.005	0.95	0.95	<0.05	8.15
25-May-09	120	165	1.16	0.0014	10.7	0.238	<0.005	<0.005	0.27	0.27	<0.05	7.98
15-Jun-09	690	170	1.29	<0.001	10.8	0.304	<0.005	<0.005	0.22	0.22	<0.05	8.02
20-Jul-09	130	173	0.838	<0.0010	11	0.15	<0.005	<0.005	0.18	0.18	<0.05	8.13
10-Aug-09	200	156	0.398	<0.0010	9.96	0.33	<0.005	<0.005	<0.1	<0.05	<0.05	8.09
26-Sep-09	190	150	1.4	<0.0010	9.79	0.127	<0.005	<0.005	<0.1	<0.05	<0.05	8.18
26-Oct-09	<10	146	0.501	<0.0010	9.22	0.029	<0.005	<0.005	<0.1	0.06	<0.05	8.19
23-Nov-09	<10	148	0.32	<0.0010	9.27	0.025	<0.005	<0.005	<0.1	<0.05	<0.05	8.18
27-Apr-10	40	164	0.695	<0.0010	10.9	0.166	<0.005	<0.005	0.62	0.62	<0.05	8.14
25-May-10	10	165	0.411	<0.0010	10.5	0.122	<0.005	<0.005	0.43	0.43	<0.05	8.27
29-Jun-10	520	164	1.01	<0.0010	10.6	0.383	<0.005	<0.005	0.32	0.32	<0.05	8.11
19-Jul-10	280	161	1.63	0.001	10.4	0.788	<0.005	<0.005	0.26	0.21	0.05	8.21
30-Aug-10	140	154	1.18	<0.0010	10.4	0.476	<0.005	<0.005	0.2	0.17	0.03	8.09
27-Sep-10	40	159	0.986	<0.0010	11.4	0.082	<0.005	<0.005	<0.1	<0.05	<0.05	8.24
25-Oct-10	10	160	0.732	<0.0010	11.2	0.057	<0.005	<0.005	<0.1	<0.05	<0.05	8.19
22-Nov-10	<10	168	0.686	<0.0010	11.4	0.055	<0.005	<0.005	0.11	0.11	<0.05	8.24

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids mg/L (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.17	2.98	38.6	0.493	0.029	230	1.2	222	22.2	22.3	0.003	0.006
26-May-08	0.0055	0.157	2.83	38.3	0.523	0.015	245	0.6	255	12.2	15.2	<0.002	0.009
23-Jun-08	0.0056	0.146	3.18	40.5	0.565	0.024	315	1.2	321	24.3	15.9	0.003	0.007
28-Jul-08	0.0017	0.166	2.72	41	0.571	0.011	213	0.9	296	14.1	10.8	<0.002	0.006
25-Aug-08	0.0098	0.168	3.18	44.1	0.586	0.003	318	1.3	323	98.9	12.3	0.004	0.006
29-Sep-08	0.0134	0.165	3.43	47	0.708	0.031	349	1	331	26.3	28.4	0.004	0.009
27-Oct-08	0.0067	0.163	4.1	47	0.862	0.021	308	0.4	354	25	19.4	0.002	0.006
17-Nov-08	0.0024	0.276	3.34	46.7	0.669	0.006		0.7			5.15	<0.002	0.006
20-Apr-09	0.0053	0.29	3.92	37.6	0.559	0.029	302	0.5	297	15	24.8	0.003	0.01
25-May-09	0.0039	0.275	3.81	41.8	0.711	0.023	323	0.8	356	22.8	18.6	0.003	0.007
15-Jun-09	0.0093	0.278	3.92	38.8	0.724	0.026	390	1.1	345	20.8	18.4	0.003	0.005
20-Jul-09	0.006	0.266	3.94	40.2	0.717	0.018	330	0.6	351	15.6	15.6	0.002	<0.005
10-Aug-09	0.0028	0.08	3.78	36.7	0.656	0.009	290	0.7	301	6.9	8.43	<0.002	<0.005
26-Sep-09	0.0066	0.101	4.19	28.8	0.633	0.03	241	0.8	298	23.4	24.1	0.004	<0.005
26-Oct-09	0.0023	0.092	4.05	31.9	0.624	0.011	240	0.6	292	<8	11	<0.002	<0.005
23-Nov-09	0.0032	0.079	3.79	30.5	0.644	0.007	270	0.5	276	4.3	7.74	<0.002	<0.005
27-Apr-10	0.0086	0.083	3.67	32.4	0.767	0.012	283	0.8	320	8.2	11.4	<0.002	<0.005
25-May-10	0.0042	0.373	4.02	32.8	0.64	0.008	296	0.7	307	<3	6.42	<0.002	<0.005
29-Jun-10	0.0083	0.375	4.22	31.4	0.657	0.019	300	0.9	324	9.6	18.5	0.002	0.007
19-Jul-10	0.019	0.297	4.22	31.3	0.647	0.031	298	1.1	341	34.1	29.1	0.004	0.005
30-Aug-10	0.0151	0.288	4.06	31.1	0.647	0.02	280	0.9	313	27.9	23.7	0.003	0.005
27-Sep-10	0.0123	0.272	4.02	32.2	0.654	0.018	278	0.4	320	20.8	19.7	0.002	<0.005
25-Oct-10	0.0078	0.318	3.97	30	0.637	0.012	276	0.7	318	6.9	14.6	<0.002	0.005
22-Nov-10	0.126	0.276	3.88	32.2	0.664	0.012	256	0.7	338	5.6	12.6	<0.002	<0.005

Monitoring Stations - WR005

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	118	0.09	0.11	0.03	<0.001	0.04	<0.25	<0.0001	63	63	0.003	0.0003	633
26-May-08	N	150	0.35	0.03	0.05	<0.001	0.07	0.28	<0.0001	101	100	0.004	0.0005	967
23-Jun-08	N	165	0.37	0.04	0.04	<0.001	0.12	0.53	<0.0001	112	104	0.003	0.0005	1030
28-Jul-08	Y	107	0.87	0.16	0.04	<0.001	0.06	<0.25	<0.0001	45	34	0.003	0.0006	454
25-Aug-08	Y	86	1.04	0.03	0.03	<0.001	0.03	<0.25	<0.0001	32	22	0.002	0.0005	295
29-Sep-08	N	155	0.39	0.02	0.04	<0.001	0.07	0.37	<0.0001	65	55	0.002	0.0005	698
27-Oct-08	Y	145	0.8	0.06	0.04	<0.001	0.07	0.26	<0.0001	78	51	0.003	0.0006	693
17-Nov-08	Y	85	1.51	0.12	0.04	<0.001	0.04	<0.25	<0.0001	29	24	0.002	0.0008	368
20-Apr-09	Y	101	0.47	0.05	0.02	<0.001	0.02	<0.25	<0.0001	46	531	0.003	0.0003	492
25-May-09	N	177	0.24	0.02	0.04	<0.001	0.06	<0.25	<0.0001	82	85	0.002	0.0005	907
15-Jun-09	N	155	0.26	<0.02	0.06	<0.001	0.12	0.72	<0.0001	121	120	0.003	0.0005	1310
20-Jul-09	N	156	0.35	<0.02	0.04	<0.001	0.07	0.33	<0.0001	88	90	0.004	0.0006	830
10-Aug-09	Y	102	1.31	0.02	0.04	<0.001	0.04	<0.25	<0.0001	33	25	0.002	0.0008	362
28-Sep-09	N	142	0.34	0.03	0.04	<0.001	0.06	0.3	<0.0001	73	59	0.002	0.0004	681
26-Oct-09	Y	134	0.81	0.12	0.05	<0.001	0.05	<0.25	<0.0001	80	67	0.003	0.0006	813
23-Nov-09	N	131	0.83	0.03	0.03	<0.001	0.04	<0.25	<0.0001	54	46	0.005	0.0005	595
27-Apr-10	N	124	0.28	0.09	0.03	<0.001	0.03	<0.25	<0.0001	53	60	0.004	0.0003	540
25-May-10	N	145	0.39	<0.02	0.03	<0.001	0.05	<0.25	<0.0001	60	70	0.002	0.0005	706
28-Jun-10	N	143	0.5	<0.02	0.04	<0.001	0.07	<0.25	<0.0001	61	71	0.002	0.0008	703
19-Jul-10	N	154	0.29	0.03	0.06	<0.001	0.1	0.74	<0.0001	94	104	0.004	0.0005	1010
30-Aug-10	N	123	0.37	<0.02	0.04	<0.001	0.06	<0.25	<0.0001	56	55	<0.001	0.0006	638
28-Sep-10	N	144	0.22	<0.02	0.04	<0.001	0.06	0.42	<0.0001	65	69	0.003	0.0004	712
25-Oct-10	Y	129	0.62	<0.02	0.03	<0.001	0.04	<0.25	<0.0001	55	48	0.002	0.0006	533
22-Nov-10	Y	112	6	0.04	0.05	<0.01	<0.1	<0.25	<0.01	42	33	<0.05	<0.01	485

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.002	41	0.21	227	0.1	<0.001	17	0.19	<0.005	<0.005	<0.10	<0.10	8.1	0.2
26-May-08	0.002	117	0.28	380	0.31	<0.001	31	0.17	<0.005	<0.005	<0.10	<0.10	8.26	0.1
23-Jun-08	0.002	81	0.33	411	0.49	<0.001	32	0.13	<0.005	<0.005	<0.10	<0.10	8.11	0.08
28-Jul-08	0.005	170	0.23	166	0.78	0.002	13	0.09	<0.005	<0.005	1.79	<0.10	7.93	0.36
25-Aug-08	0.003	1560	0.15	117	0.83	0.001	9	0.07	<0.005	<0.005	0.14	<0.10	7.76	0.4
29-Sep-08	0.002	290	0.27	253	0.64	0.001	22	0.35	<0.005	<0.005	<0.10	<0.10	8.03	0.26
27-Oct-08	0.002	650	0.23	294	1.03	0.001	24	0.1	<0.005	<0.005	1.58	<0.10	7.95	0.38
17-Nov-08	0.004	1260	0.16	114	1.11	0.003	10	0.1	<0.005	<0.005	1.79	<0.10	7.89	0.68
20-Apr-09	0.002	19	0.18	160	0.3	<0.001	11	0.03	<0.005	<0.005	0.74	<0.10	7.98	0.14
25-May-09	0.002	9	0.18	308	0.34	<0.001	25	0.27	<0.005	<0.005	<0.5	<0.10	8.2	0.13
15-Jun-09	0.002	40	0.33	487	0.27	<0.001	45	0.31	<0.005	<0.005	<0.10	<0.10	8.2	0.09
20-Jul-09	0.002	112	0.31	319	0.56	0.002	24	0.28	<0.005	<0.005	<0.10	<0.10	8.09	0.18
10-Aug-09	0.004	210	0.19	136	1.07	0.002	13	0.13	<0.005	<0.005	0.33	<0.10	7.84	0.58
28-Sep-09	0.001	410	0.27	265	0.44	0.001	20	0.16	<0.005	<0.005	<0.10	<0.10	8.02	0.18
26-Oct-09	0.004	130	0.26	303	1.03	0.001	25	0.1	<0.005	<0.005	1.48	<0.10	7.93	0.17
23-Nov-09	0.003	180	0.23	213	0.73	<0.001	19	0.06	<0.005	<0.005	0.43	<0.10	7.99	0.18
27-Apr-10	0.002	143	0.24	186	0.32	<0.001	13	0.07	<0.005	<0.005	0.67	<0.10	8.13	0.06
25-May-10	0.002	136	0.29	232	0.51	<0.001	20	0.08	<0.005	<0.005	0.51	<0.10	8.07	0.06
28-Jun-10	0.002		0.33	231	0.79	0.002	19	0.36	<0.005	<0.005	<0.10	<0.10	8.09	0.11
19-Jul-10	0.002	260	0.35	350	0.5	0.001	28	0.44	<0.005	<0.005	<0.1	<0.1	8.03	0.1
30-Aug-10	0.003	450	0.27	210	0.55	0.001	17	0.16	<0.005	<0.005	<0.10	<0.10	8.02	0.25
28-Sep-10	0.001	57	0.38	241	0.39	0.001	19	0.13	<0.005	<0.005	<0.10	<0.10	8.09	0.1
25-Oct-10	0.002		0.27	23	0.76	<0.001	16	0.09	<0.005	<0.005	<0.1	<0.1	8.06	0.16
22-Nov-10	<0.01		0.21	163	6	<0.01	14	0.09	<0.01	<0.01	0.74	<0.1	7.93	0.19

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		103	3	0.5	<0.001	41	0.973	<0.0001	<0.01	411	1.34	450	46	0.002	<0.01
26-May-08	0.0065	183	3	0.7	<0.0001	67	1.63	<0.0001	0.01	629	0.6	657	28	0.004	<0.01
23-Jun-08	0.015	196	3	1.4	<0.0001	67	2.19	<0.0001	0.01	670	0.69	692	22	0.004	<0.01
28-Jul-08	0.176	54	6	5	<0.0001	23	0.668	<0.0001	0.02	295	1.27	392	74	0.004	<0.01
25-Aug-08	0.232	24	7	3.8	<0.0001	15	0.347	<0.0001	0.03	192	1.45	261	69	0.004	<0.01
29-Sep-08	0.0488	111	6	4	<0.0001	34	1.1	<0.0001	0.02	454	0.97	493	39	0.003	<0.01
27-Oct-08	0.177	124	8	4.3	<0.0001	33	1.08	<0.0001	0.04	450	1.05	504	54	0.004	<0.01
17-Nov-08	0.325	43	7	4.6	<0.0001	15	0.373	<0.0001	0.04	239	0.75	344	105	0.004	<0.01
20-Apr-09	0.0066	42	4	2.3	<0.0001	39	0.599	<0.0001	0.01	320	0.37	252	29	0.003	<0.01
25-May-09	0.0129	143	3	0.7	<0.0001	47	1.53	<0.0001	<0.01	590	0.79	628	28	0.003	<0.01
15-Jun-09	0.0106	318	5	0.7	<0.0001	76	2.6	<0.0001	<0.01	917	0.48	1020	19	0.004	<0.01
20-Jul-09	0.023	124	4	0.7	<0.0001	55	1.38	<0.0001	<0.01	540	0.81	593	53	0.005	<0.01
10-Aug-09	0.281	30	7	4.3	<0.0001	18	0.482	<0.0001	0.02	235	1.45	400	165	0.004	<0.01
28-Sep-09	0.037	111	5	1.2	<0.0001	37	1.45	<0.0001	<0.01	443	0.73	473	30	0.004	<0.01
26-Oct-09	0.074	183	8	3	<0.0001	41	1.6	<0.0001	0.02	528	1.24	570	42	0.003	<0.01
23-Nov-09	0.0457	99	6	2.8	<0.0001	29	1	<0.0001	0.02	387	0.96	415	28	0.003	<0.01
27-Apr-10	0.0146	48	4	1.2	<0.0001	35	0.802	<0.0001	0.01	351	0.59	504	29	0.003	<0.01
25-May-10	0.0196	98	5	0.6	<0.0001	41	1.26	<0.0001	<0.01	459	0.66	488	29	0.002	<0.01
28-Jun-10	0.0365	94	4	0.9	<0.0001	41	1.32	<0.0001	<0.01	457	0.22	542	41	0.002	<0.01
19-Jul-10	0.0502	187	6	1.3	<0.0001	57	2.01	<0.0001	<0.01	657	0.67	687	30	0.003	<0.01
30-Aug-10	0.0359	98	5	2.2	<0.0001	34	1.18	<0.0001	<0.01	415	1.48	457	42	0.002	<0.01
28-Sep-10	0.0447	113	5	0.7	<0.0001	40	1.45	<0.0001	<0.01	463	0.54	492	29	0.002	<0.01
25-Oct-10	0.0448	61	5	2.5	<0.0001	31	0.791	<0.0001	0.01	346	0.66	422	55	0.003	<0.01
22-Nov-10	0.174	65	5	15	<0.01	21	0.61	<0.01	0.3	315	2.34	400	103	<0.05	<0.05

Monitoring Stations - WR006

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Boron (mg/L)	Bromide (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Conductivity (µs/cm)
28-Apr-08	N	106	0.2	0.04	0.03	<0.001	0.03	<0.25	<0.0001	50	57	0.003	0.0004	531
26-May-08	N	140	0.37	0.03	0.04	<0.001	0.06	<0.25	<0.0001	76	73	0.003	0.0005	728
23-Jun-08	N	155	0.35	0.17	0.04	<0.001	0.09	0.35	<0.0001	85	86	0.002	0.0004	852
28-Jul-08	Y	97	0.86	0.19	0.04	<0.001	0.04	<0.25	<0.0001	39	25	0.002	0.0007	391
25-Aug-08	Y	87	0.97	0.03	0.03	<0.001	0.04	<0.25	<0.0001	32	27	0.002	0.0008	327
29-Sep-08	N	133	0.56	0.04	0.03	<0.001	0.05	<0.25	<0.0001	45	29	0.002	0.0004	449
27-Oct-08	Y	129	0.9	<0.02	0.04	<0.001	0.07	<0.25	<0.0001	55	43	0.003	0.0006	579
17-Nov-08	Y	83	1.8	0.12	0.04	<0.001	0.03	<0.25	<0.0001	29	23	0.003	0.0009	350
20-Apr-09	Y	102	0.52	<0.002	0.03	<0.001	0.02	<0.25	<0.0001	44	67	0.002	0.0004	498
25-May-09	N	151	0.3	0.09	0.03	<0.001	0.03	<0.25	<0.0001	61	66	0.002	0.0004	643
15-Jun-09	N	172	0.43	0.17	0.04	<0.001	0.09	0.38	<0.0001	76	88	0.003	0.0004	817
20-Jul-09	N	152	0.27	0.06	0.03	<0.001	0.06	<0.25	<0.0001	65	77	0.004	0.0004	689
10-Aug-09	Y	97	1.16	0.7	0.04	<0.001	0.04	<0.25	<0.0001	31	25	0.002	0.0007	337
29-Sep-09	N	150	0.28	0.04	0.03	<0.001	0.04	<0.25	<0.0001	60	45	0.002	0.0004	543
26-Oct-09	N	142	0.46	0.07	0.04	<0.001	0.06	0.26	<0.0001	84	70	0.002	0.0005	802
23-Nov-09	N	137	0.82	0.05	0.03	<0.001	0.04	<0.25	<0.0001	63	52	0.005	0.0005	655
27-Apr-10	N	142	0.31	<0.02	0.03	<0.001	0.04	<0.25	<0.0001	66	59	0.004	0.0005	652
25-May-10	N	132	0.25	0.04	0.03	<0.001	0.04	<0.25	<0.0001	55	56	0.001	0.0004	666
28-Jun-10	N	151	0.39	0.04	0.04	<0.001	0.05	<0.25	<0.0001	60	55	0.001	0.0005	600
19-Jul-10	N	151	0.32	0.2	0.04	<0.001	0.05	<0.25	<0.0001	54	59	0.003	0.0004	600
30-Aug-10	N	124	0.2	<0.02	0.03	<0.001	0.05	<0.25	<0.0001	54	51	<0.001	0.0003	561
28-Sep-10	N	147	0.22	<0.02	0.04	<0.001	0.05	<0.25	<0.0001	63	55	0.002	0.0003	648
25-Oct-10	Y	133	0.62	0.02	0.03	<0.001	0.04	<0.25	<0.0001	55	52	0.002	0.0005	556
22-Nov-10	Y	102	5	0.05	0.04	<0.01	<0.1	<0.25	<0.01	37	28	<0.05	<0.01	437

Date	Copper (mg/L)	E coli (CFU/100mL)	Fluoride (mg/L)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)
28-Apr-08	0.002	16	0.19	174	0.41	<0.001	12	0.19	<0.005	<0.005	<0.10	<0.10	8.06	0.2
26-May-08	0.002	53	0.23	280	0.57	<0.001	22	0.23	<0.005	<0.005	<0.10	<0.10	8.21	0.24
23-Jun-08	0.002	8	0.24	319	0.55	<0.001	26	0.34	<0.005	<0.005	<0.10	<0.10	8	0.12
28-Jul-08	0.003	160	0.21	143	0.99	0.002	11	0.15	<0.005	<0.005	2.4	0.12	7.84	0.37
25-Aug-08	0.003	1480	0.16	113	0.95	0.002	8	0.1	<0.005	<0.005	0.13	<0.10	7.78	0.53
29-Sep-08	0.002	20	0.21	170	0.9	0.001	14	0.29	<0.005	<0.005	<0.10	<0.10	7.9	0.27
27-Oct-08	0.003	560	0.21	216	0.98	0.001	19	0.18	<0.005	<0.005	0.54	<0.10	7.89	0.45
17-Nov-08	0.005	1390	0.15	114	1.45	0.003	10	0.1	<0.005	<0.005	1.8	<0.10	7.88	0.71
20-Apr-09	0.002	8	0.18	155	0.44	<0.001	11	0.06	<0.005	<0.005	0.7	<0.10	8.02	0.23
25-May-09	0.002	5	0.16	222	0.49	<0.001	17	0.2	<0.005	<0.005	<0.10	<0.10	8.1	0.16
15-Jun-09	0.001	10	0.26	284	0.5	0.001	23	0.26	<0.005	<0.005	0.14	<0.10	8.22	0.2
20-Jul-09	0.001	7	0.29	236	0.58	<0.001	18	0.31	<0.005	<0.005	<0.10	<0.10	8.07	0.15
10-Aug-09	0.004	450	0.2	123	0.93	0.002	11	0.11	<0.005	<0.005	0.54	<0.10	7.65	0.78
29-Sep-09	<0.001	320	0.25	207	0.62	<0.001	14	0.26	<0.005	<0.005	<0.10	<0.10	7.97	0.21
26-Oct-09	0.002	16	0.24	317	0.67	<0.001	26	0.13	<0.005	<0.005	0.61	<0.10	7.96	0.12
23-Nov-09	0.003	89	0.2	244	0.85	<0.001	21	0.09	<0.005	<0.005	0.61	<0.10	7.86	0.22
27-Apr-10	0.002	35	0.25	247	0.45	<0.001	20	0.16	<0.005	<0.005	<0.10	<0.10	8.13	0.1
25-May-10	0.002	20	0.23	216	0.33	<0.001	19	0.06	<0.005	<0.005	2.02	<0.10	8.13	0.05
28-Jun-10	0.002		0.29	220	0.79	0.001	17	0.31	<0.005	<0.005	<0.10	<0.10	8.08	0.14
19-Jul-10	0.001	40	0.28	201	0.67	<0.001	16	0.31	<0.005	<0.005	<0.1	<0.1	7.99	0.2
30-Aug-10	0.001	130	0.27	197	0.36	<0.001	15	0.1	<0.005	<0.005	0.17	<0.10	8	0.12
28-Sep-10	0.001	20	0.29	231	0.47	<0.001	18	0.17	<0.005	<0.005	<0.10	<0.10	7.95	0.12
25-Oct-10	0.002		0.28	203	0.71	<0.001	16	0.1	<0.005	<0.005	<0.1	<0.1	8.05	0.13
22-Nov-10	<0.01		0.2	146	4.7	<0.01	13	0.09	<0.01	0.04	0.89	<0.1	7.9	0.21

Date	PO_4 (mg/L)	Sulphate (mg/L)	Potassium (mg/L)	Silicon (mg/L)	Silver (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Thallium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldhal Nitrogen (mg/L)	Total Solids (mg/L)	TSS (mg/L)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		59	3	0.5	<0.0001	35	0.642	<0.0001	<0.01	345	1.41	380	44	0.003	<0.01
26-May-08	0.017	121	3	1	<0.0001	52	0.943	<0.0001	0.01	473	1.14	505	32	0.004	<0.01
23-Jun-08	0.0313	159	4	2.1	<0.0001	57	1.23	<0.0001	0.01	554	1.37	575	21	0.003	0.04
28-Jul-08	0.177	42	6	5.2	<0.0001	18	0.519	<0.0001	0.03	254	1.3	416	66	0.004	<0.01
25-Aug-08	0.288	29	6	3	<0.0001	17	0.389	<0.0001	0.02	213	1.42	332	119	0.004	<0.01
29-Sep-08	0.0936	42	6	6.5	<0.0001	20	0.607	<0.0001	0.03	292	1.94	325	33	0.003	<0.01
27-Oct-08	0.132	90	7	3.6	<0.0001	26	0.679	<0.0001	0.02	376	0.82	466	90	0.003	<0.01
17-Nov-08	0.363	40	7	5.2	<0.0001	13	0.342	<0.0001	0.05	228	1.78	365	137	0.004	<0.01
20-Apr-09	0.0106	42	4	2	<0.0001	37	0.577	<0.0001	<0.01	324	0.41	280	70	0.003	<0.01
25-May-09	0.0375	69	3	0.9	<0.0001	36	0.897	<0.0001	<0.01	418	0.95	440	36	0.003	<0.01
15-Jun-09	0.06	101	5	0.9	<0.0001	52	1.2	<0.0001	0.01	531	0.65	572	29	0.005	<0.01
20-Jul-09	0.0259	76	4	0.8	<0.0001	45	0.904	<0.0001	<0.01	448	0.8	480	32	0.004	<0.01
10-Aug-09	0.348	25	7	4	<0.0001	16	0.401	<0.0001	0.03	219	2.28	370	151	0.004	<0.01
29-Sep-09	0.0392	51	5	2	<0.0001	31	0.874	<0.0001	<0.01	353	0.67	394	41	0.003	<0.01
26-Oct-09	0.0357	186	8	2	<0.0001	43	1.43	<0.0001	0.01	521	0.72	536	15	0.002	<0.01
23-Nov-09	0.065	119	7	2.9	<0.0001	31	1.04	<0.0001	0.02	426	1.15	465	39	0.003	<0.01
27-Apr-10	0.0199	91	4	0.6	<0.0001	37	1.01	<0.0001	<0.01	424	0.66	580	35	0.003	<0.01
25-May-10	0.0102	104	4	1.4	<0.0001	34	1.06	<0.0001	<0.01	433	1.45	446	13	0.002	<0.01
28-Jun-10	0.0682	60	4	1.4	<0.0001	35	0.969	<0.0001	<0.01	390	0.76	462	46	0.003	<0.01
19-Jul-10	0.153	59	5	1.6	<0.0001	34	0.891	<0.0001	<0.01	390	1.45	422	32	0.004	<0.01
30-Aug-10	0.0274	73	6	2.3	<0.0001	35	1.02	<0.0001	<0.01	365	1.24	387	22	0.002	<0.01
28-Sep-10	0.0665	89	6	1.9	<0.0001	35	1.05	<0.0001	<0.01	421	0.73	444	23	0.002	<0.01
25-Oct-10	0.0544	63	5	2.9	<0.0001	32	0.871	<0.0001	0.02	361	0.87	416	31	0.003	<0.01
22-Nov-10	0.206	60	6	17	<0.01	18	0.54	<0.01	0.3	284	1.81	395	93	<0.05	<0.05

Monitoring Station - WR007

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (µg/L)	Nitrogen; ammonia + ammonium (mg/L)	Barium (µg/L)	Beryllium (µg/L)	Cadmium (µg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (µg/L)	Cobalt (µg/L)
28-Apr-08	N	104	728	0.038	31.2	0.0414	0.672	42.1	32.7	1.29	1.17
26-May-08	N	126	490	0.048	30.2	0.0109	0.419	46.2	47	1.46	0.766
23-Jun-08	N	133	294	0.045	24.1	-0.0135	0.769	53.3	54.6	-0.402	-0.0393
28-Jul-08	Y	87.7	635	0.127	23.2	0.00712	1.09	30.9	20.7	1.72	-0.259
25-Aug-08	N	130	269	0.034	23.6	-0.00009	0.781	41.4	26.2	0.178	1.08
29-Sep-08	N	120	342	0.077	24.5	0.00695	0.182	39.1	24.5	1.04	0.526
27-Oct-08	Y	138	655	0.032	36.4	0.0319	0.566	29.4	138	0.746	0.902
17-Nov-08	Y	130	1150	0.01	40.5	0.0581	0.847	52.2	35.3	1.14	0.318
20-Apr-09	Y	115	1100	0.074	34.1	0.107	-0.362	42.1	36.5	2.16	1.15
25-May-09	N	142	428	0.064	29.9	0.0404	0.588	46.1	37.1	1.4	0.371
15-Jun-09	N	142	341	0.07	30.1	0.0277	-0.0464	45.6	41	1.03	0.746
20-Jul-09	N	129	221	0.043	24.7	0.0139	0.318	44.5	48.9	1.24	1.56
10-Aug-09	Y	114	773	0.076	29.8	0.0767	-0.133	37.4	30	1.55	1.39
28-Sep-09	N	127	1590	0.076	38.8	0.091	-0.836	47.2	31	1.4	1.3
26-Oct-09	N	190	732	0.119	42.3	0.043	-1.64	65.5	41	-0.563	0.99
27-Apr-10	N	145	823	0.047	31.8	0.075	-0.985	58.9	36	0.338	1.21
25-May-10	N	117	950	0.058	28.6	0.06	-0.536	41.7	22.2	0.487	0.509
28-Jun-10	N	144	907	0.104	34.2	0.084	1.51	54.9	35	0.974	0.182
19-Jul-10	N	148	1230	0.049	40.3	0.041	1.38	58.4	38.9	1.93	-0.981
30-Aug-10	N	145	243	0.026	37.3	-0.06	-0.066	69.3	64.4	0.541	-0.545
27-Sep-10	N	149	449	0.017	39.1	-0.028	0.619	59.8	63.6	0.533	-0.203
25-Oct-10	N	115	1110	0.079	33.1	0.001	0.964	53.1	36	0.428	0.741
22-Nov-10	Y	105	2040	0.178	44	0.096	1.25	60	34.1	1.64	0.584

Date	Conductivity µS/cm	Copper (µg/L)	E coli (CFU)	Hardness (mg/L)	Iron (µg/L)	Lead (µg/L)	Magnesium (mg/L)	Manganese (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Nitrate and Nitrite as N (mg/L)
28-Apr-08	393	3.46	30	153	1020	0.22	11.5	51.3	0.576	3.09	1.13
26-May-08	496	2.96	22	172	734	6.12	13.8	41.6	1.53	1.11	0.14
23-Jun-08	561	1.65	<5	204	467	2.16	17.2	64.8	0.285	1.19	0.408
28-Jul-08	295	2.97	75	112	1080	5.31	8.54	105	0.529	2.16	0.954
25-Aug-08	375	1.64	15	153	672	0.369	12	187	-0.369	1.48	0.023
29-Sep-08	354	2.49	20	146	806	-2.29	11.8	137	0.137	3.13	0.148
27-Oct-08	454	3.56	465	184	901	2.55	14.7	59.1	0.459	2.27	2.18
17-Nov-08	503	3.17	1380	198	1240	0.834	16.4	75.8	0.924	2.34	2.4
20-Apr-09	428	4.05	78	156	1470	7.47	12.3	54.3	0.714	2.81	1.11
25-May-09	469	3.44	8	168	623	-2.83	12.8	42.6	0.899	1.06	0.76
15-Jun-09	476	3.05	21	169	518	-1.75	13.5	46.6	1.22	2.32	0.29
20-Jul-09	496	2.79	40	175	277	-8.54	15.5	39	1.2	2.17	1.09
10-Aug-09	372	2.82	2440	136	926	-5.29	10.3	102	1.26	2.49	0.166
28-Sep-09	407	24	282	168	2460	-0.876	12.1	129	0.653	4.26	0.042
26-Oct-09	586	16.6	248	243	1020	0.865	19.4	69.2	0.351	2.04	0.849
27-Apr-10	492	8.43	113	214	1310	0.398	16.2	96.4	1.36	3.52	0.425
25-May-10	385	6.33	32	158	1310	-0.638	13.2	83.2	0.963	3.16	2.04
28-Jun-10	465	5.3	219	198	1400	0.775	14.7	83	1.67	1.07	0.639
19-Jul-10	491	3.16	38	211	1900	-0.619	15.9	106	2.35	0.234	0.357
30-Aug-10	644	2.16	16	250	308	3.83	18.8	30.9	1.37	5.75	0.037
27-Sep-10	631	2.19	5	233	597	6.36	17.8	44.1	1.22	3.33	0.158
25-Oct-10	483	3.82	67	197	1500	1.18	15.6	64.4	0.76	2.79	0.663
22-Nov-10	477	2.68	115	225	2280	7.71	18.3	68.9	1.23	3.53	2.03

Date	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)	P04 (mg/L)	Strontium (µg/L)	Titanium (µg/L)	Total Kjeldhal Nitrogen (mg/L)	TSS (mg/L)	Vanadium (µg/L)	Zinc (µg/L)	Total Coliform (CFU)
28-Apr-08	1.093	0.037	8.06	0.175	0.0769	395	5.98	1.36	36.3	2.31	6.02	170
26-May-08	0.128	0.012	8.24	0.132	0.0641	464	5.05	1.14	21.8	3.11	2.63	1960
23-Jun-08	0.372	0.036	8.26	0.155	0.087	563	5.13	1.25	9.5	2.31	0.436	6020
28-Jul-08	0.873	0.081	7.74	0.295	0.219	323	6.1	1.53	19.4	1.95	3.01	6020
25-Aug-08	0.013	0.01	8.11	0.215	0.148	331	6.43	1.2	17.4	3.54	2.05	1050
29-Sep-08	0.122	0.026	7.66	0.24	0.175	404	8.29	1.47	8.7	1.95	2.85	34700
27-Oct-08	2.121	0.059	8.1	0.3	0.147	354	7.72	2.45	33.1	4.17	6.01	>12100
17-Nov-08	2.341	0.059	8	0.43	0.268	418	10.9	2.5	503	3.34	9.44	>12100
20-Apr-09	1.066	0.044	8.14	0.23	0.112	405	5.08	1.35	41.7	3.64	7.01	4760
25-May-09	0.727	0.033	8	0.164	0.0834	421	3.82	1.35	17.1	2.43	1.93	1160
15-Jun-09	0.27	0.02	8.2	0.143	0.0857	478	3.69	1.05	10.9	2.65	2.23	2070
20-Jul-09	1.058	0.032	8.81	0.087	0.0199	453	5.55	1.29	11	2.95	0.379	5700
10-Aug-09	0.14	0.026	7.92	0.375	0.239	380	4.45	1.5	57.4	2.01	4.74	>12100
28-Sep-09	0.023	0.019	7.87	0.335	0.14	516	10.6	1.26	94.6	4.59	16.1	>12100
26-Oct-09	0.827	0.022	7.96	0.22	0.0842	546	3.26	1.64	37.7	2.88	8.35	>12100
27-Apr-10	0.4	0.025	8.15	0.19	0.0821	499	5.63	1.7	63.9	3.16	7.84	835
25-May-10	1.947	0.093	8.47	0.205	0.0698	370	3.98	1.65	35.6	2.95	7.42	>12100
28-Jun-10	0.555	0.084	8.15	0.195	0.166	487	2.48	1.35	42	9.8	8.71	7070
19-Jul-10	0.312	0.045	8.22	0.275	0.262	523	2.3	1.05	45.2	12.9	27.3	4600
30-Aug-10	0.031	0.006	8.67	0.24	0.153	789	1.88	1.03	9.8	3.43	1.58	1200
27-Sep-10	0.149	0.009	8.27	0.17	0.104	744	2.06	0.96	21.1	2.21	2.52	635
25-Oct-10	0.633	0.03	8.06	0.205	0.0988	595	2.9	1.6	50	4.22	5.57	2310
22-Nov-10	1.961	0.069	7.96	0.45	0.245	593	1.66	2.18	66.4	5.86	14.5	>12100

Monitoring Station - WR00A

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (mg/L)	Ammonia as N (mg/L)	Barium (mg/L)	Beryllium (mg/L)	Cadmium (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (mg/L)	Conductivity (umhos/cm)	Copper (mg/L)
28-Apr-08	N	173	0.168	<0.01	0.066	<0.0001	<0.0001	76.9	44.4	0.002	596	0.002
26-May-08	N	187	0.337	<0.05	0.083	<0.0001	<0.0001	75.2	11	<0.002	480	<0.002
23-Jun-08	N	226	0.162	0.01	0.079	<0.0001	<0.0001	85.7	25	0.002	571	0.002
28-Jul-08	Y	245	0.668	0.02	0.1	<0.0001	<0.0001	89.7	22.8	<0.002	591	0.004
25-Aug-08	Y	250	0.603	<0.01	0.11	<0.0001	<0.0001	85.1	5.4	<0.002	546	0.003
29-Sep-08	N	259	0.165	<0.01	0.114	<0.0001	<0.0001	86.2	8.7	<0.002	543	0.002
27-Oct-08	Y	239	0.928	0.01	0.097	<0.0001	<0.0001	88.4	10.9	<0.002	546	0.002
17-Nov-08	Y	203	0.135	0.01	0.058	<0.0001	<0.0001	87.5	20.1	<0.002	570	<0.002
20-Apr-09	Y	175	0.173	0.03	0.062	<0.0001	<0.0001	75.2	23.1	<0.002	528	<0.002
25-May-09	N	202	0.958	0.05	0.08	<0.0001	<0.0001	79.8	10.8	0.006	507	0.004
15-Jun-09	N	219	1.85	0.03	0.104	<0.0001	<0.0001	79.9	12	<0.002	511	0.005
20-Jul-09	N	234	0.856	0.03	0.106	<0.0001	<0.0001	83.8	15.1	0.001	534	0.003
10-Aug-09	Y	216	0.655	0.05	0.06	<0.0001	<0.0001	75.8	11.1	<0.001	473	0.004
28-Sep-09	N	231	1.05	0.03	0.104	<0.0001	<0.0001	85.9	24.1	<0.001	577	0.002
26-Oct-09	N	239	0.235	0.01	0.084	<0.0001	<0.0001	85.5	11.9	<0.001	550	<0.002
23-Nov-09	N	227	0.474	0.03	0.086	<0.0001	<0.0001	84.3	11.6	<0.001	543	<0.002
27-Apr-10	N	195	0.32	0.02	0.067	<0.0001	<0.0001	78	22.9	<0.001	538	<0.002
25-May-10	N	217	0.189	0.03	0.077	<0.0001	<0.0001	83.7	26.7	<0.001	546	<0.002
29-Jun-10	N	236	0.806	0.03	0.094	<0.0001	<0.0001	86	13.1	<0.001	543	<0.002
19-Jul-10	N	250	1.49	0.04	0.126	<0.0001	<0.0001	87.9	14.4	<0.001	550	<0.002
30-Aug-10	N	228	0.302	0.03	0.104	<0.0001	<0.0001	71.9	7.6	<0.001	482	<0.002
27-Sep-10	N	248	6.04	0.02	0.208	0.0002	0.0002	85.4	12.9	0.006	531	0.011
25-Oct-10	Y	207	0.425	<0.01	0.081	<0.0001	<0.0001	9	90.8	0.002	548	<0.002
22-Nov-10	Y	203	4.33	0.01	0.149	0.0001	0.0002	90	19.8	0.005	542	0.008

Date	Escherichia coli (CFU/100mL)	Hardness (mg/L)	Iron (mg/L)	Lead (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Nitrate and Nitrite as N (mg/L)	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)
28-Apr-08	2300	238	0.679	<0.001	11.1	0.266	<0.005	<0.005	0.28	0.28	<0.01	7.85
26-May-08	540	235	1.44	<0.001	11.5	0.411	<0.005	<0.005	0.2	0.1	0.02	7.88
23-Jun-08	470	266	1.55	<0.001	12.6	0.69	<0.005	<0.005	<0.1	<0.1	0.02	7.88
28-Jul-08	830	279	1.83	<0.001	13.4	0.697	<0.005	<0.005	<0.1	0.06	<0.05	7.83
25-Aug-08	800	269	2.93	<0.001	13.7	1.09	<0.005	<0.005	<0.1	<0.05	<0.05	7.87
29-Sep-08	50	275	1.49	<0.001	14.6	1.28	<0.005	<0.005	<0.1	<0.05	<0.05	8.04
27-Oct-08	30	280	3.6	0.001	14.5	1.03	<0.005	<0.005	<0.1	<0.05	<0.05	7.87
17-Nov-08	330	272	1.5	1.5	13	0.881	<0.005	<0.005	0.13	0.13	<0.05	7.76
20-Apr-09	30	234	0.732	<0.001	11.3	0.299	<0.005	<0.005	0.84	0.84	<0.05	7.82
25-May-09	60	249	1.92	0.0015	12.1	0.518	<0.005	<0.005	0.9	0.9	<0.05	7.98
15-Jun-09	3300	253	3.47	0.002	13	0.86	<0.005	<0.005	0.31	0.31	<0.05	7.97
20-Jul-09	100	266	2.42	0.0013	13.8	0.174	<0.005	<0.005	0.15	0.14	0.01	8
10-Aug-09	500	230	1.18	<0.0010	9.95	0.299	<0.005	<0.005	0.15	0.15	<0.05	8.03
28-Sep-09	4200	269	1.9	0.0013	13.3	0.793	<0.005	<0.005	0.19	0.19	<0.05	7.9
26-Oct-09	30	270	1.02	<0.0010	13.7	0.559	<0.005	<0.005	<0.1	0.08	<0.05	7.91
23-Nov-09	110	266	1.51	<0.0010	13.5	0.655	<0.005	<0.005	0.17	0.17	<0.05	7.92
27-Apr-10	20	244	1.67	<0.0010	12	0.639	<0.005	<0.005	0.27	0.27	<0.05	7.92
25-May-10	190	262	1.52	<0.0010	12.9	0.682	<0.005	<0.005	0.15	0.15	<0.01	8.12
29-Jun-10	250	269	3.11	<0.0010	13.2	0.959	<0.005	<0.005	0.14	0.14	<0.05	7.96
19-Jul-10	1800	277	3.26	0.0019	14	1.33	<0.005	<0.005	0.08	0.08	<0.01	8.14
30-Aug-10	150	236	1.48	<0.0010	13.6	1.19	<0.005	<0.005	0.03	0.03	<0.01	8.06
27-Sep-10	400	283	11.6	0.0096	17	1.96	<0.005	0.007	<0.02	<0.01	<0.01	7.85
25-Oct-10	10	286	1.47	<0.0010	14.5	0.596	<0.005	<0.005	<0.1	<0.05	<0.05	7.6
22-Nov-10	520	286	9.26	0.0092	15	1.23	<0.005	0.005	0.1	0.1	<0.05	8.06

Date	o-Phosphate (mg/L)	Phosphorus Total (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Strontium (mg/L)	Titanium (mg/L)	Total Dissolved Solids (mg/L)	Total Kjeldahl Nitrogen as N (mg/L)	Total Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Vanadium (mg/L)	Zinc (mg/L)
28-Apr-08		0.166	2.57	29.8	0.337	0.004	332	0.3	345	4.4	3.44	<0.002	0.005
26-May-08	0.0287	0.216	1.68	10.2	0.243	0.005	286	0.9	326	12.8	7.63	<0.002	0.006
23-Jun-08	0.0854	0.222	2.29	19.8	0.338	0.003	411	<0.1	363	5.4	8.21	<0.002	<0.005
28-Jul-08	0.0708	0.292	2.6	15.9	0.347	0.011	344	0.5	350	<9	12.5	<0.002	0.007
25-Aug-08	0.0632	0.369	1.94	10.6	0.293	0.012	398	0.8	386	29.8	12.5	<0.002	0.008
29-Sep-08	0.0641	0.211	1.76	9.67	0.305	0.003	373	<0.1	325	20.5	12.8	<0.002	0.007
27-Oct-08	0.0614	0.382	3.07	6.91	0.264	0.017	339	0.4	354	<8	9	<0.002	0.01
17-Nov-08	0.0501	0.337	3.95	12.5	0.326	0.002		0.4			8.14	<0.002	0.01
20-Apr-09	0.0225	0.303	2.23	13	0.258	0.003	324	0.4	320	6	4.05	<0.002	<0.005
25-May-09	0.0449	0.343	1.96	8.49	0.244	0.016	327	0.4	347	23.9	12	<0.002	0.008
15-Jun-09	0.0411	0.282	1.8	9.56	0.267	0.027	366	0.7	363	42.3	25.8	0.003	0.011
20-Jul-09	0.0672	0.401	2.02	9.74	0.287	0.014	336	1.9	726	250	88.4	<0.002	<0.005
10-Aug-09	0.0891	0.196	4.47	7.87	0.276	0.011	297	0.6	310	13.6	8.2	<0.002	0.006
28-Sep-09	0.0638	0.234	6.02	14.7	0.359	0.016	333	1	410	17.8	20.6	<0.002	0.008
26-Oct-09	0.0301	0.131	2.46	7.71	0.285	0.004	324	0.5	384	10	6.25	<0.002	<0.005
23-Nov-09	0.0324	0.147	1.88	7.7	0.287	0.008	334	0.3	368	18.3	11.2	<0.002	<0.005
27-Apr-10	0.0526	0.144	1.67	13.3	0.29	0.006	342	0.3	367	4.8	8.56	<0.002	<0.005
25-May-10	0.0542	0.393	1.84	15.3	0.31	0.003	392	0.3	349	5.8	9.55	<0.002	<0.005
29-Jun-10	0.0455	0.474	2.36	10.1	0.29	0.012	336	0.5	380	36.8	17.2	<0.002	<0.005
19-Jul-10	0.0572	0.537	25	8.74	0.304	0.022	330	0.6	419	50	17.6	0.002	0.01
30-Aug-10	0.0664	0.438	1.69	7.21	0.26	0.005	284	0.4	331	30.3	13.5	<0.002	<0.005
27-Sep-10	0.0578	0.947	2.63	8.26	0.323	0.09	318	1	476	142	46.1	0.01	0.04
25-Oct-10	0.0392	0.339	3.66	5.59	0.259	0.007	344	0.4	412	17	8.27	<0.002	<0.005
22-Nov-10	0.0301	0.816	3.76	11.6	0.348	0.07	308	0.6	436	31.2	21.1	0.007	0.04

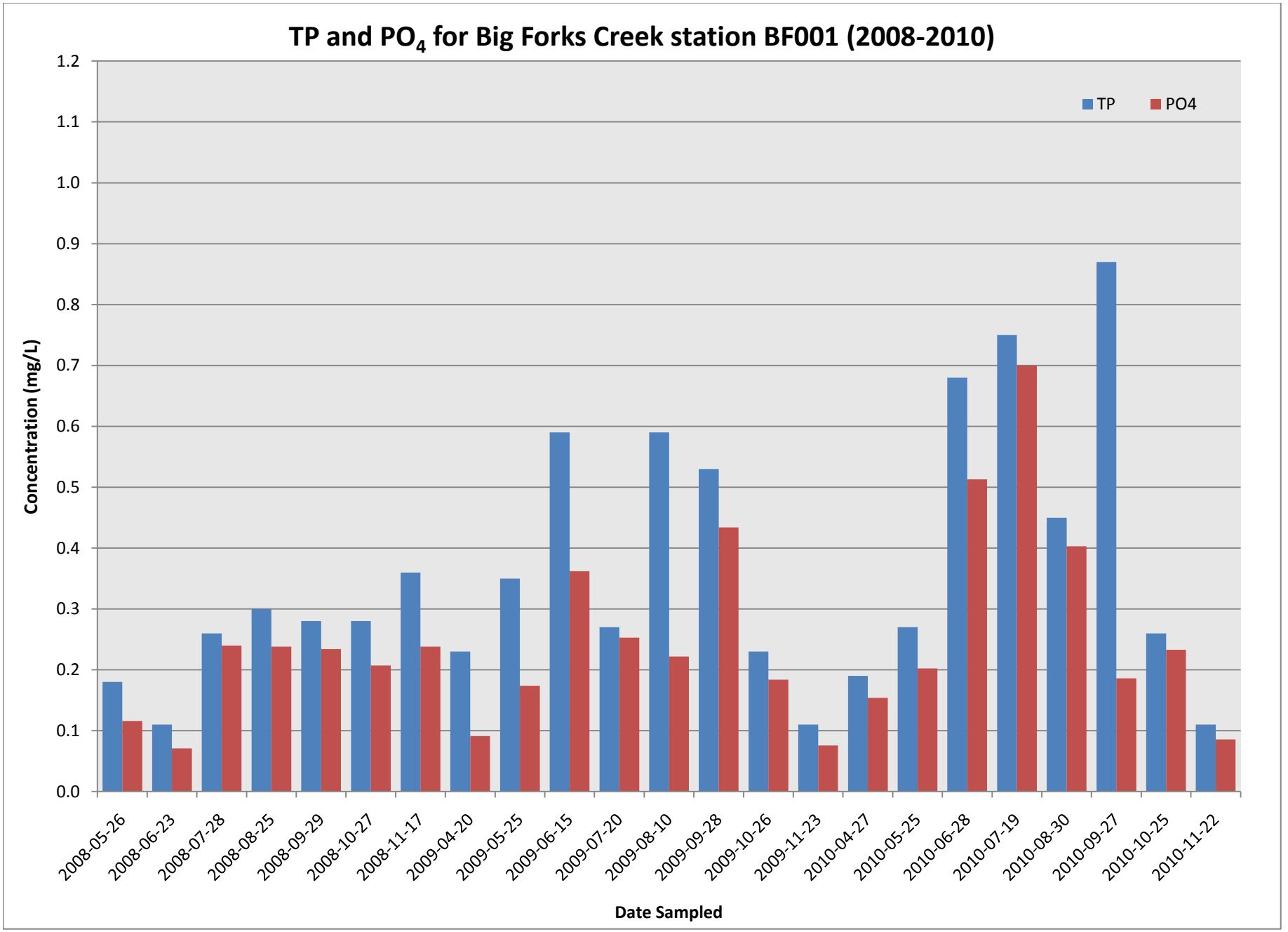
Monitoring Station - WR010

Date	Wet Weather	Alkalinity (mg/L)	Aluminum (µg/L)	Nitrogen; ammonia + ammonium (mg/L)	Barium (µg/L)	Beryllium (µg/L)	Cadmium (µg/L)	Calcium (mg/L)	Chloride (mg/L)	Chromium (µg/L)	Cobalt (µg/L)
28-Apr-08	N	98.3	182	0.169	22.7	-0.017	1.05	36.6	24.2	0.693	0.887
26-May-08	N	100	129	0.117	21.8	-0.0211	0.806	34	22.7	1.04	0.914
23-Jun-08	N	101	147	0.12	23.9	-0.0207	0.87	34.8	27	-0.219	0.958
28-Jul-08	Y	91.1	378	0.09	23.1	-0.00647	1.55	31.7	22.7	1.79	-0.192
25-Aug-08	N	102	73.6	0.171	22.7	-0.021	0.682	35	24.5	0.002	0.167
29-Sep-08	N	95.8	105	0.079	22.4	-0.0218	0.314	32.5	22.1	0.536	0.576
27-Oct-08	Y	132	248	0.112	30.1	-0.0039	0.358	47.8	27.4	0.474	0.754
17-Nov-08	Y	125	931	0.01	37.8	0.047	0.568	47.5	29.1	0.944	-0.158
20-Apr-09	Y	102	267	0.238	23	0.0181	-0.55	37.6	26.6	1.72	0.864
25-May-09	N	100	16.3	0.207	20.5	-0.00127	-0.501	33.2	23.4	0.219	0.659
15-Jun-09	N	99.1	131	0.125	24	0.00366	0.0956	34.3	22.9	0.646	1.23
20-Jul-09	N	95.7	121	0.076	23.6	-0.00522	0.221	33	21.7	0.769	-2.01
10-Aug-09	Y	93.1	706	0.101	31.9	0.0574	0.378	32.1	21.1	1.58	1.65
28-Sep-09	N	95.2	0.794	0.447	21.1	0.003	-0.095	35.1	22.4	-0.663	0.073
26-Oct-09	N	146	11.2	0.071	33	-0.003	-1.05	53	36.7	-1.8	0.25
27-Apr-10	N	106	92.6	0.146	21.2	0.018	-0.66	38.2	24.9	0.007	0.533
25-May-10	N	101	177	0.112	21.4	0.006	0.001	39.8	22	-0.163	-0.143
28-Jun-10	N	98.1	191	0.506	21.4	0.047	1.33	34.4	23.5	0.374	0.328
19-Jul-10	N	98.5	176	0.544	22.9	-0.019	2.71	37.3	25	0.244	-1.71
30-Aug-10	N	97.5	144	0.071	24.9	-0.025	1.13	38.2	23.6	-0.015	-0.213
27-Sep-10	N	95.5	182	0.058	22.5	0	1.19	32.2	20.7	0.127	-0.199
25-Oct-10	N	95.5	140	0.047	21.7	-0.038	1.6	36.4	20.9	-0.31	-0.256
22-Nov-10	Y	104	569	0.094	27.4	-0.051	1.33	46.1	25.6	1.41	-0.51

Date	Conductivity (µS/cm)	Copper (µg/L)	E coli (CFU)	Hardness (mg/L)	Iron (µg/L)	Lead (µg/L)	Magnesium (mg/L)	Manganese (µg/L)	Molybdenum (µg/L)	Nickel (µg/L)	Nitrate and Nitrite as N (mg/L)
28-Apr-08	322	1.87	<10	132	266	-0.952	9.84	16	1.12	2.51	0.577
26-May-08	322	1.01	18	124	204	9.29	9.64	12.6	2.15	0.699	0.469
23-Jun-08	347	1.28	35	127	237	-2.01	9.88	15.8	0.285	1.14	0.378
28-Jul-08	308	2.7	121	116	634	-1.2	8.94	51.2	1.33	1.28	0.895
25-Aug-08	335	1.4	9140	130	196	-1.98	10.2	22.6	0.596	1.24	0.469
29-Sep-08	297	1.58	100	119	193	-8.25	9.22	19.4	1.77	1.09	0.404
27-Oct-08	432	2.13	1430	173	402	1.5	13	33.1	3.05	1.62	1.28
17-Nov-08	449	3.36	2440	178	1040	3.77	14.5	63.3	0.733	2.64	1.83
20-Apr-09	361	2.11	673	136	366	7.77	10.3	16.2	1.81	1.52	0.604
25-May-09	329	1.49	25	119	10.1	9.44	8.66	-0.513	2.42	0.496	0.519
15-Jun-09	322	2.03	96	124	194	5.61	9.25	13.5	1.8	1.35	0.36
20-Jul-09	308	1.45	82	119	172	-7.88	8.77	11.5	1.78	2.96	0.281
10-Aug-09	312	3.61	7770	115	1020	4.91	8.49	67.9	1.02	3.9	0.303
28-Sep-09	314	1.76	19900	124	-2.12	2.06	8.86	0.36	3.33	0.807	0.371
26-Oct-09	483	7.06	244	192	8.03	2.31	14.5	0.259	3.29	0.798	0.646
27-Apr-10	348	1.93	5	138	103	-0.282	10.4	10.4	2.36	1.44	0.331
25-May-10	321	3.45	5	144	271	1.41	10.9	31.8	2.15	1.08	0.333
28-Jun-10	321	3.61	15500	126	248	1.19	9.82	19.2	2.26	2.58	0.267
19-Jul-10	335	1.83	<5	136	238	10.9	10.4	26.6	0.465	-1.65	0.449
30-Aug-10	321	2.01	16	137	206	4.48	10.1	15.6	0.578	6.03	0.324
27-Sep-10	298	1.61	210	119	252	2.41	9.38	13.5	1.23	3.21	0.218
25-Oct-10	313	1.74	16	130	190	0.519	9.45	12.2	1.56	1.79	0.248
22-Nov-10	377	2.18	204	169	668	6.35	13.1	22.1	1.46	1.49	0.848

Date	Nitrate as N (mg/L)	Nitrite as N (mg/L)	pH (pH)	Total Phosphorus (mg/L)	$P0_4$ (mg/L)	Strontium (µg/L)	Titanium (µg/L)	Total Kjeldhal Nitrogen (mg/L)	TSS (mg/L)	Vanadium (µg/L)	Zinc (µg/L)	Total Coliform (CFU)
28-Apr-08	0.557	0.02	8.28	0.044	0.019	231	3.43	0.57	11.6	0.594	2.04	210
26-May-08	0.46	0.009	8.31	0.034	0.0132	209	2.13	0.4	9.6	1.04	0.566	210
23-Jun-08	0.358	0.02	8.28	0.042	0.0202	246	2.47	0.52	8.1	1.53	0.758	1730
28-Jul-08	0.835	0.06	7.92	0.183	0.149	285	4.26	1.01	12.6	1.23	2.83	5230
25-Aug-08	0.419	0.05	8.11	0.087	0.0673	246	1.93	0.8	6.3	1.85	1.9	10100
29-Sep-08	0.382	0.022	8.14	0.054	0.0347	201	2.09	0.39	9.4	0.735	2.37	>48400
27-Oct-08	1.24	0.04	8.1	0.129	0.0781	340	4.3	1.2	8.6	1.89	6.81	>12100
17-Nov-08	1.79	0.04	8.1	0.355	0.192	345	6.73	2	65.5	2.75	9.1	>12100
20-Apr-09	0.581	0.023	8.21	0.059	0.025	283	4.23	0.69	9.3	2.02	3.32	7270
25-May-09	0.501	0.018	8	0.039	0.0185	210	0.721	0.57	9.7	0.273	-0.088	448
15-Jun-09	0.344	0.016	8.11	0.03	0.0168	229	2.65	0.43	6.1	-0.196	1.37	953
20-Jul-09	0.261	0.02	8.13	0.041	0.0251	201	2.94	0.3	6.3	1.43	2.16	4290
10-Aug-09	0.271	0.032	8	0.19	0.0891	314	7.54	0.95	44.6	2.24	5.56	>12100
28-Sep-09	0.307	0.064	7.71	0.086	0.0542	242	0.017	0.86	17.7	0.753	0.578	24200
26-Oct-09	0.626	0.02	8.11	0.093	0.0603	462	0.245	0.87	8.9	1.07	1.54	>12100
27-Apr-10	0.32	0.011	8.24	0.022	0.015	256	1.77	0.46	4	0.556	7.11	49
25-May-10	0.317	0.016	8.18	0.041	0.0207	223	3.15	0.41	5.4	0.34	15.4	207
28-Jun-10	0.228	0.039	8.04	0.08	0.0475	230	1.98	0.97	9.5	4.58	6.99	>24200
19-Jul-10	0.384	0.065	8.17	0.087	0.0518	239	3.15	1	10.7	7	44.1	1050
30-Aug-10	0.308	0.016	8.25	0.05	0.0276	234	1.11	0.39	8	2.48	8.19	688
27-Sep-10	0.204	0.014	8.23	0.048	0.0226	193	1.33	0.39	9.5	1.73	8.91	>12100
25-Oct-10	0.238	0.01	8.18	0.03	0.0178	216	1.54	0.33	7.6	3.74	4.11	244
22-Nov-10	0.823	0.025	8.15	0.129	0.0702	351	2.02	0.83	19.5	4.74	14.7	>12100

Appendix E


TP and PO4 for Big Forks Creek station BF001 (2008-2010)
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PO4
Concentration (mg/L)
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1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
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2009-10-26
2009-11-23
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2010-09-27
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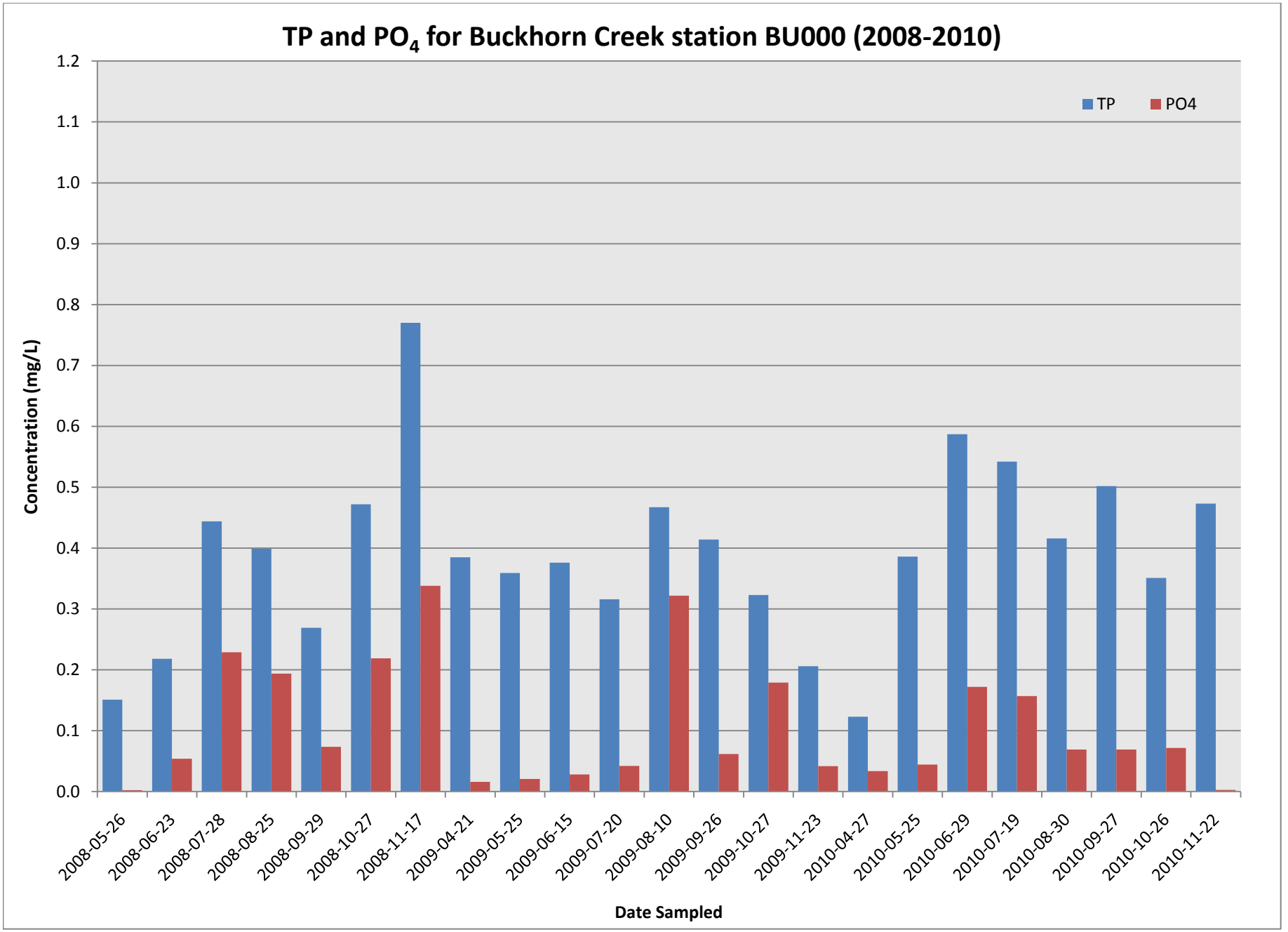
2010-11-22
Date Sampled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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
2009-04-21
2009-05-25
2009-06-15
2009-07-20
2009-08-10
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2009-11-23
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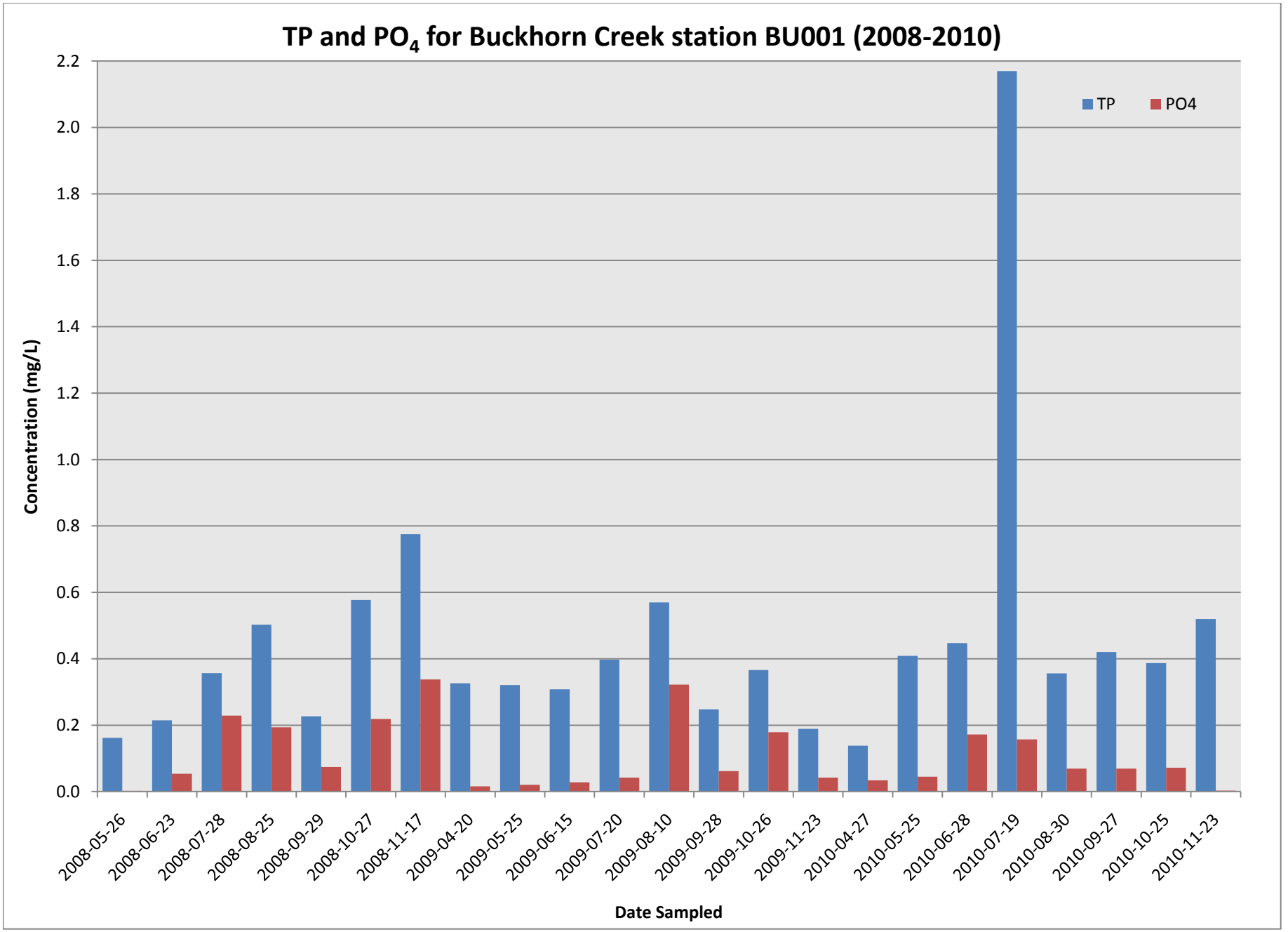
2010-11-22
Date Sampled


TP and PO4 for Buckhorn Creek station BU001 (2008-2010)
Concentration (mg/L)
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1.6
1.4
1.2
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0.8
0.6
0.4
0.2
0.0
TP
PO4
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
2009-04-20
2009-05-25
2009-06-15
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2009-10-26
2009-11-23
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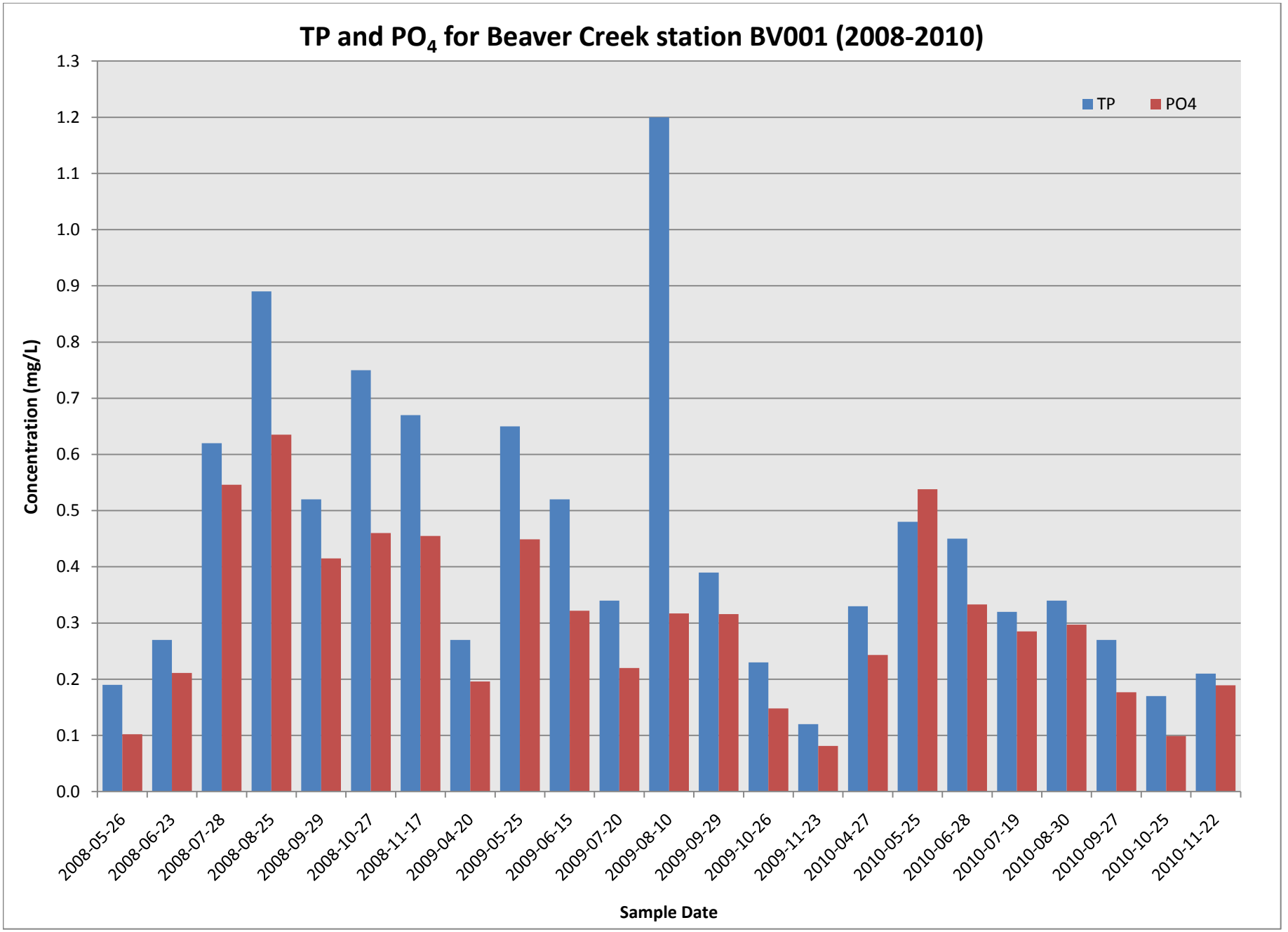
2010-11-23
Date Sampled


TP and PO4 for Beaver Creek station BV001 (2008-2010)
Concentration (mg/L)
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1.1
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0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
TP
PO4
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
2009-04-20
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2009-10-26
2009-11-23
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2010-10-25
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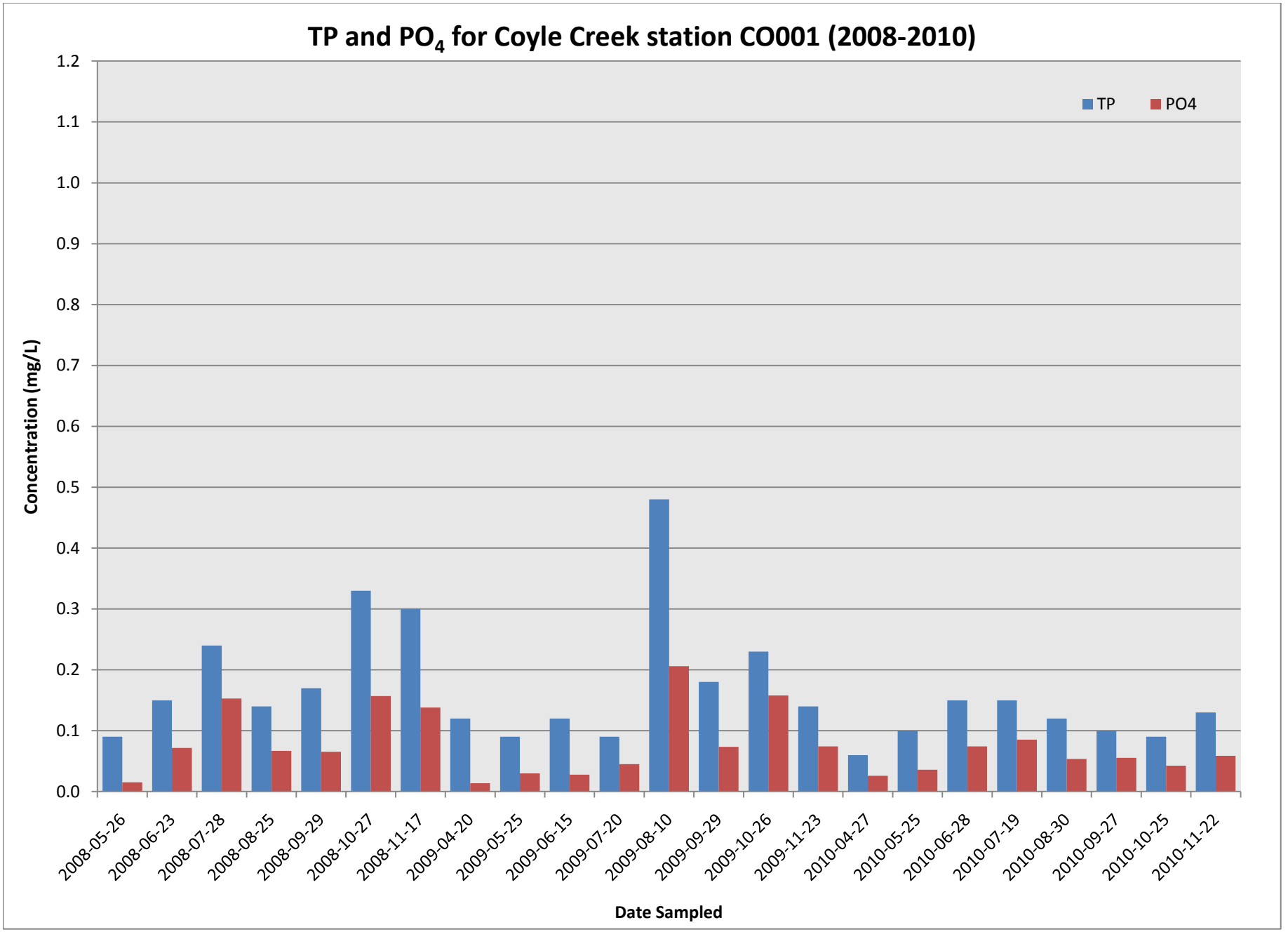
Sample Date


TP and PO4 for Coyle Creek station CO001 (2008-2010)
TP
PO4
Concentration (mg/L)
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1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
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2009-10-26
2009-11-23
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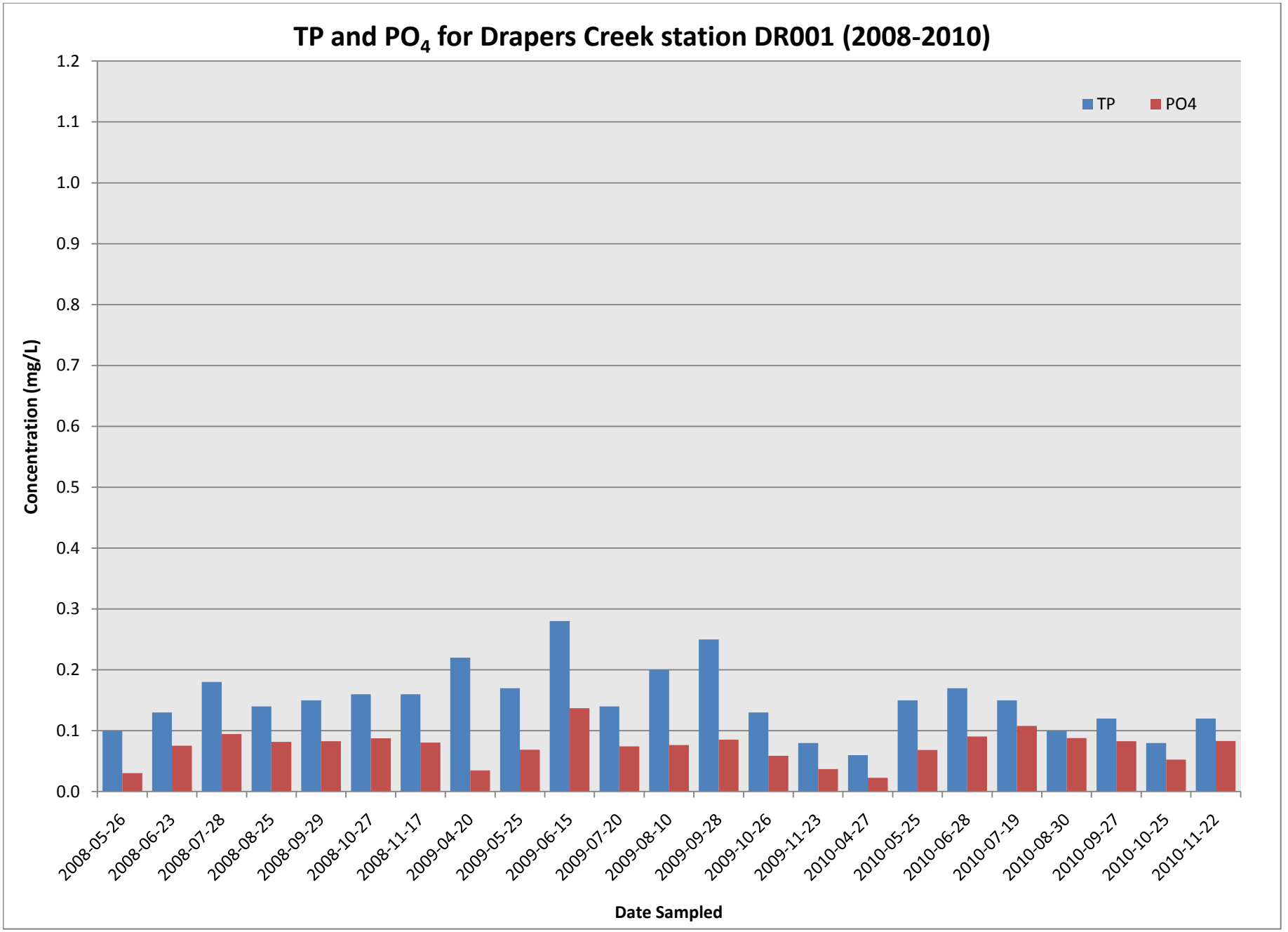
2010-11-22
Date Sampled


TP and PO4 for Drapers Creek station DR001 (2008-2010)
TP
PO4
Concentration (mg/L)
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0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
2009-04-20
2009-05-25
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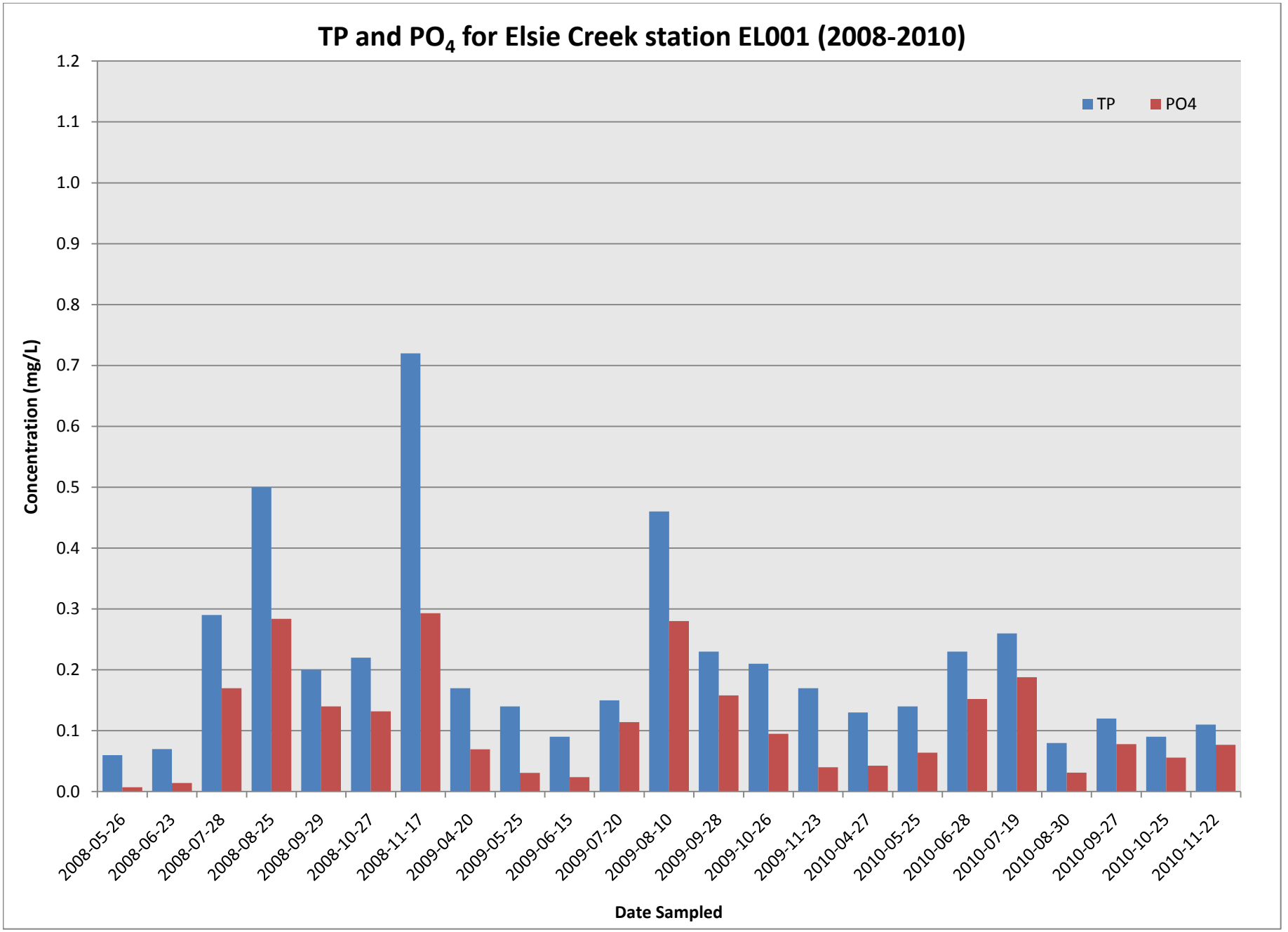
2009-10-26
2009-11-23
2010-04-27
2010-05-25
2010-06-28
2010-07-19
2010-08-30
2010-09-27
2010-10-25
2010-11-22
Date Sampled


TP and PO4 for Elsie Creek station EL001 (2008-2010)
TP
PO4
Concentration (mg/L)
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1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
2008-11-17
2009-04-20
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2009-10-26
2009-11-23
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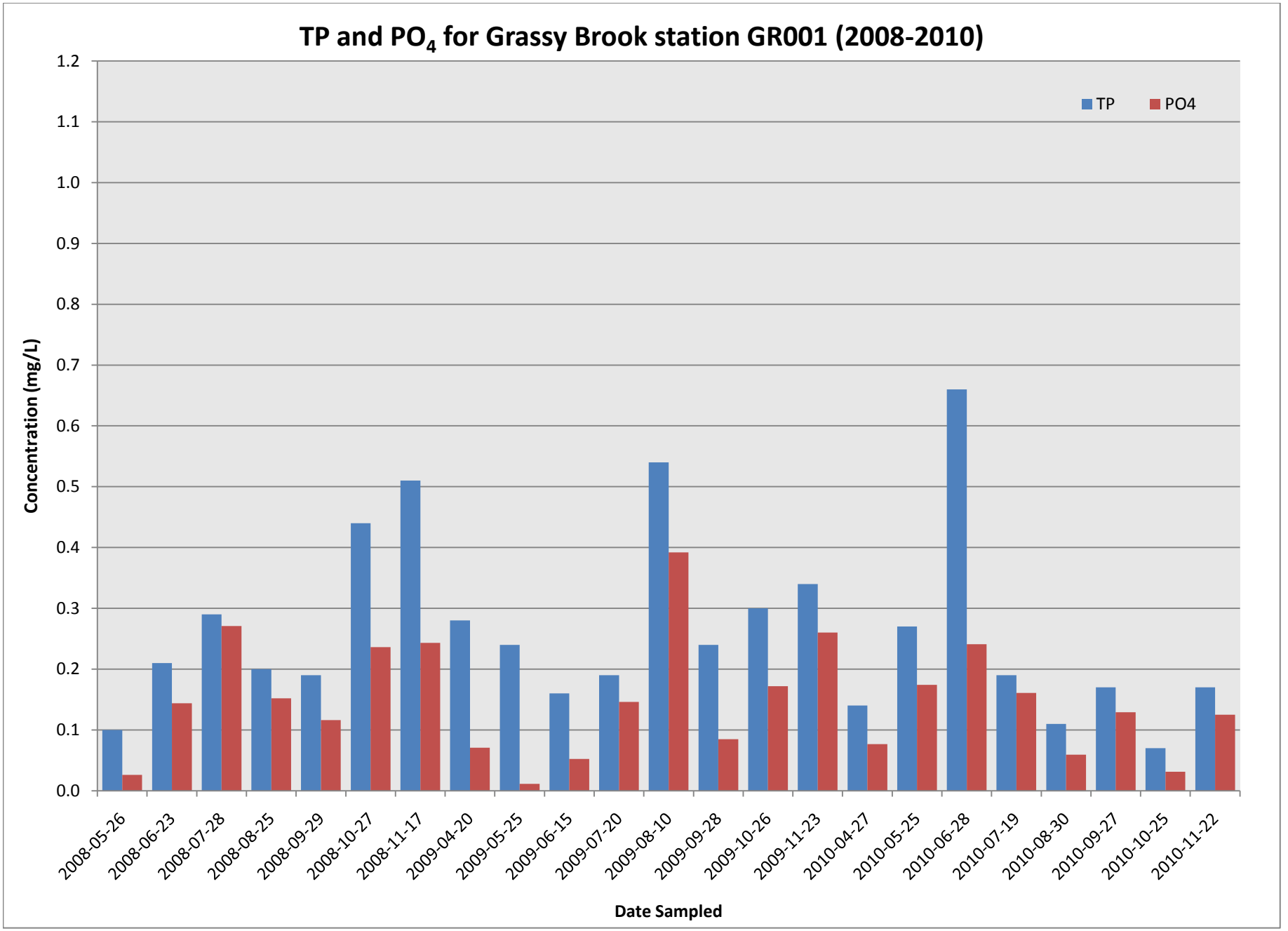
Date Sampled


TP and PO4 for Grassy Brook station GR001 (2008-2010)
TP
PO4
Concentration (mg/L)
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1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
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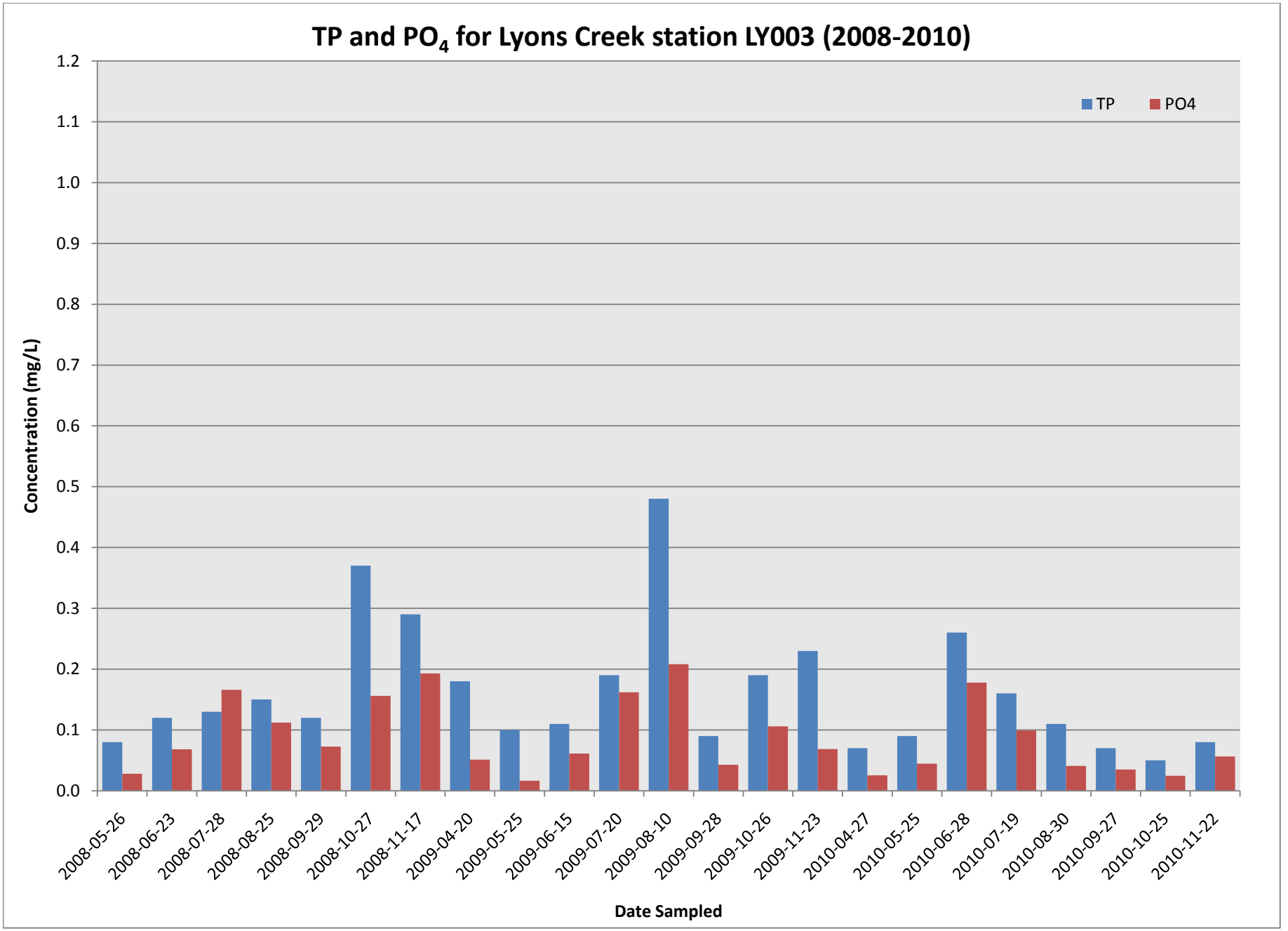
TP and PO4 for Lyons Creek station LY003 (2008-2010)
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PO4
Concentration (mg/L)
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0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
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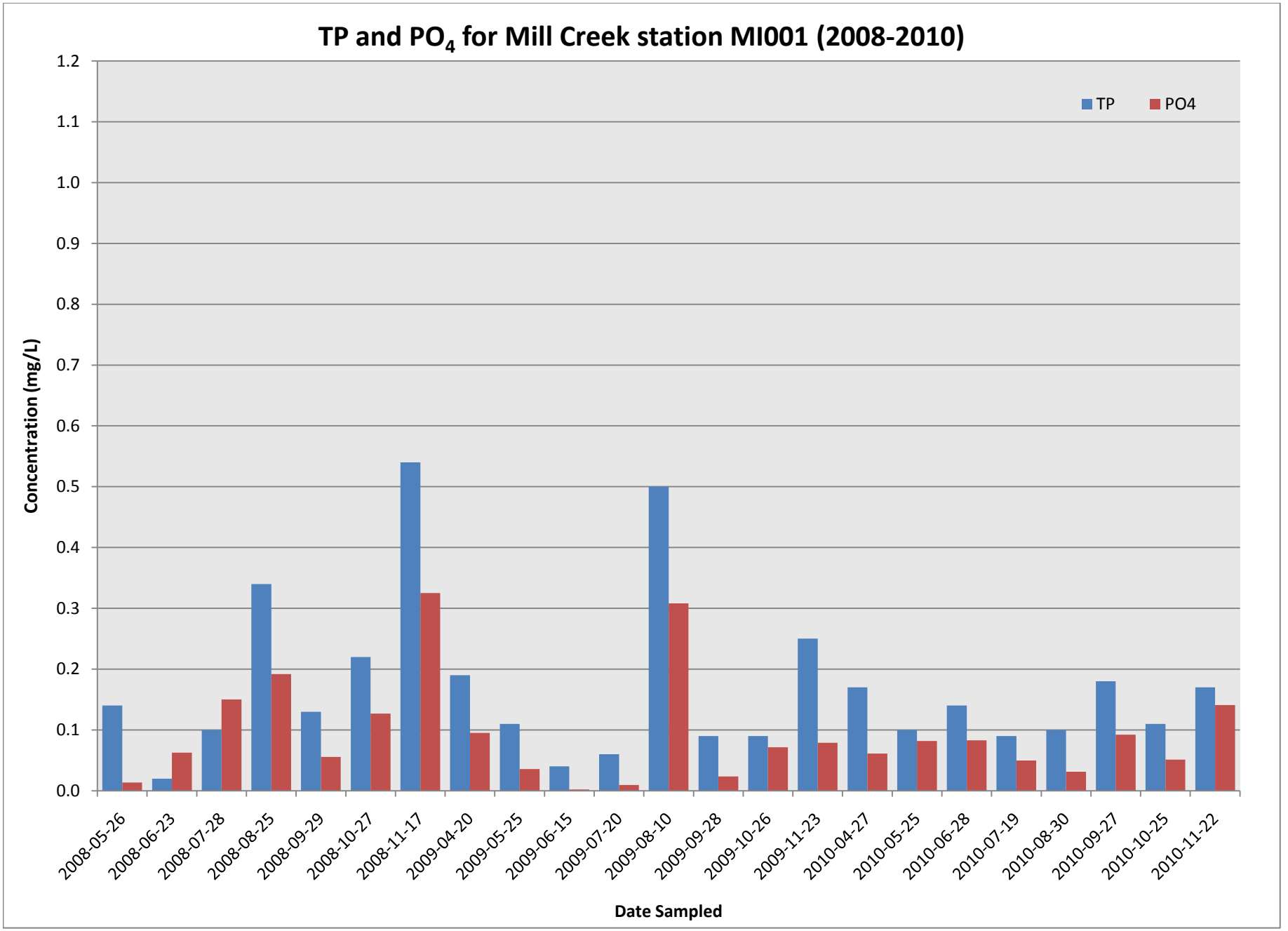
TP and PO4 for Mill Creek station MI001 (2008-2010)
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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
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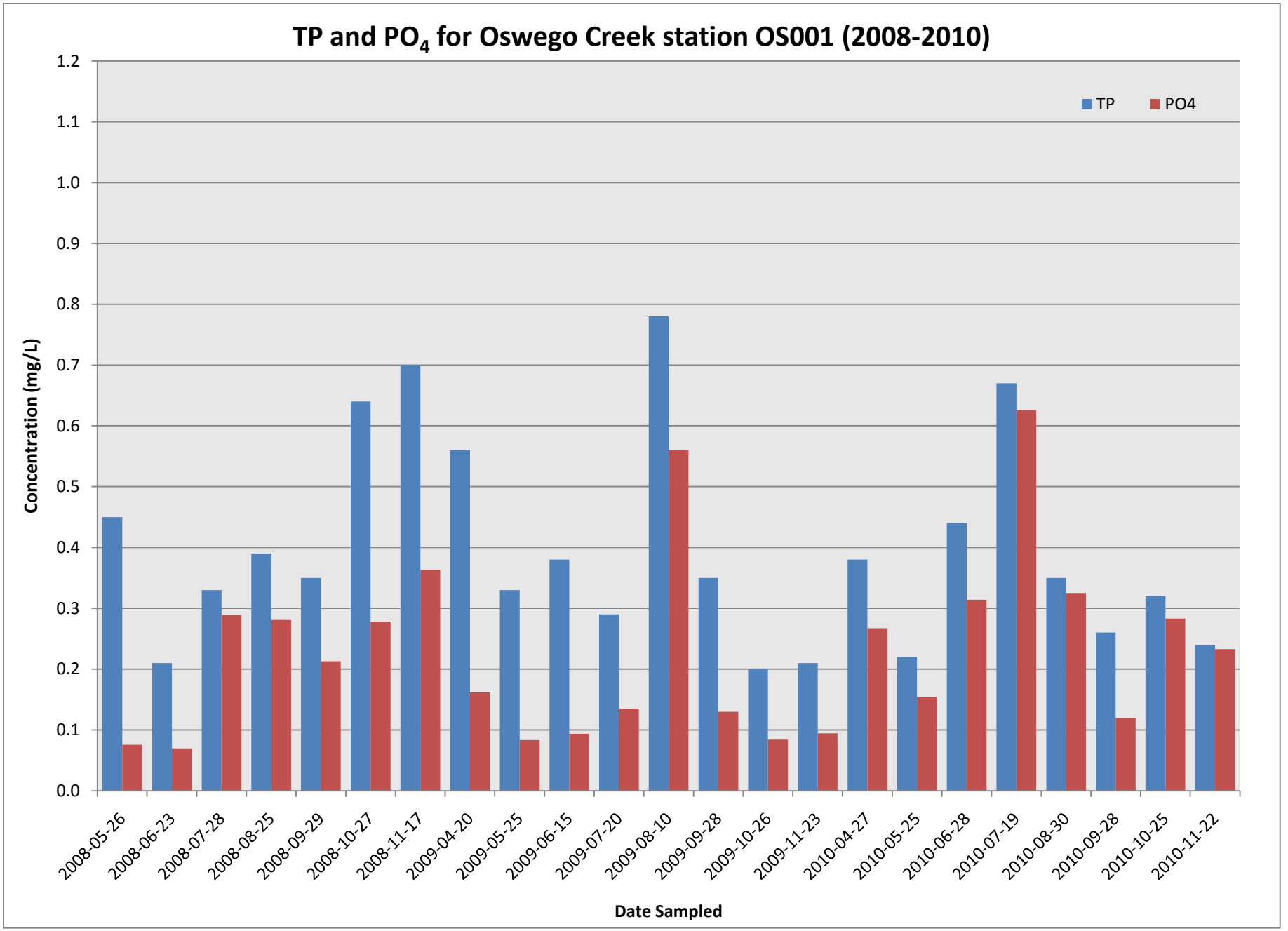
Date Sampled


TP and PO4 for Oswego Creek station OS001 (2008-2010)
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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
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2008-09-29
2008-10-27
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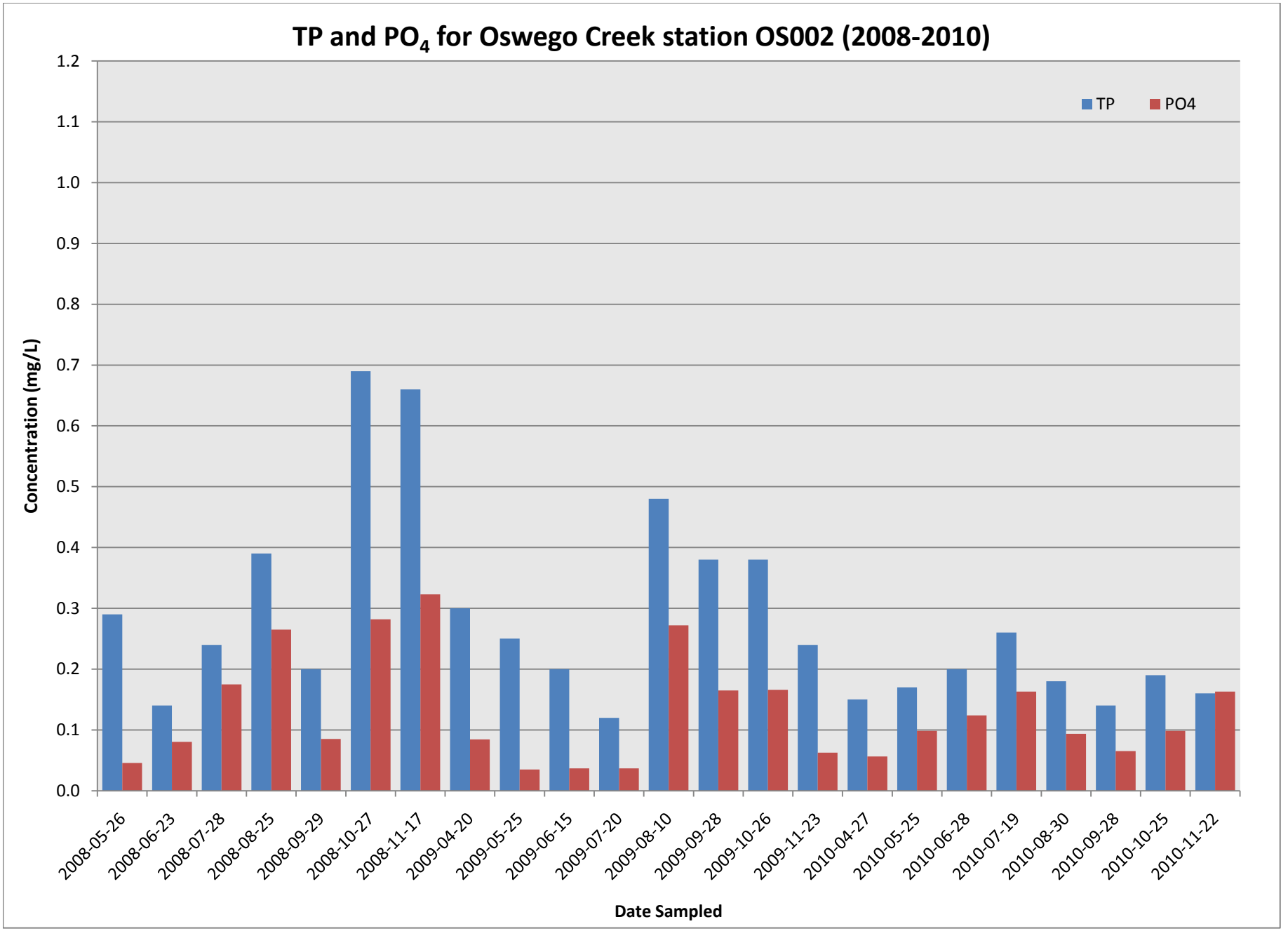
Date Sampled


TP and PO4 for Oswego Creek station OS002 (2008-2010)
TP
PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
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2008-06-23
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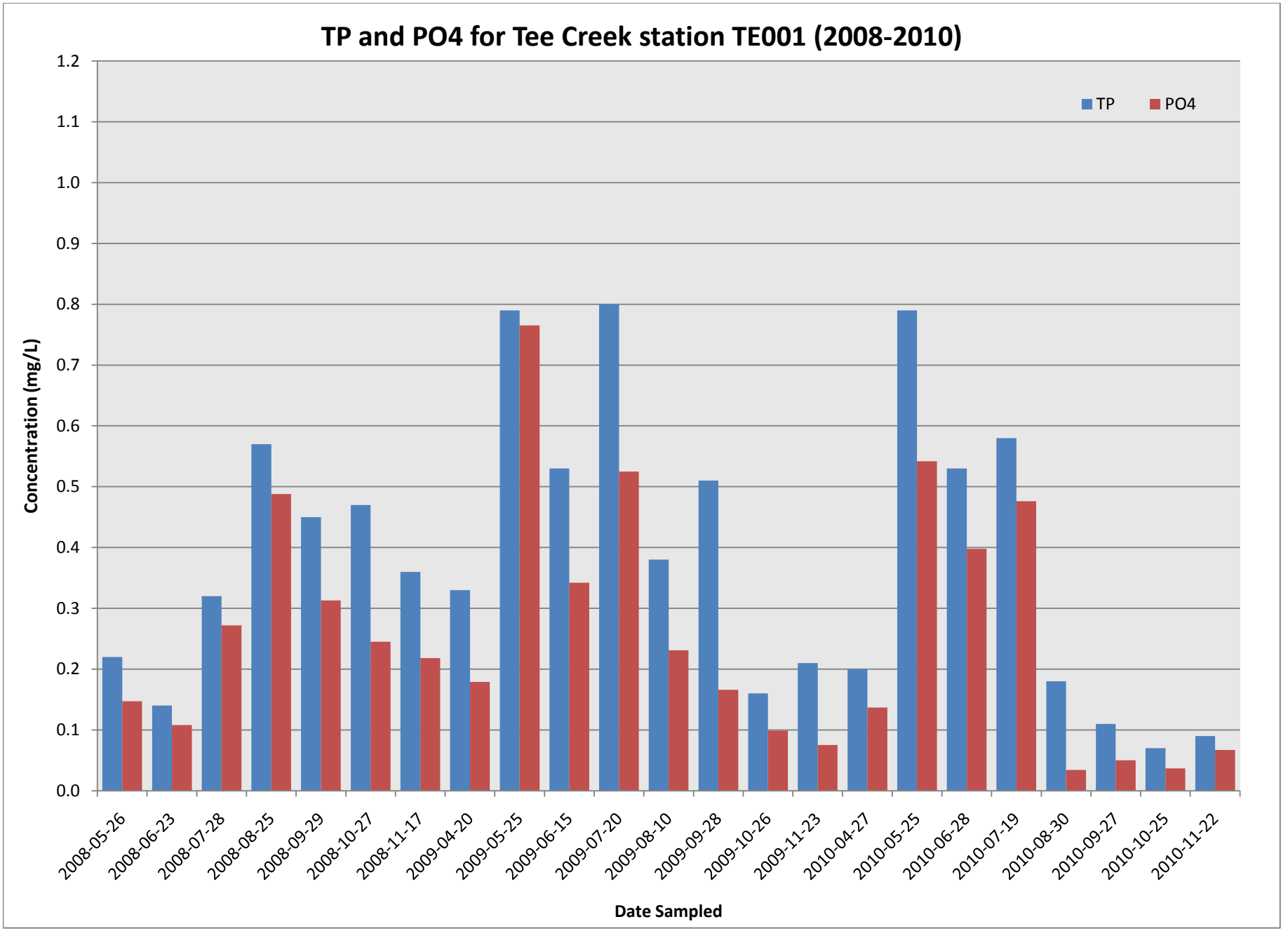
TP and PO4 for Tee Creek station TE001 (2008-2010)
TP
PO4
Concentration (mg/L)
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1.0
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0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
2008-06-23
2008-07-28
2008-08-25
2008-09-29
2008-10-27
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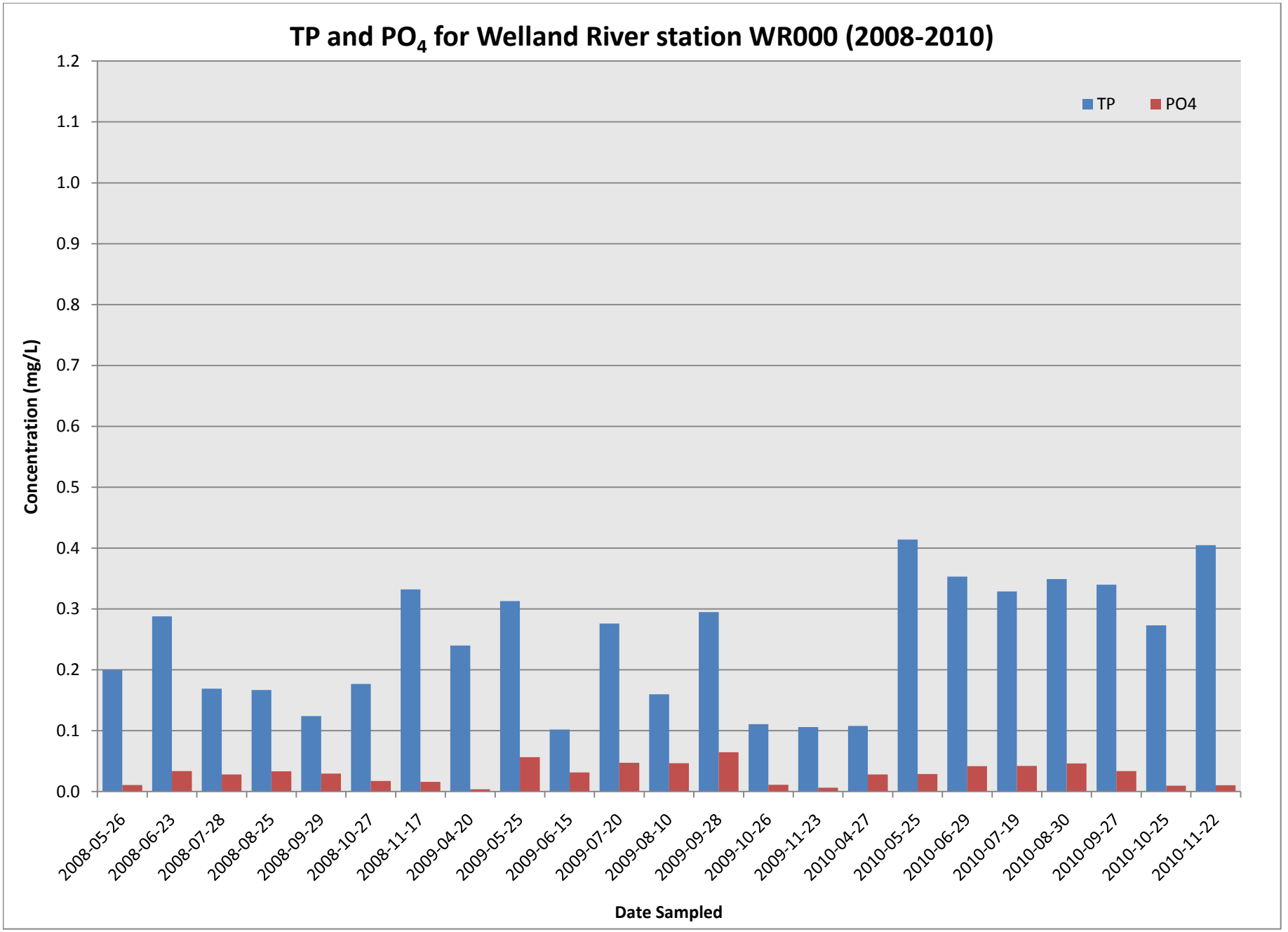
TP and PO4 for Welland River station WR000 (2008-2010)
TP
PO4
Concentration (mg/L)
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1.0
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0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
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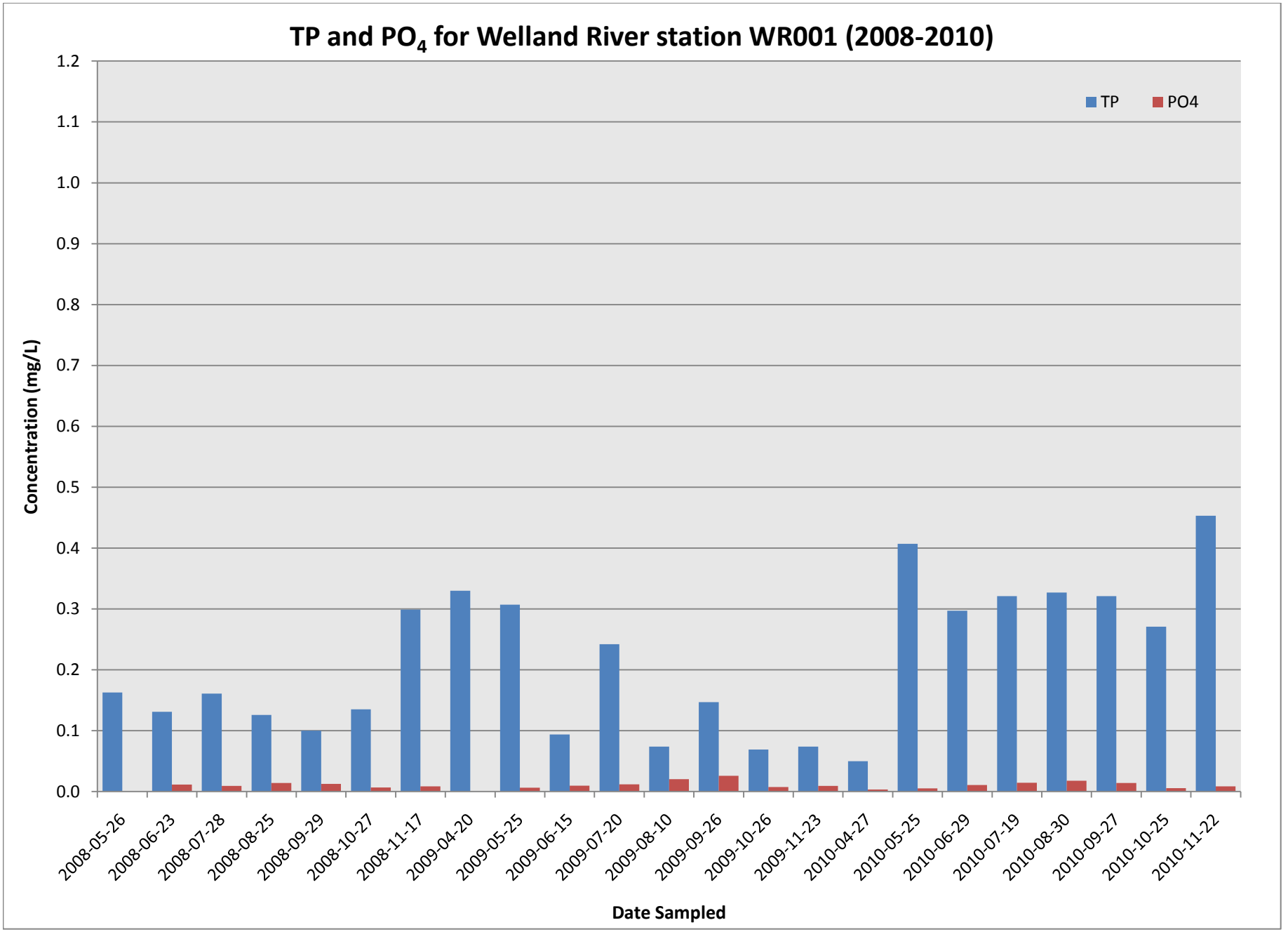
Date Sampled


TP and PO4 for Welland River station WR001 (2008-2010)
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PO4
Concentration (mg/L)
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1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
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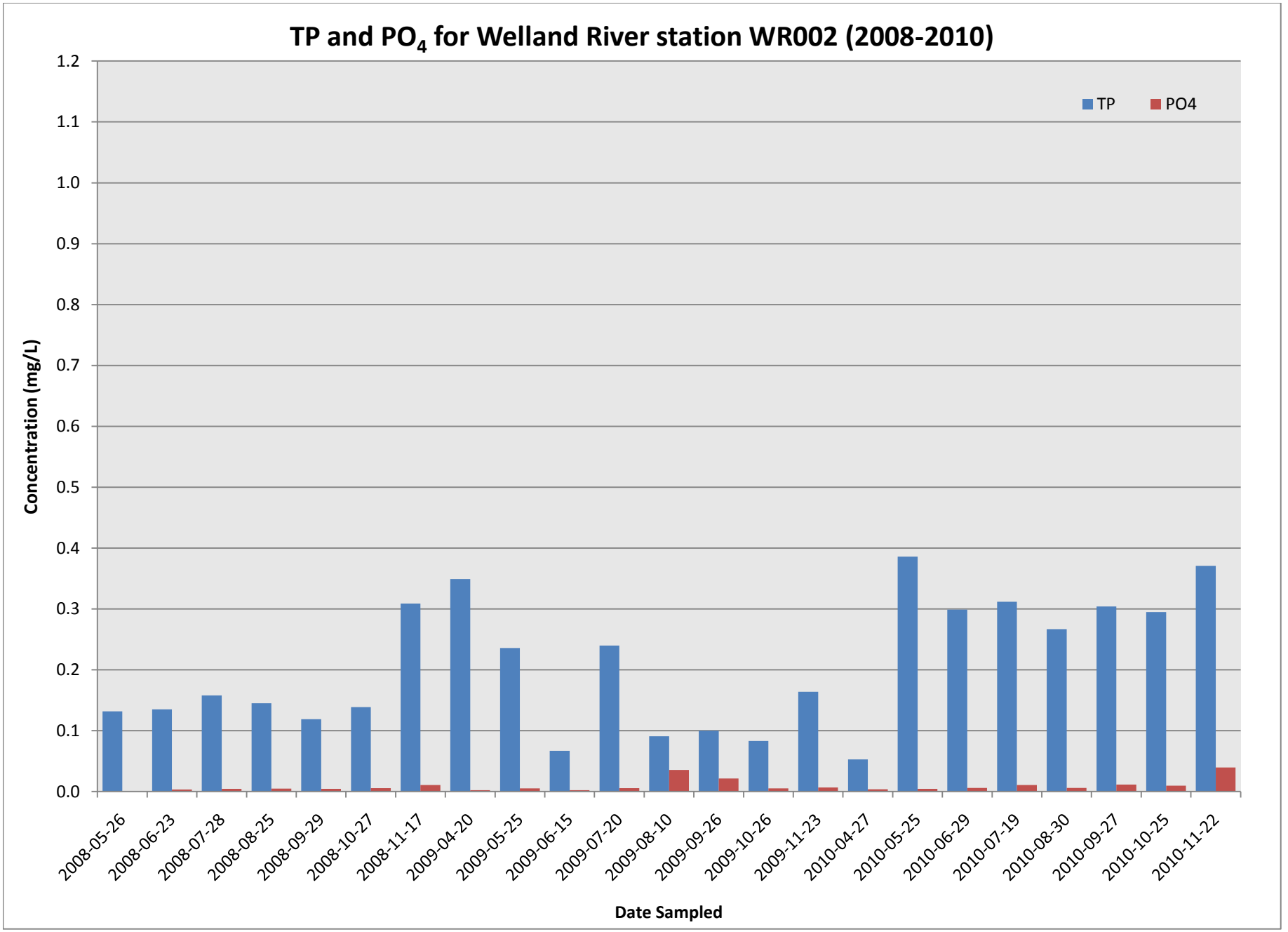
TP and PO4 for Welland River station WR002 (2008-2010)
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PO4
Concentration (mg/L)
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1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
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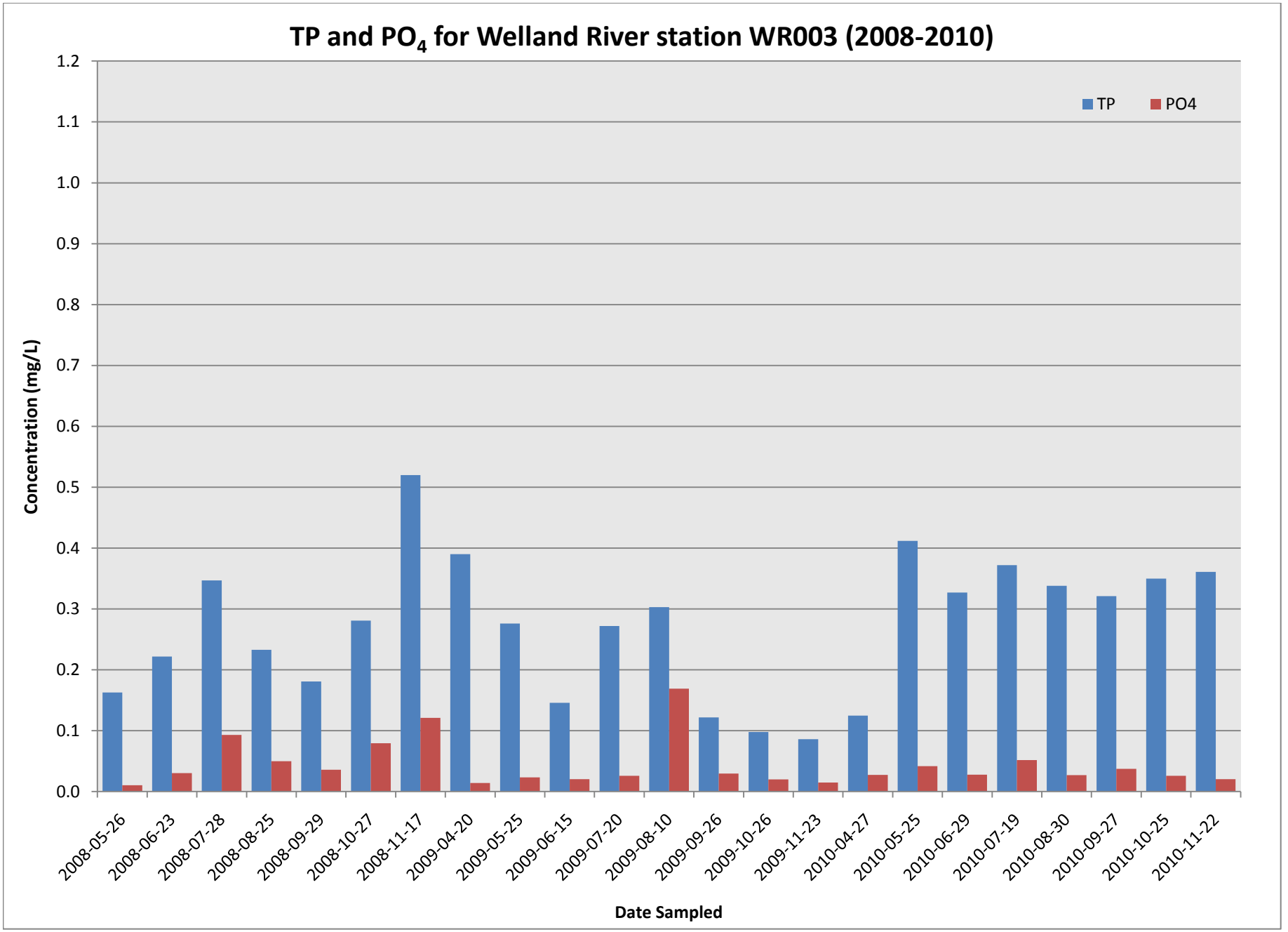
Date Sampled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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
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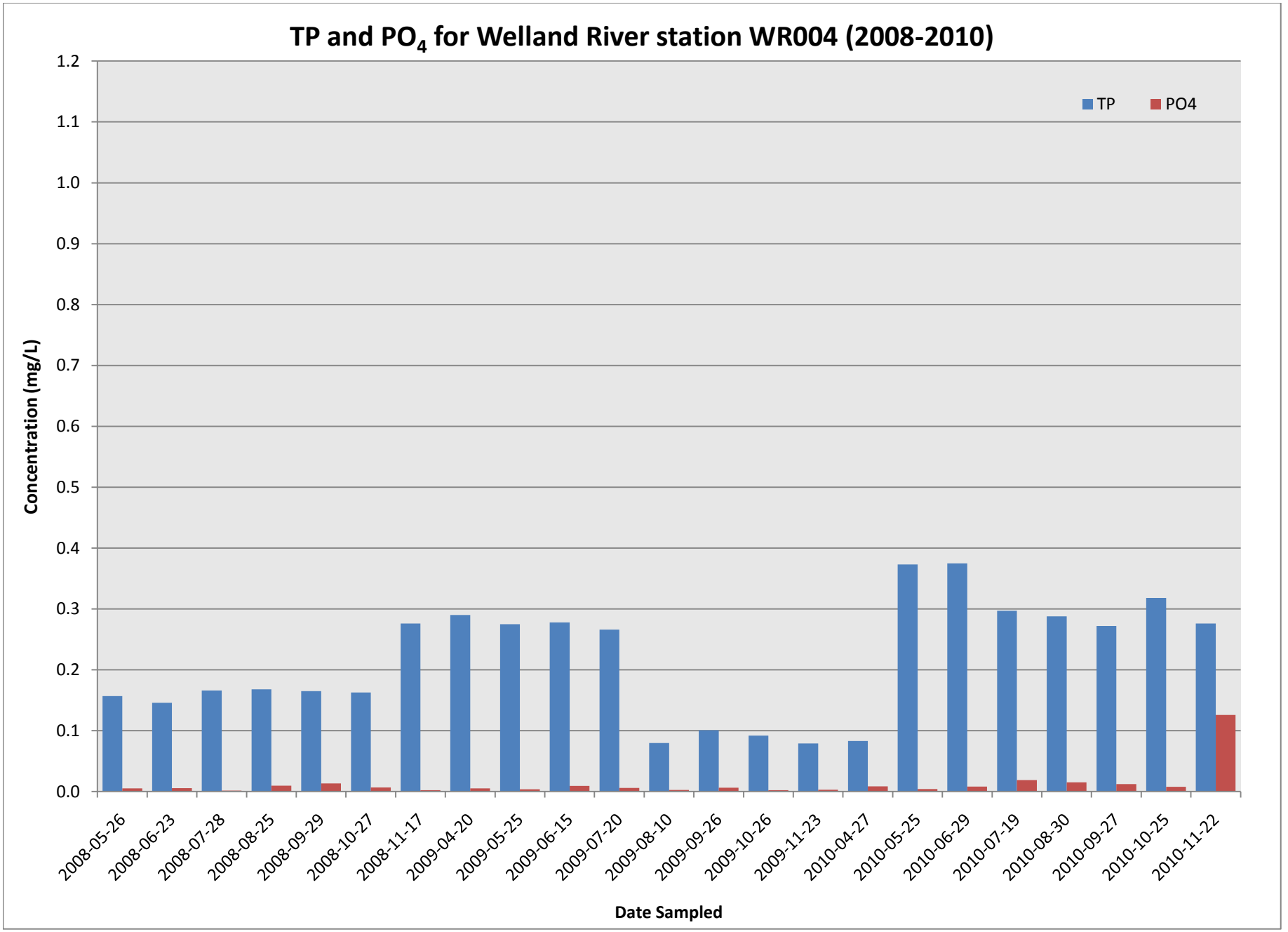
TP and PO4 for Welland River station WR004 (2008-2010)
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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
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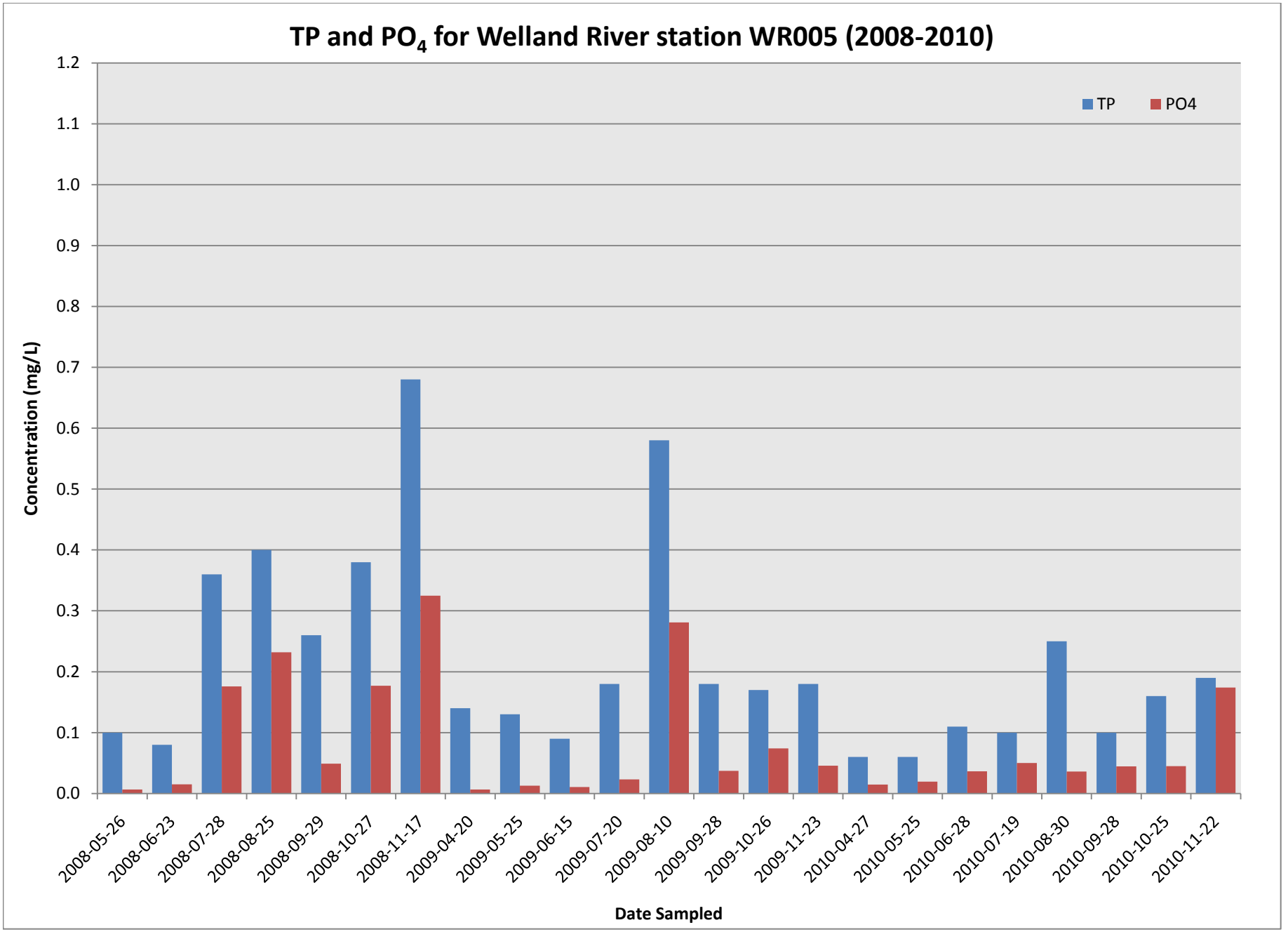
TP and PO4 for Welland River station WR005 (2008-2010)
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Concentration (mg/L)
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0.6
0.5
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0.3
0.2
0.1
0.0
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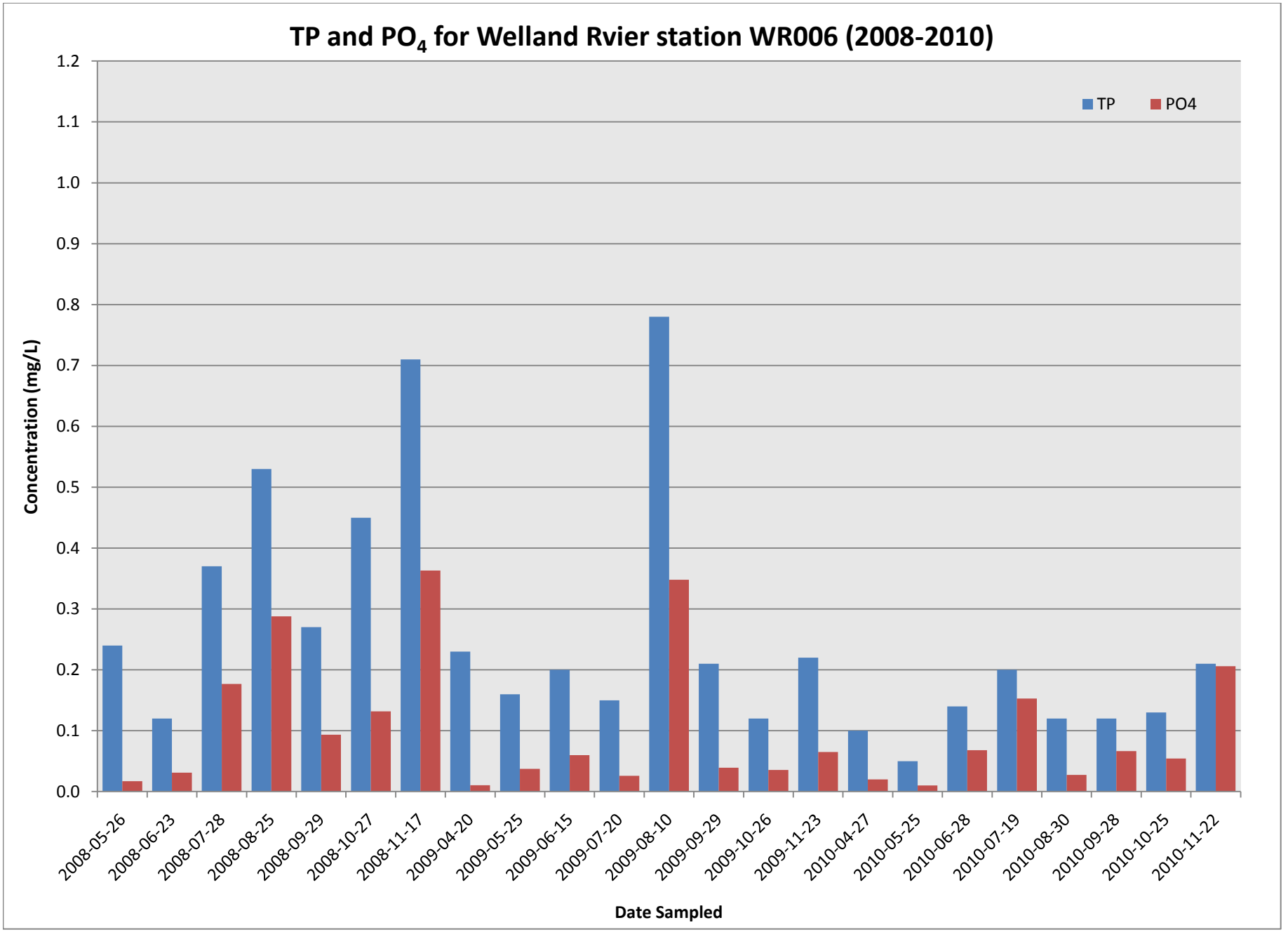
TP and PO4 for Welland Rvier station WR006 (2008-2010)
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PO4
Concentration (mg/L)
1.2
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
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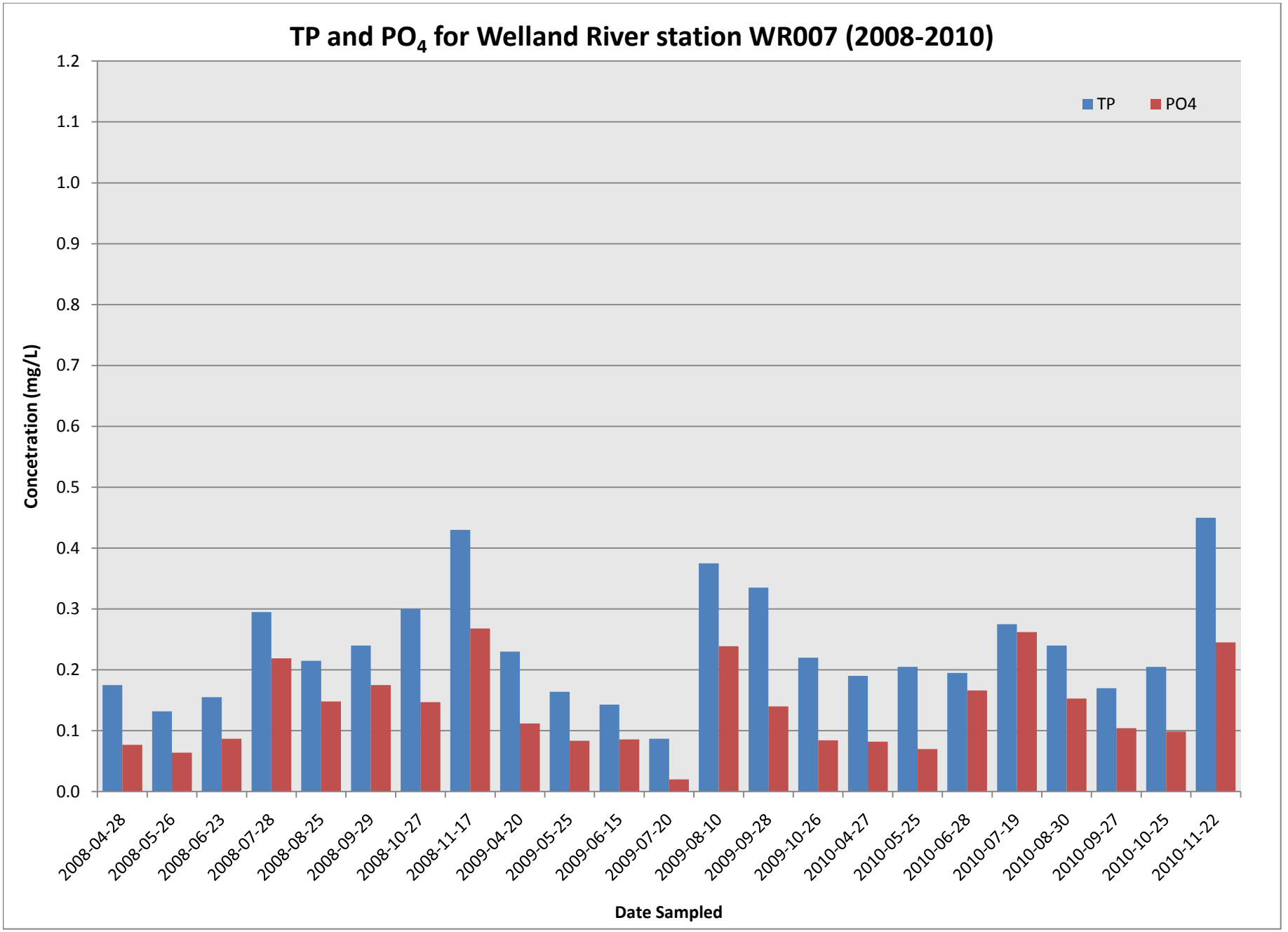
Date Sampled


TP and PO4 for Welland River station WR007 (2008-2010)
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PO4
Concetration (mg/L)
1.2
1.1
1.0
0.9
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0.7
0.6
0.5
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0.2
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0.0
2008-04-28
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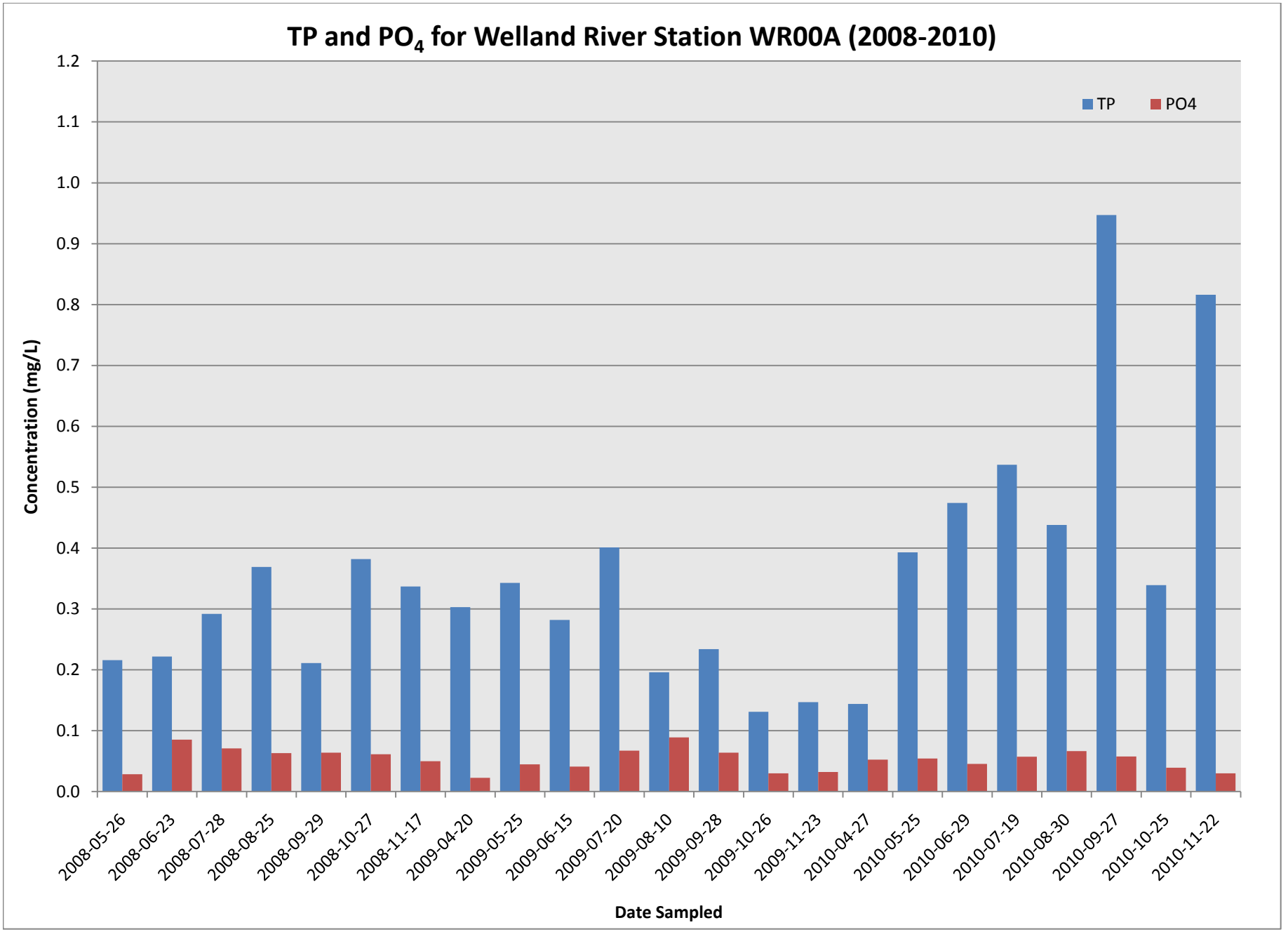
TP and PO4 for Welland River Station WR00A (2008-2010)
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PO4
Concentration (mg/L)
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0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-05-26
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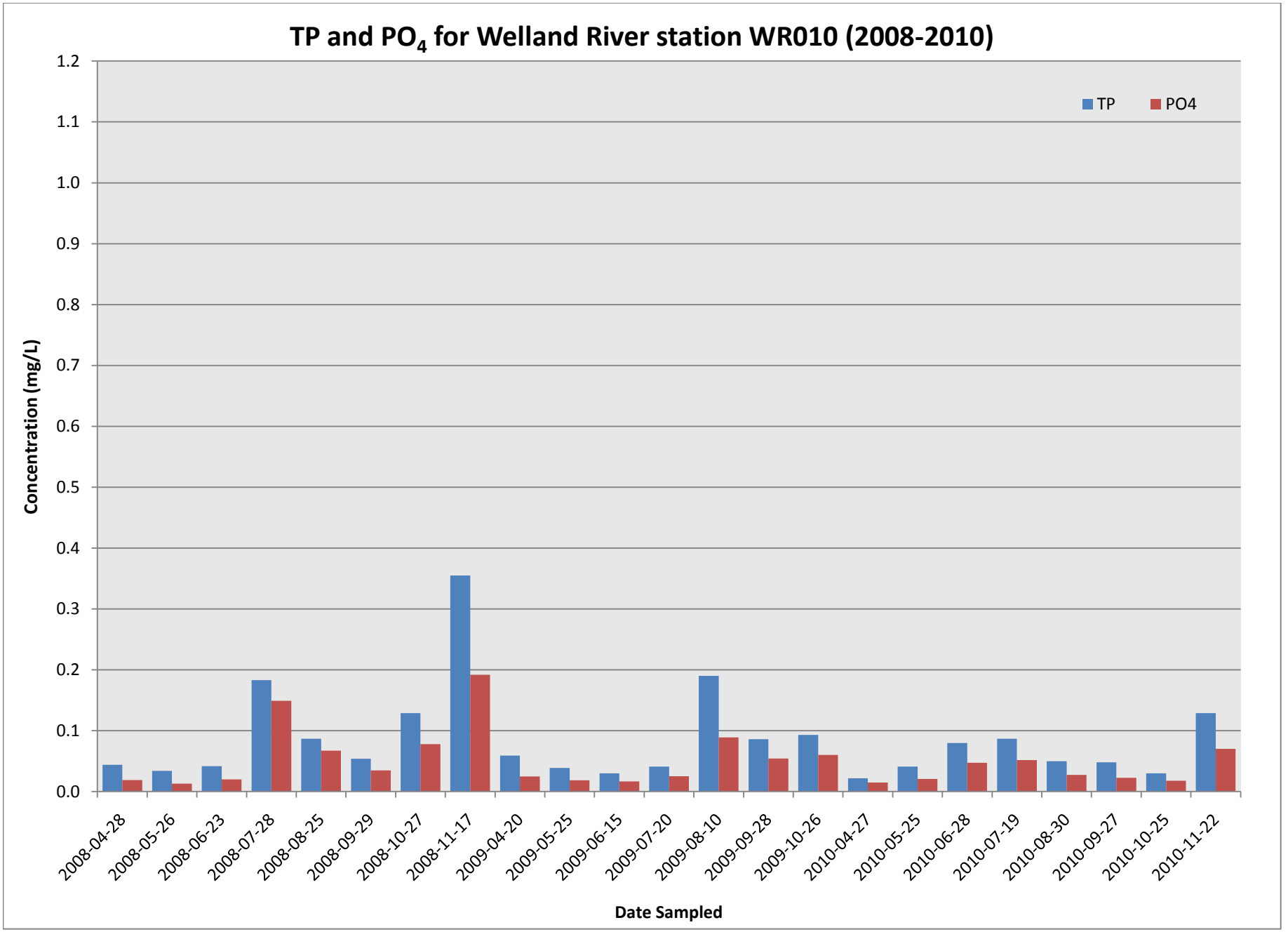
TP and PO4 for Welland River station WR010 (2008-2010)
TP
PO4
Concentration (mg/L)
1.2
1.1
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
2008-04-28
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2010-08-30
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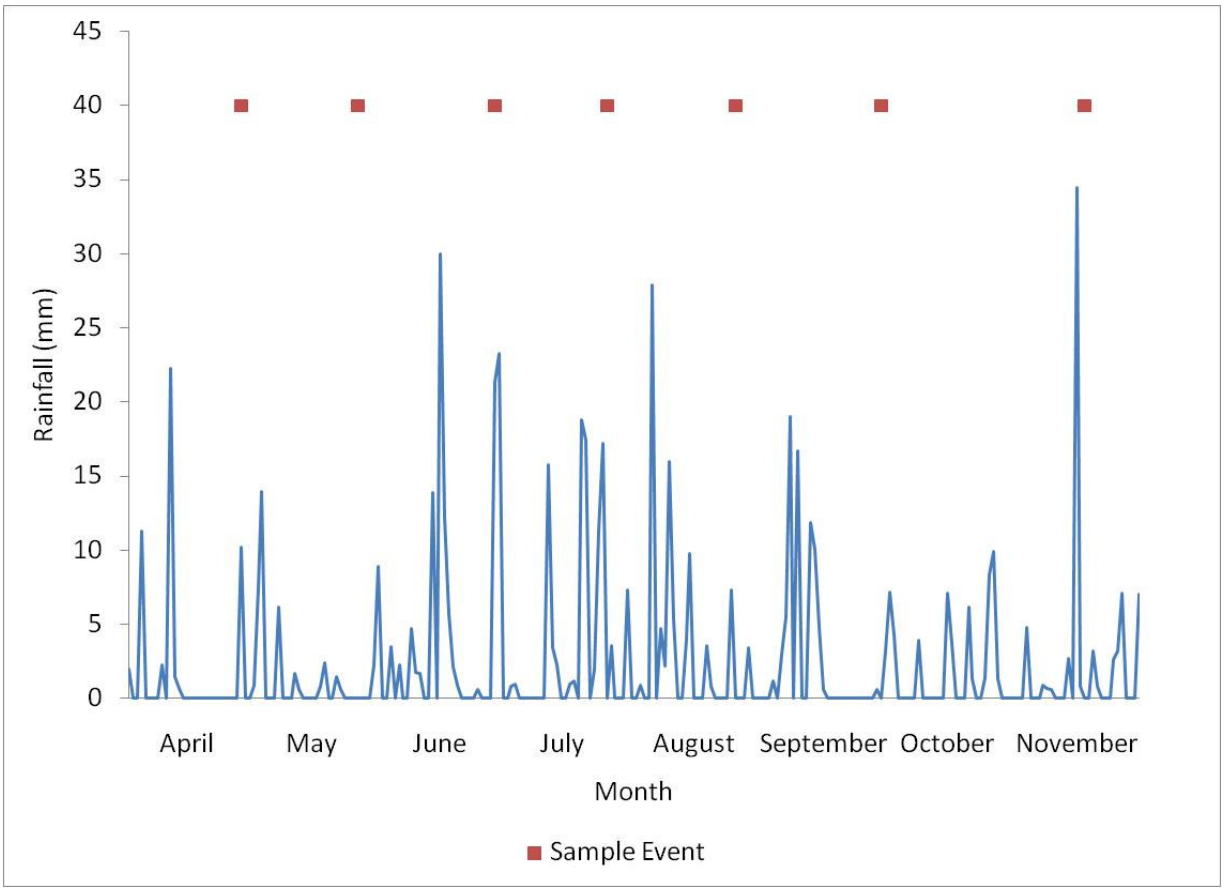
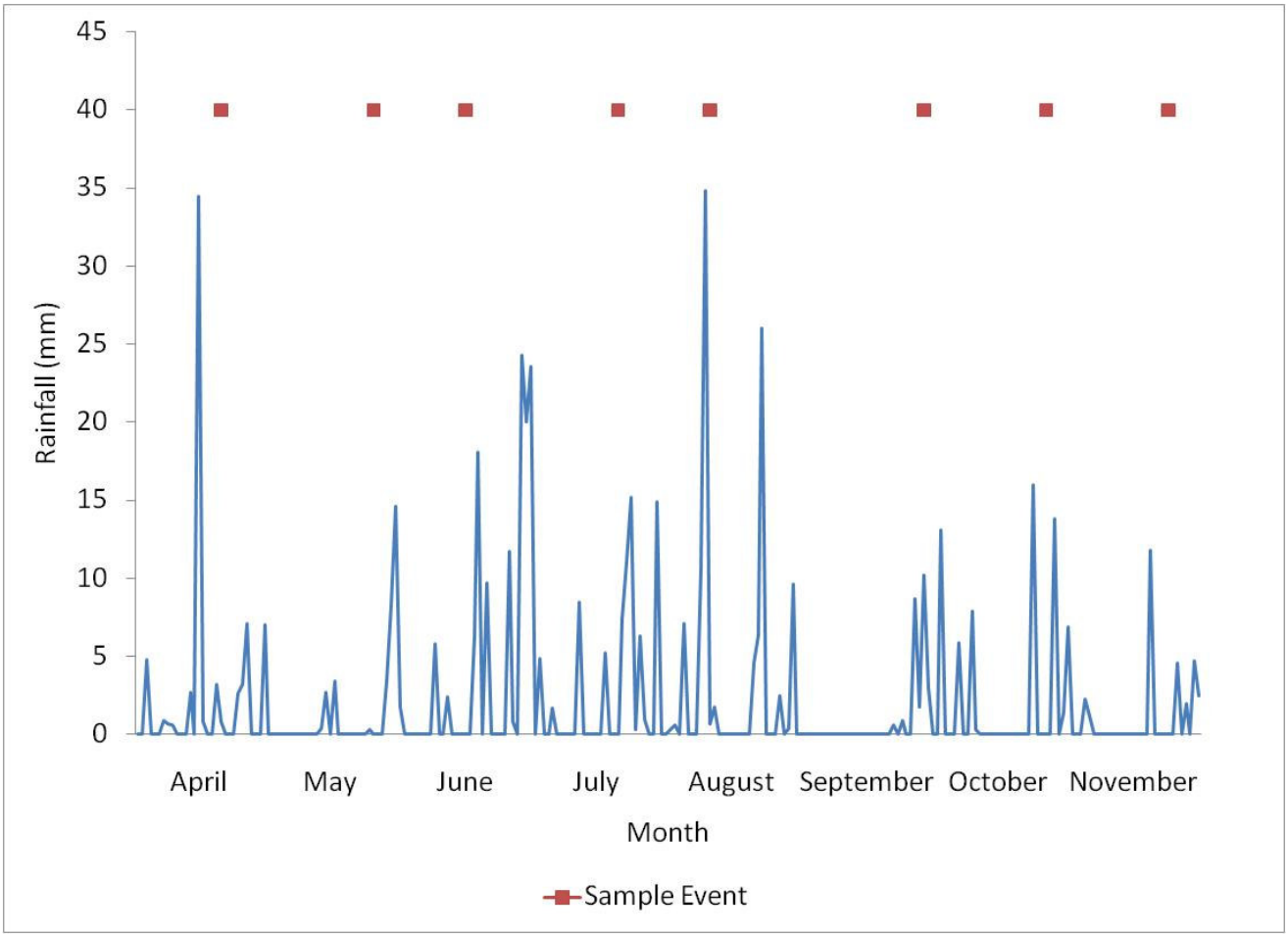
2010-10-25
2010-11-22
Date Sampled

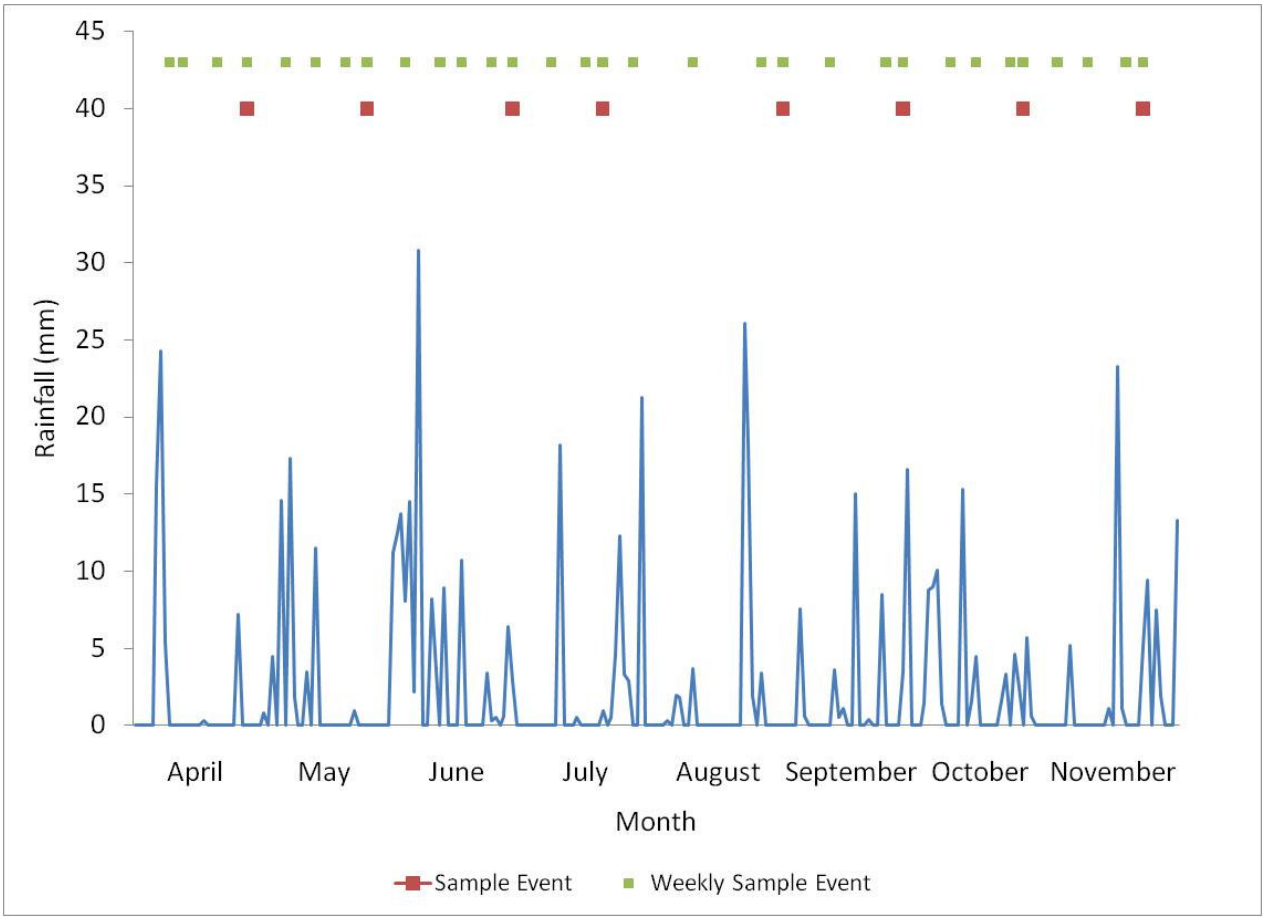
Appendix F



2008 precipitation recorded at the Victoria station in Vineland, Ontario. Red box represents the date of a water quality sampling event all 23 monitoring stations.



2009 precipitation recorded at the Victoria station in Vineland, Ontario. Red box represents the date of a water quality sampling event at all 23 monitoring stations.



2010 precipitation recorded at the Victoria station in Vineland, Ontario. Red box represents the date of a water quality sampling event at all 23 monitoring stations. Green box represents the date of water quality stations at BF001, BV001 and OS001.

Appendix G

	2008 TP Loadings (kg/day)																
Month	**WR000**	**WR001**	**WR002**	**WR004**	**WR005**	**BF001**	**BU000**	**BU001**	**BV001**	**EL001**	**CO001**	**DR001**	**GR001**	**MI001**	**OS001**	**OS002**	**TE001**
April	0.686	0.272	0.078	5.894	1.365	0.496	0.449	0.116		0.037	1.852	0.809	0.042	0.093	8.940	0.104	0.473
May	0.063	0.018	0.011	0.461	0.387	0.562	10.462	0.013	1.061	0.113	0.786	0.058	0.008	0.286	15.149	0.121	0.558
June	0.029	0.007	0.002	0.446	1.175	0.436	0.014	0.000	1.554	0.040	0.567	0.292	0.297	0.014	5.873	8.018	0.160
July	0.132	0.076	0.004	18.308	112.596	3.712	0.000	7.665			0.592	0.467	1.706	0.598		85.640	
August	0.246	0.324	0.005	2.797	135.821	0.350	1.905	15.325	31.009	4.383	0.207	0.565	0.061			26.957	
September	0.006	0.005	0.000		0.921	0.000	0.000	0.005	5.780		1.091	0.109	0.000	0.053	0.000	2.246	2.288
October	0.136	0.037	0.000		36.772	0.000	0.000	23.855			35.553	5.331	19.928	0.987		158.579	
November	0.986	0.193	0.016		828.403		0.000	0.000			18.263	2.211	37.955			199.584	
Mean=	0.286	0.117	0.015	5.581	139.680	0.794	1.604	5.872	9.851	1.143	7.364	1.230	7.500	0.338	7.490	60.156	0.870
Median=	0.134	0.056	0.005	2.797	19.068	0.436	0.007	0.064	3.667	0.076	0.939	0.516	0.179	0.189	7.406	17.487	0.515

	2009 TP Loadings (kg/day)																
Month	**WR000**	**WR001**	**WR002**	**WR004**	**WR005**	**BF001**	**BU000**	**BU001**	**BV001**	**EL001**	**CO001**	**DR001**	**GR001**	**MI001**	**OS001**	**OS002**	**TE001**
April	0.701	0.705	0.834			2.757	1.054	0.939	1.797		0.891	12.892	1.847	0.774			6.544
May	0.062	0.000	0.000			0.000	0.000	0.000	1.208	0.000	0.000	0.014	0.000	0.000			0.000
June	0.019	0.005	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.116	0.000	0.000			0.000
July	0.013	0.037	0.000			0.000	0.000	0.000	0.000	0.000	0.000	0.076	0.000	0.000	0.000		0.000
August	0.848	0.128	0.041					64.650			94.971	33.632	65.406				61.508
September	0.602	0.000	0.420			0.000	0.000	0.000	0.000	0.000	4.603	7.821	0.133	0.000	0.000		0.000
October	0.058	0.011	0.004			8.002		1.396	0.000	1.834	0.873	0.294	0.721	0.892	11.138		3.667
November	0.044	0.013	0.001			4.714		0.458	0.821	0.649	1.619	0.130	2.711	2.325	16.265		5.713
Mean=	0.293	0.112	0.162			2.210	0.211	8.430	0.547	0.414	12.870	6.872	8.852	0.570	6.851		9.679
Median=	0.060	0.012	0.002			0.000	0.000	0.229	0.000	0.000	0.882	0.212	0.427	0.000	5.569		1.833

	2010 TP Loadings:																
Month	**WR000**	**WR001**	**WR002**	**WR004**	**WR005**	**BF001**	**BU000**	**BU001**	**BV001**	**EL001**	**CO001**	**DR001**	**GR001**	**MI001**	**OS001**	**OS002**	**TE001**
April	0.019	0.000	0.007		2.068	1.495	0.000	0.064	0.844	0.000	0.000	0.055	0.036	0.376	20.376	0.752	0.677
May	0.032	0.000	0.037		1.405	1.066	0.030	0.127	0.000	0.000	0.000	0.128	0.000	0.000	0.969	0.676	0.894
June	0.061	0.000	0.044		0.808	1.234	0.101	0.000	6.435	0.000	5.459	2.099	3.364	0.000	4.505	0.052	1.823
July	0.009	0.000	0.062		0.242	0.000	0.014	0.562	0.000	0.000	0.748	0.023	0.000	0.000	17.720	0.045	0.000
August	0.006	0.000	0.012		1.620	0.000	0.000	0.015	0.000	0.000	0.000	0.025	0.000	0.000	2.637	0.778	0.000
September	0.003	0.014	0.011		0.821	0.970	0.000	0.000	0.000	0.000	0.000	0.008	0.000	0.000	9.529	0.024	0.000
October	0.472	0.042	0.082		6.235	1.215	0.000	2.210	0.000	0.191	0.544	0.379	0.000	0.000	1.841	3.579	0.019
November	1.225	0.317	2.000		19.601	1.697	0.000	2.449	13.621	1.030	1.589	1.428	1.072	1.604	35.728	9.995	0.418
Mean=	0.228	0.047	0.282		4.100	0.960	0.018	0.679	2.612	0.153	1.042	0.518	0.559	0.247	11.663		0.479
Median=	0.025	0.000	0.040		1.512	1.141	0.000	0.096	0.000	0.000	0.272	0.092	0.000	0.000	7.017		0.219

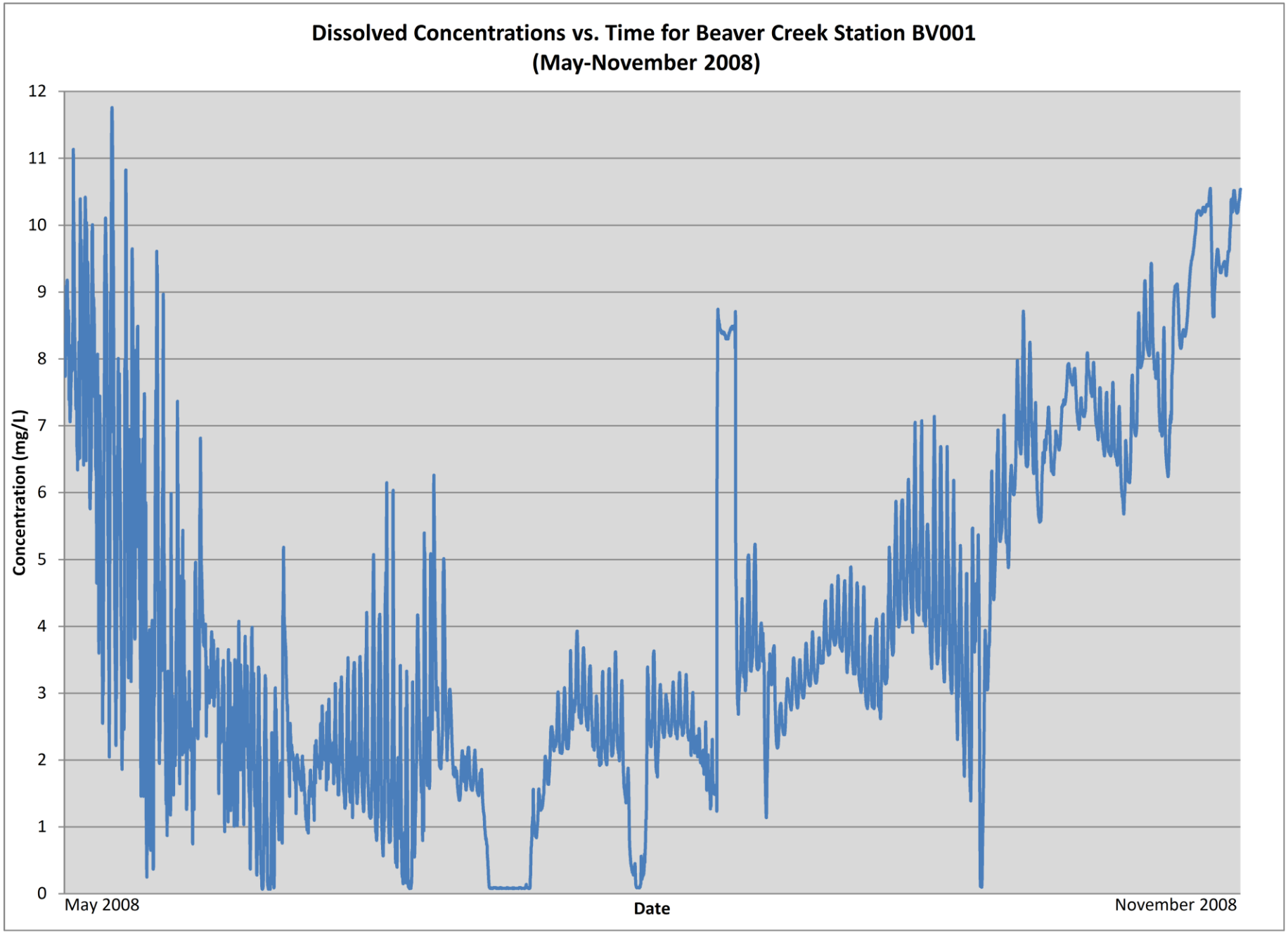
	Median TP Loading 2008-2010																
	WR000	**WR001**	**WR002**	**WR004**	**WR005**	**BF001**	**BU000**	**BU001**	**BV001**	**EL001**	**CO001**	**DR001**	**GR001**	**MI001**	**OS001**	**OS002**	**TE001**
2008 Median (kg/d)	0.134	0.056	0.005	2.797	19.068	0.436	0.007	0.064	3.667	0.076	0.939	0.516	0.179	0.189	7.406	17.487	0.515
2009 Median (kg/d)	0.060	0.012	0.002			0.000	0.000	0.229	0.000	0.000	0.882	0.212	0.427	0.000	5.569		1.833
2010 Median (kg/d)	0.228	0.047	0.082		6.235	1.141	0.000	0.679	2.612	0.153	0.939	0.516	0.179	0.189	7.406		0.418
TP Loading (kg/d)	0.141	0.038	0.029	0.932	8.434	0.526	0.002	0.324	2.093	0.076	0.920	0.415	0.262	0.126	6.794	5.829	0.922
TP Unit Area Loading (kg/ha/y)						0.023		0.047	0.103	0.011	0.084	0.140	0.070	0.014	0.131		0.103

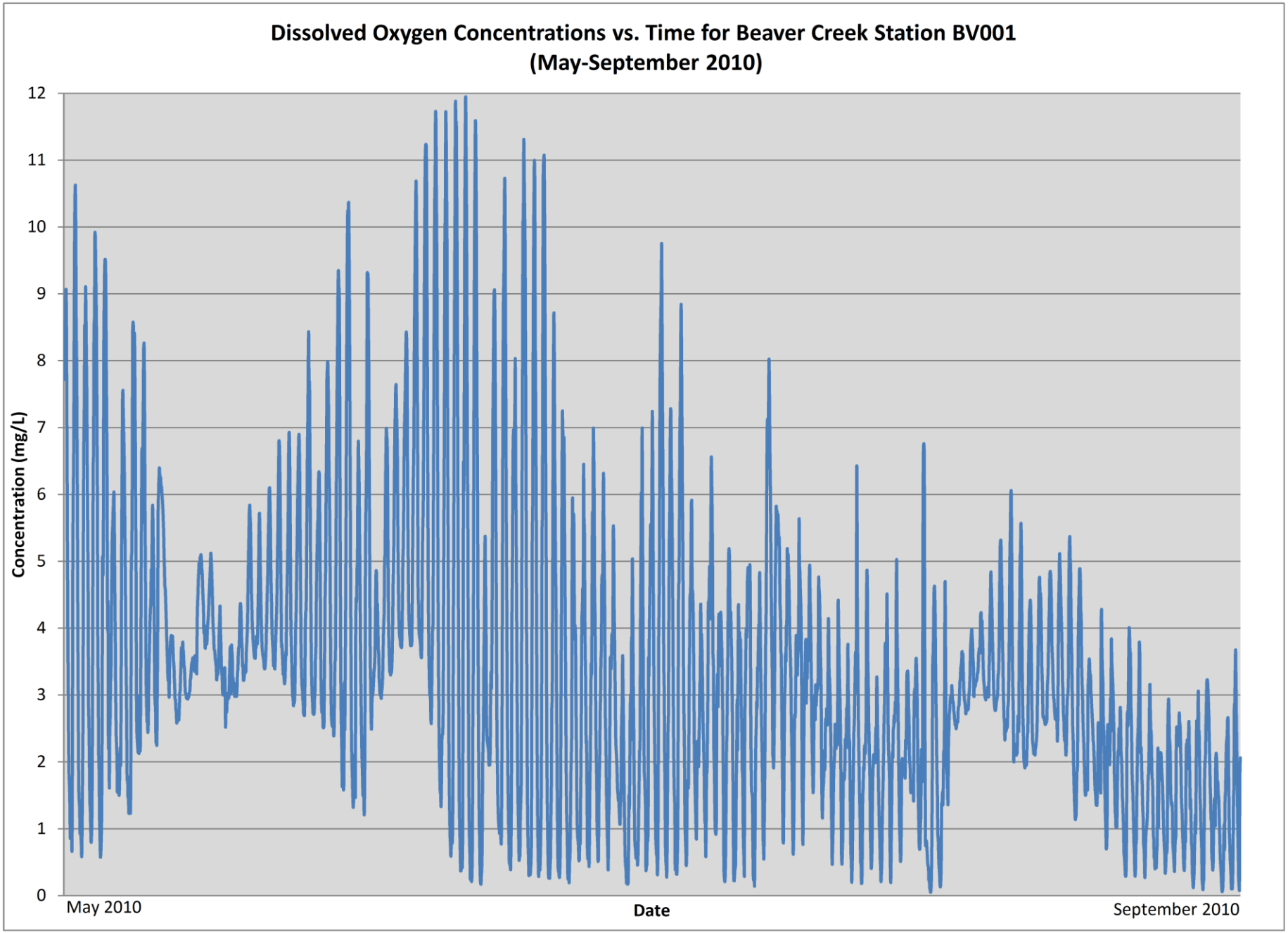
	Mean TP Loading 2008-2010																
	WR000	**WR001**	**WR002**	**WR004**	**WR005**	**BF001**	**BU000**	**BU001**	**BV001**	**EL001**	**CO001**	**DR001**	**GR001**	**MI001**	**OS001**	**OS002**	**TE001**
2008 Mean (kg/d)	0.286	0.117	0.015	5.581	139.680	0.794	1.604	5.872	9.851	1.143	7.364	1.230	7.500	0.338	7.490	60.156	0.870
2009 Mean (kg/d)	0.293	0.112	0.162	0.000	0.000	2.210	0.211	8.430	0.547	0.414	12.870	6.872	8.852	0.570	6.851	0.000	9.679
2010 Mean (kg/d)	0.228	0.047	0.282	0.000	4.100	0.960	0.018	0.679	2.612	0.153	1.042	0.518	0.559	0.247	11.663	0.000	0.479
TP Loading (kg/d)	0.269	0.092	0.153	1.860	47.927	1.321	0.611	4.994	4.337	0.570	7.092	2.873	5.637	0.385	8.668	20.052	3.676
TP Unit Area Loading (kg/ha/y)						0.058		0.723	0.213	0.079	0.650	0.967	1.499	0.042	0.167		0.411

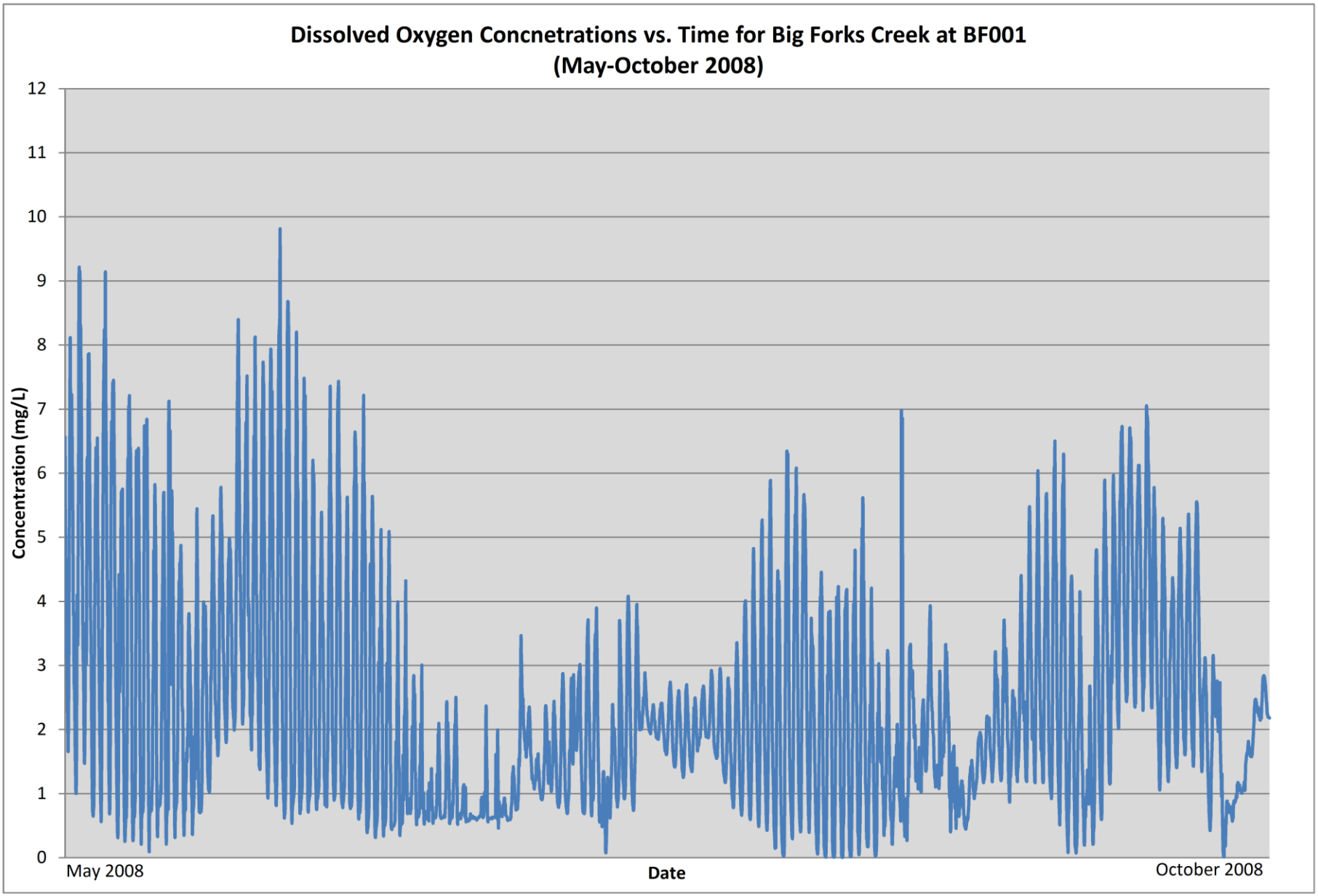
Appendix H

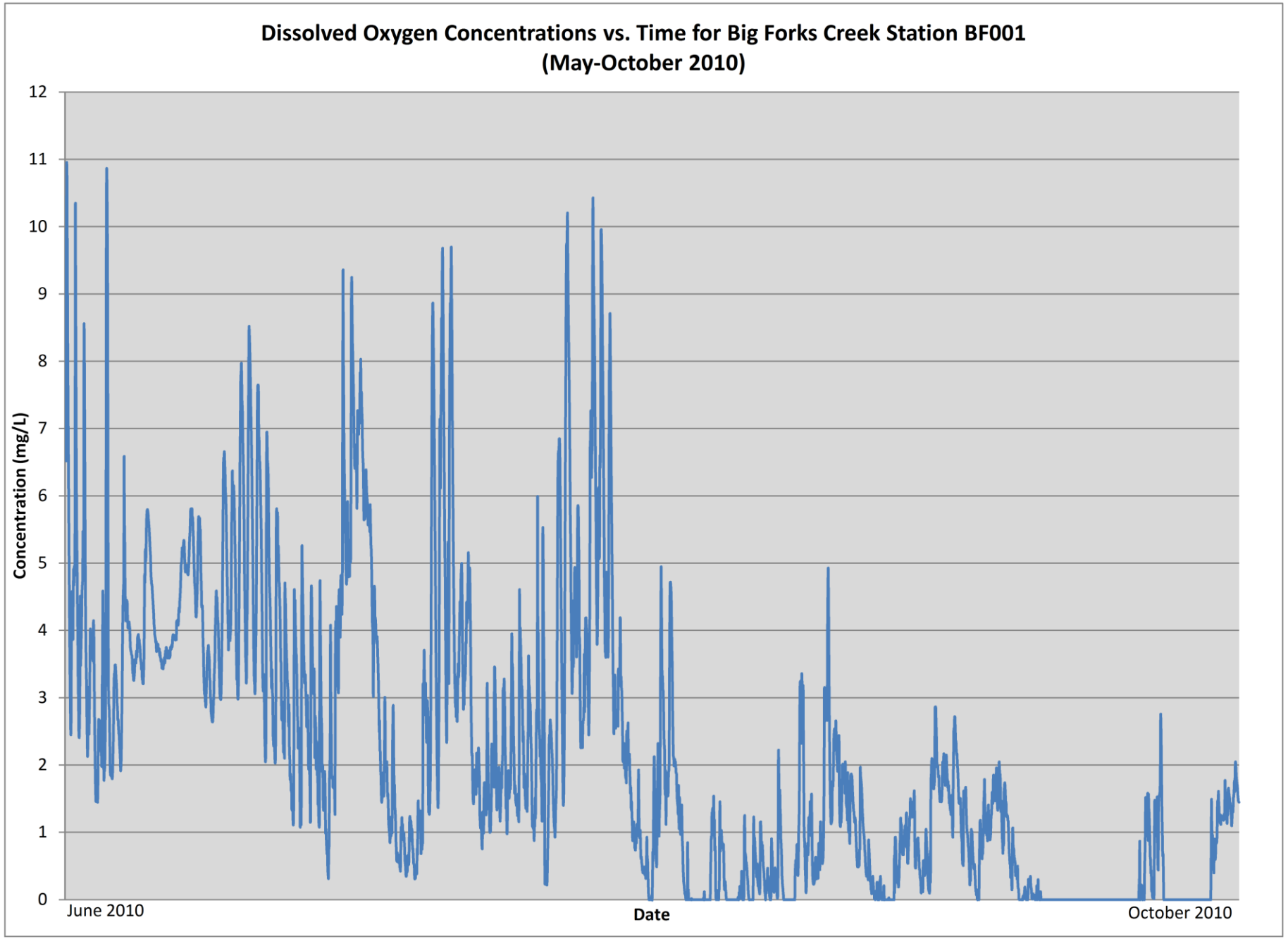
	Chlorophyll-A 2008-2010 (µg/L)																					
Date	**WR00A**	**WR000**	**WR001**	**WR002**	**WR003**	**WR004**	**WR005**	**WR006**	**WR007**	**WR010**	**BF001**	**BU000**	**BU001**	**BV001**	**CO001**	**DR001**	**EL001**	**GR001**	**LY003**	**MI001**	**OS001**	**OS002**	**TE001**
2008-04-28	0.3	3.1	1.5	0.1	24.9	9.8	9.6	25	3.7	0.2	13.4	5.2	1.6	0.4	6.5	3.7	4.7	1	8.5	3	24.6	6.2	1.6
2008-05-26	0.3	8	28.8	3.8	2.2	1.3	2.2	9	2.7	0.1	3.3	2.2	1	1.7	0.9	1.6	1	1.3	2.3	0.7	40.1	7.6	1.7
2008-06-23	0.7	3.5	1.1	4.8	2.6	2.8	1.6	22.5	2	0.7	1.3	1.5	50.9	0.6	7	0.1	5.9	0.8	2.2	0.7	14.5	1.6	0.7
2008-07-29	1.1	1.3	0.1	0.1	0.1	0.6	0.1	2.7	1.6	0.1	0.7	0.1	0.6	0.1		0.1	0.1		0.1	0.1	0.1	0.1	0.1
2008-08-25	0.1	0.1	0.1	0.6	0.6	3.2	1.1	3.3	13	0.6	4.2	3.5	5.2	1.1	1.6	1.5	4.7	0.7	0.6	1.5	17.4	1.3	14.5
2008-09-30	0.1	0.1	0.8	0.1	3.2	8.7	35.1	16.7	11	2.5	1.5	5.9	0.1	2	4.7	3.1	2.7	0.1	2.2	1	27.3	3.3	0.8
2008-10-29	0.1	7.9	0.3		2.3	1.6	6.6	24.8	1.7	0.8	1.5	3.3	2.9	3	1.6	1.3	3.8	0.5	1.6	2.5	32.8	3.1	1.7
2008-11-18	0.5	23.8	0.1	0.1	3.8	3.2	3.3	6.3	41	13.2	3	0.1	0.1	4.6	0.1	1.5	3	0.3	0.9	2.2	4.8	5.1	0.2
2009-05-26		2.2	7.3		4.2	2.5	5.9	7.3	3.3	0.1	1.9	16.3	0.4	5.6	1.5	1.9	14.2	36.3	10.1	2.6	38.3	6.5	2.9
2009-06-16	0.8	1	1.9	2.5	4.1	2.5	5.4	4.4	5.5	0.3	10.6	1.2	4.9	11.2	3.1	1.7	2	1.2	3.7	0.4	33.7	6	2.1
2009-07-21	0.7	0.7		6.9	8.8	4.2	9.7	16.1	7.9		11.1		0.9	0.7	1.19	2	4.4	1.3	3.3	2.2	12.7	5.6	3.2
2009-08-10	0.6	19.8	0.7	0.5	2.3	6.6	6.4	4.8	9.6	4.6	10.9	2.5	2.2	2.2	4.2	2.8	2.7	3.8	7.5		1.6	3.3	3.4
2009-09-28	0.7	8.6	0.6	0.3	1.9	13.8	6.5	12	6.8	1	6.3	18.4	1.5	2.8	4	1.6	2.6	1.6	3.9	5.1	12.8	30.1	4.5
2009-10-27	0.6	10.8	0.1	0.9	0.1	9.6	4.5	4.6	8.9	1.9	0.7	0.3	1	0.1	3.2	3.2	1	1	15.1	1.3	41.2	5	2.3
2009-11-23	0.7	6.6	0.1	0.7	0.5	5.8	6.8	1.6	5.8	0.8	0.1	6.4	1.3	1.6	3.9	2.5	14.1	1.3	4.2	3.1	2.4	3.4	1.5
2010-04-27	3.3	11.7	1.2	0.6	4	7.2	20.8	26.7	32.1	0.1	10.9	3.7	3	1.7	3.1	6.1	24.8	3.7	16.1	16.1	154	22.5	2.4
2010-05-25	0.6	10.6	9.2	2.7	4.7	3.7	9	17.5	36.9	3.3	3.2	9.3	2.9	2.3	8.4	5.8	9.9	3.2	7.1	39.2	71.1	15.6	1.2
2010-06-29	1.7	6.2	2	0.1	7.2	3.9	32.8	30.1	12.6	0.7	4.4	40.7	2	4.1	8.5	2.4	31	4	6.2	2.8	37.2	29.7	4.4
2010-08-30	0.6	13.4	1.6	1.9	1.7	6.2	18.8	30.6	4.3	1.4	3.9	14.2	0.7	0.2	9.2	0.1	1.3	0.1	3.9	11.4	14.6	2.6	7.4
2010-09-27	0.1	0.2	2.2	0.8	16.4	13.7	4.1	4.8	1	0.8	4	19.4	1.4	4.8	0.2	0.1	0.8	0.2	0.1	0.8	7.7	3.1	34.9
2010-10-25	0.1	0.1	4.7	0.1	1	7.8	5.6	5.3	10.9	0.8	1	0.1	0.1	2.3	8.8	1.5	0.8	14.7	2.6	0.8	25.7	2.5	4.7
2010-11-22	0.1	7.9	0.5	1.2		0.1		0.2	0.1	1.5	0.7	3.1	0.1	1.6	0.1	0.1	0.7	0.1	3.8	1	0.1	0.7	0.1
Mean=	**0.7**	**6.7**	**3.1**	**1.4**	**4.6**	**5.4**	**9.3**	**12.6**	**10.1**	**1.7**	**4.5**	**7.5**	**3.9**	**2.5**	**3.9**	**2.0**	**6.2**	**3.7**	**4.8**	**4.7**	**27.9**	**7.5**	**4.4**
Median=	**0.6**	**6.4**	**1.1**	**0.65**	**2.6**	**4.05**	**6.4**	**8.15**	**6.3**	**0.8**	**3.25**	**3.5**	**1.35**	**1.85**	**3.2**	**1.65**	**2.85**	**1.2**	**3.75**	**2.2**	**21**	**4.2**	**2.2**

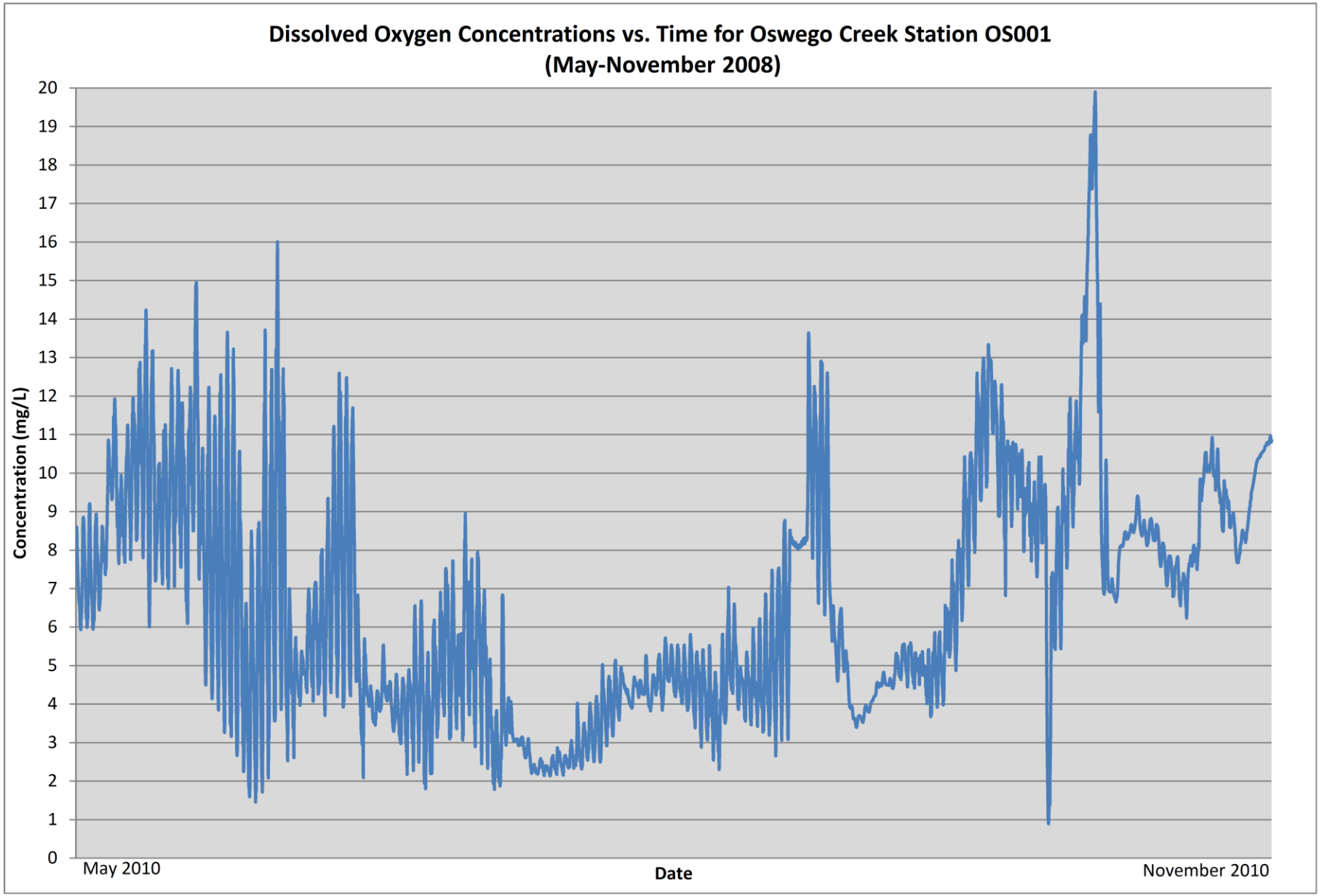
Appendix I

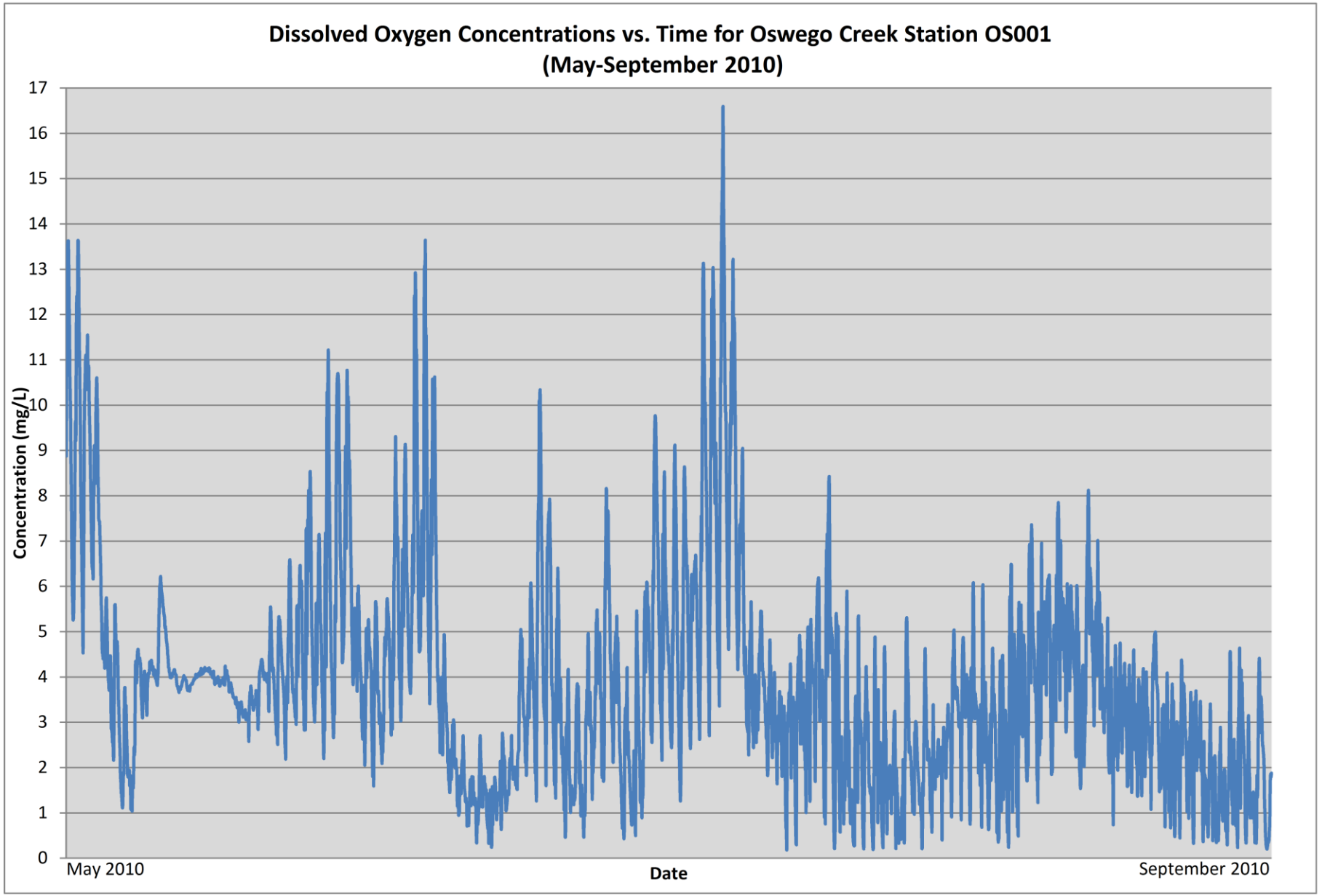

Dissolved Concentrations vs. Time for Beaver Creek Station BV001
(May-November 2008)
Concentration (mg/L)
0
1
2
3
4
5
6
7
8
9
10
11
12
May 2008
Date
November 2008

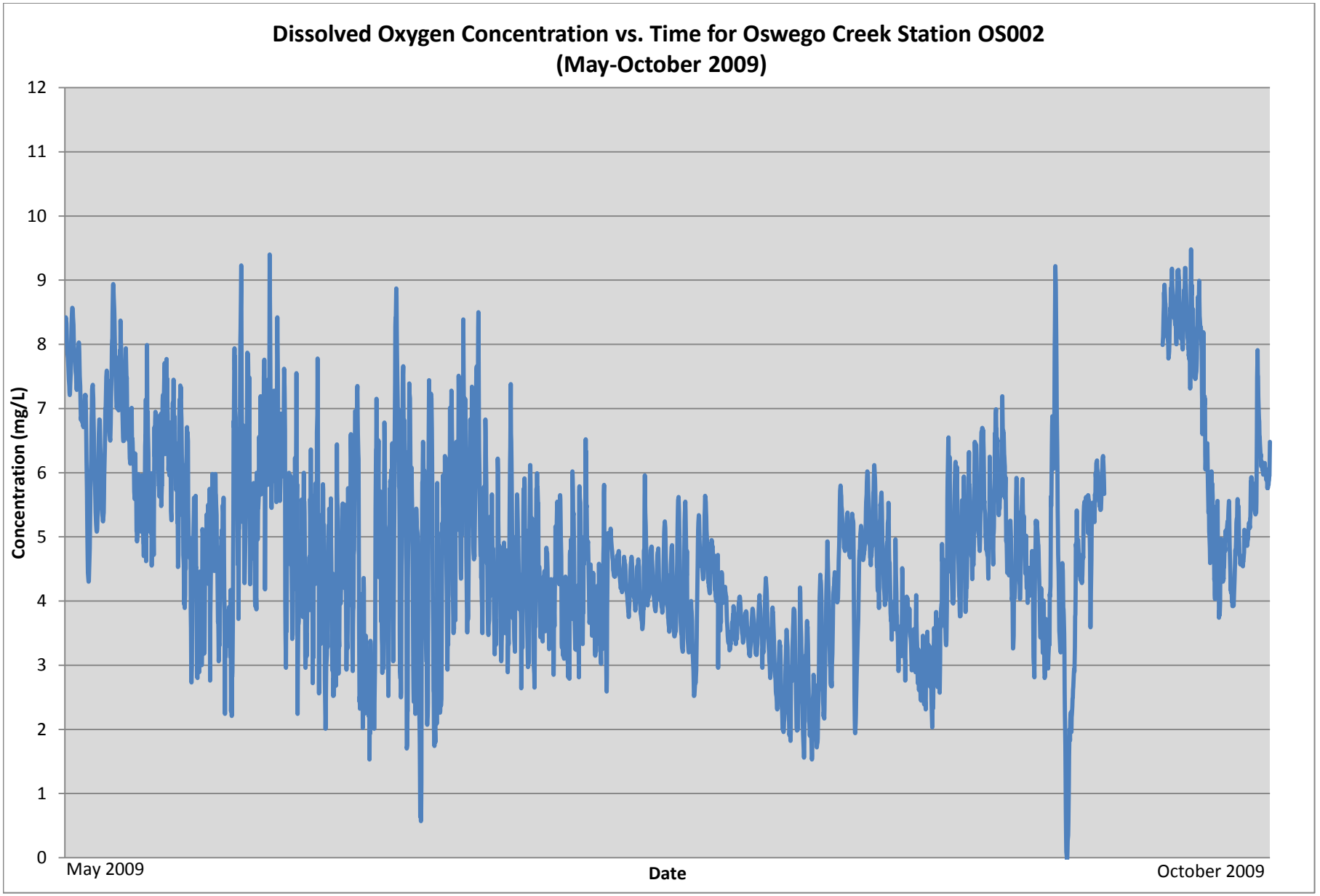

Dissolved Oxygen Concentrations vs. Time for Beaver Creek Station BV001
(May-September 2010)
Concentration (mg/L)
12
11
10
9
8
7
6
5
4
3
2
1
0
May 2010
Date
September 2010

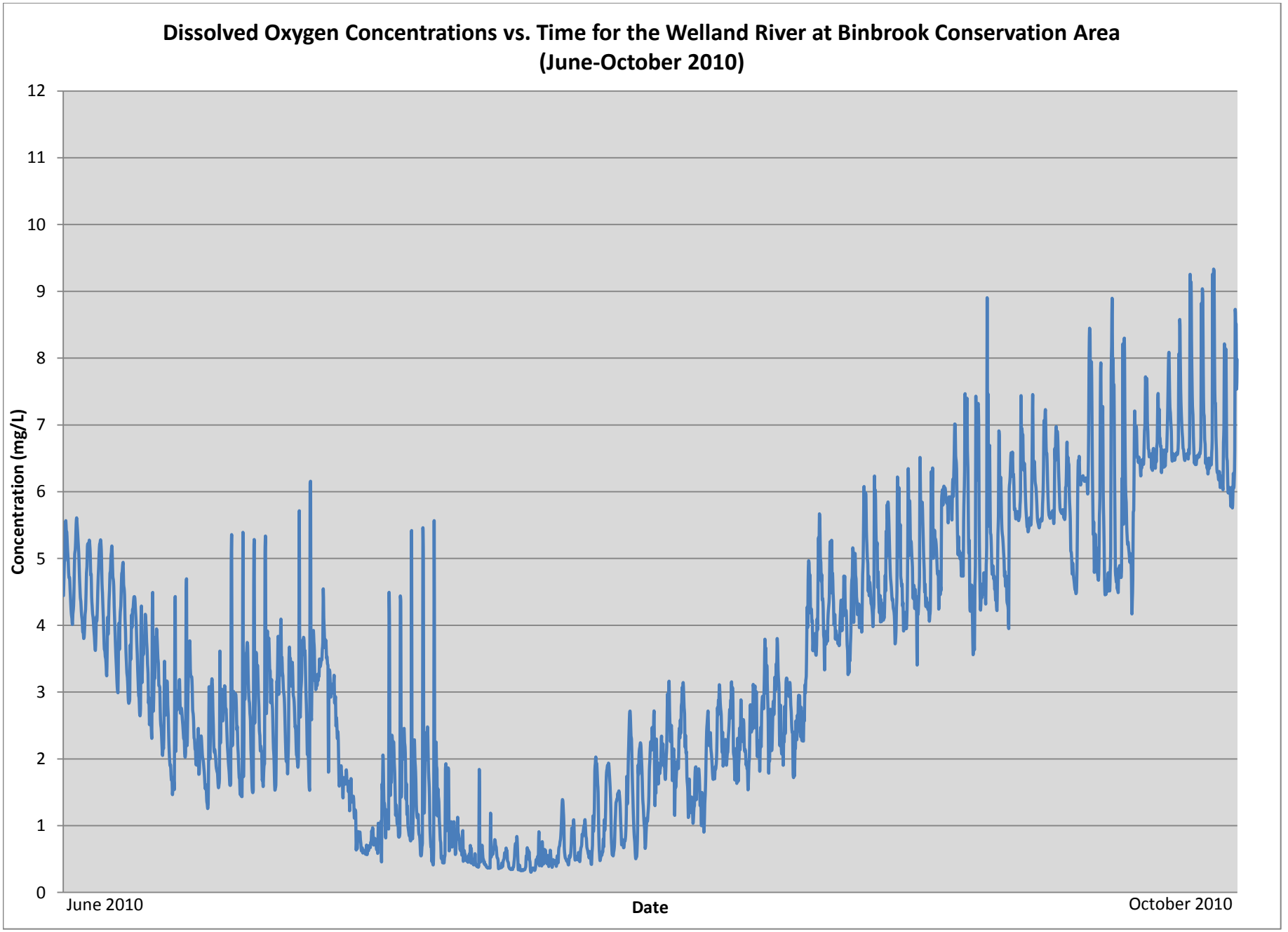

Dissolved Oxygen Concnetrations vs. Time for Big Forks Creek at BF001
(May-October 2008)
Concentration (mg/L)
12
11
10
9
8
7
6
5
4
3
2
1
0
May 2008
Date
October 2008

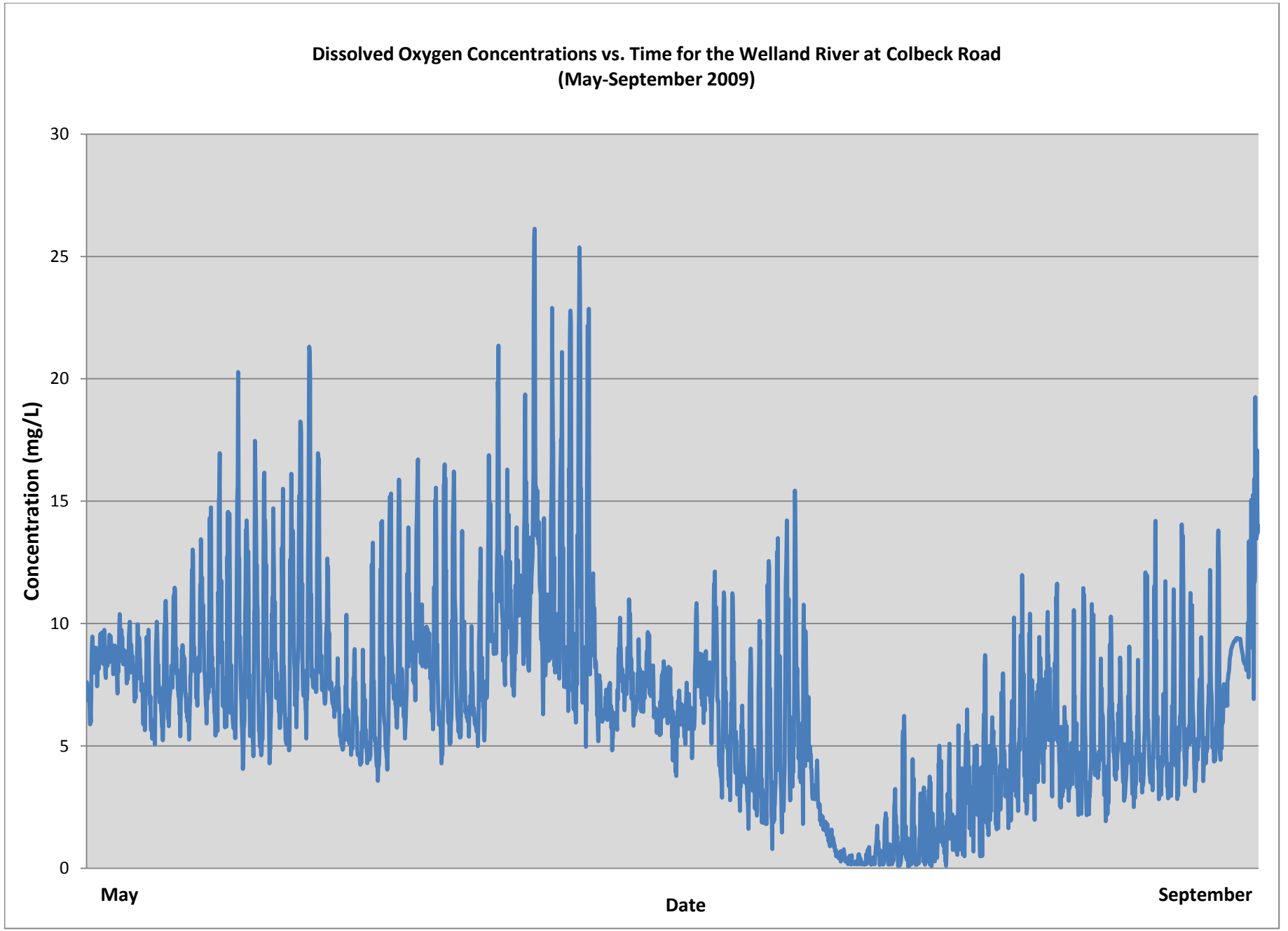

Dissolved Oxygen Concentrations vs. Time for Big Forks Creek Station BF001
(May-October 2010)
Concentration (mg/L)
12
11
10
9
8
7
6
5
4
3
2
1
0
June 2010
Date
October 2010

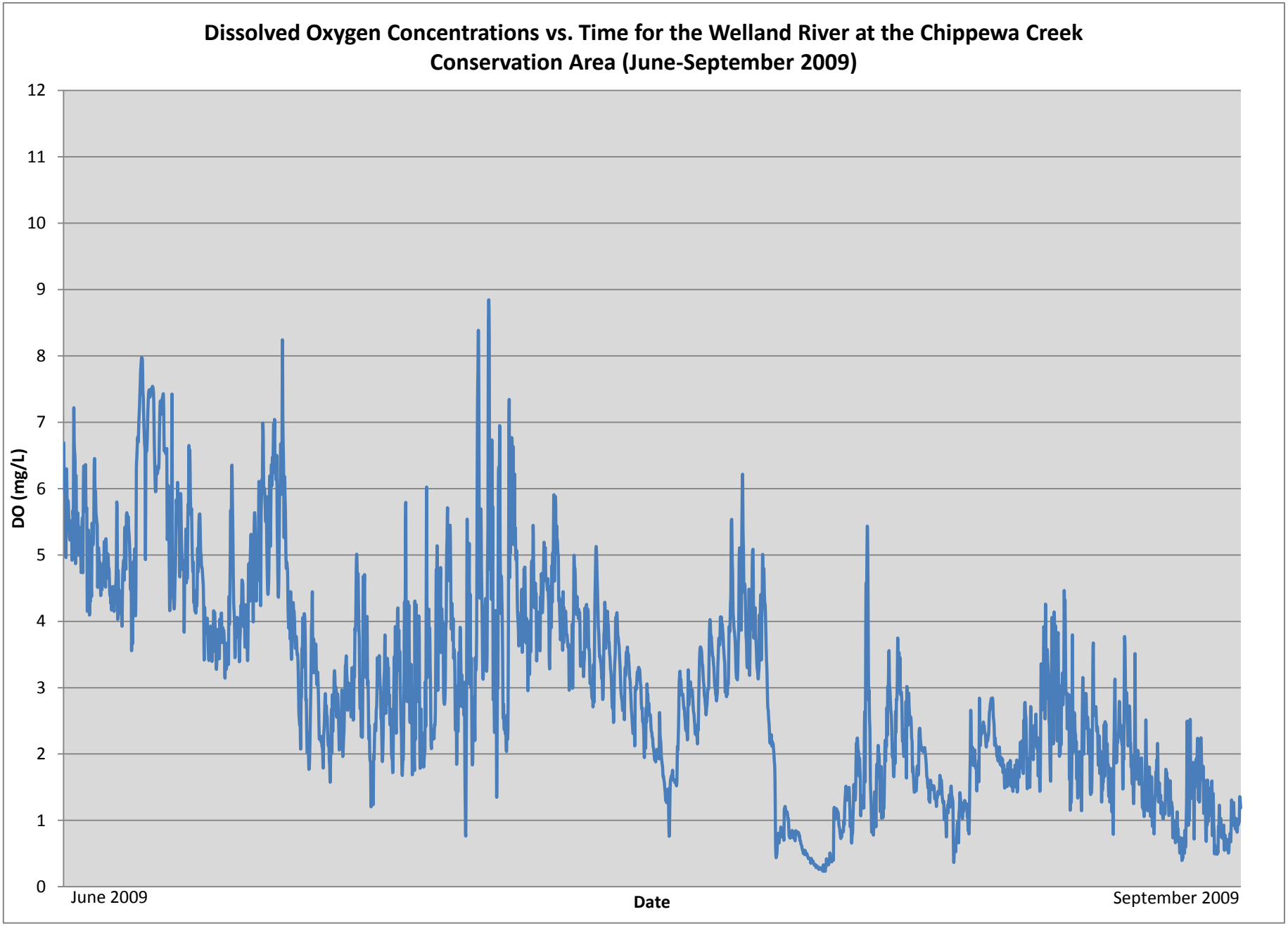

Dissolved Oxygen Concentrations vs. Time for Oswego Creek Station OS001
(May-November 2008)
Concentration (mg/L)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
May 2010
Date
November 2010

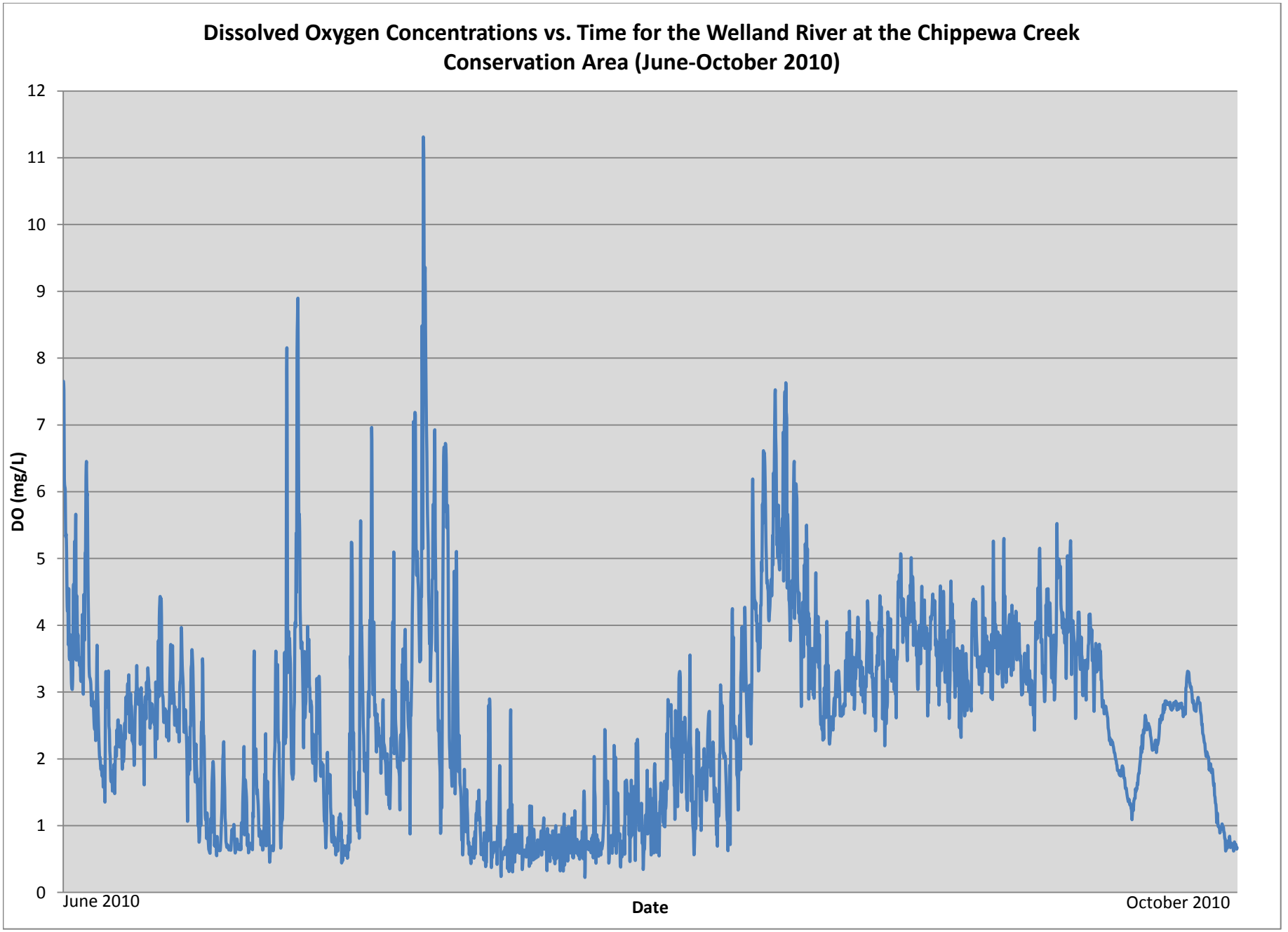

Dissolved Oxygen Concentrations vs. Time for Oswego Creek Station OS001
(May-September 2010)
Concentration (mg/L)
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
May 2010
Date
September 2010

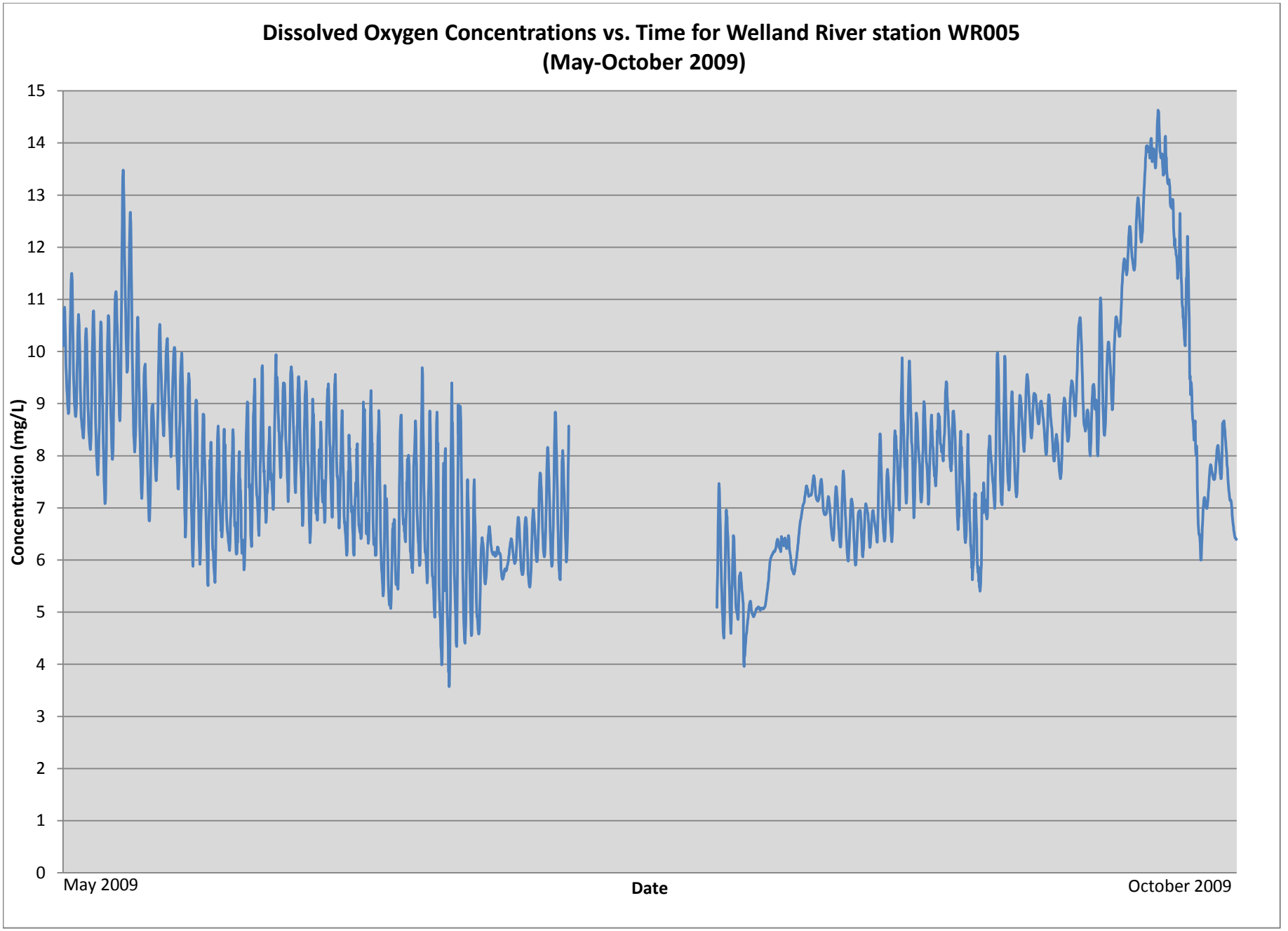

Dissolved Oxygen Concentration vs. Time for Oswego Creek Station OS002
(May-October 2009)
12
11
10
9
8
7
6
5
4
3
2
1
0
Concentration (mg/L)
May 2009
Date
October 2009

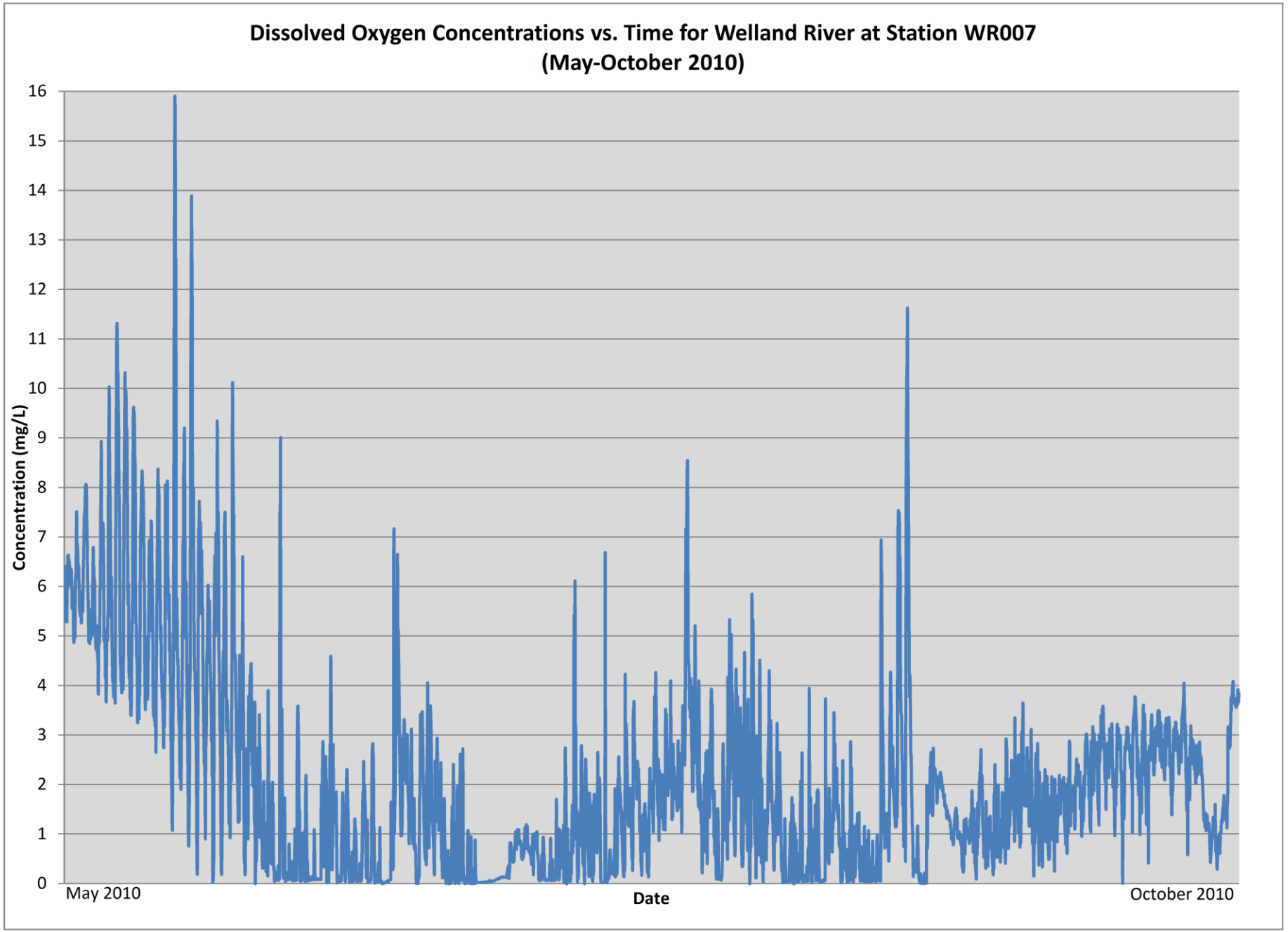

Dissolved Oxygen Concentrations vs. Time for the Welland River at Binbrook Conservation Area
(June-October 2010)
12
11
10
9
8
7
6
5
4
3
2
1
0
Concentration (mg/L)
June 2010
Date
October 2010


Dissolved Oxygen Concentrations vs. Time for the Welland River at Colbeck Road
(May-September 2009)
30
25
20
15
10
5
0
Concentration (mg/L)
May
Date
September

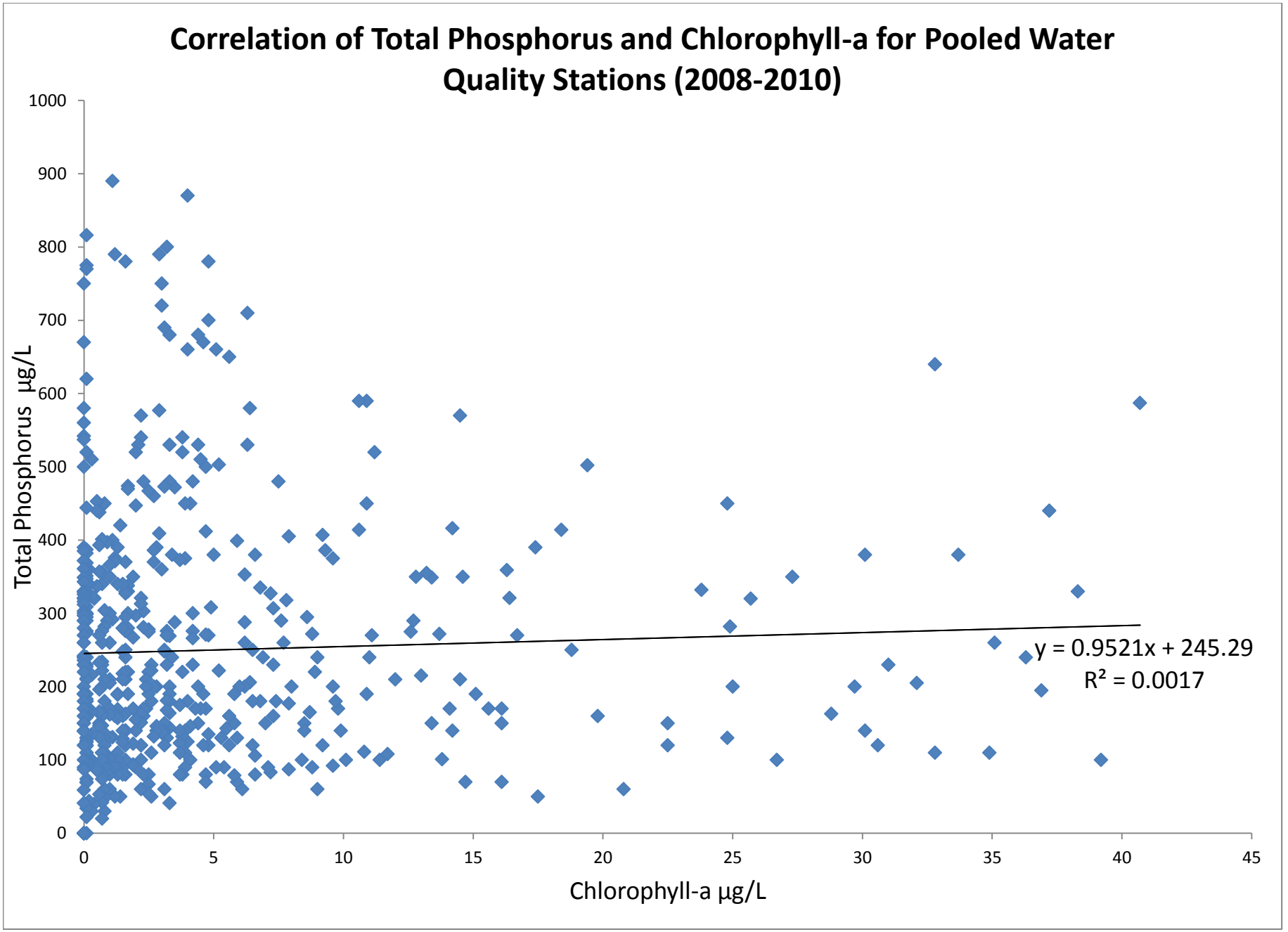

Dissolved Oxygen Concentrations vs. Time for the Welland River at the Chippewa Creek Conservation Area (June-September 2009)
DO (mg/L)
12
11
10
9
8
7
6
5
4
3
2
1
0
June 2009
Date
September 2009

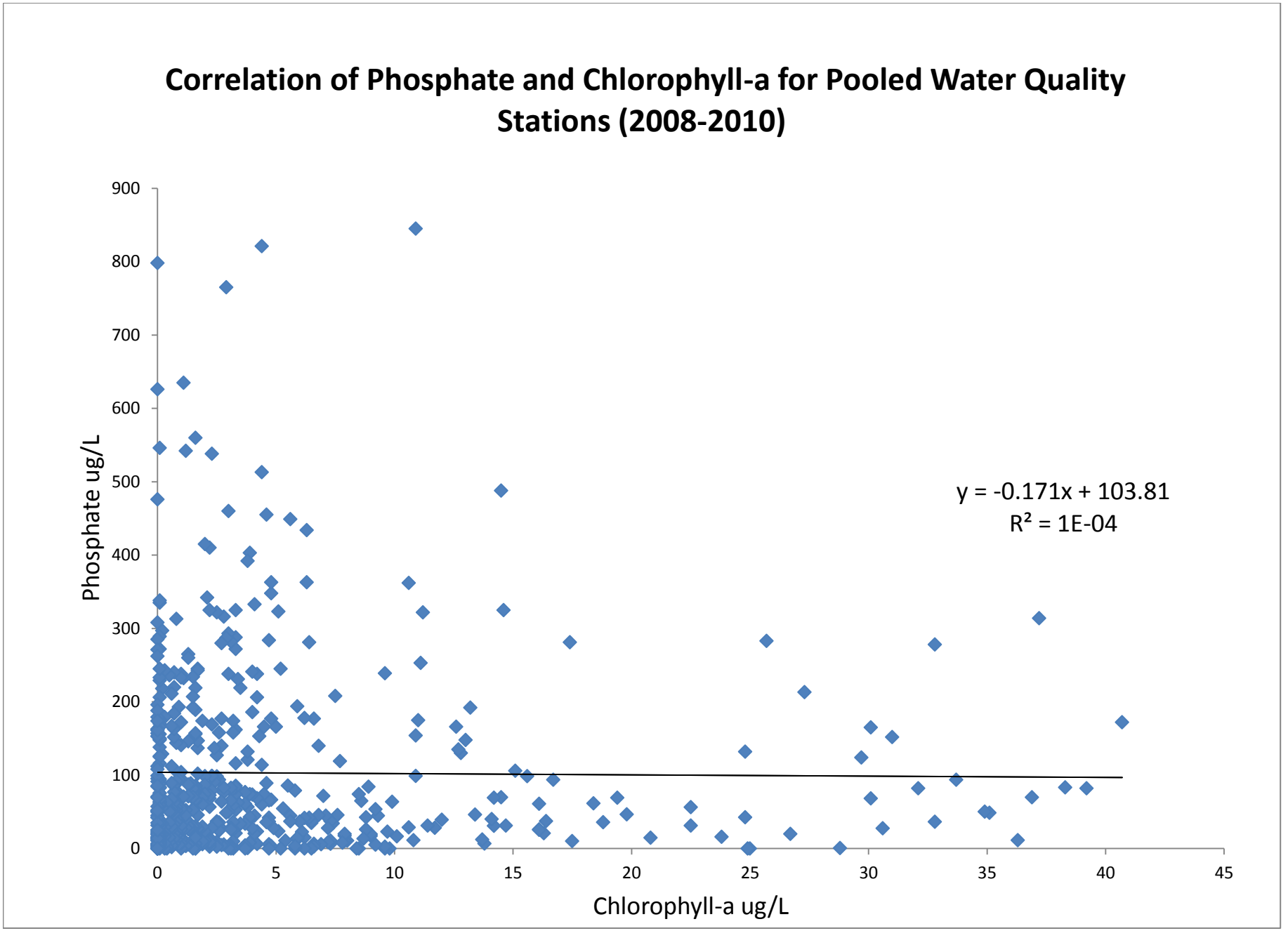

Dissolved Oxygen Concentrations vs. Time for the Welland River at the Chippewa Creek Conservation Area (June-October 2010)
12
11
10
9
8
7
6
5
4
3
2
1
0
DO (mg/L)
June 2010
Date
October 2010

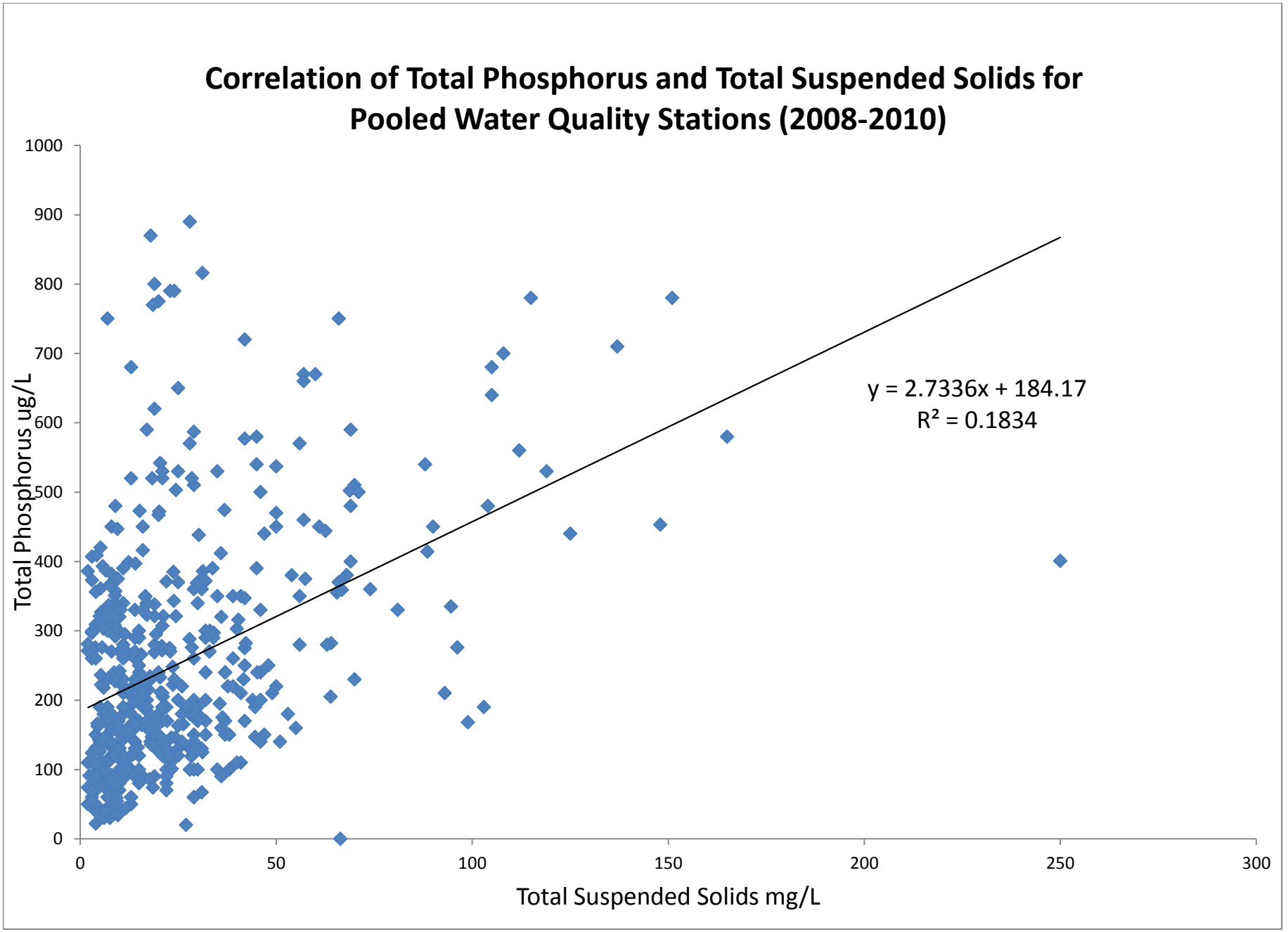

Dissolved Oxygen Concentrations vs. Time for Welland River station WR005
(May-October 2009)
Concentration (mg/L)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
May 2009
Date
October 2009

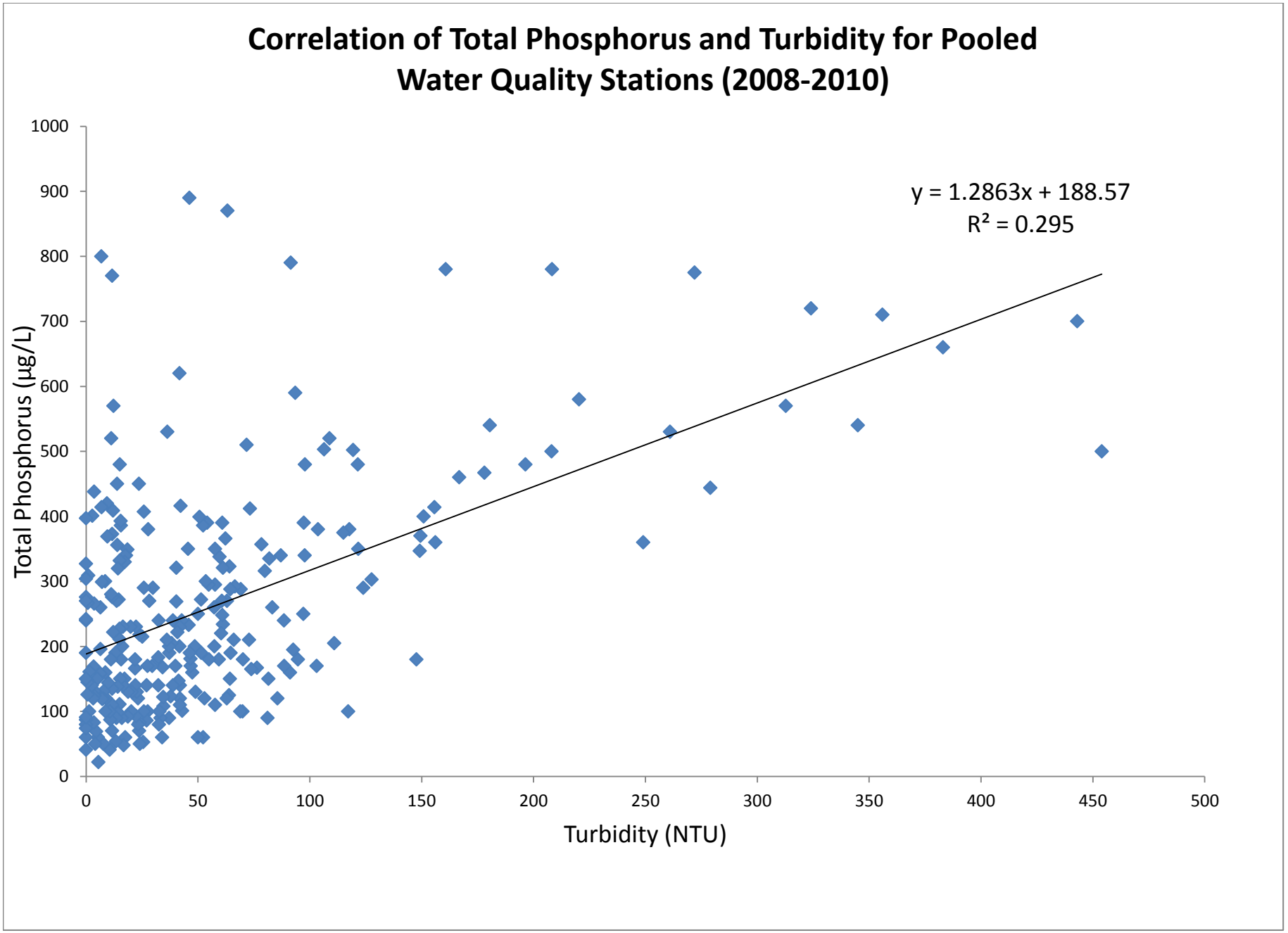

Dissolved Oxygen Concentrations vs. Time for Welland River at Station WR007
(May-October 2010)
Concentration (mg/L)
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
May 2010
Date
October 2010

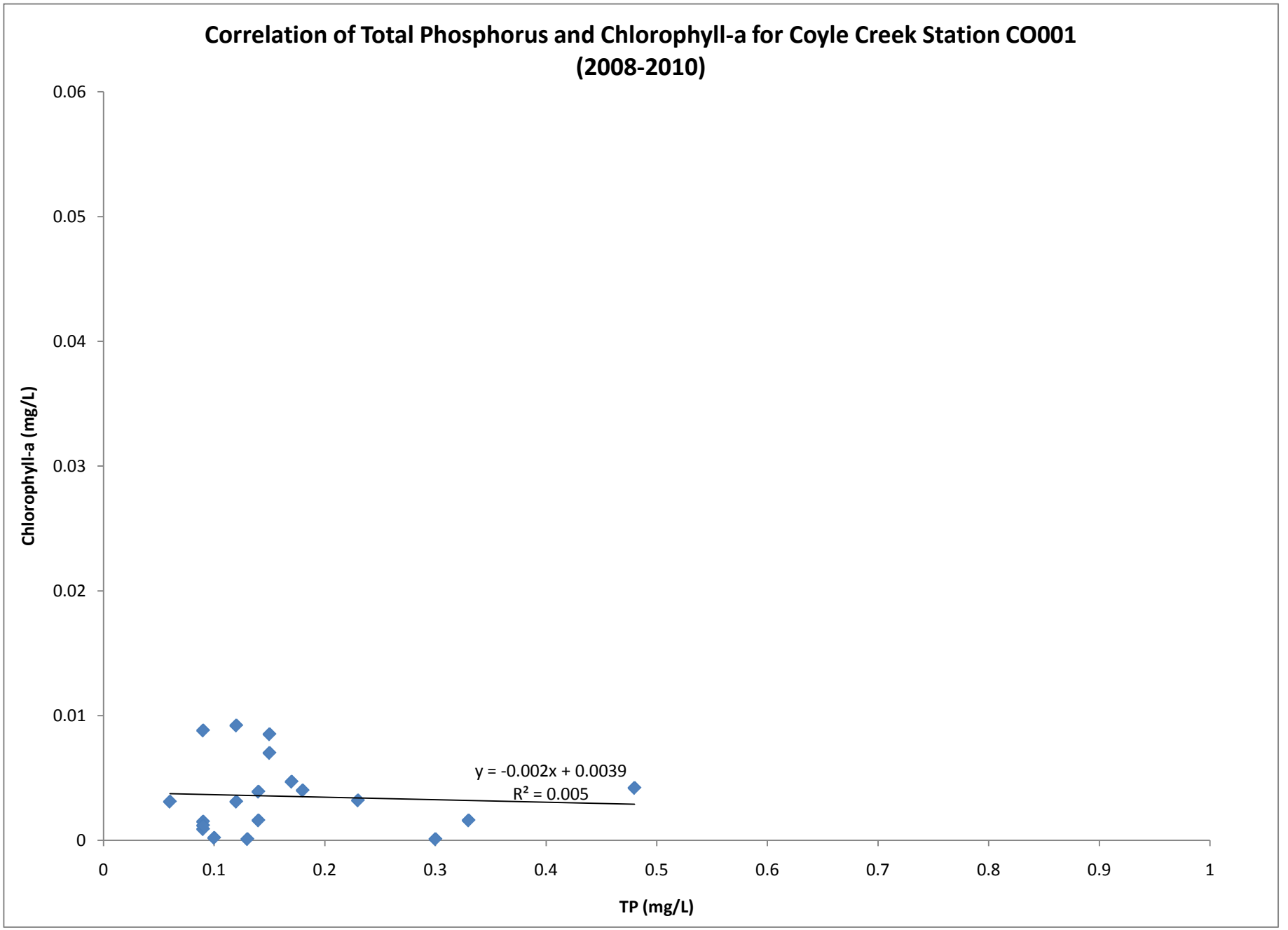
Appendix J

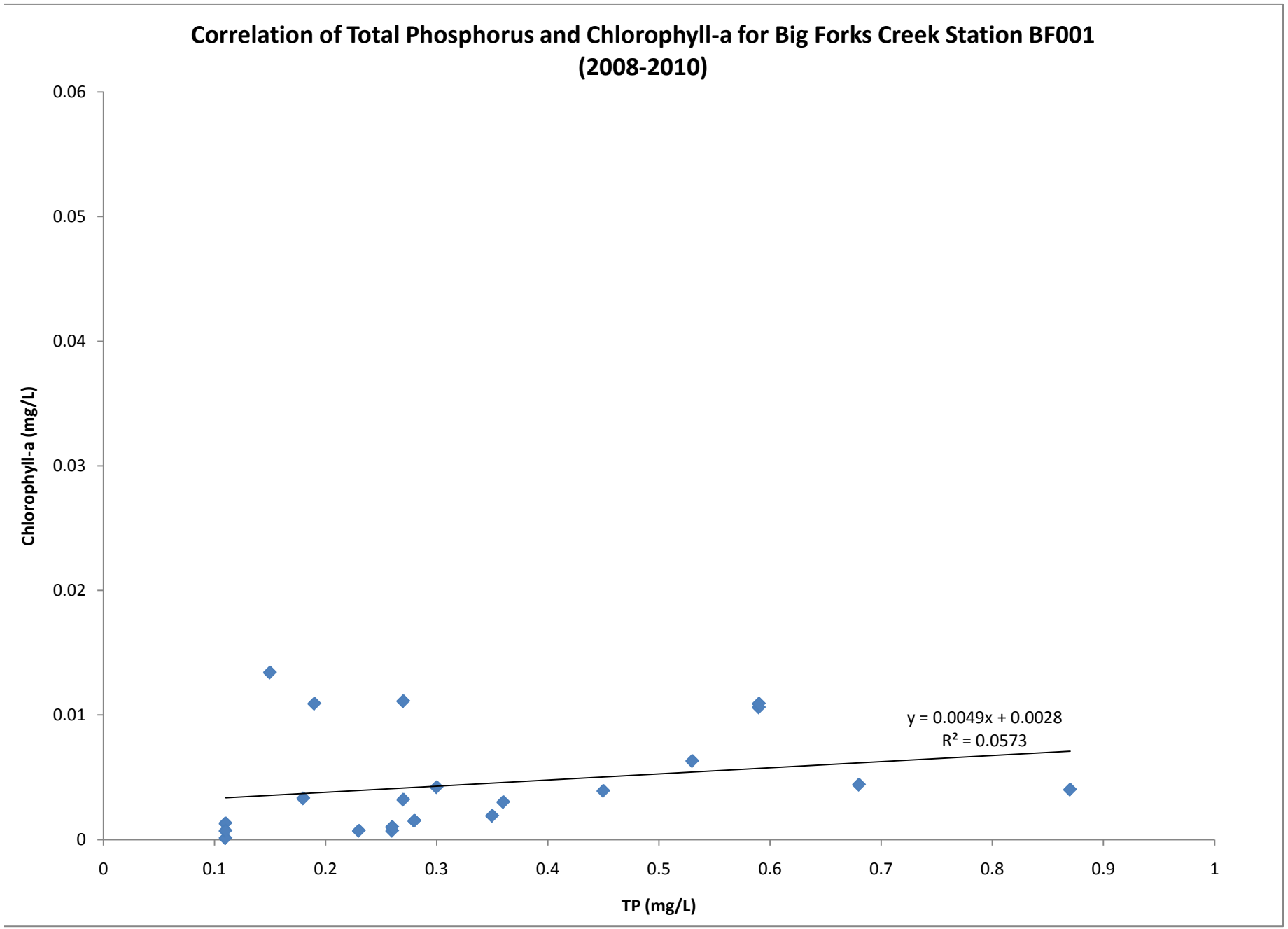

Correlation of Total Phosphorus and Chlorophyll-a for Pooled Water Quality Stations (2008-2010)
Total Phosphorus µg/L
Chlorophyll-a µg/L
y = 0.9521x + 245.29
R² = 0.0017
0
100
200
300
400
500
600
700
800
900
1000
0
5
10
15
20
25
30
35
40
45

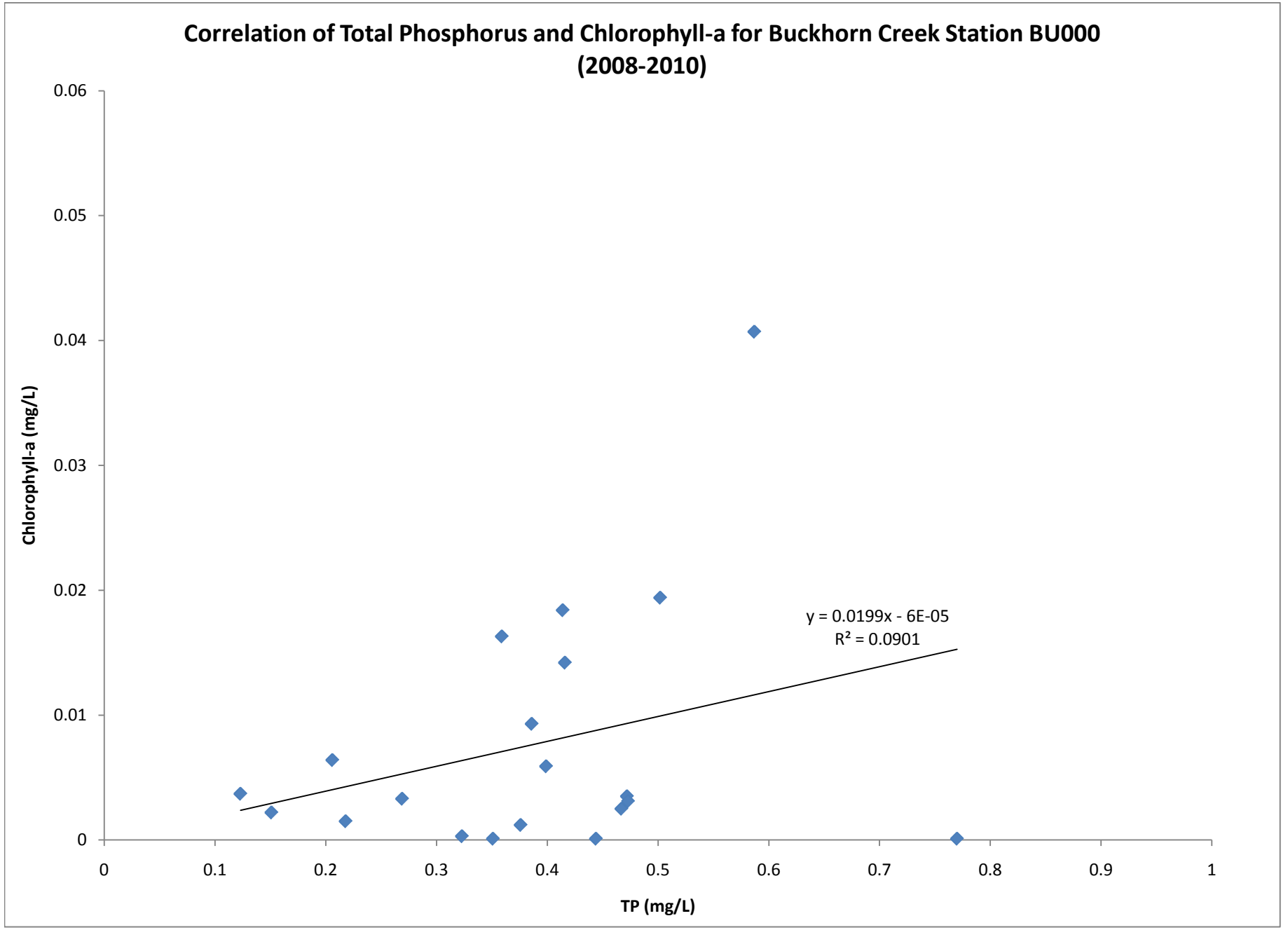

Correlation of Phosphate and Chlorophyll-a for Pooled Water Quality Stations (2008-2010)
Phosphate ug/L
Chlorophyll-a ug/L
y = -0.171x + 103.81
R² = 1E-04
900
800
700
600
500
400
300
200
100
0
0
5
10
15
20
25
30
35
40
45

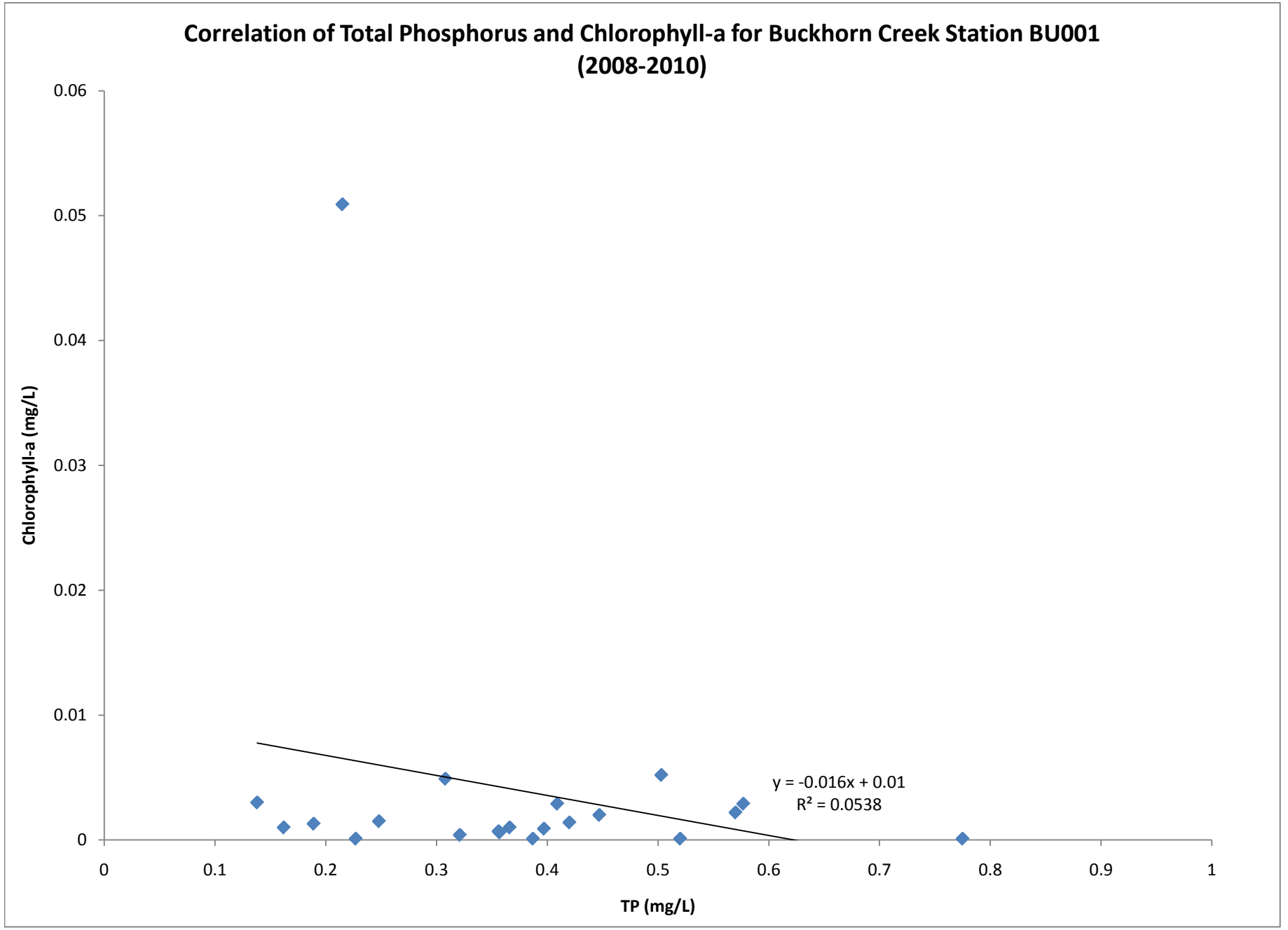

Correlation of Total Phosphorus and Total Suspended Solids for Pooled Water Quality Stations (2008-2010)
Total Phosphorus ug/L
Total Suspended Solids mg/L
y = 2.7336x + 184.17
R² = 0.1834
0
100
200
300
400
500
600
700
800
900
1000
0
50
100
150
200
250
300

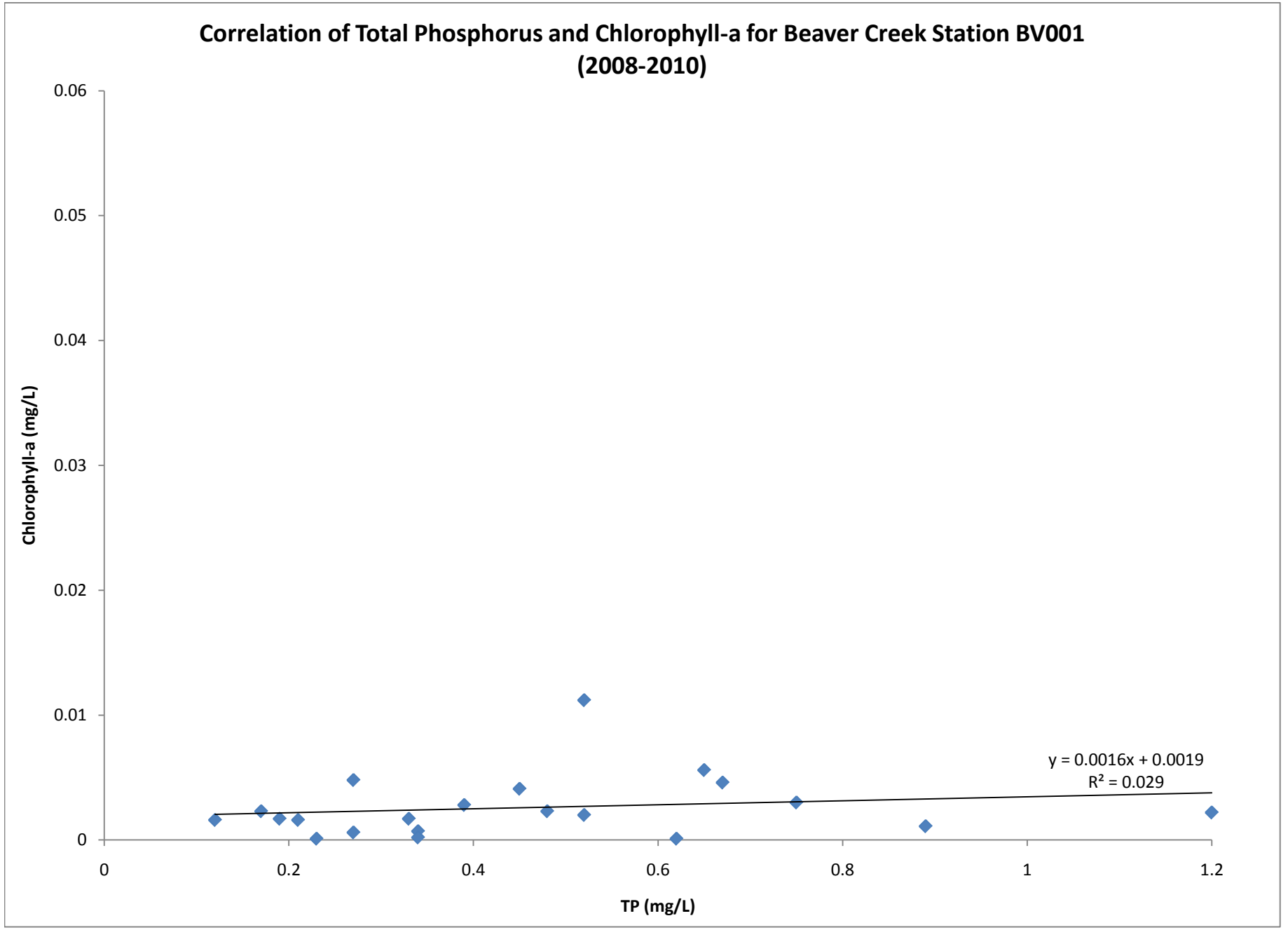

Correlation of Total Phosphorus and Turbidity for Pooled Water Quality Stations (2008-2010)
y = 1.2863x + 188.57
R² = 0.295
Total Phosphorus (µg/L)
Turbidity (NTU)
0
100
200
300
400
500
600
700
800
900
1000
0
50
100
150
200
250
300
350
400
450
500

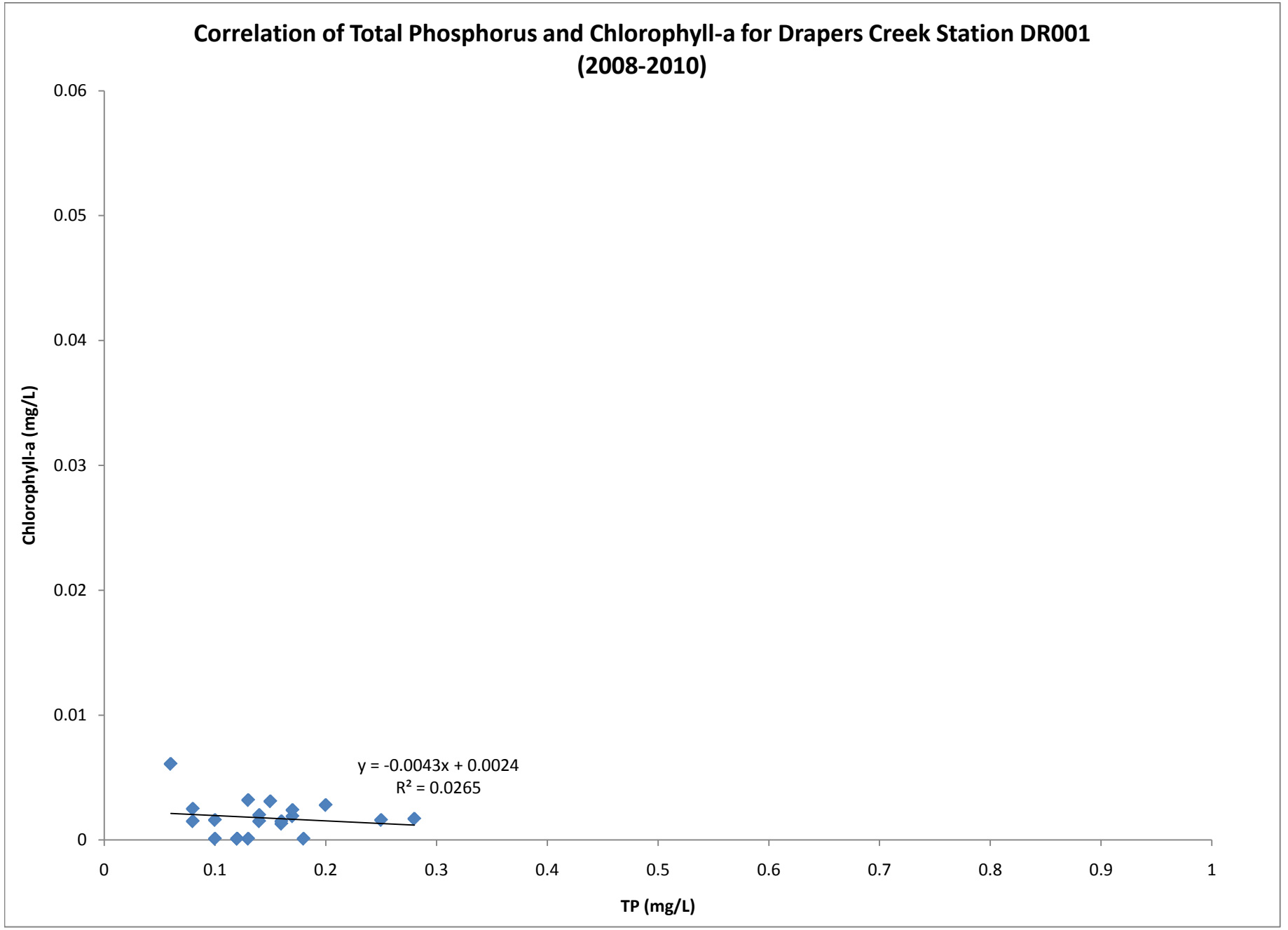

Correlation of Total Phosphorus and Chlorophyll-a for Coyle Creek Station CO001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.002x + 0.0039
R² = 0.005

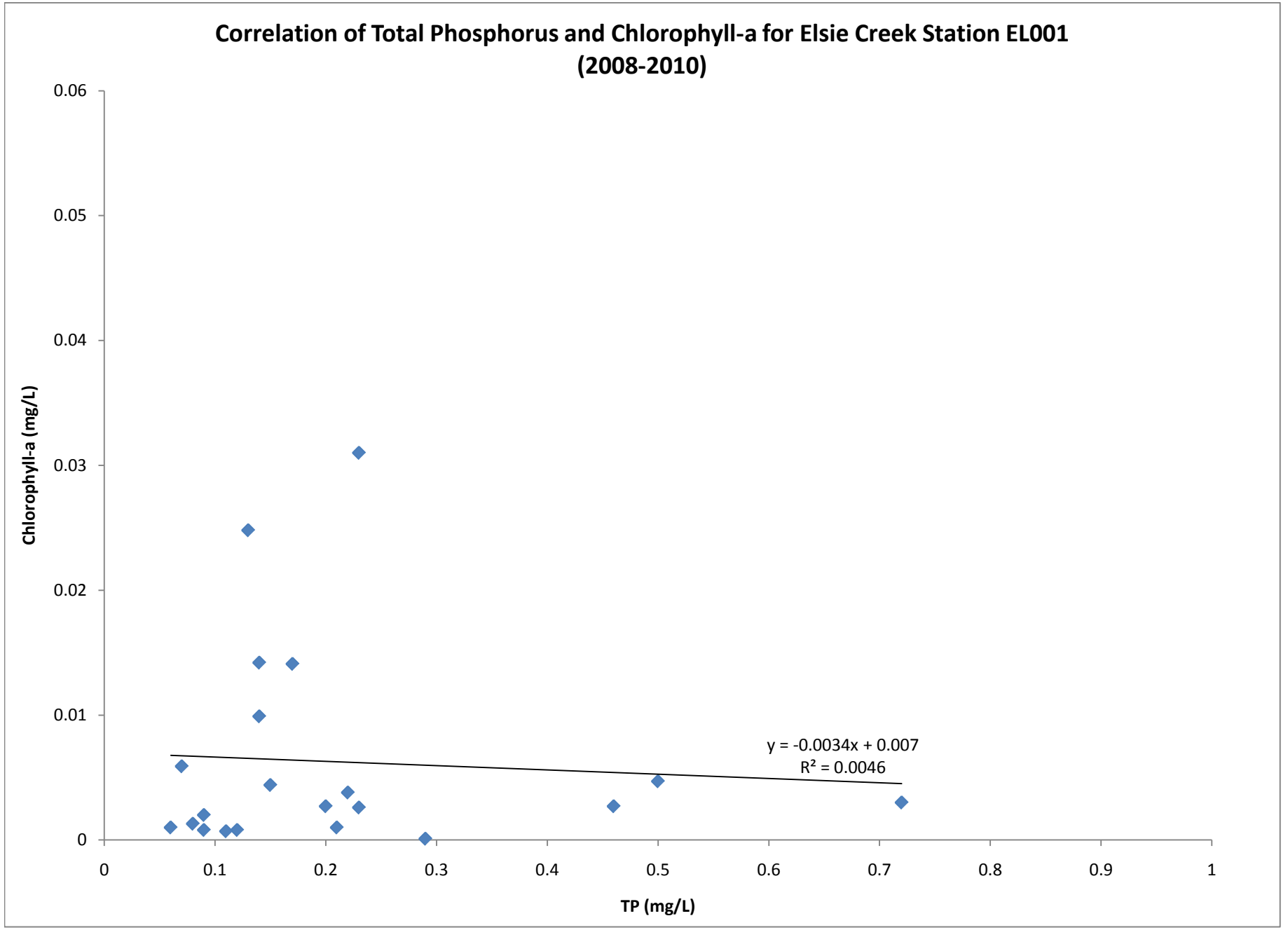

Correlation of Total Phosphorus and Chlorophyll-a for Big Forks Creek Station BF001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0049x + 0.0028
R² = 0.0573

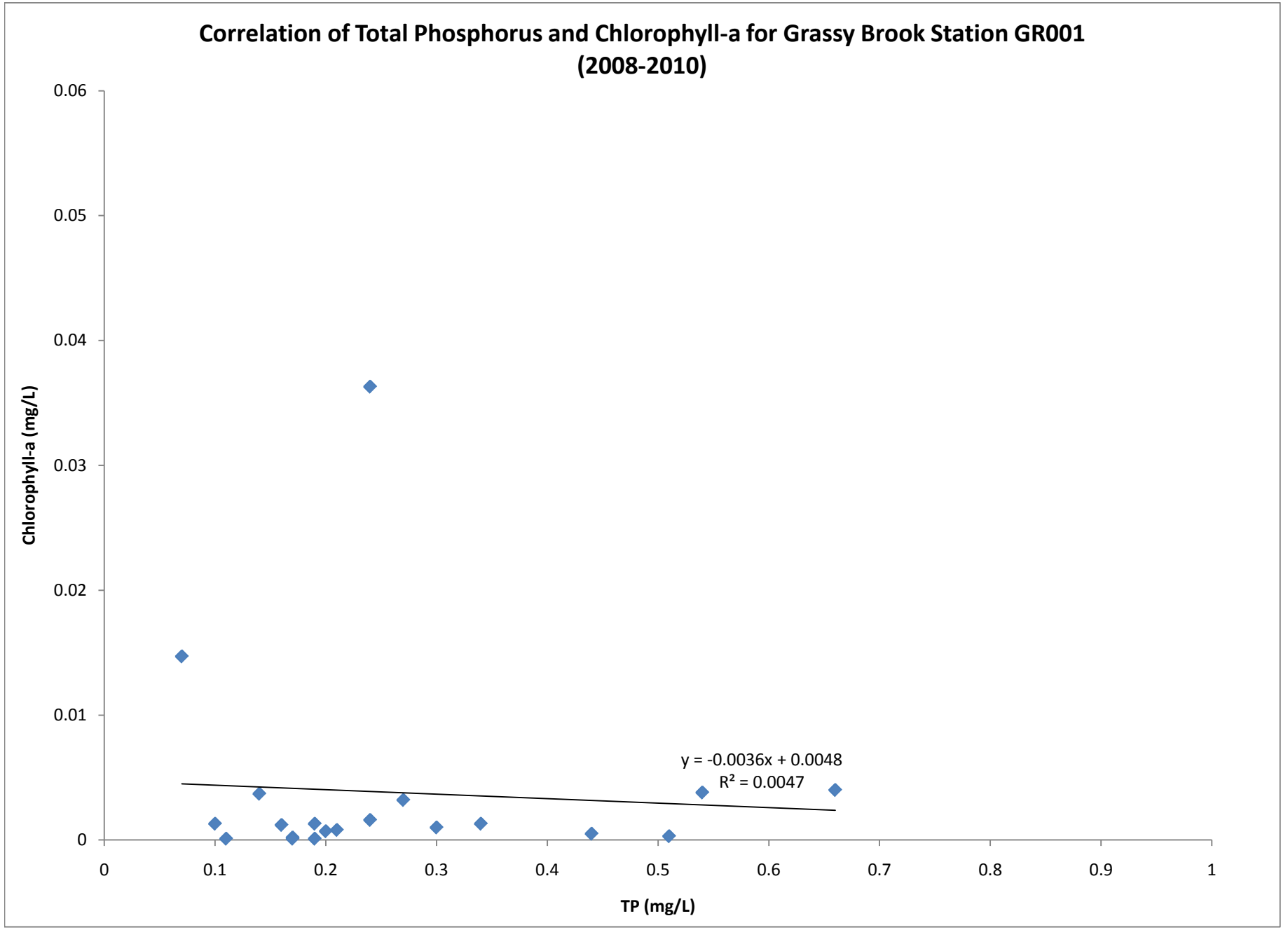

Correlation of Total Phosphorus and Chlorophyll-a for Buckhorn Creek Station BU000 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0199x - 6E-05
R² = 0.0901

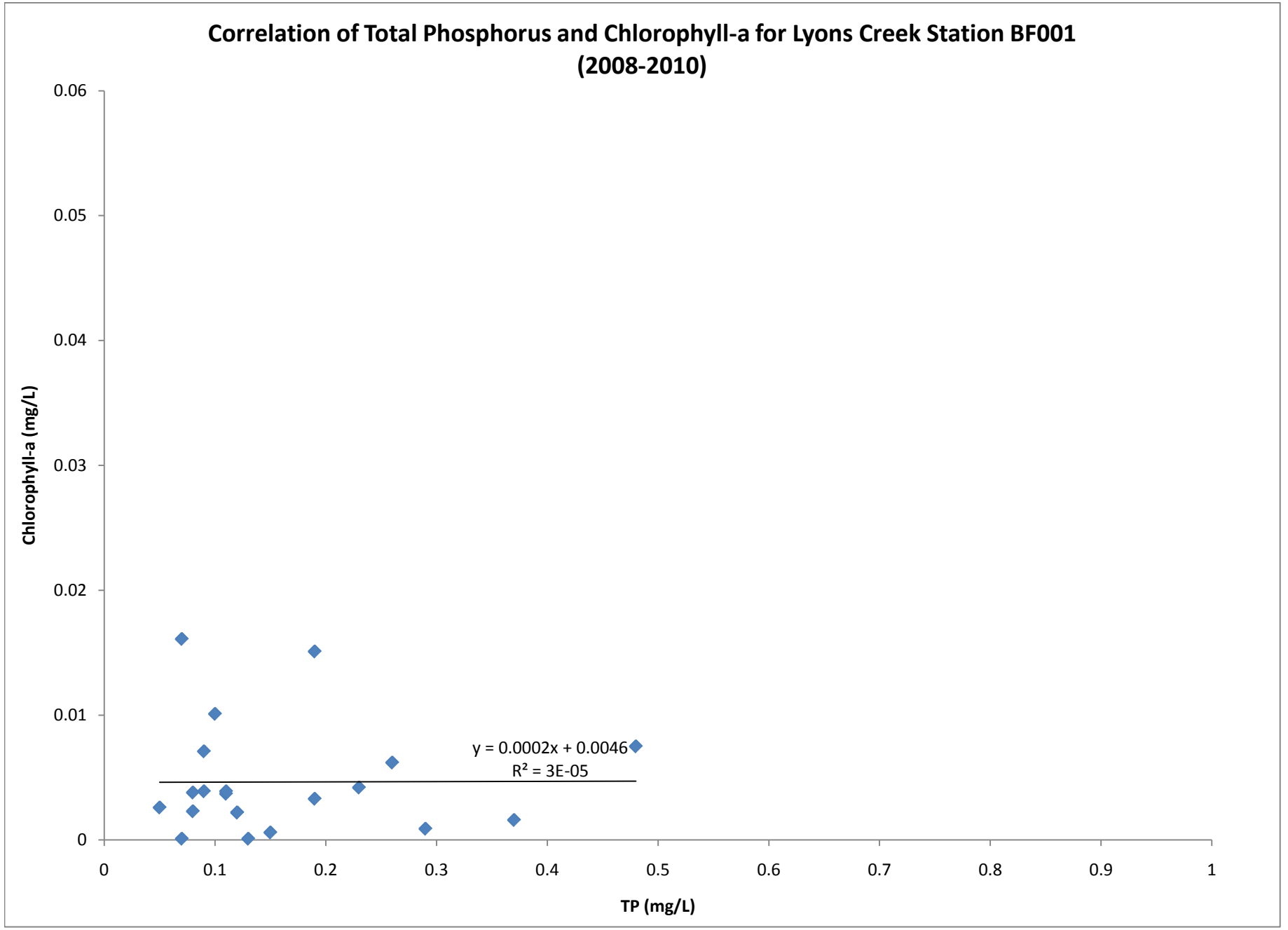

Correlation of Total Phosphorus and Chlorophyll-a for Buckhorn Creek Station BU001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.016x + 0.01
R² = 0.0538

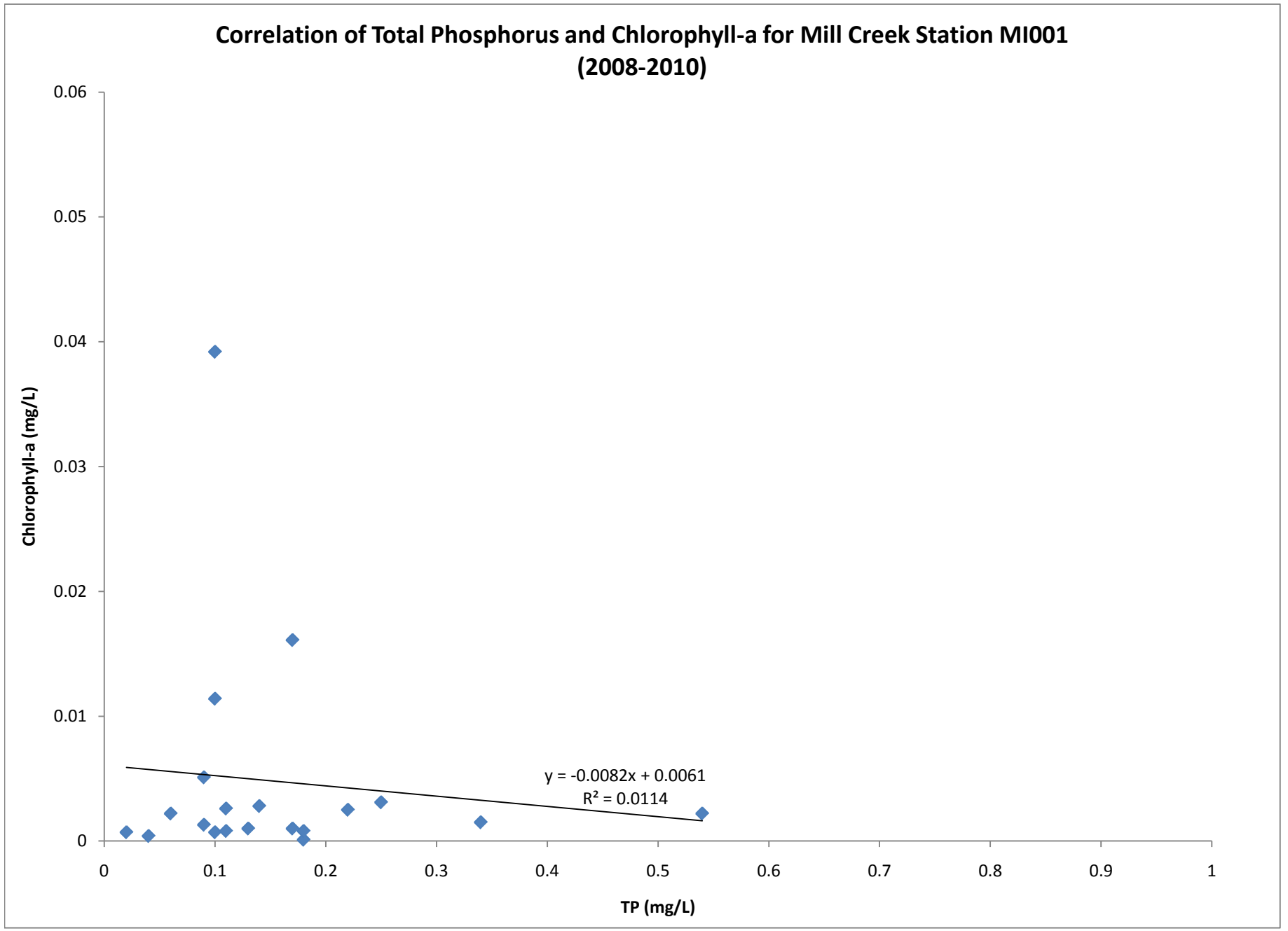

Correlation of Total Phosphorus and Chlorophyll-a for Beaver Creek Station BV001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.2
0.4
0.6
0.8
1
1.2
TP (mg/L)
y = 0.0016x + 0.0019
R² = 0.029

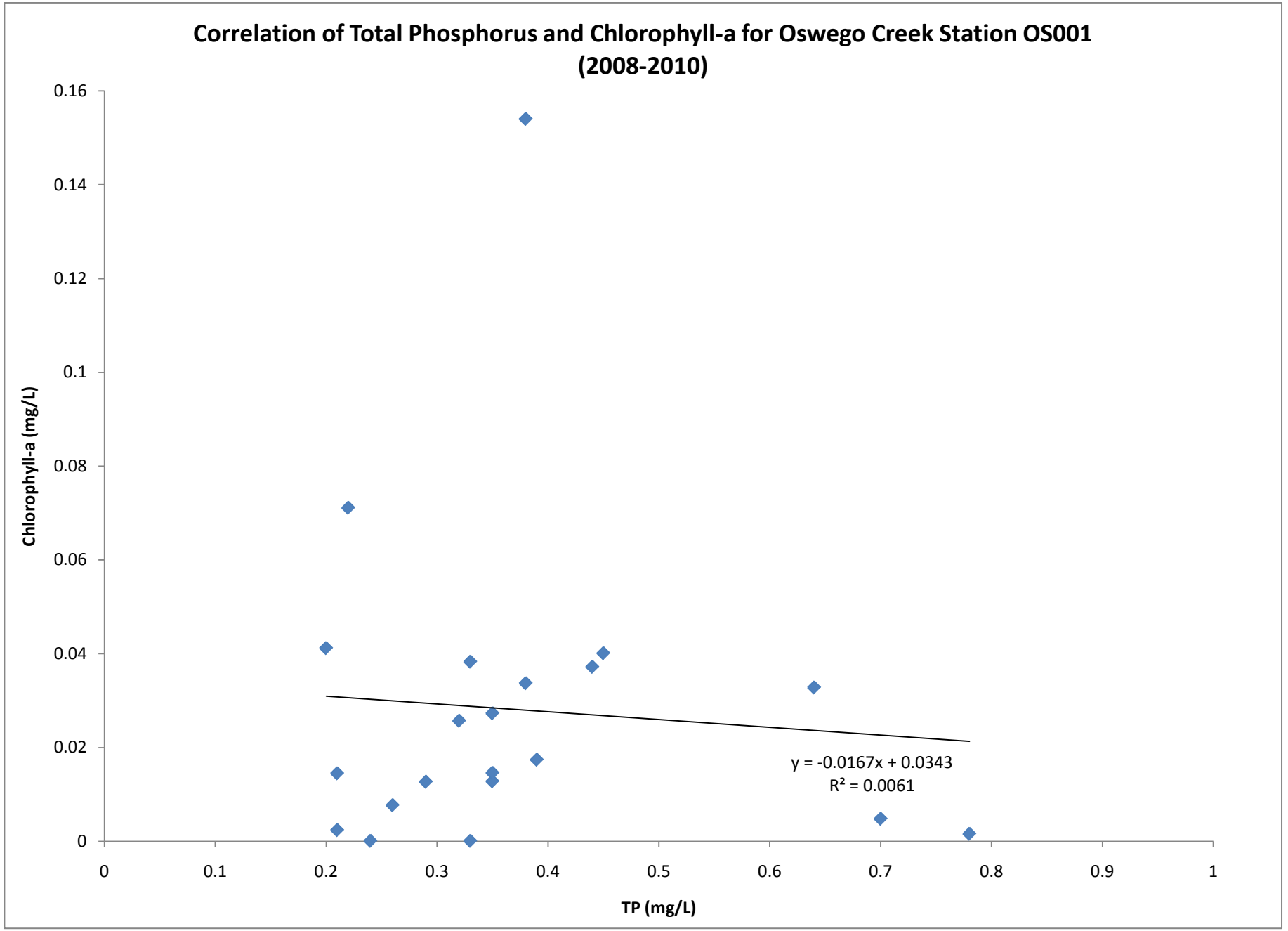

Correlation of Total Phosphorus and Chlorophyll-a for Drapers Creek Station DR001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0043x + 0.0024
R² = 0.0265

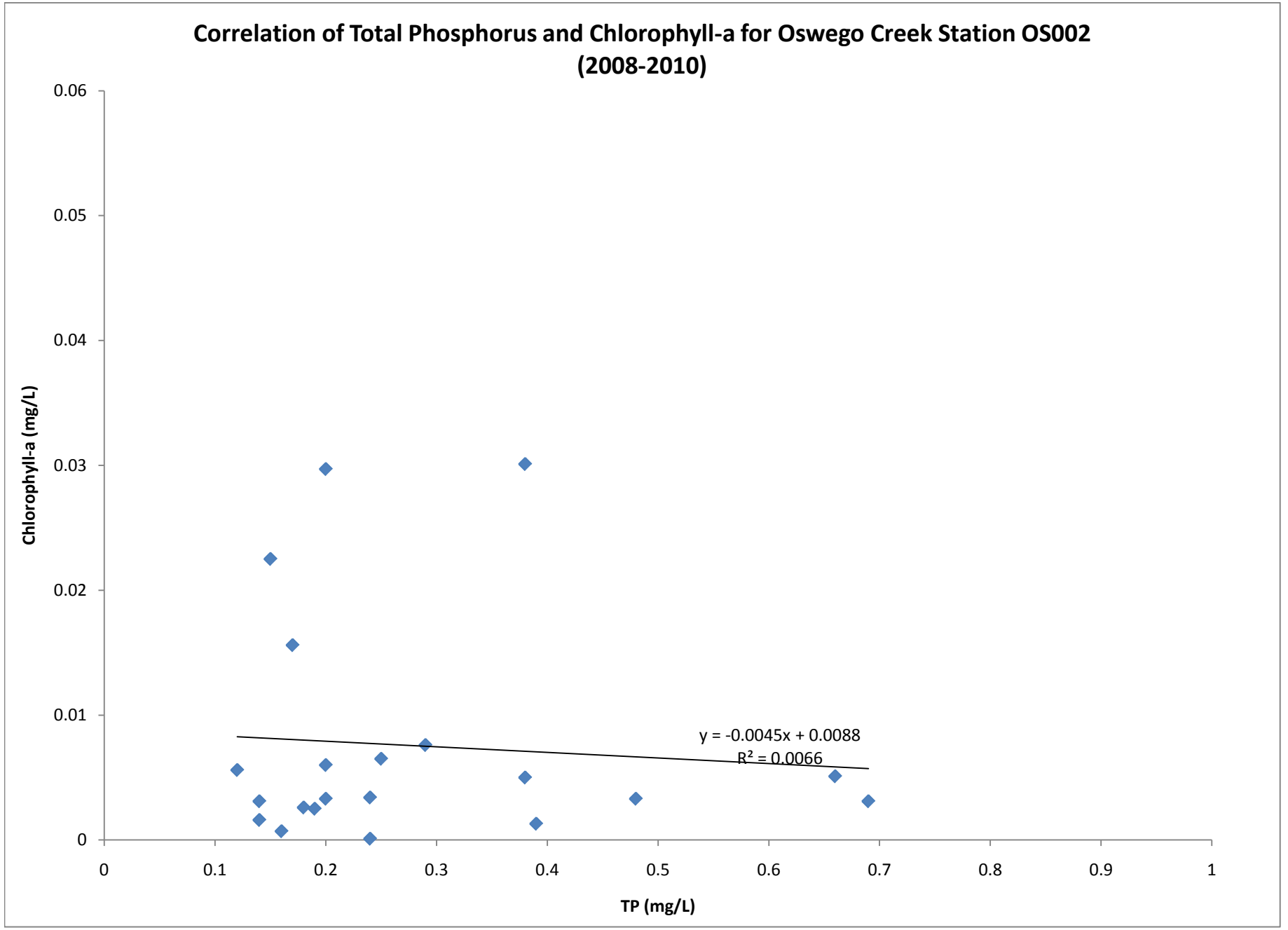

Correlation of Total Phosphorus and Chlorophyll-a for Elsie Creek Station EL001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0034x + 0.007
R² = 0.0046

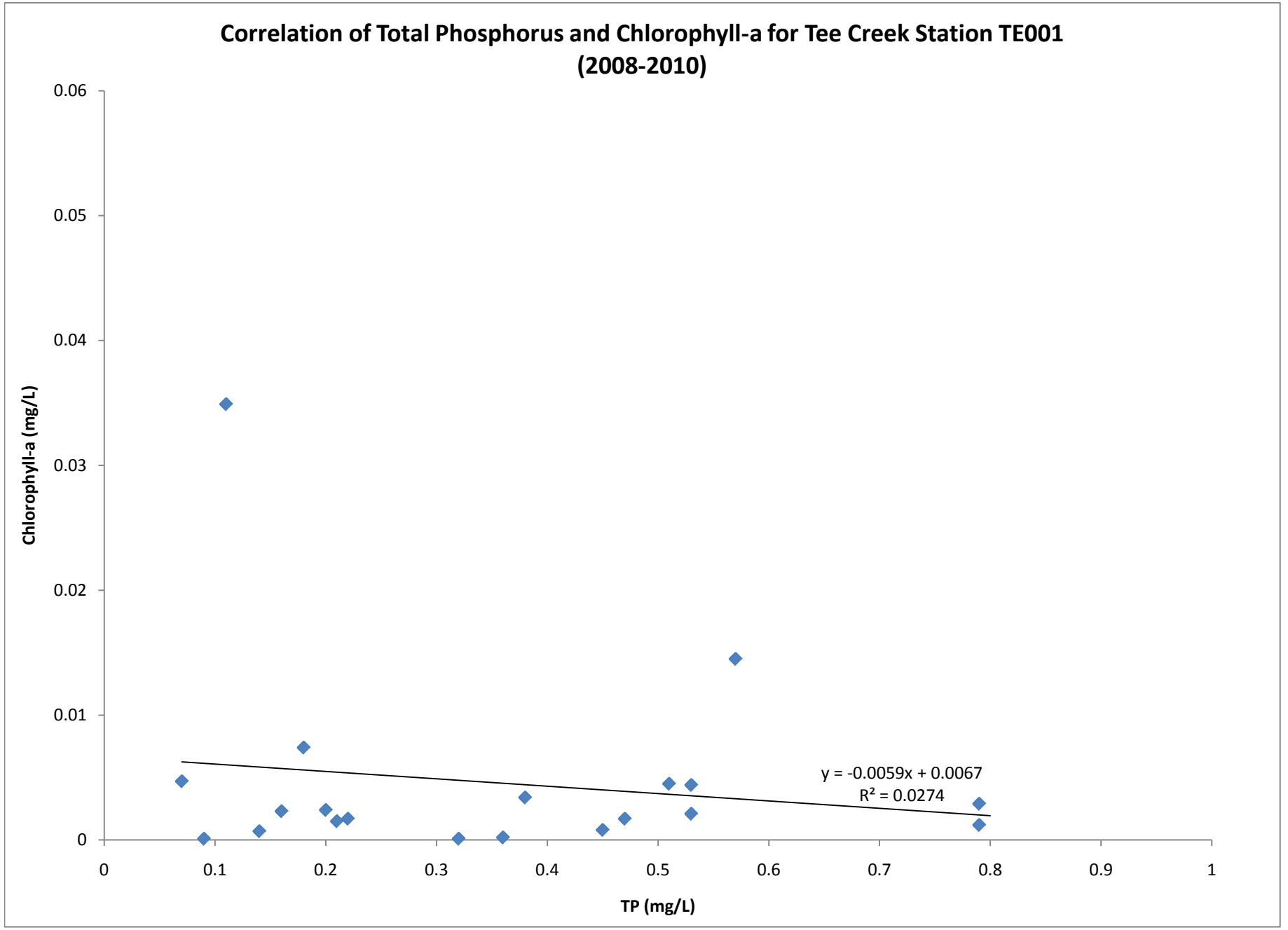

Correlation of Total Phosphorus and Chlorophyll-a for Grassy Brook Station GR001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0036x + 0.0048
R² = 0.0047

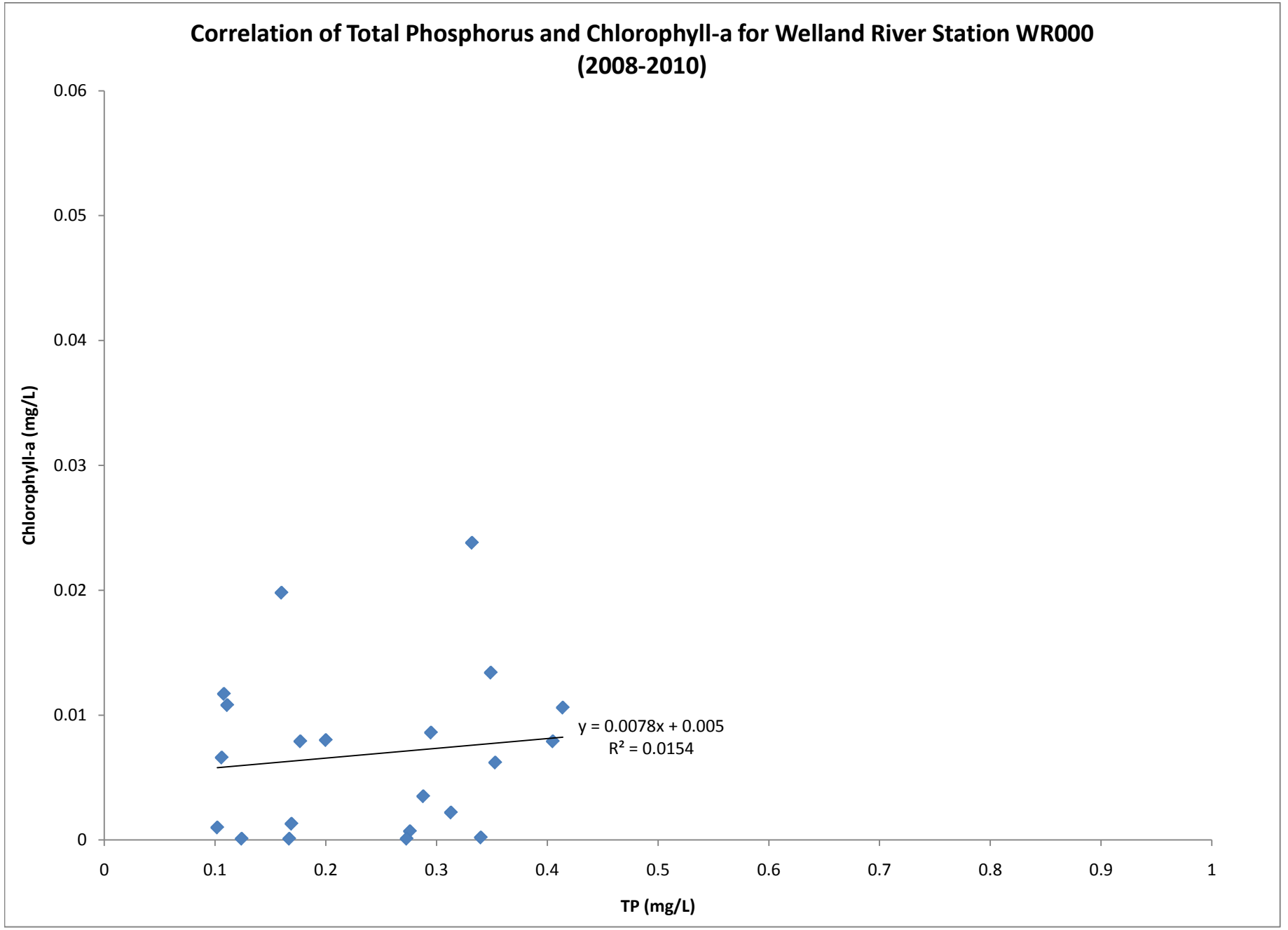

Correlation of Total Phosphorus and Chlorophyll-a for Lyons Creek Station BF001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0002x + 0.0046
R² = 3E-05

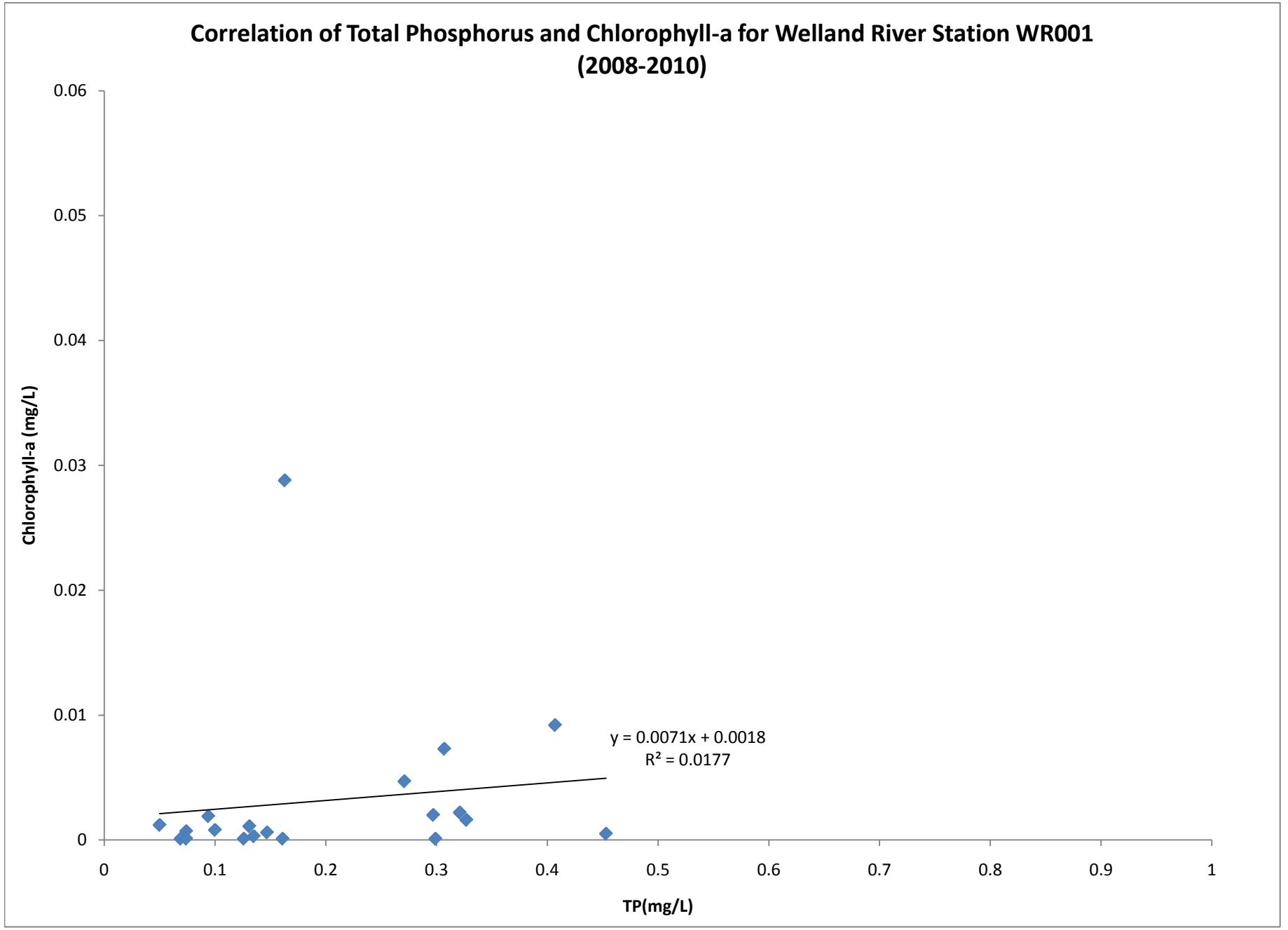

Correlation of Total Phosphorus and Chlorophyll-a for Mill Creek Station MI001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0082x + 0.0061
R² = 0.0114

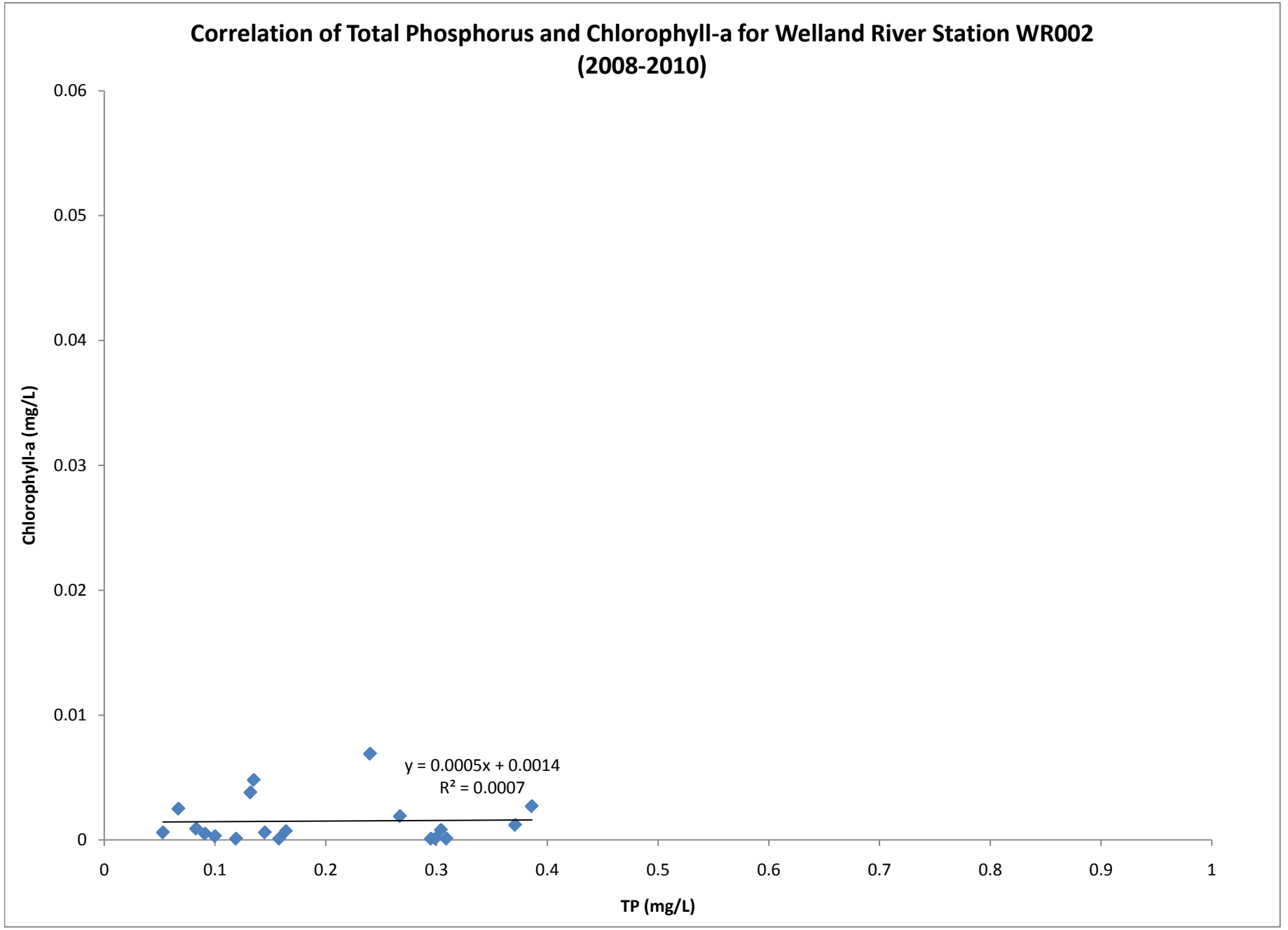

Correlation of Total Phosphorus and Chlorophyll-a for Oswego Creek Station OS001 (2008-2010)
Chlorophyll-a (mg/L)
TP (mg/L)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
y = -0.0167x + 0.0343
R² = 0.0061

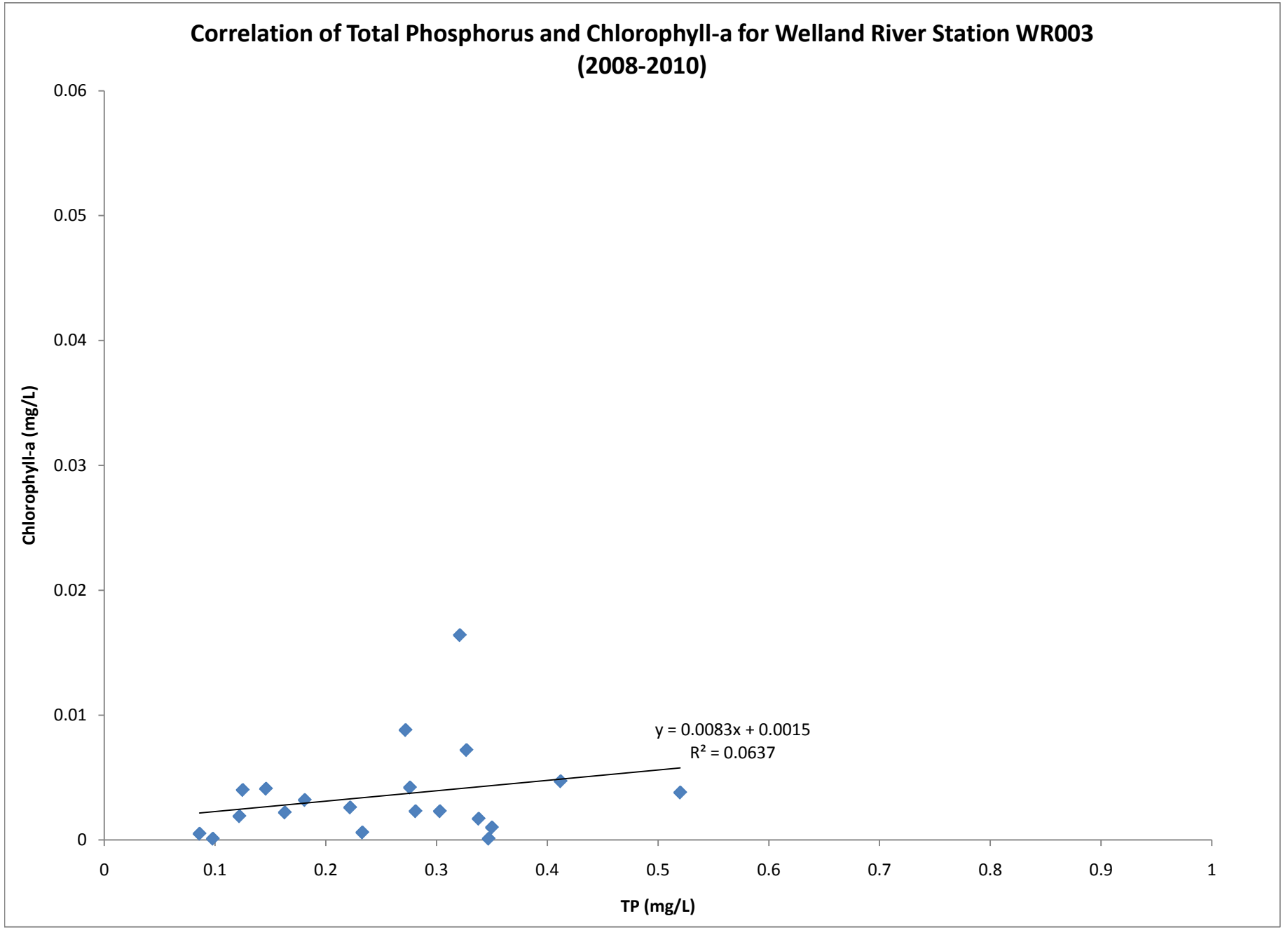

Correlation of Total Phosphorus and Chlorophyll-a for Oswego Creek Station OS002 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0045x + 0.0088
R² = 0.0066

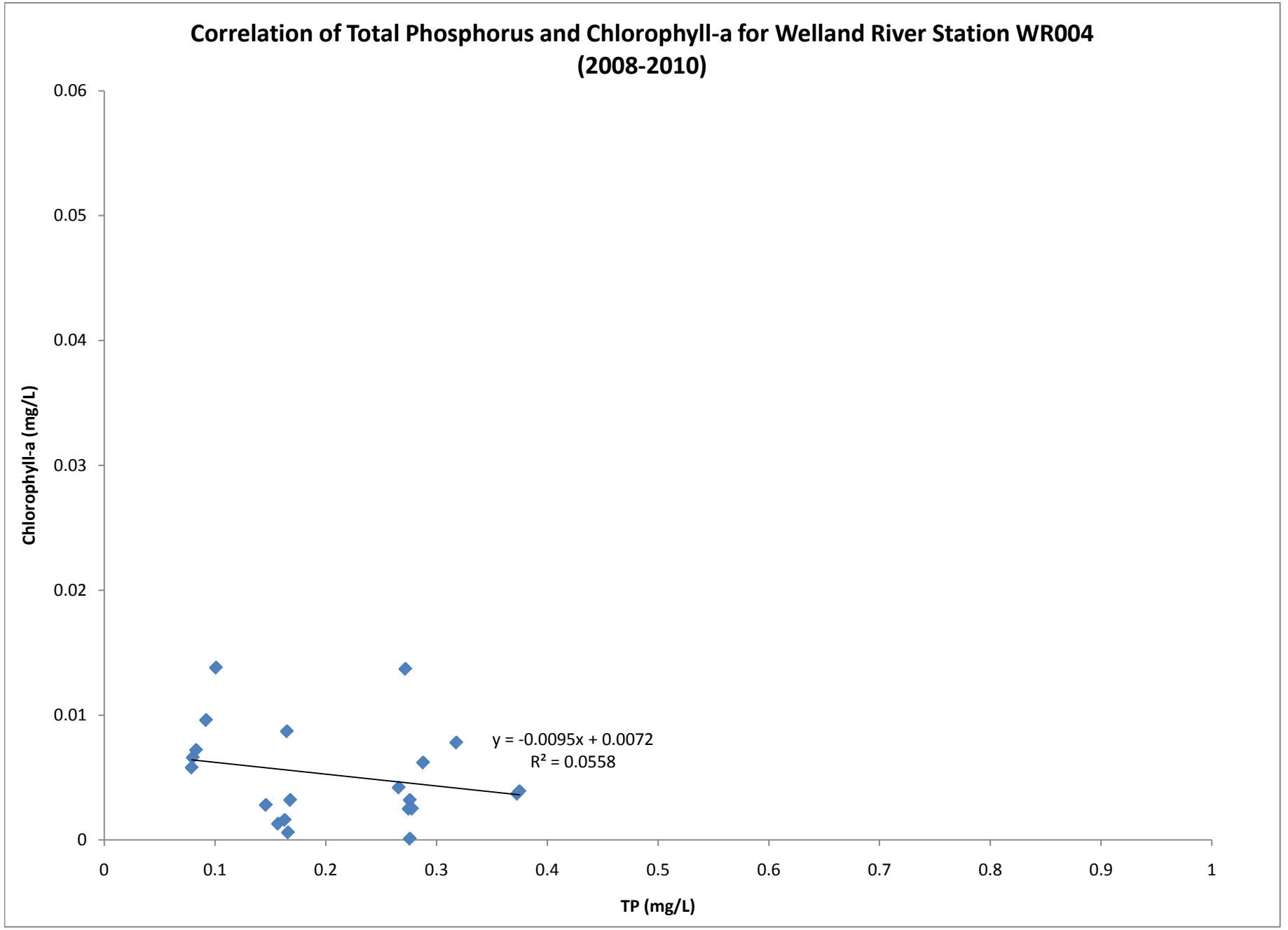

Correlation of Total Phosphorus and Chlorophyll-a for Tee Creek Station TE001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0059x + 0.0067
R² = 0.0274

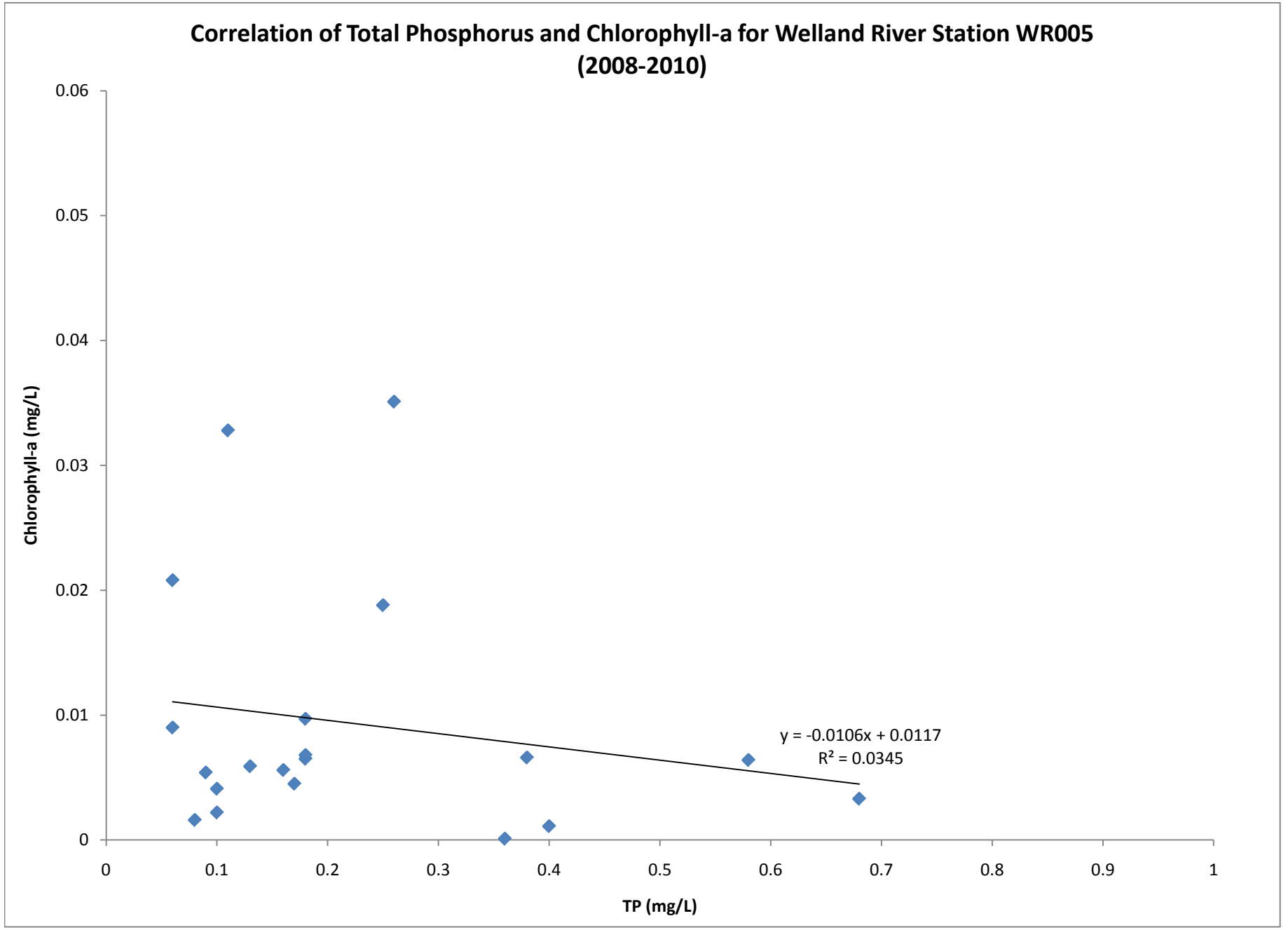

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR000 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0078x + 0.005
R² = 0.0154

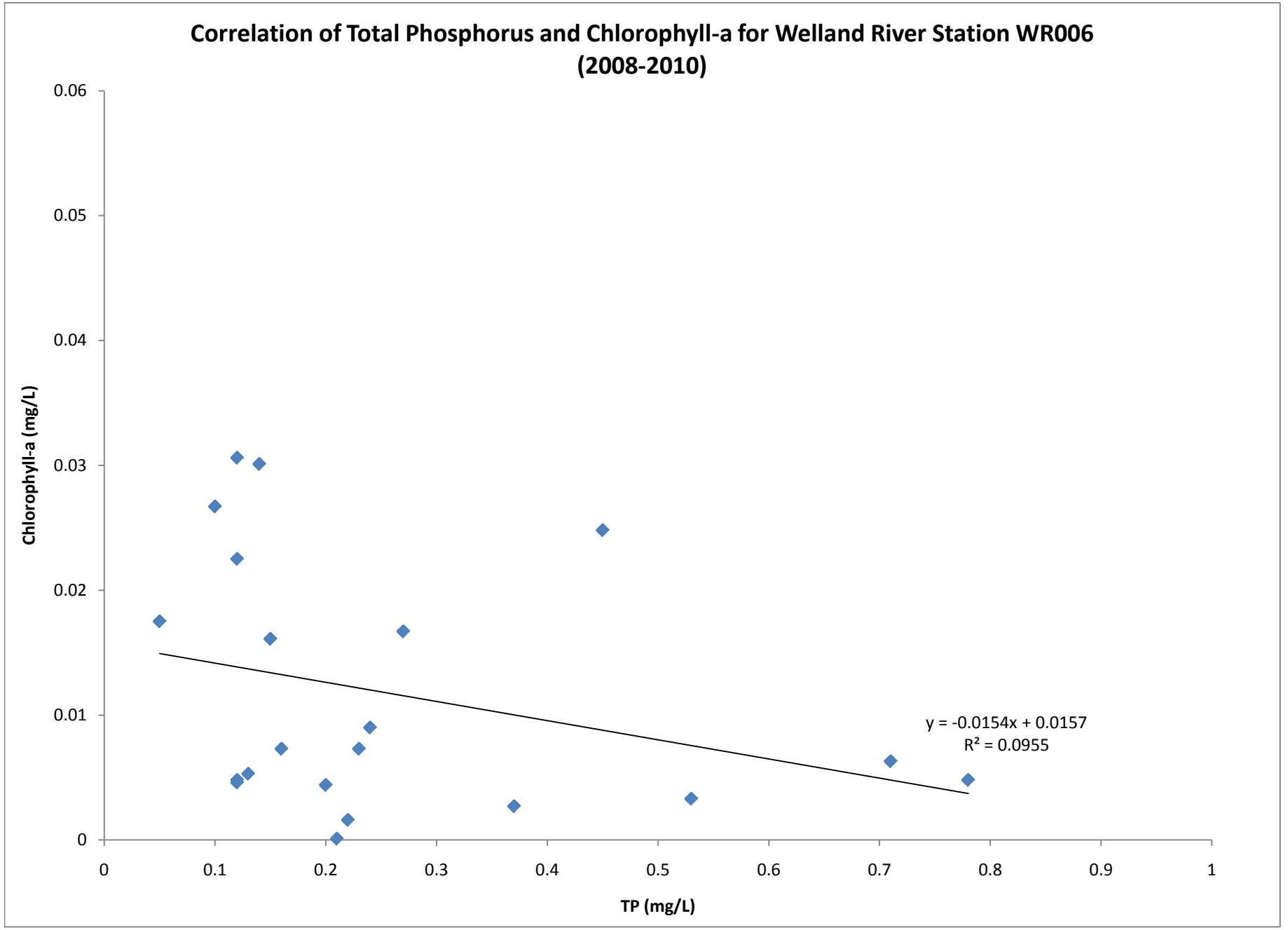

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP(mg/L)
y = 0.0071x + 0.0018
R² = 0.0177

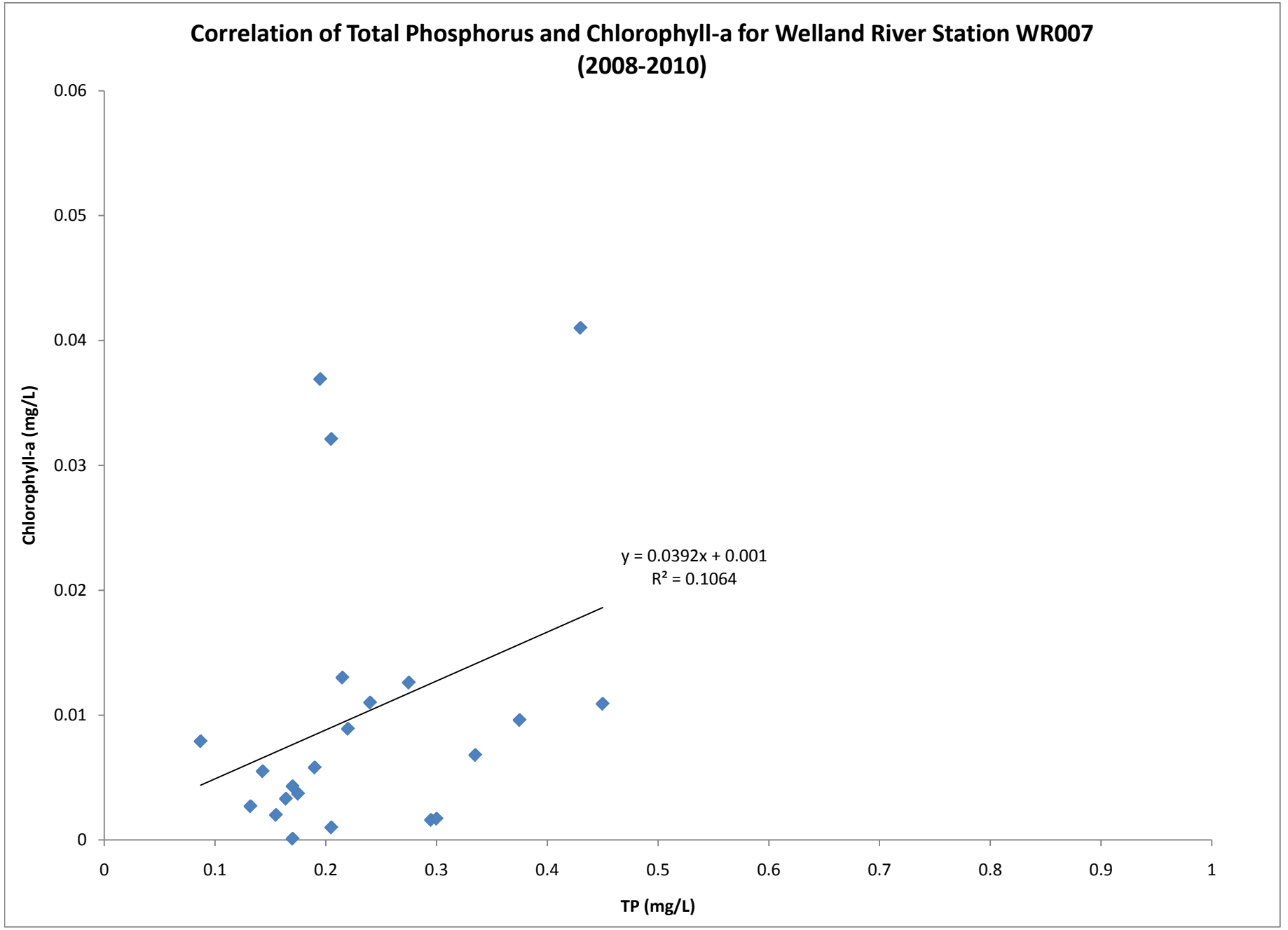

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR002 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0005x + 0.0014
R² = 0.0007

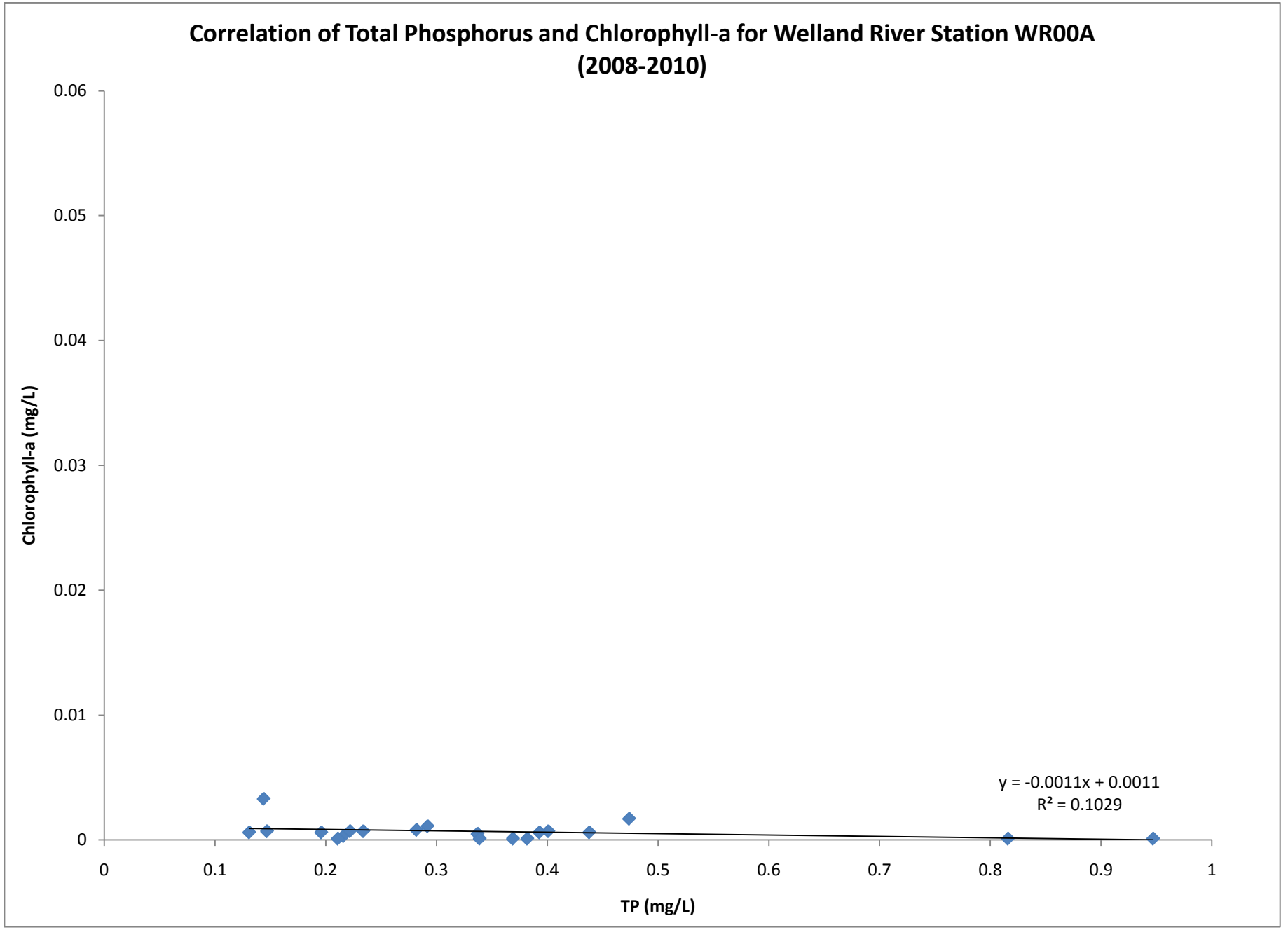

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR003 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = 0.0083x + 0.0015
R² = 0.0637

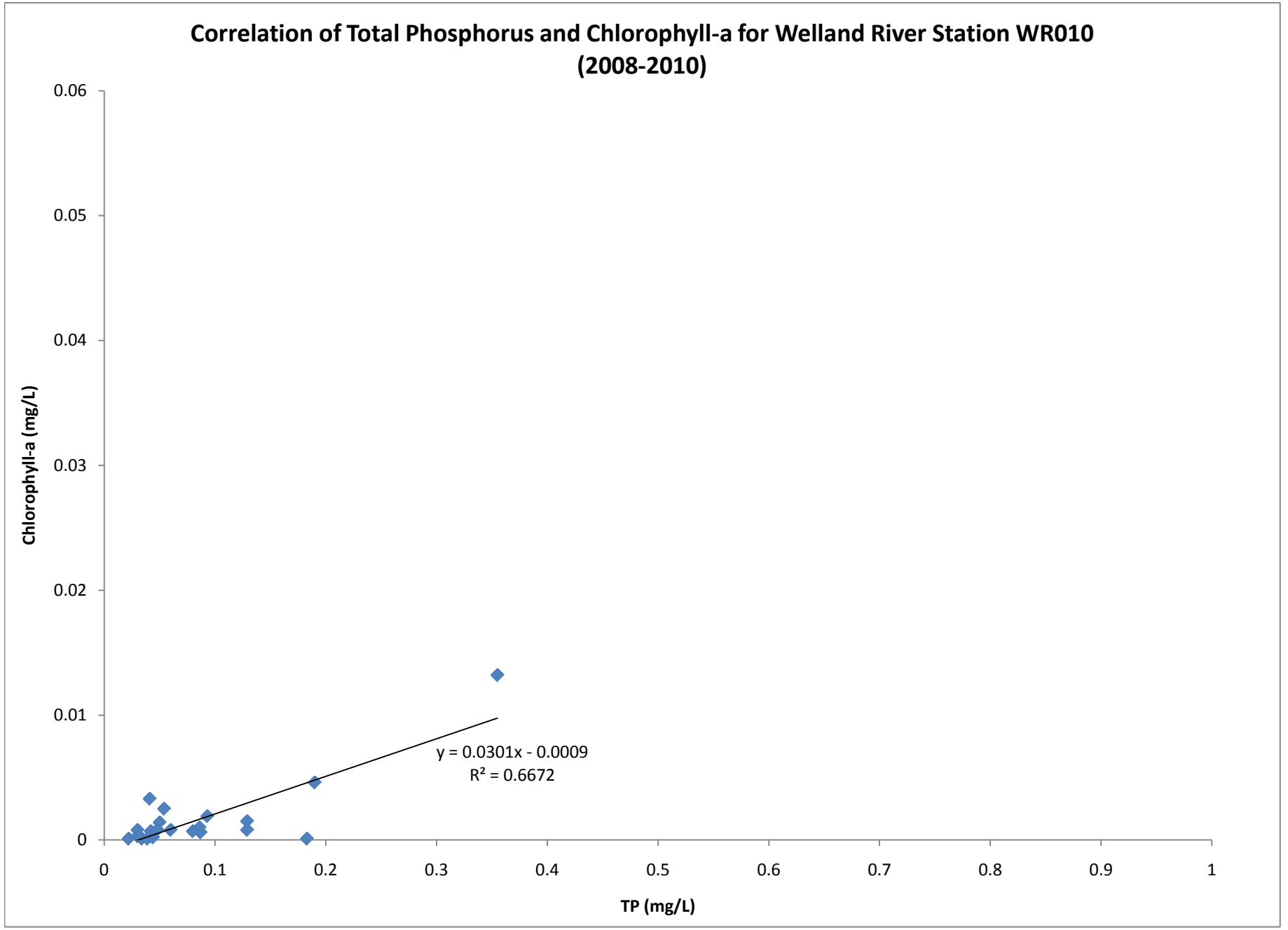

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR004 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0095x + 0.0072
R² = 0.0558

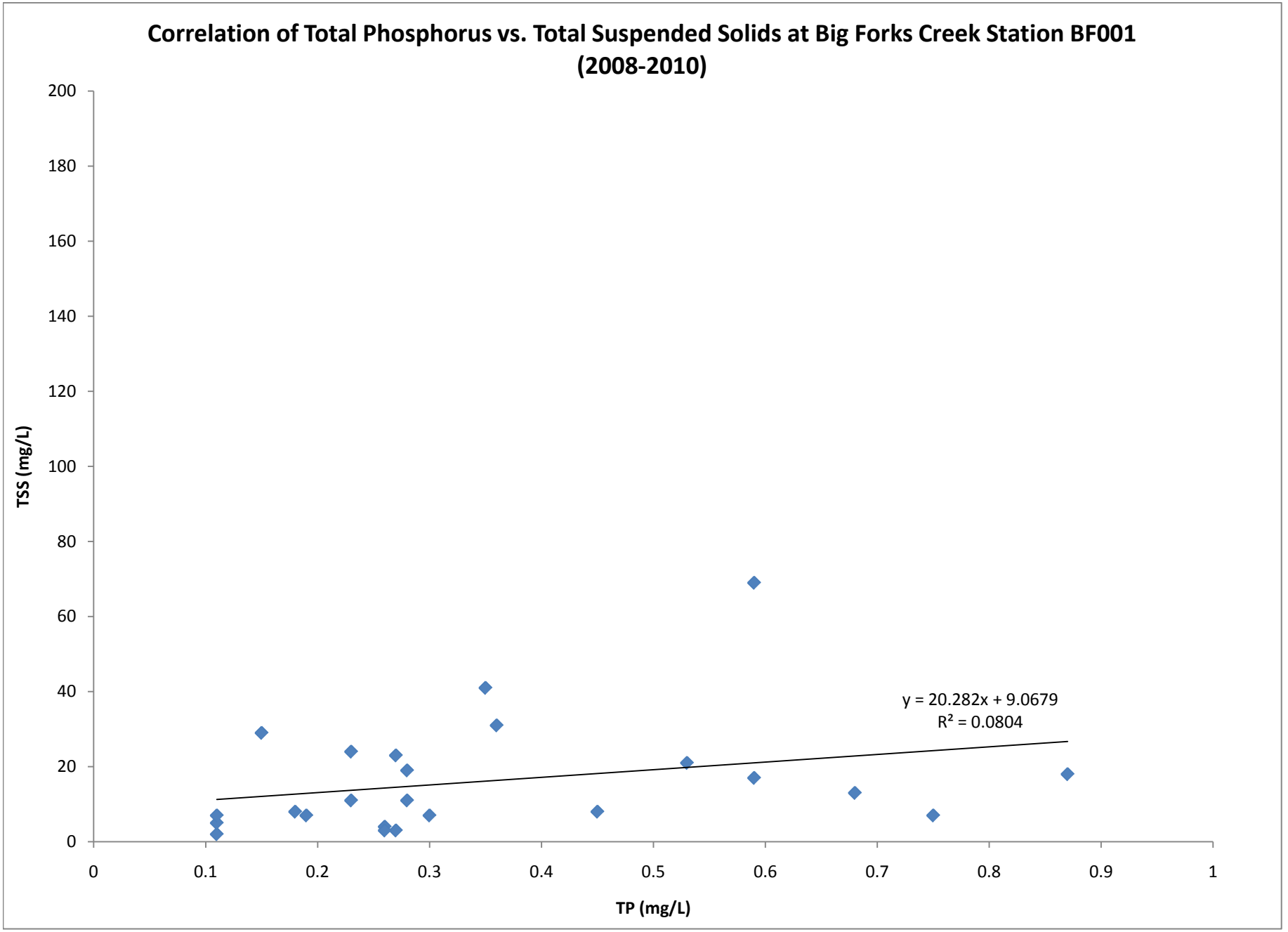

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR005 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0106x + 0.0117
R² = 0.0345

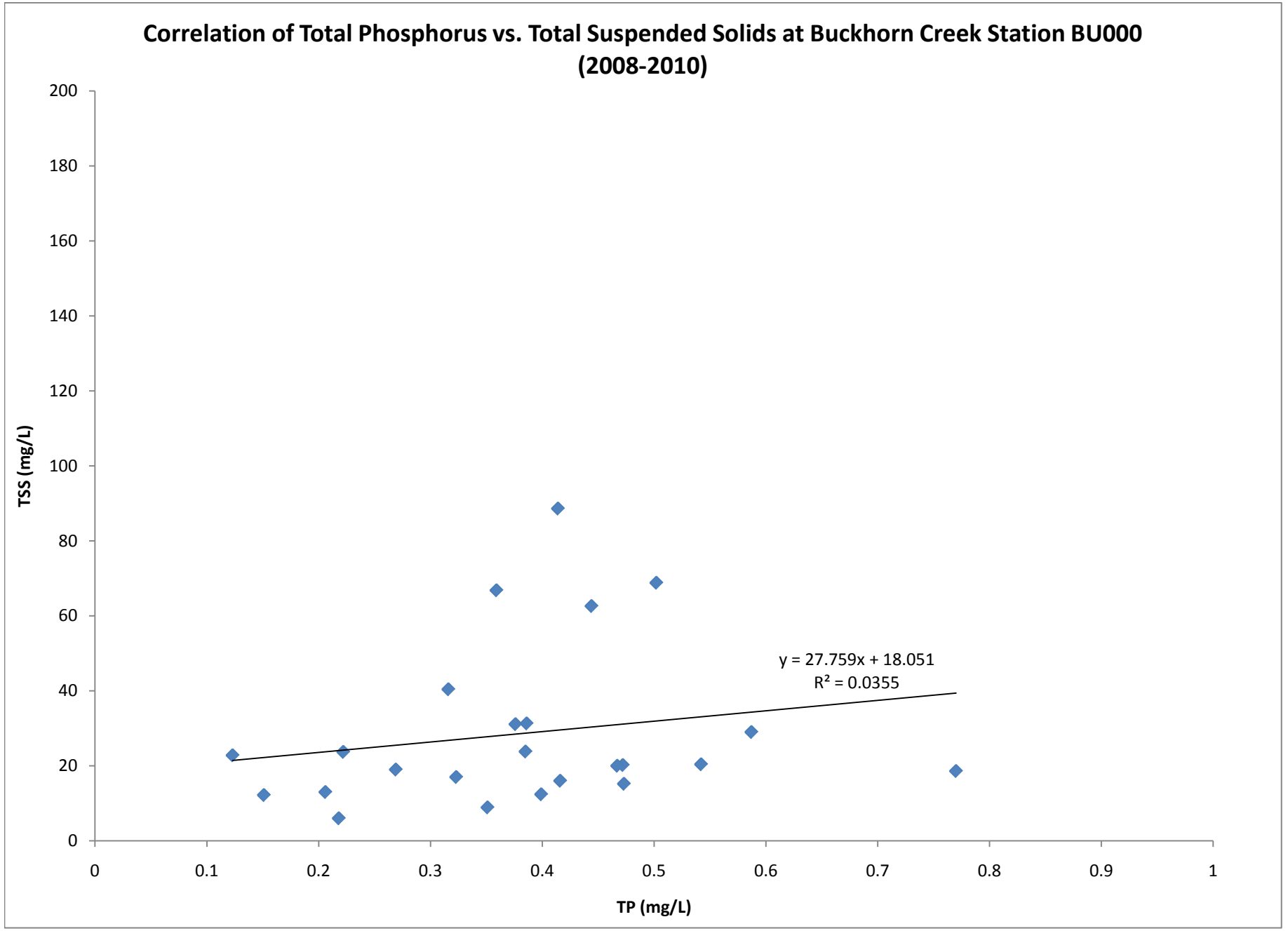

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR006 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0154x + 0.0157
R² = 0.0955

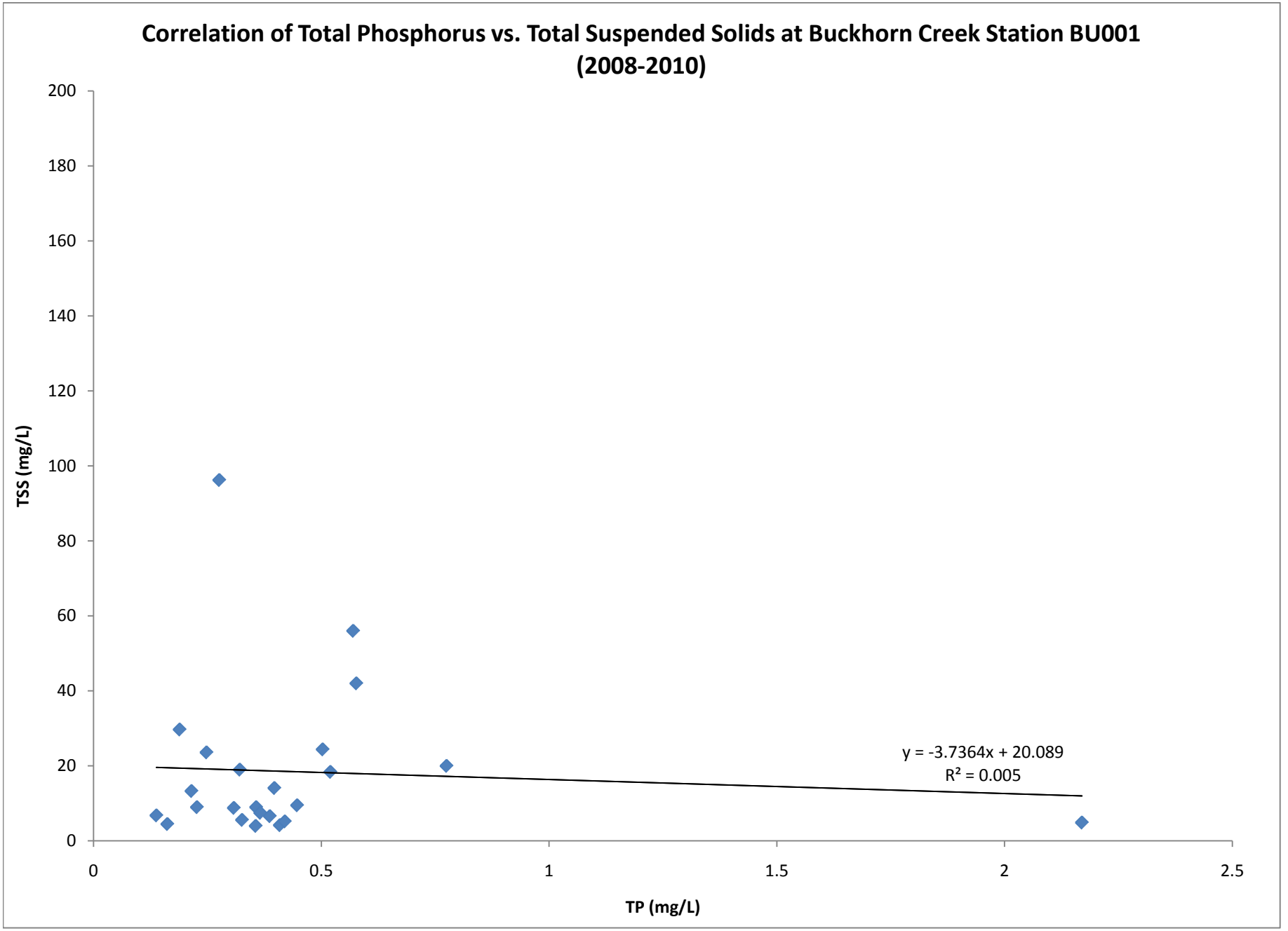

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR007 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
y = 0.0392x + 0.001
R² = 0.1064
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)

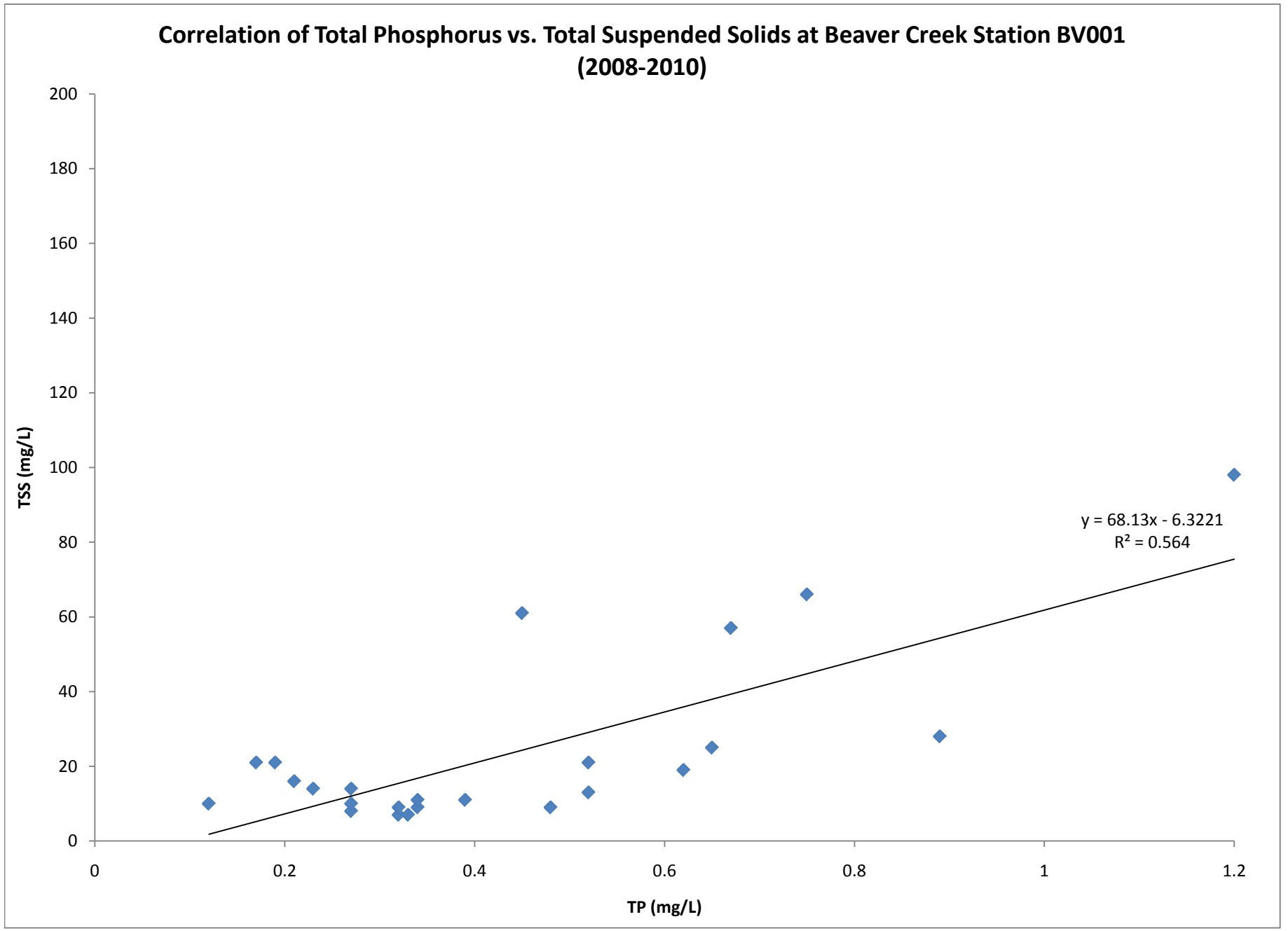

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR00A (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
TP (mg/L)
y = -0.0011x + 0.0011
R² = 0.1029

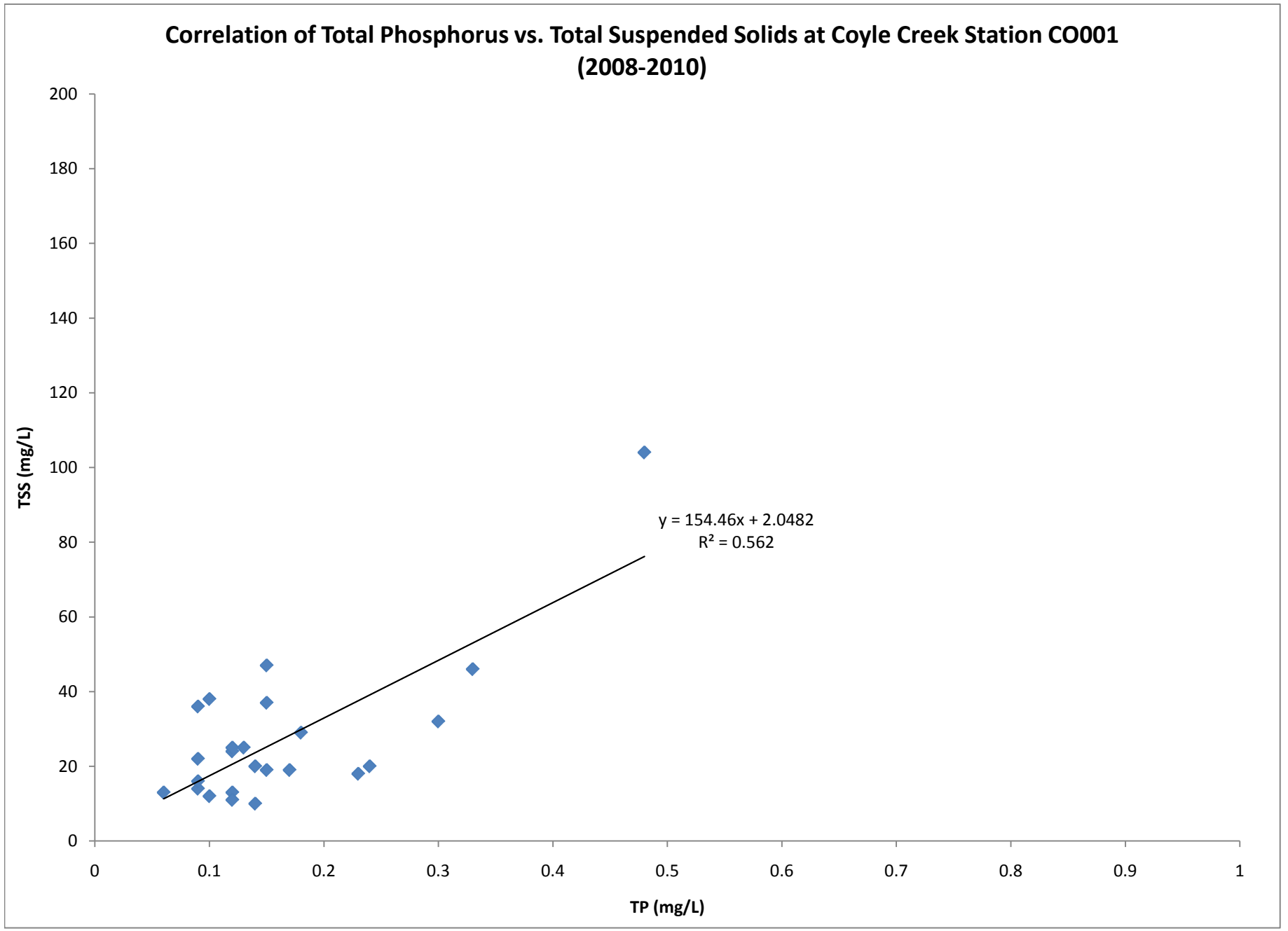

Correlation of Total Phosphorus and Chlorophyll-a for Welland River Station WR010 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
TP (mg/L)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
y = 0.0301x - 0.0009
R² = 0.6672

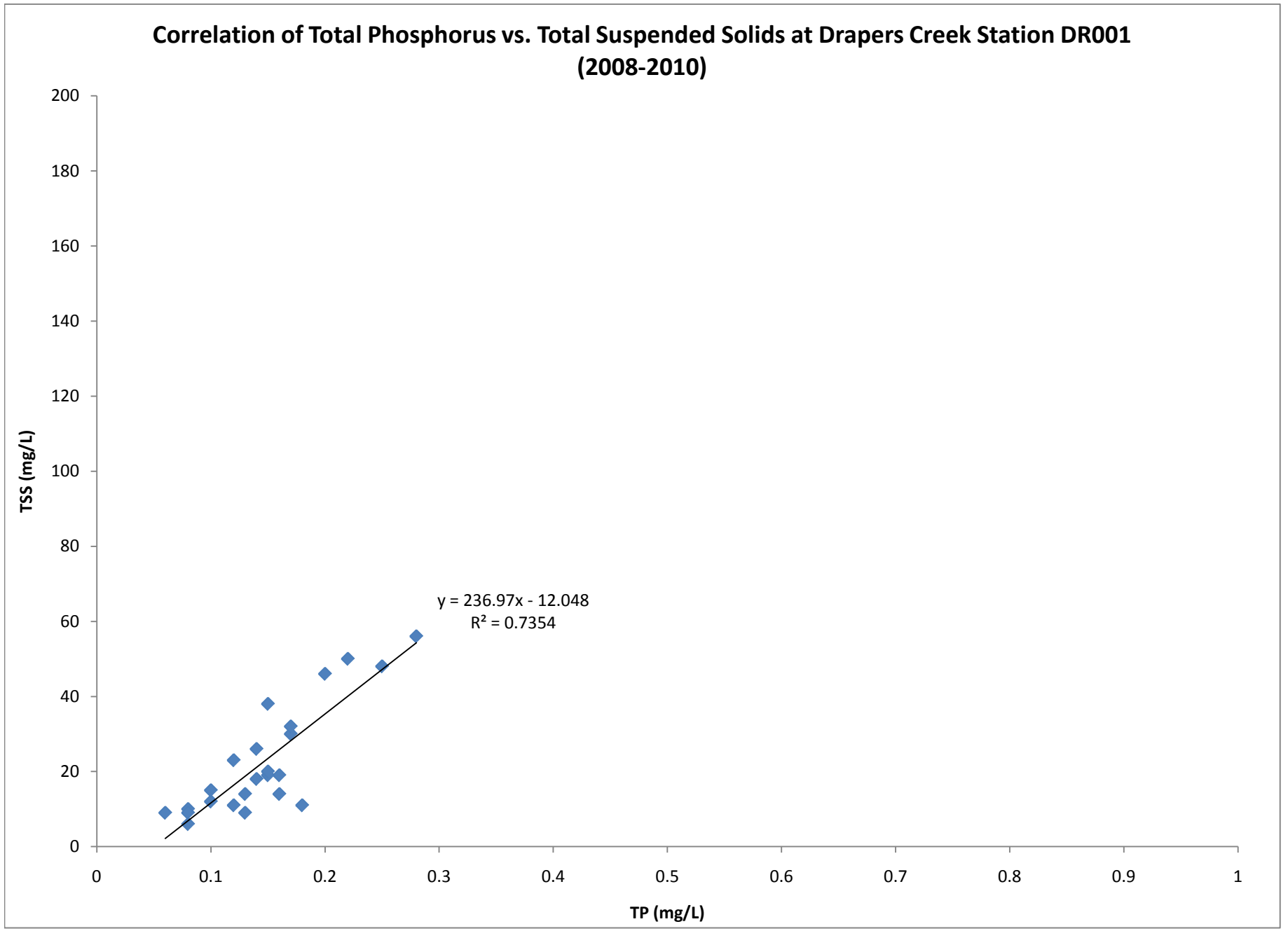

Correlation of Total Phosphorus vs. Total Suspended Solids at Big Forks Creek Station BF001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 20.282x + 9.0679
R² = 0.0804
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

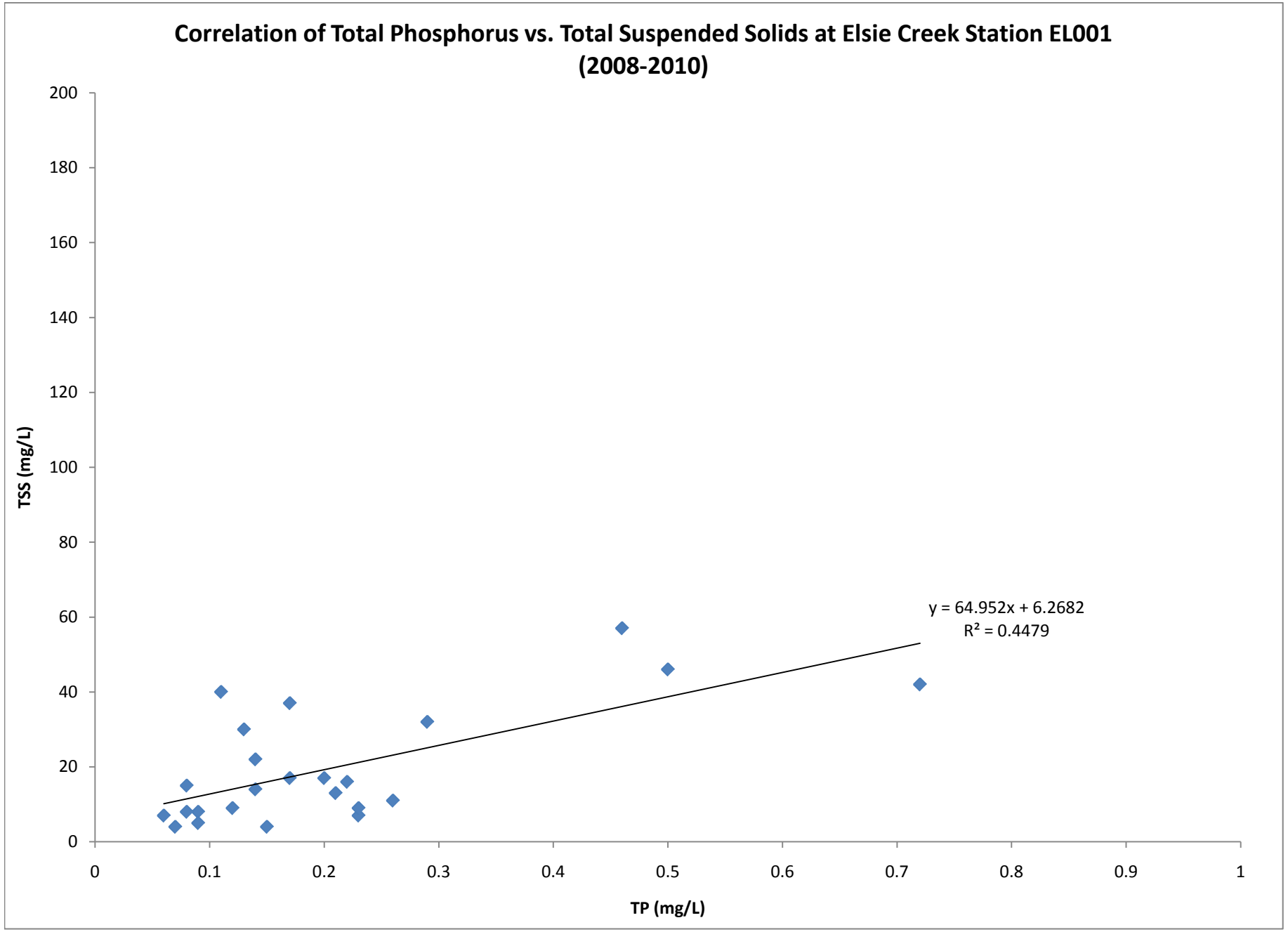

Correlation of Total Phosphorus vs. Total Suspended Solids at Buckhorn Creek Station BU000 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 27.759x + 18.051
R² = 0.0355
200
180
160
140
120
100
80
60
40
20
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

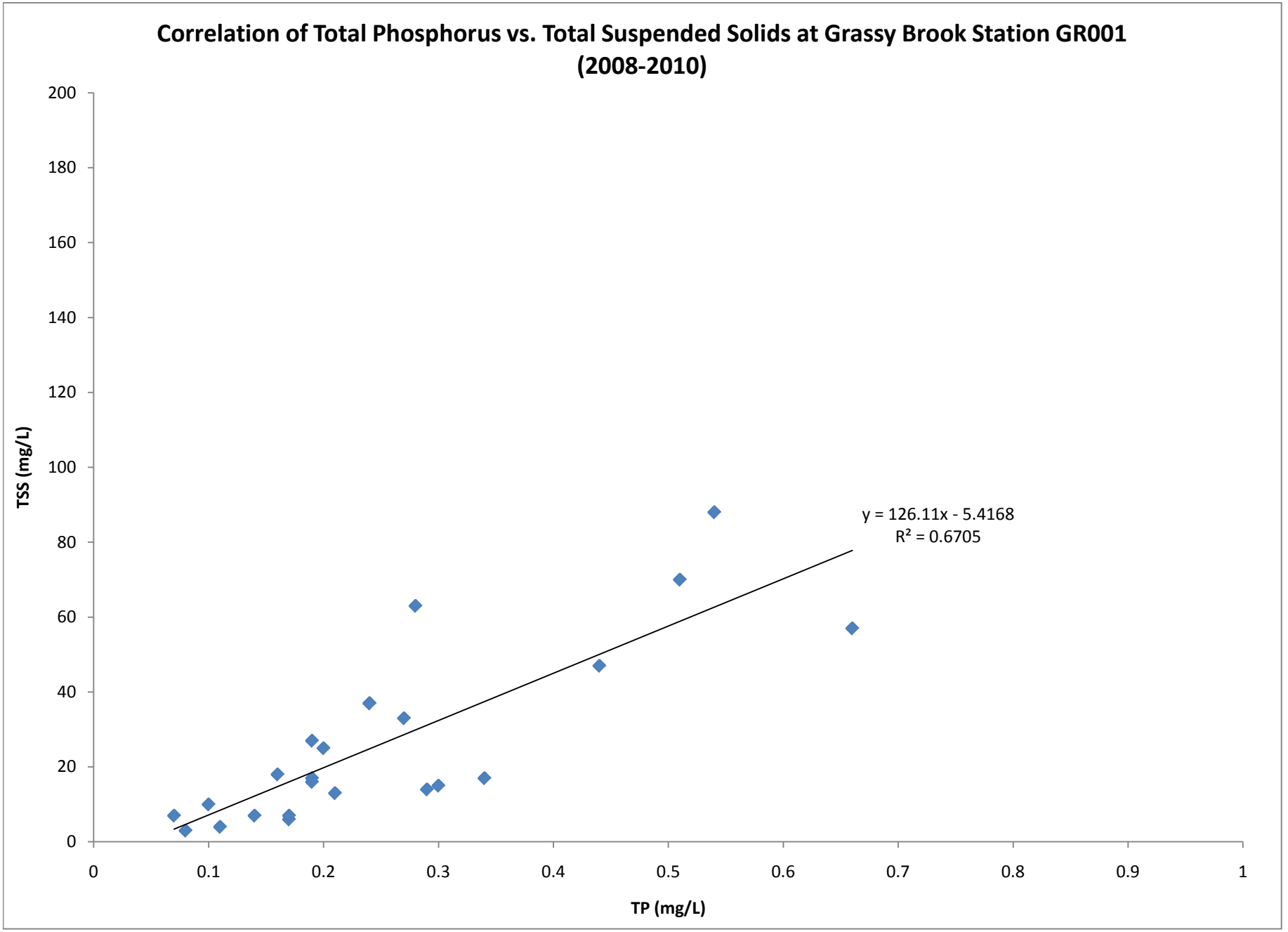

Correlation of Total Phosphorus vs. Total Suspended Solids at Buckhorn Creek Station BU001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = -3.7364x + 20.089
R² = 0.005
200
180
160
140
120
100
80
60
40
20
0
0
0.5
1
1.5
2
2.5

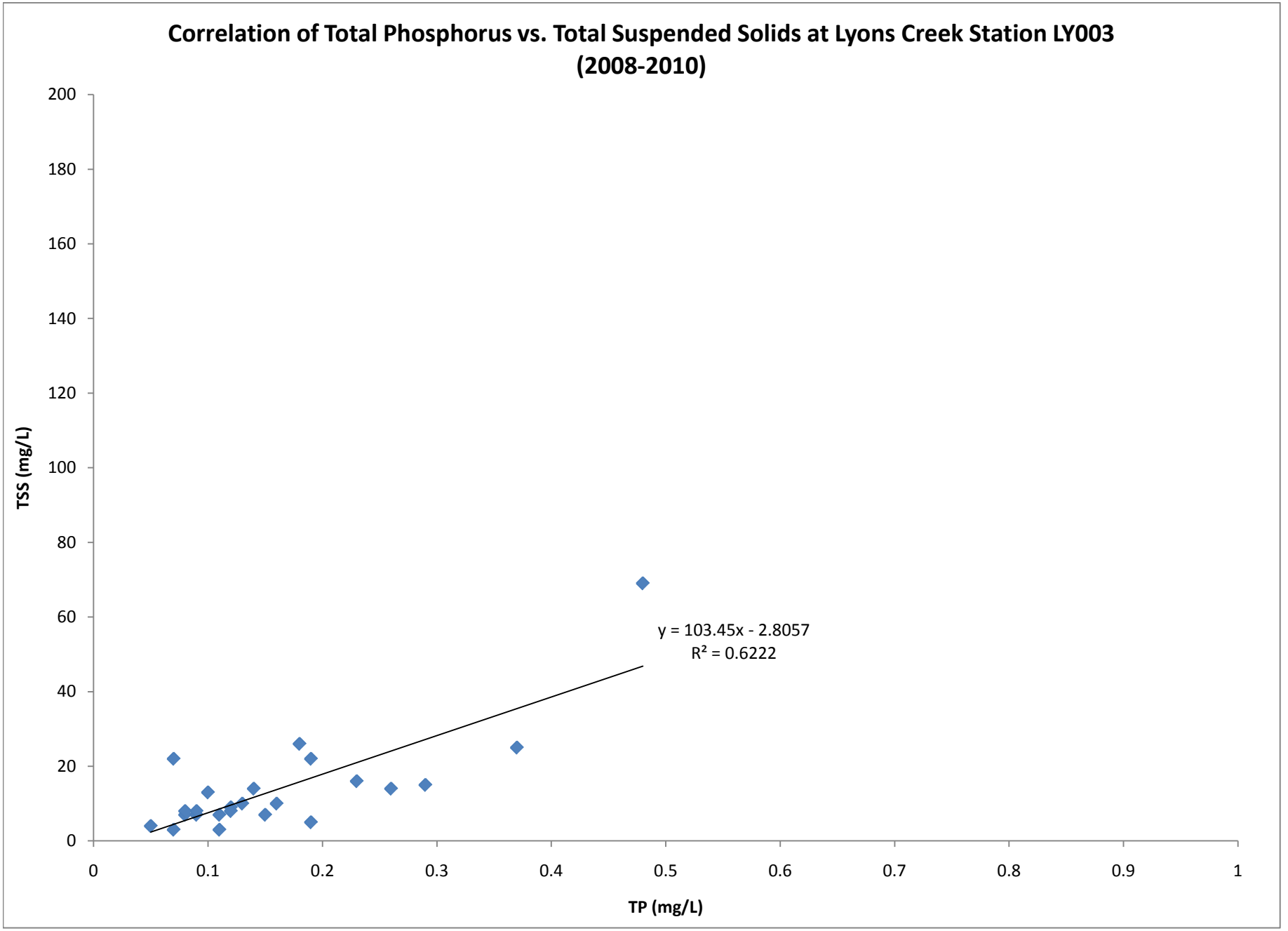

Correlation of Total Phosphorus vs. Total Suspended Solids at Beaver Creek Station BV001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 68.13x - 6.3221
R² = 0.564
0
20
40
60
80
100
120
140
160
180
200
0
0.2
0.4
0.6
0.8
1
1.2

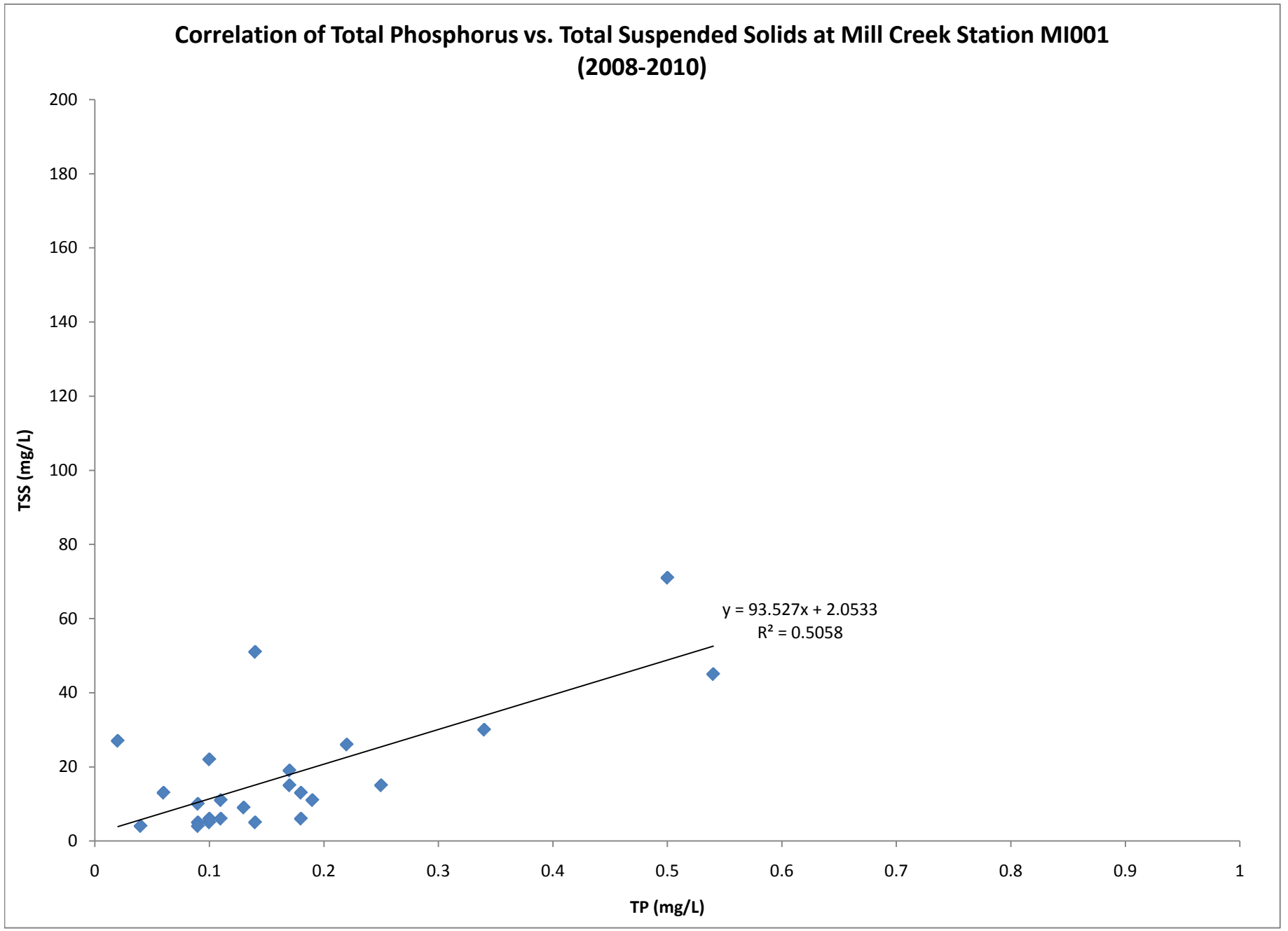

Correlation of Total Phosphorus vs. Total Suspended Solids at Coyle Creek Station CO001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 154.46x + 2.0482
R² = 0.562
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

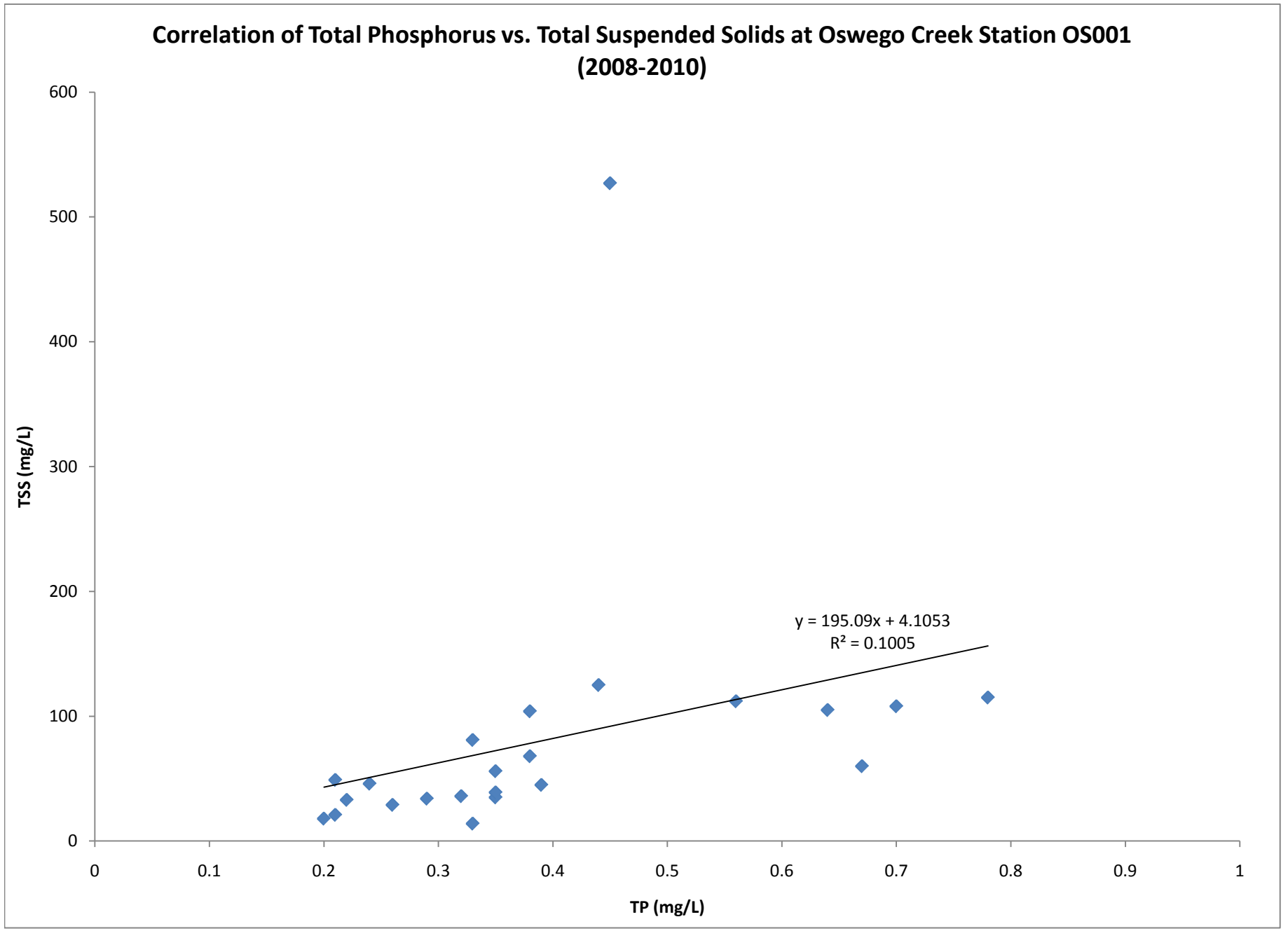

Correlation of Total Phosphorus vs. Total Suspended Solids at Drapers Creek Station DR001 (2008-2010)
y = 236.97x - 12.048
R² = 0.7354
TSS (mg/L)
TP (mg/L)
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

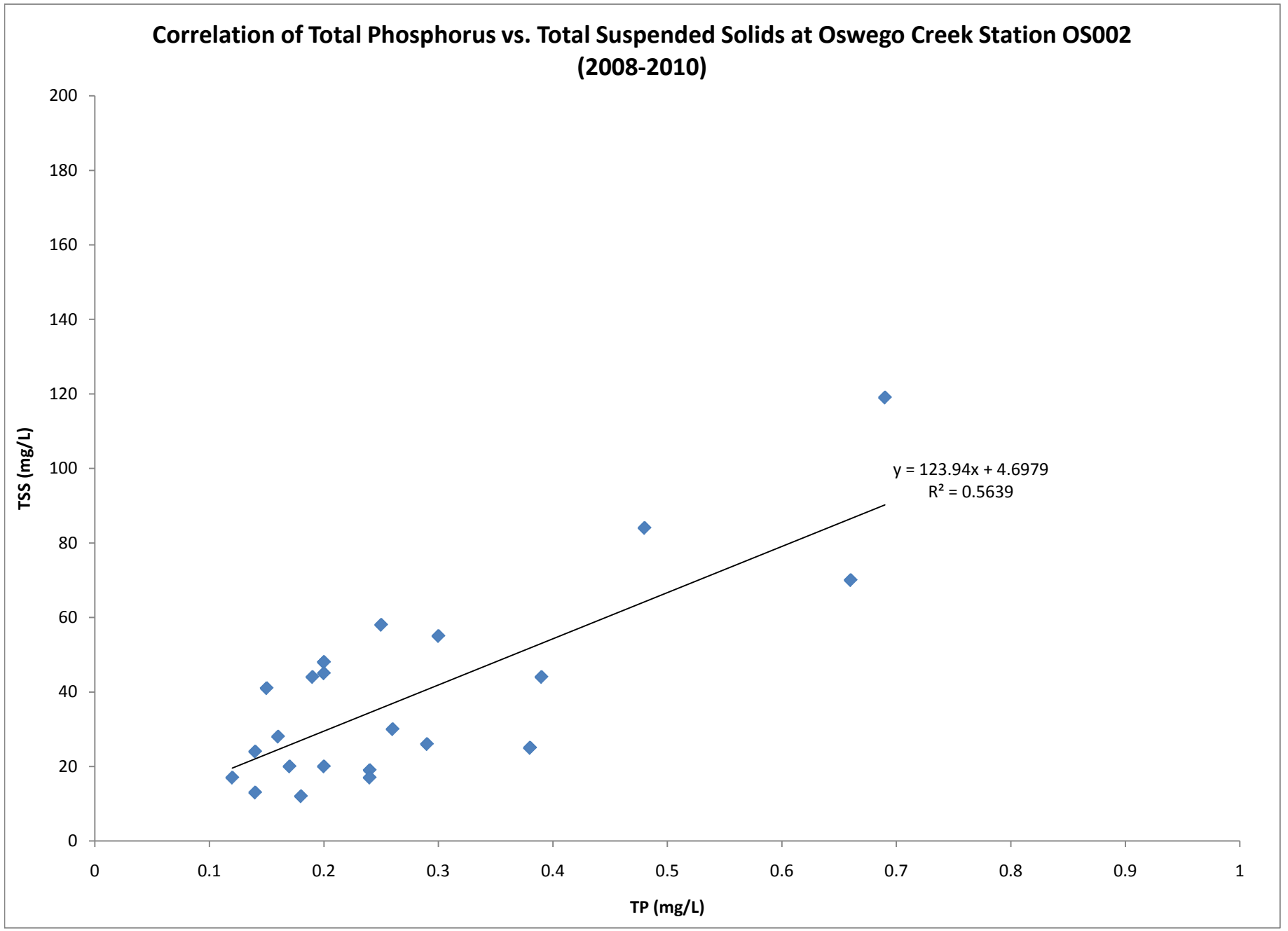

Correlation of Total Phosphorus vs. Total Suspended Solids at Elsie Creek Station EL001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 64.952x + 6.2682
R² = 0.4479
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

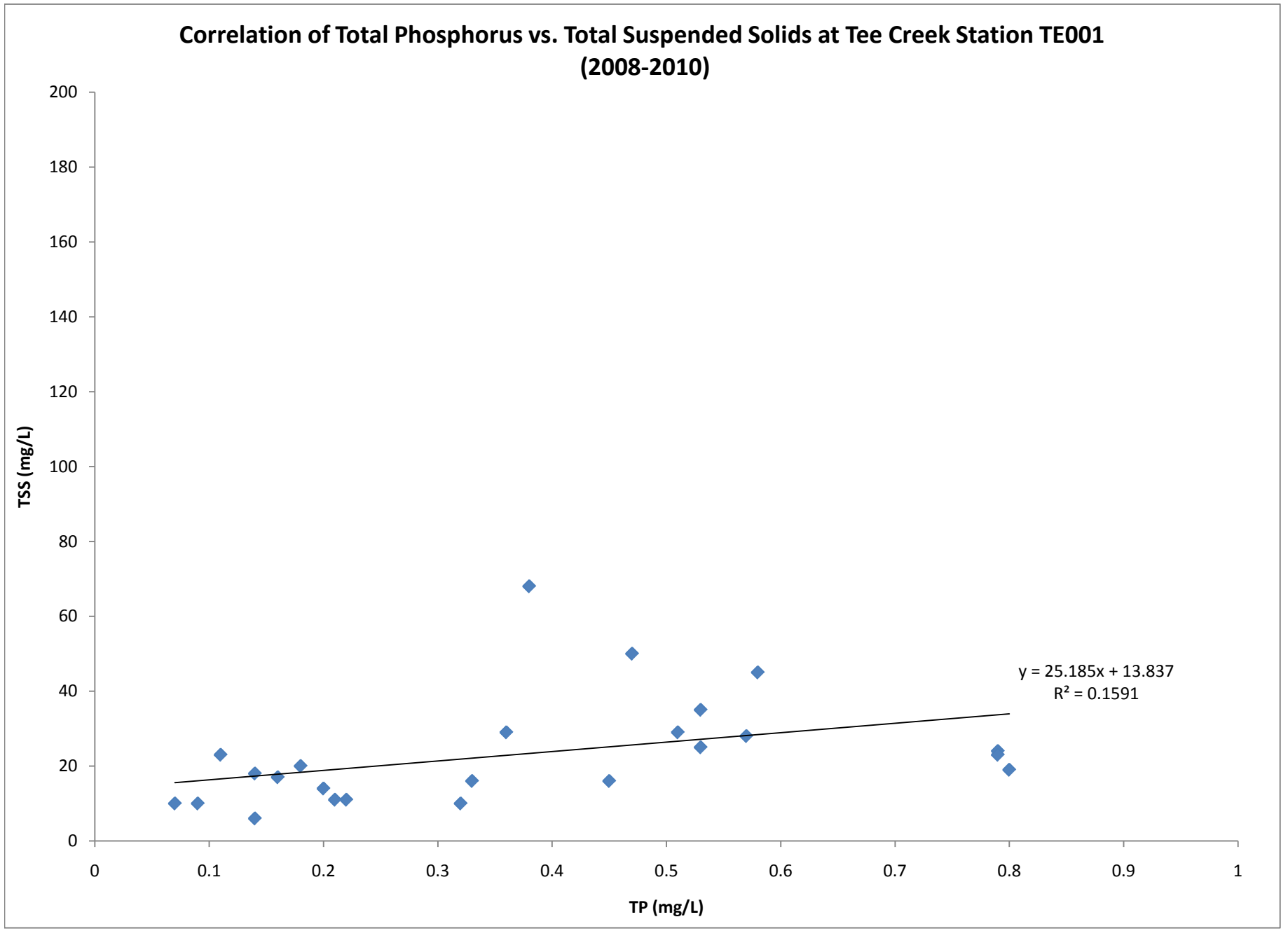

Correlation of Total Phosphorus vs. Total Suspended Solids at Grassy Brook Station GR001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 126.11x - 5.4168
R² = 0.6705
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

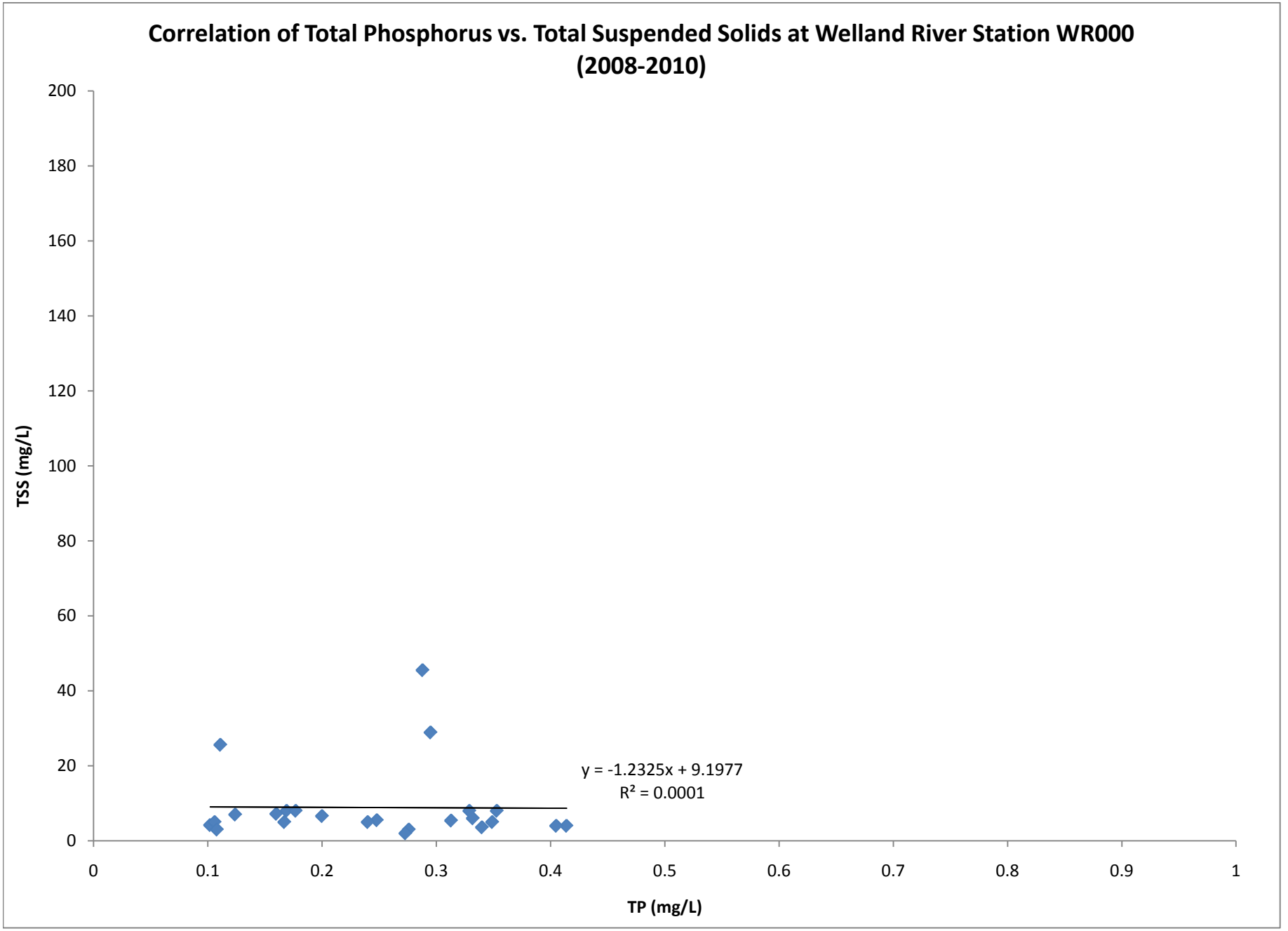

Correlation of Total Phosphorus vs. Total Suspended Solids at Lyons Creek Station LY003 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 103.45x - 2.8057
R² = 0.6222
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

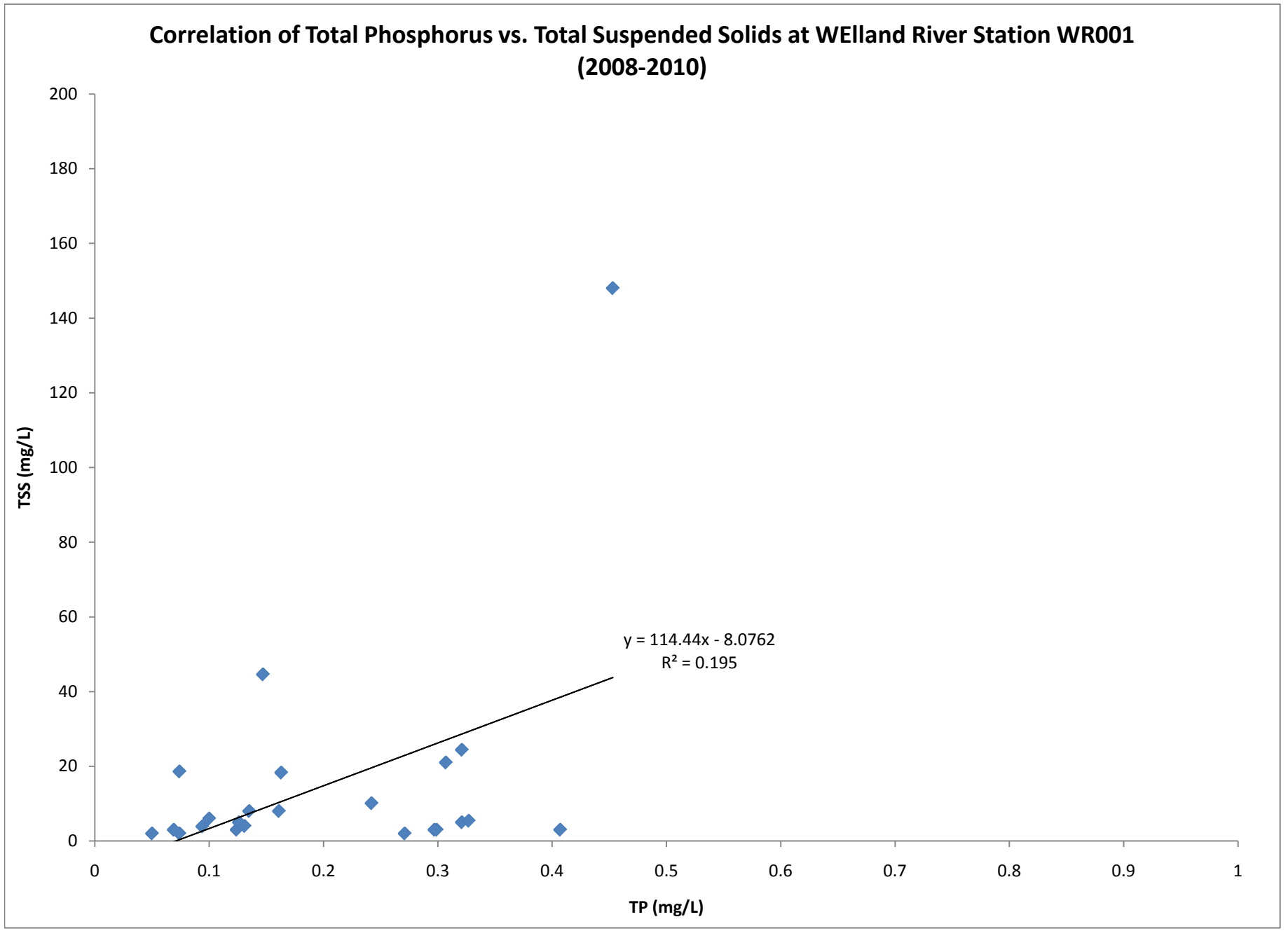

Correlation of Total Phosphorus vs. Total Suspended Solids at Mill Creek Station MI001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 93.527x + 2.0533
R² = 0.5058
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

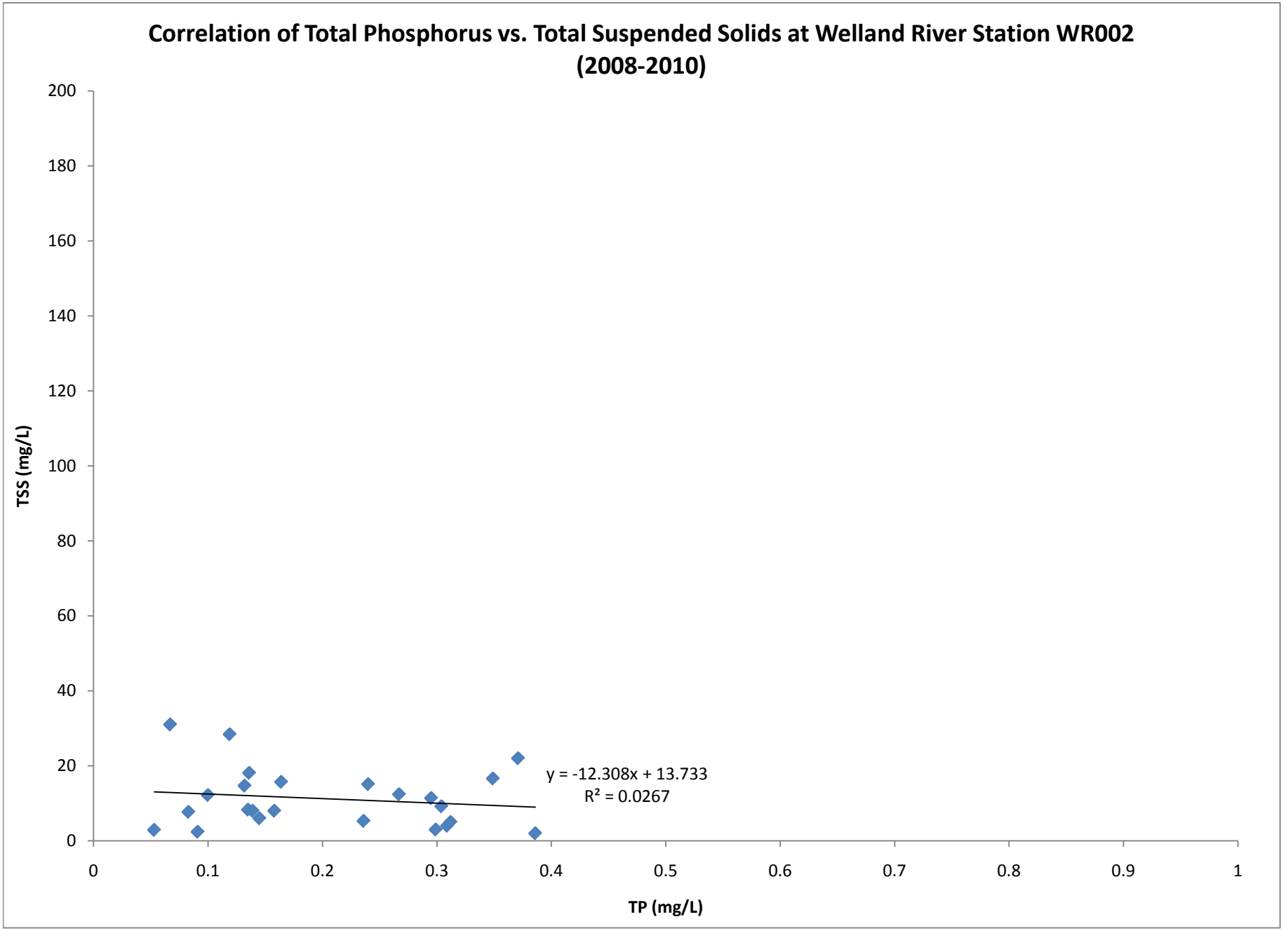

Correlation of Total Phosphorus vs. Total Suspended Solids at Oswego Creek Station OS001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 195.09x + 4.1053
R² = 0.1005
600
500
400
300
200
100
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

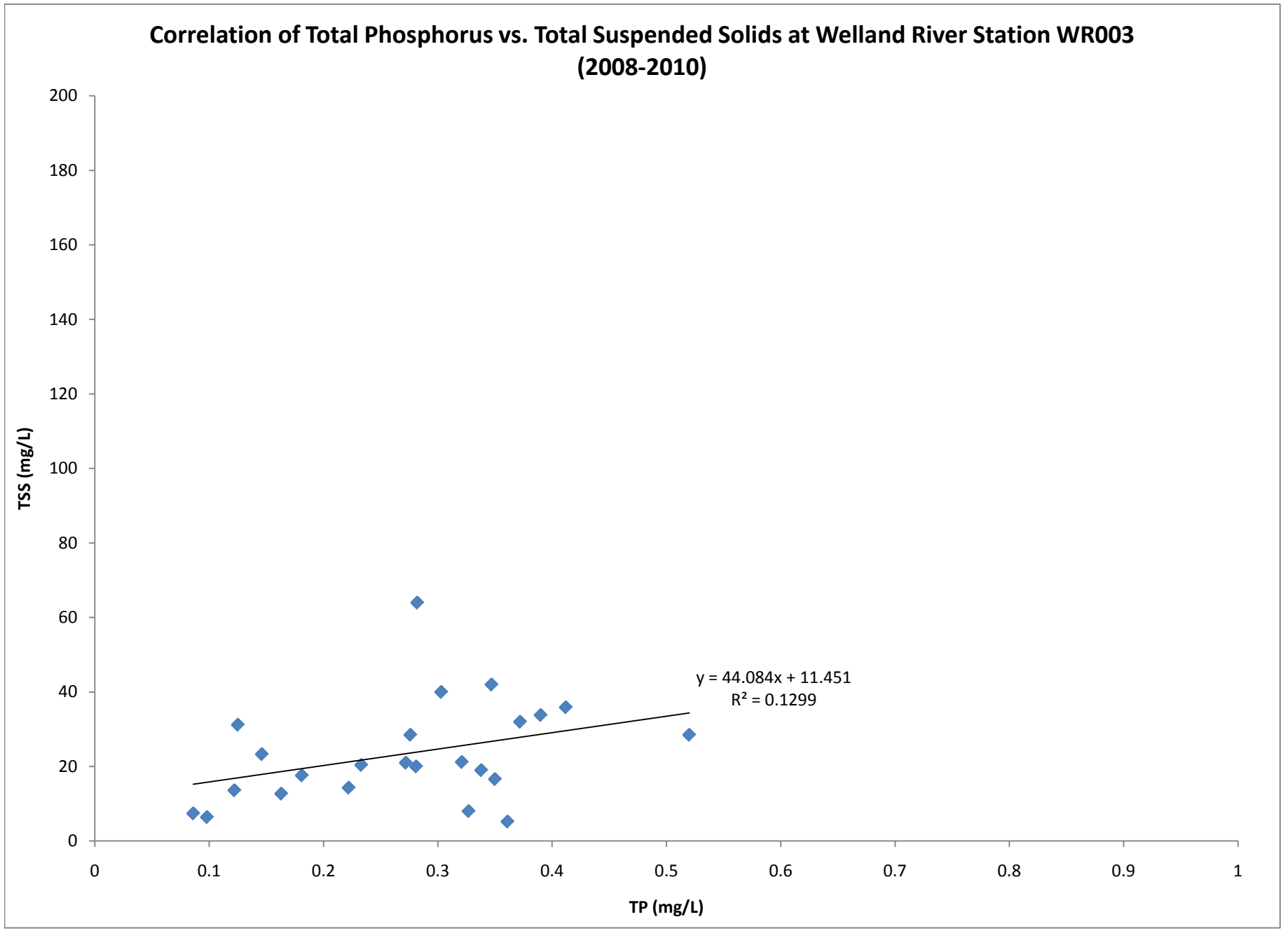

Correlation of Total Phosphorus vs. Total Suspended Solids at Oswego Creek Station OS002 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 123.94x + 4.6979
R² = 0.5639
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

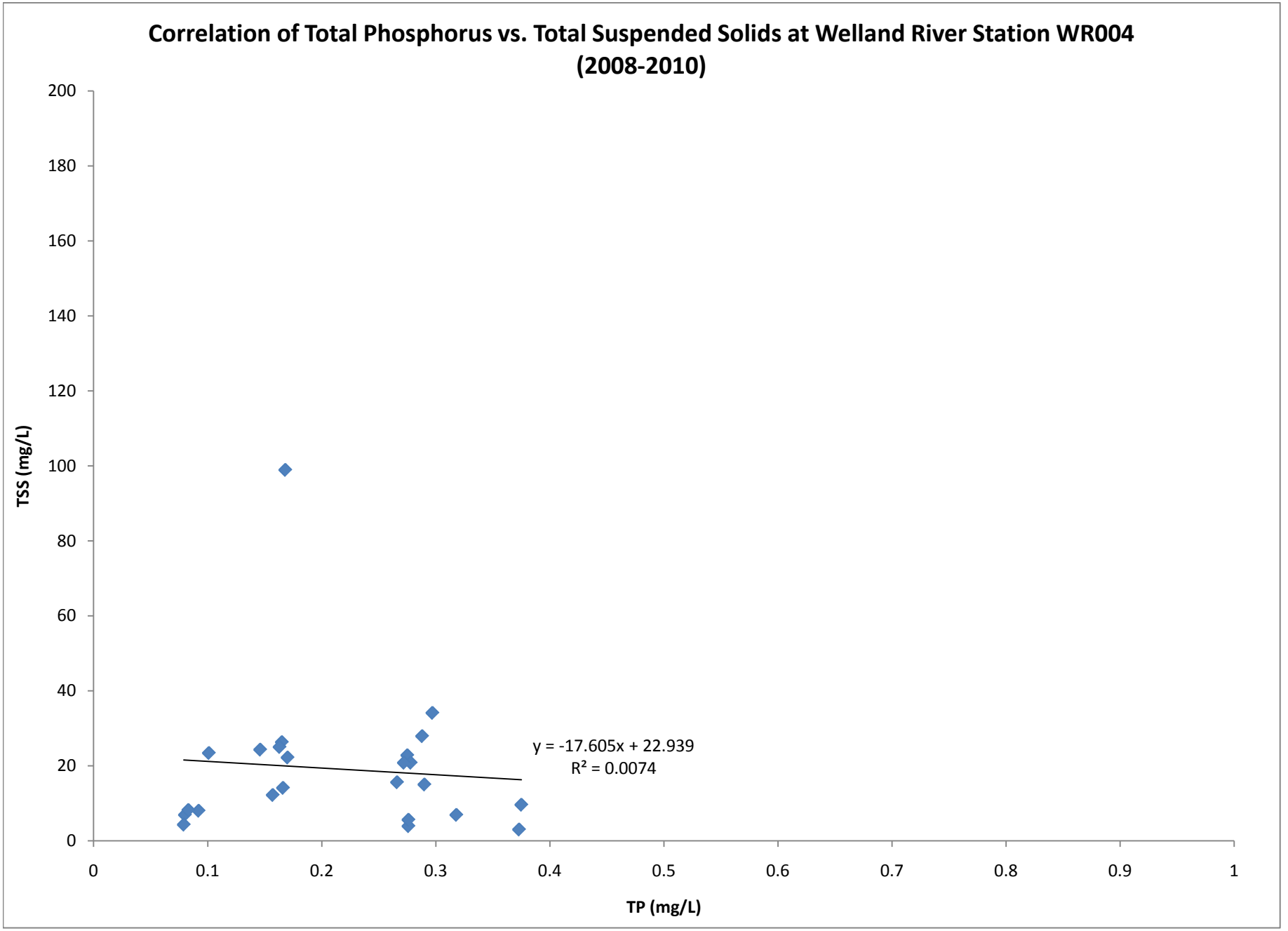

Correlation of Total Phosphorus vs. Total Suspended Solids at Tee Creek Station TE001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 25.185x + 13.837
R² = 0.1591
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

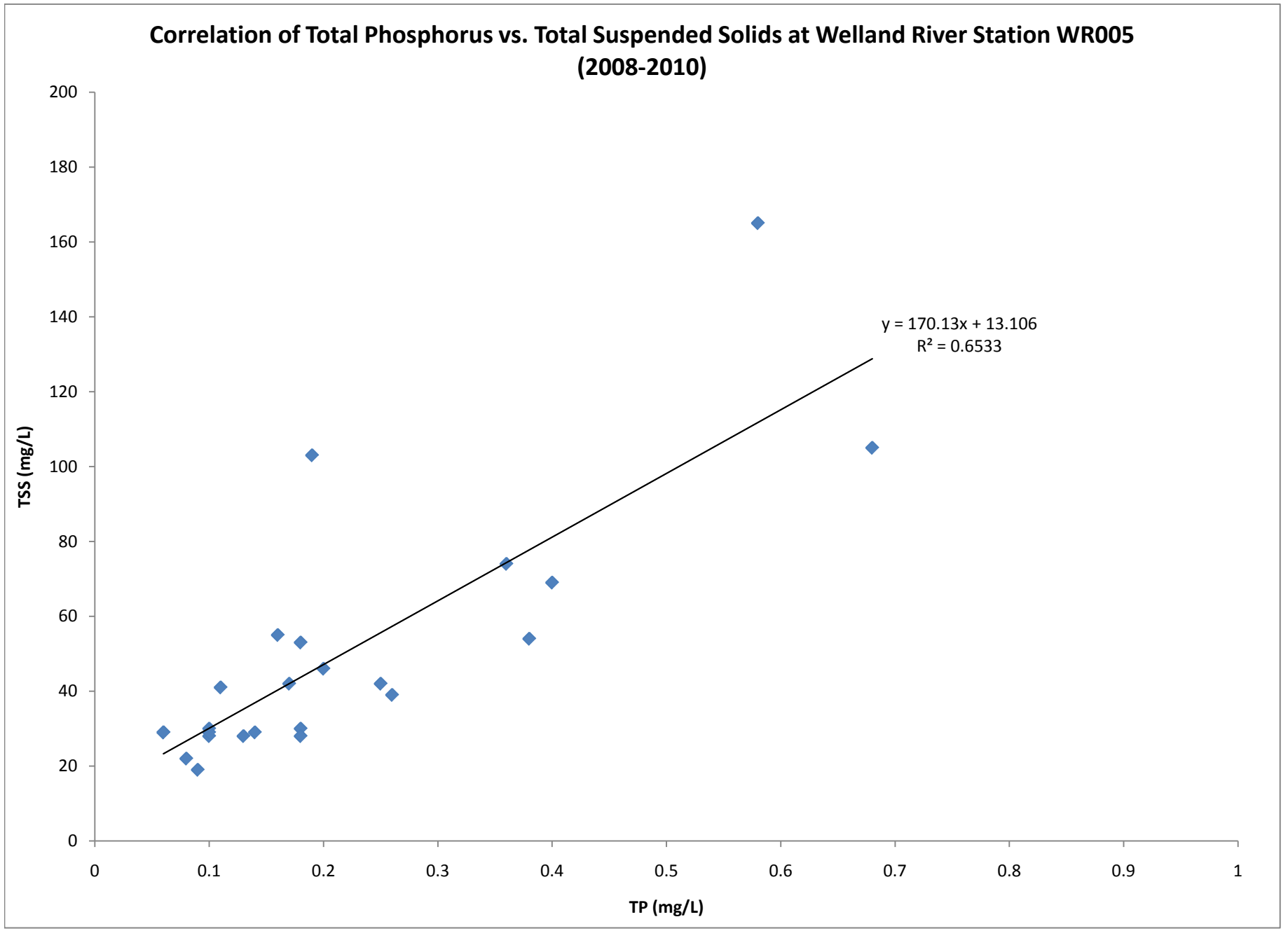

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR000 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = -1.2325x + 9.1977
R² = 0.0001
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

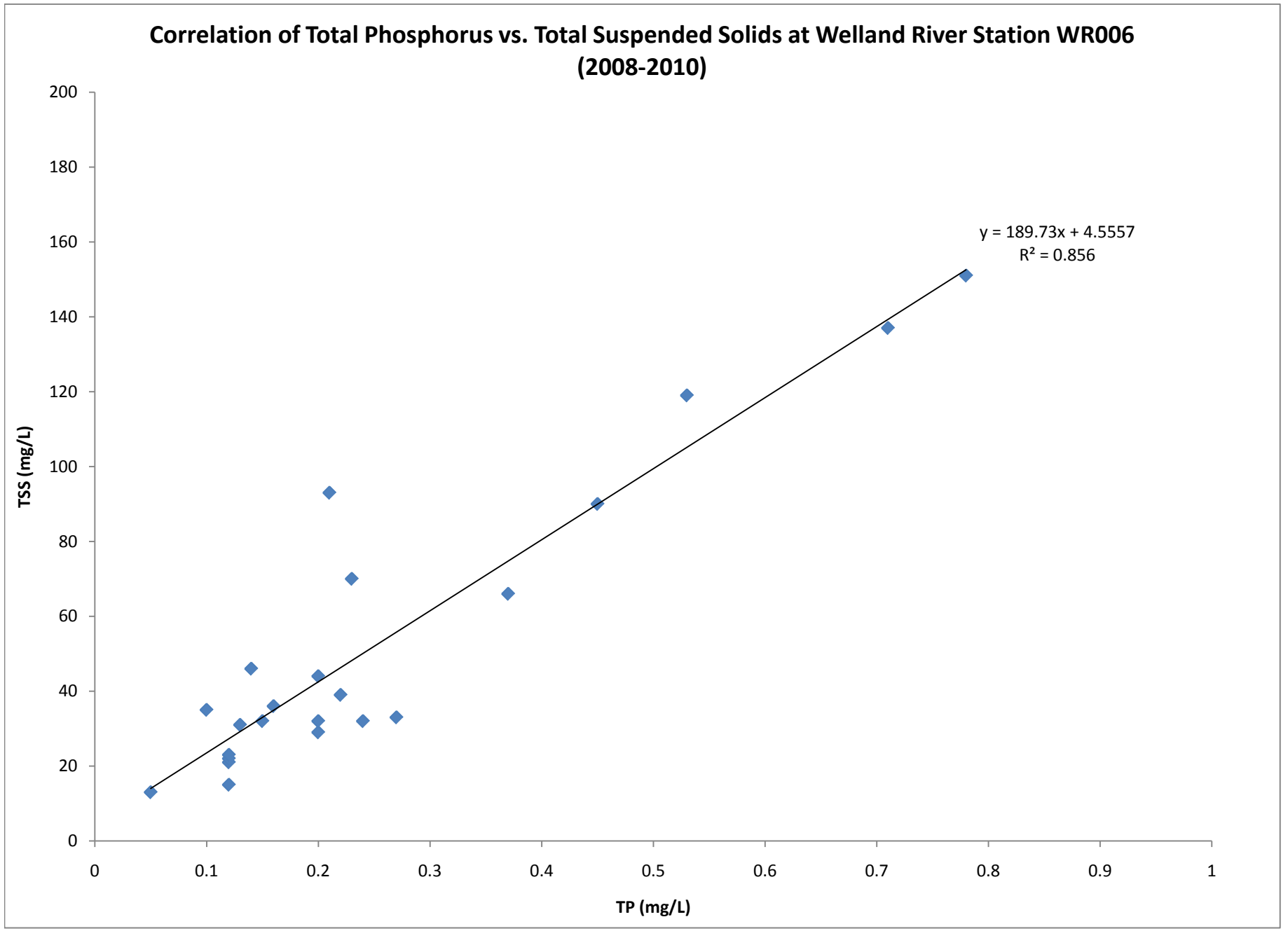

Correlation of Total Phosphorus vs. Total Suspended Solids at WElland River Station WR001 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 114.44x - 8.0762
R² = 0.195
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

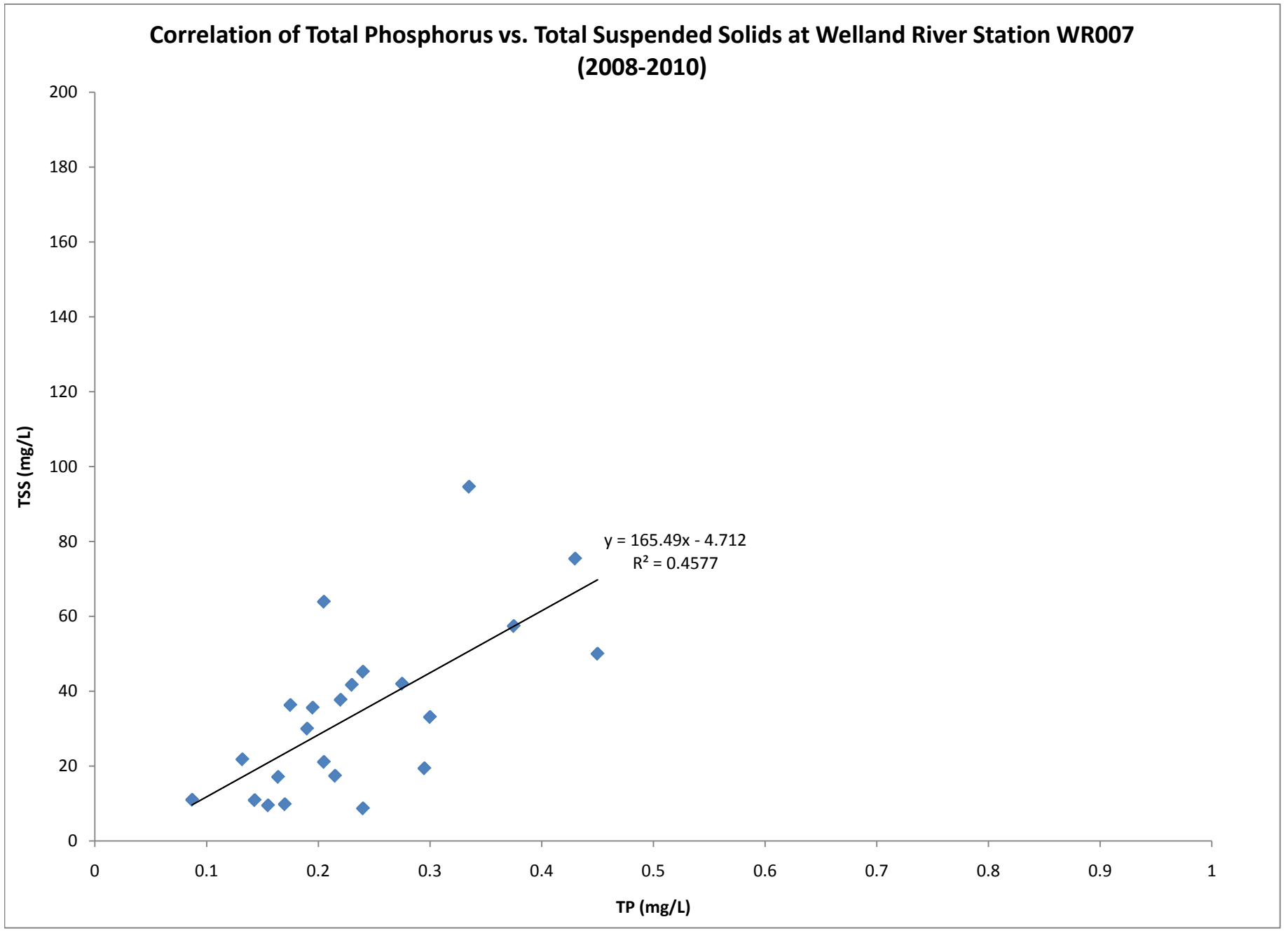

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR002 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = -12.308x + 13.733
R² = 0.0267
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

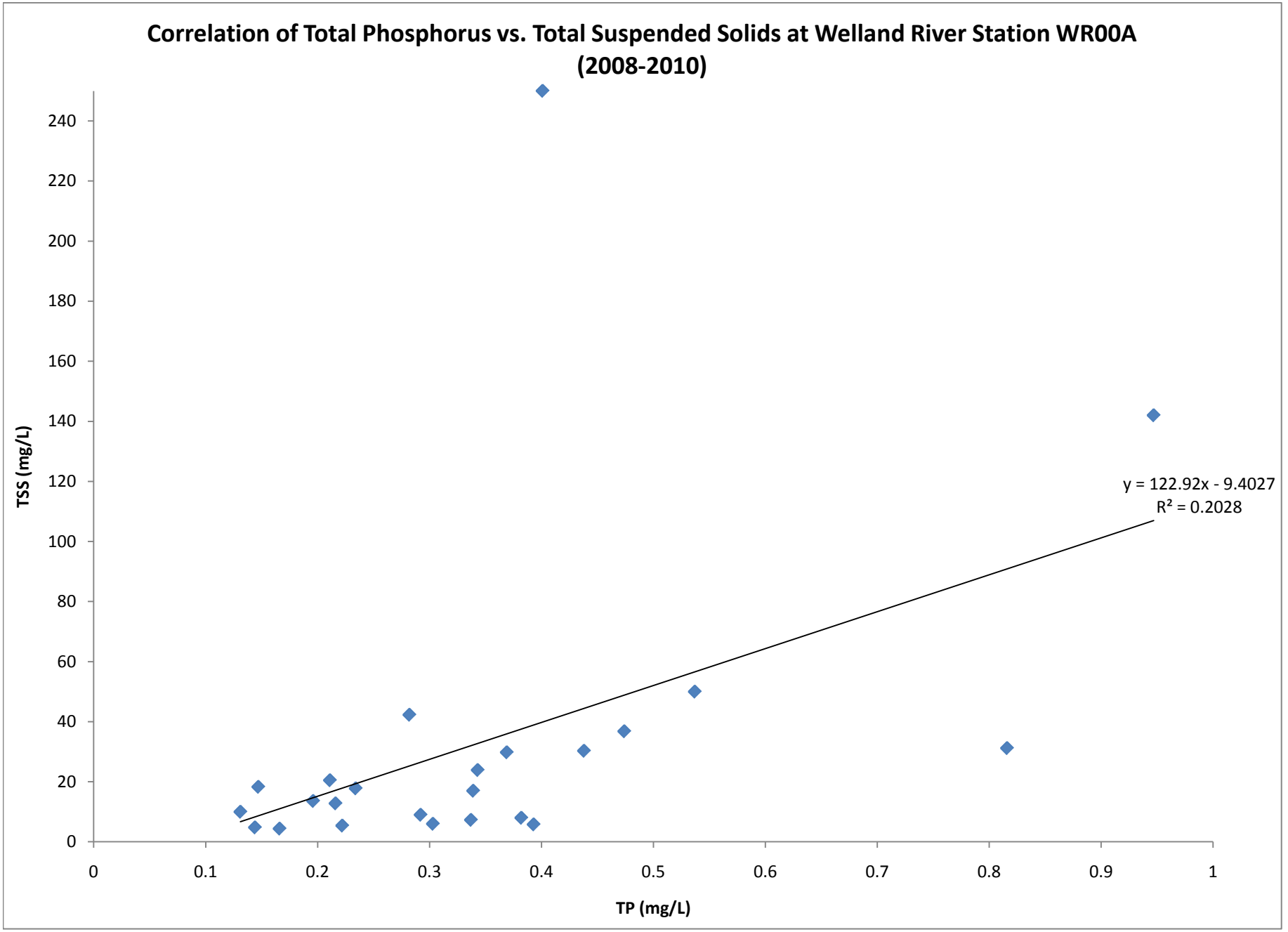

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR003 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 44.084x + 11.451
R² = 0.1299
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

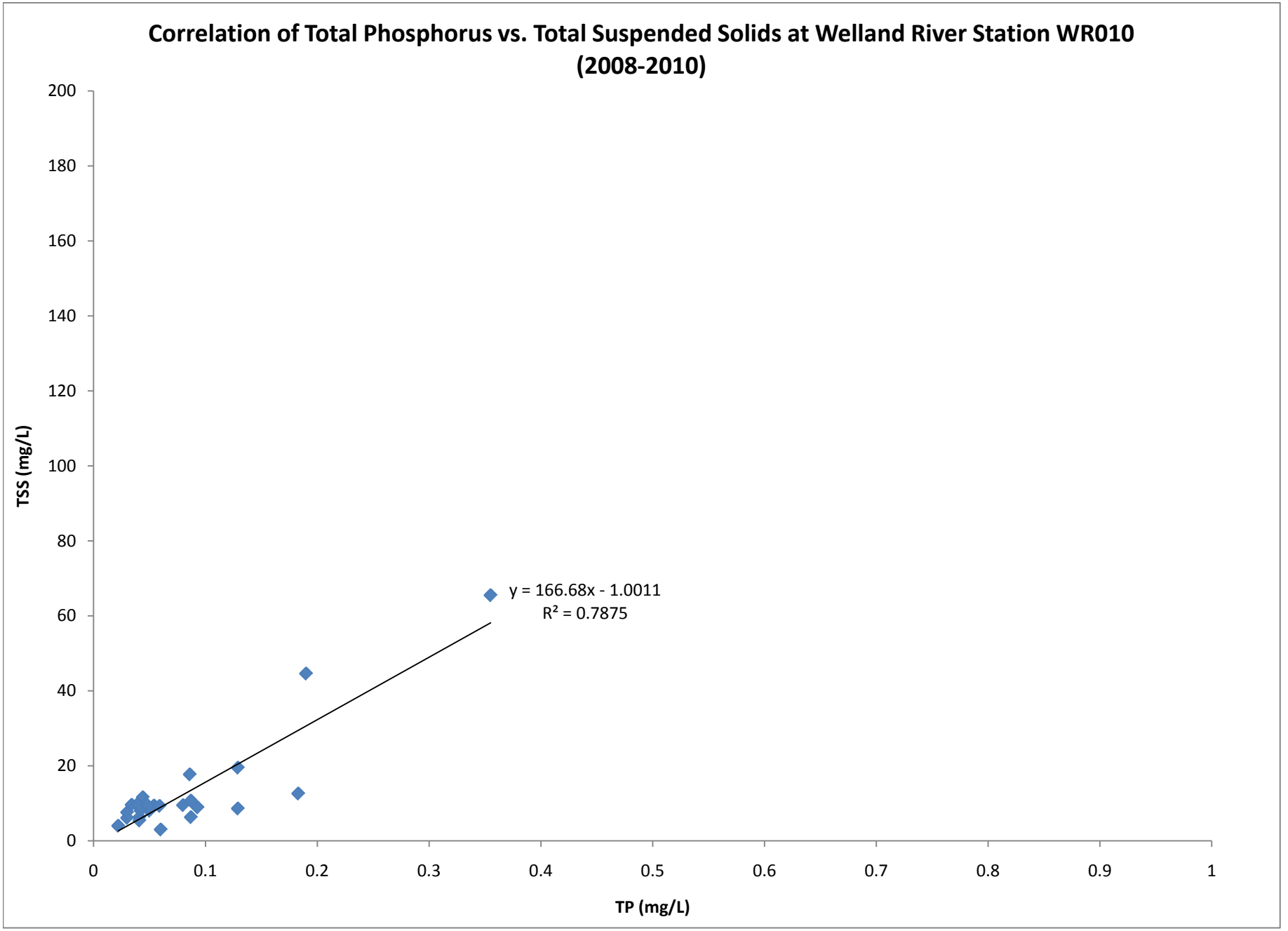

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR004 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = -17.605x + 22.939
R² = 0.0074
200
180
160
140
120
100
80
60
40
20
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

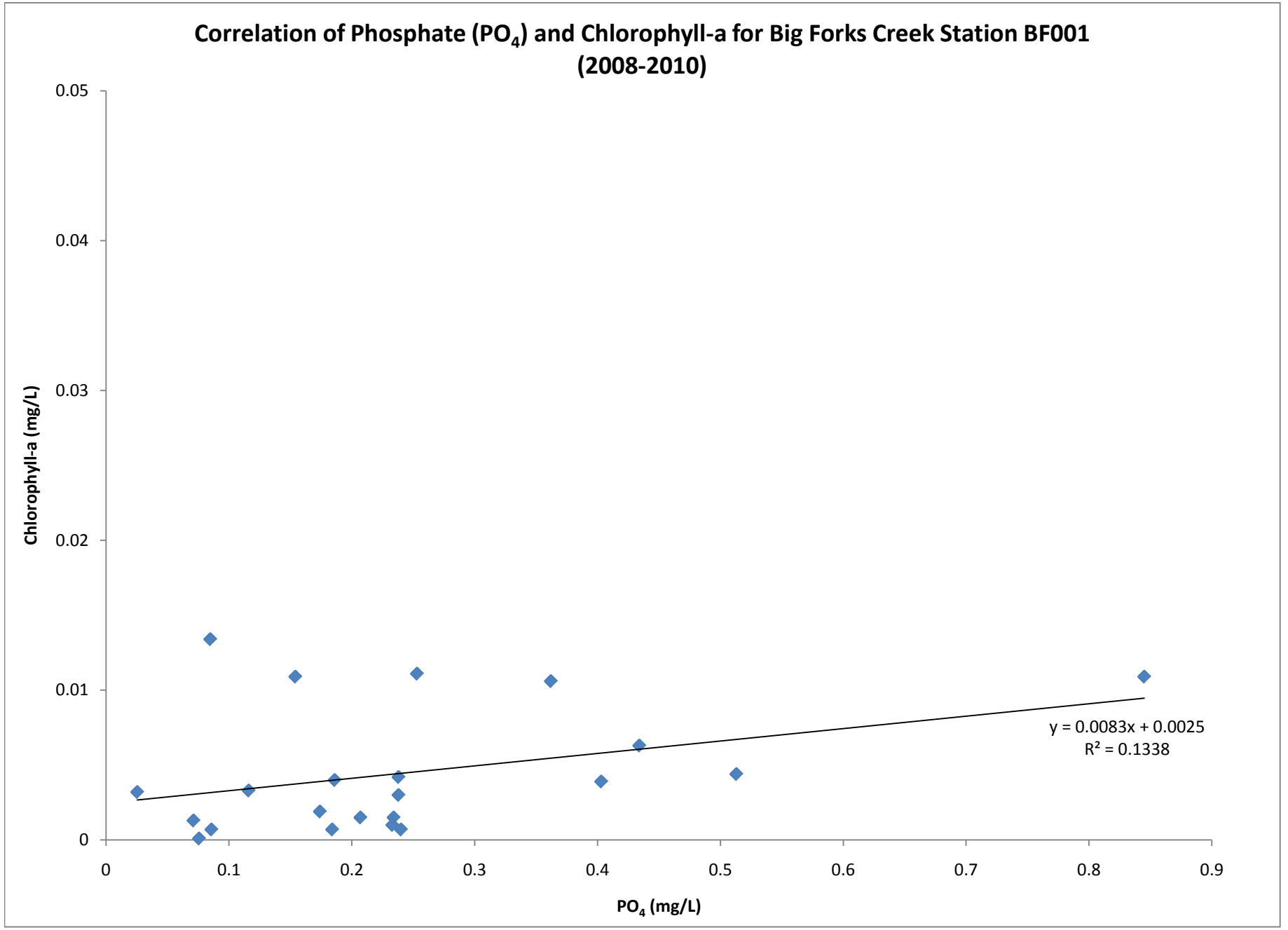

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR005 (2008-2010)
y = 170.13x + 13.106
R² = 0.6533
TSS (mg/L)
TP (mg/L)
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

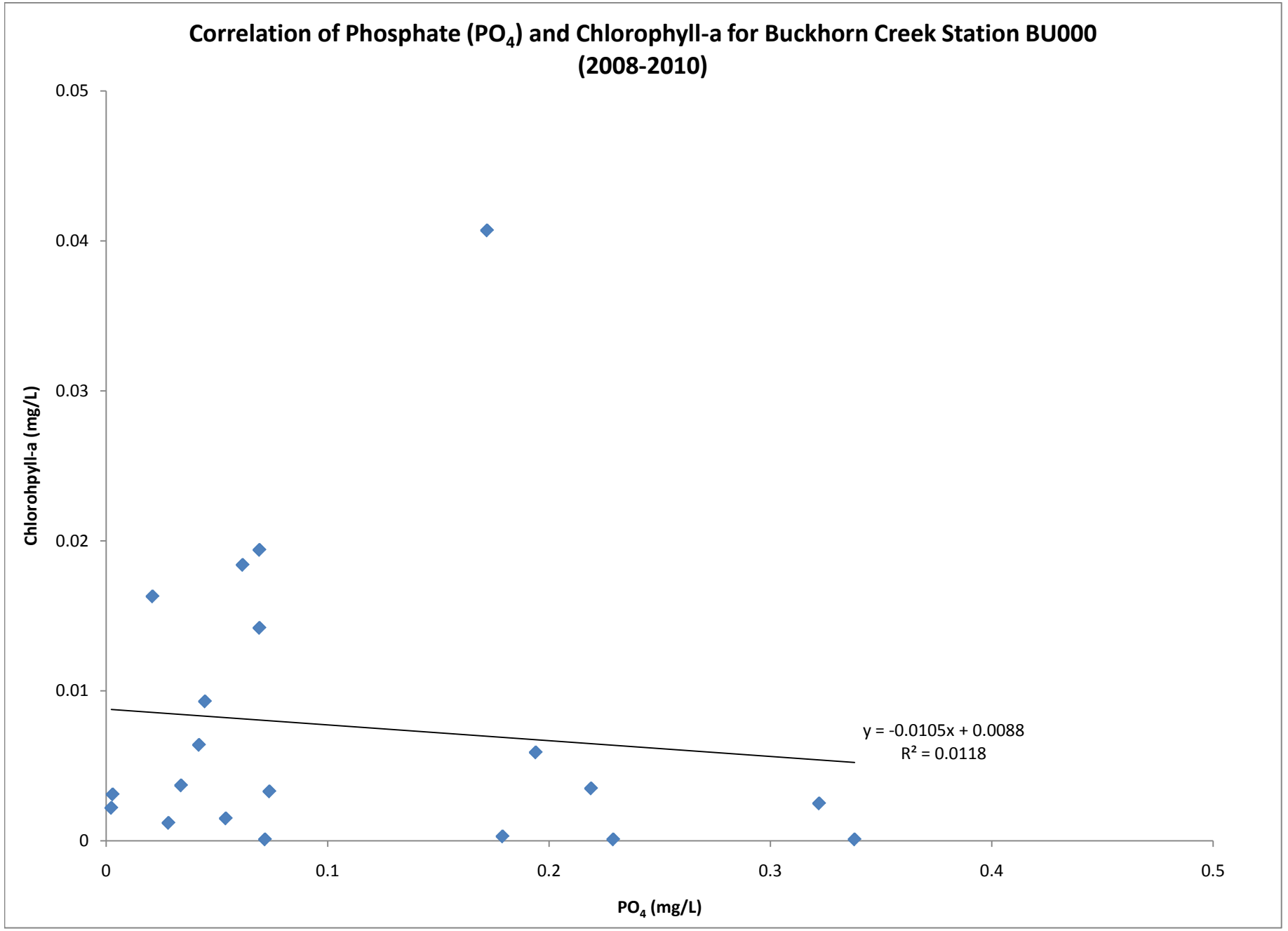

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR006 (2008-2010)
y = 189.73x + 4.5557
R² = 0.856
TSS (mg/L)
TP (mg/L)
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

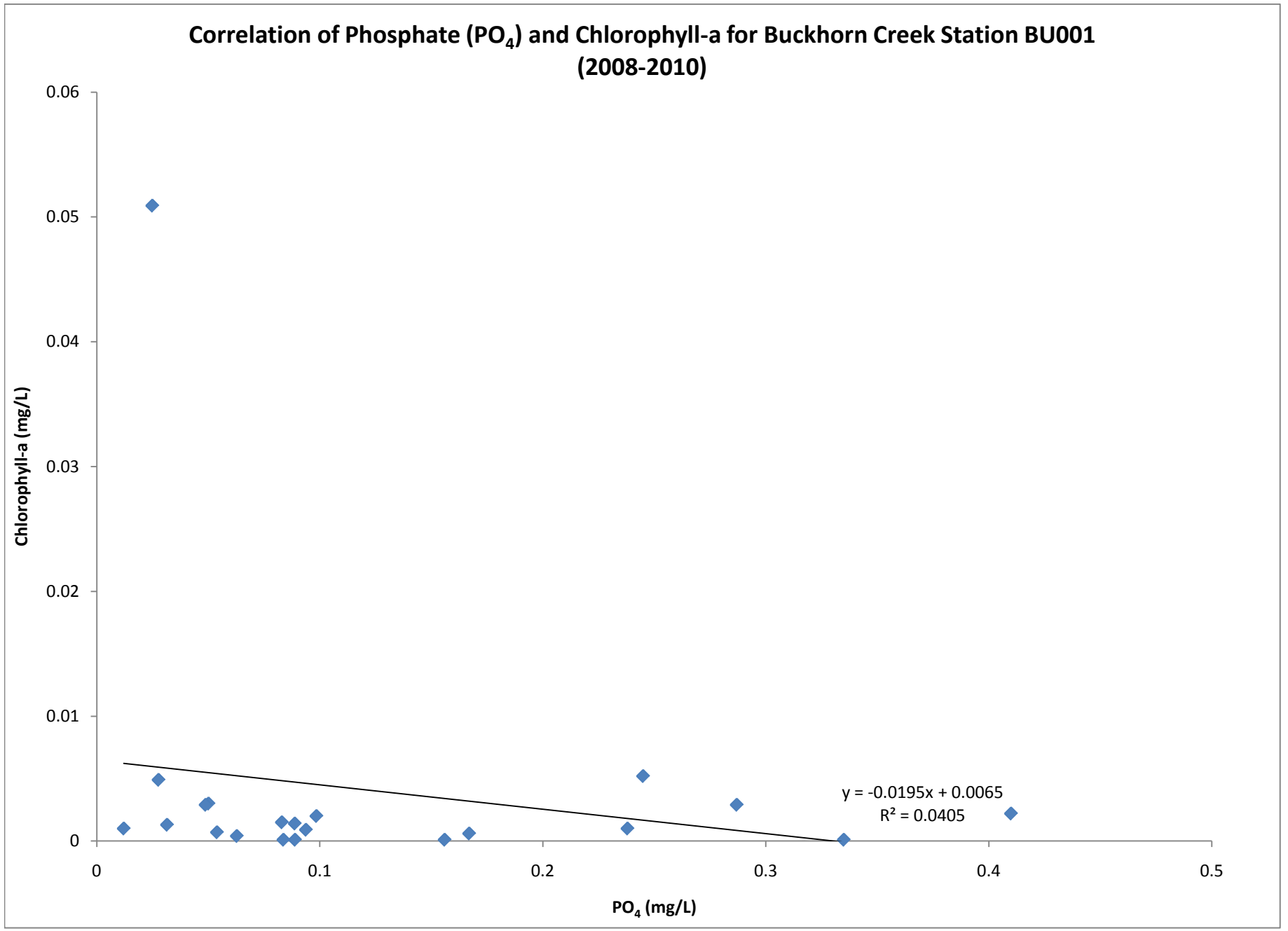

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR007 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 165.49x - 4.712
R² = 0.4577
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

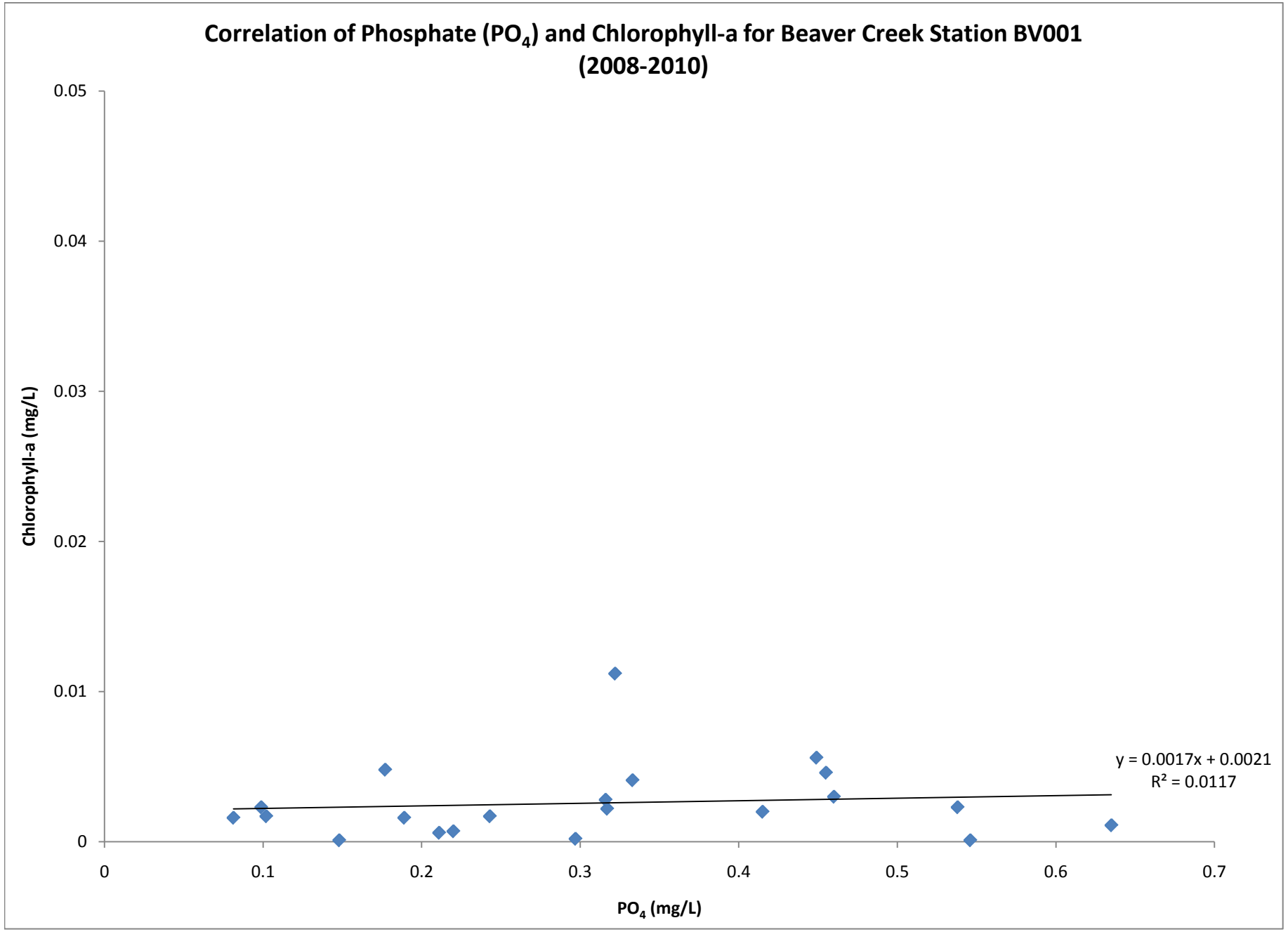

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR00A (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 122.92x - 9.4027
R² = 0.2028
0
20
40
60
80
100
120
140
160
180
200
220
240
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

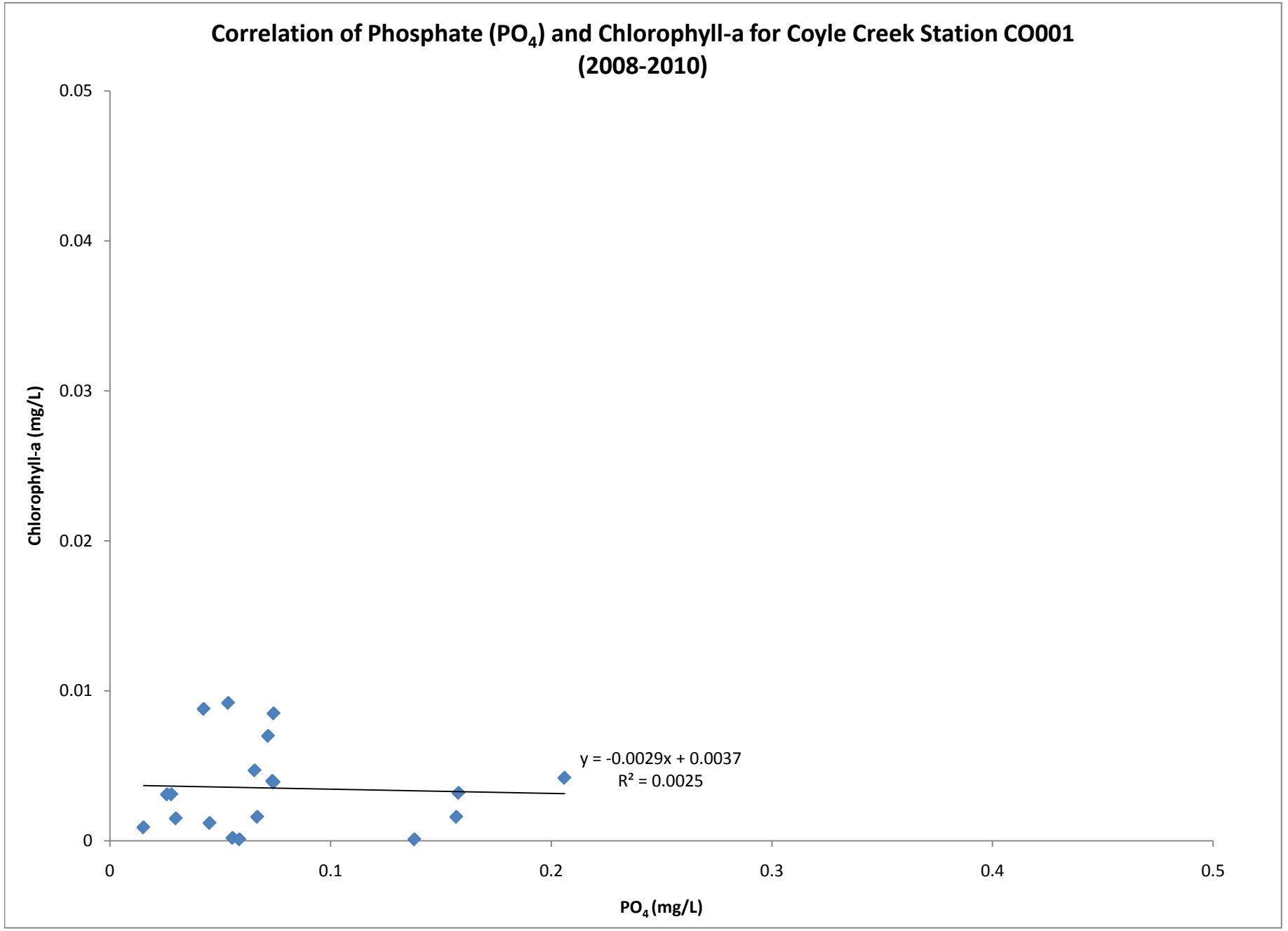

Correlation of Total Phosphorus vs. Total Suspended Solids at Welland River Station WR010 (2008-2010)
TSS (mg/L)
TP (mg/L)
y = 166.68x - 1.0011
R² = 0.7875
0
20
40
60
80
100
120
140
160
180
200
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1

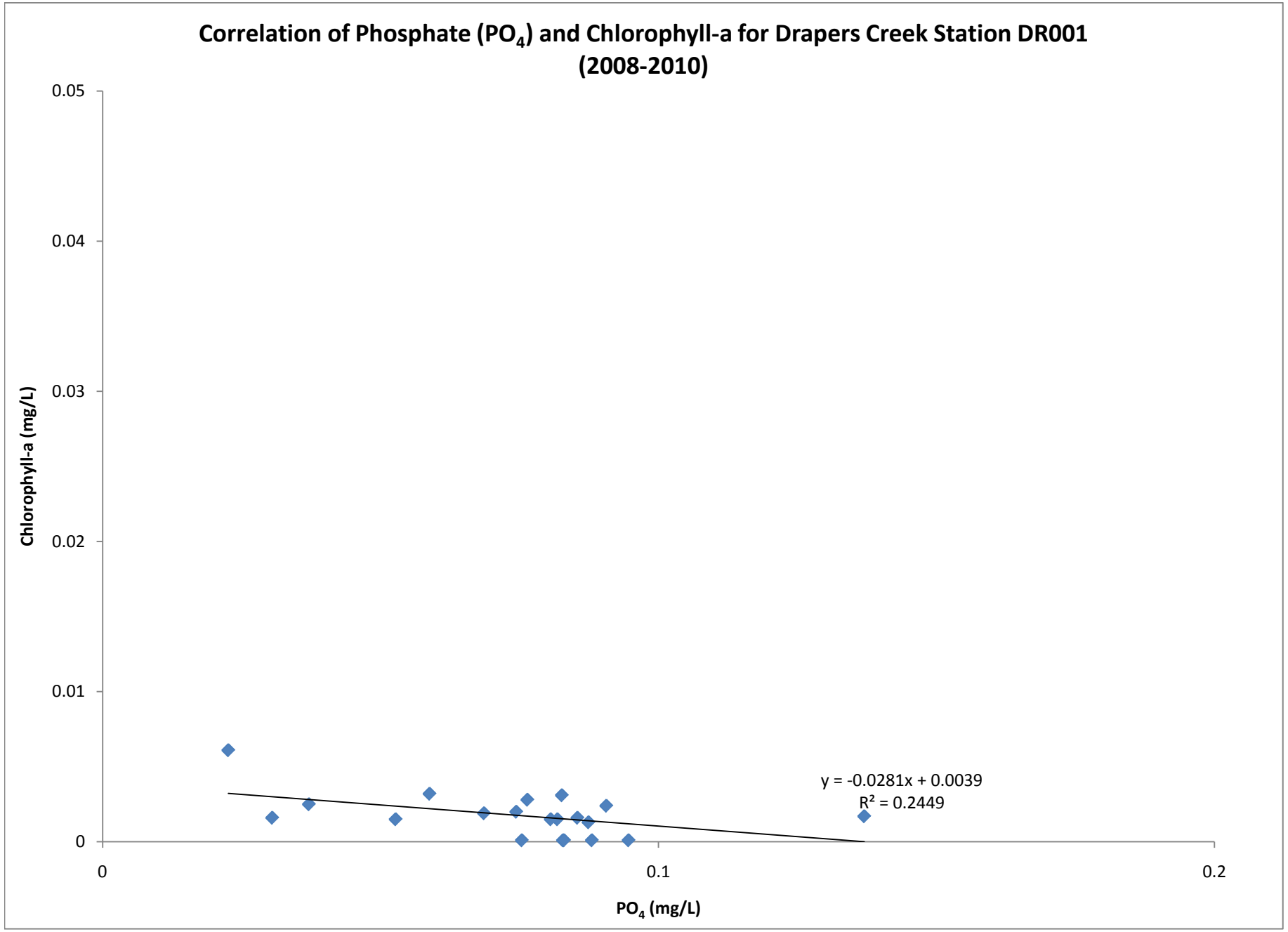

Correlation of Phosphate (PO_4) and Chlorophyll-a for Big Forks Creek Station BF001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
PO_4 (mg/L)
y = 0.0083x + 0.0025
R^2 = 0.1338

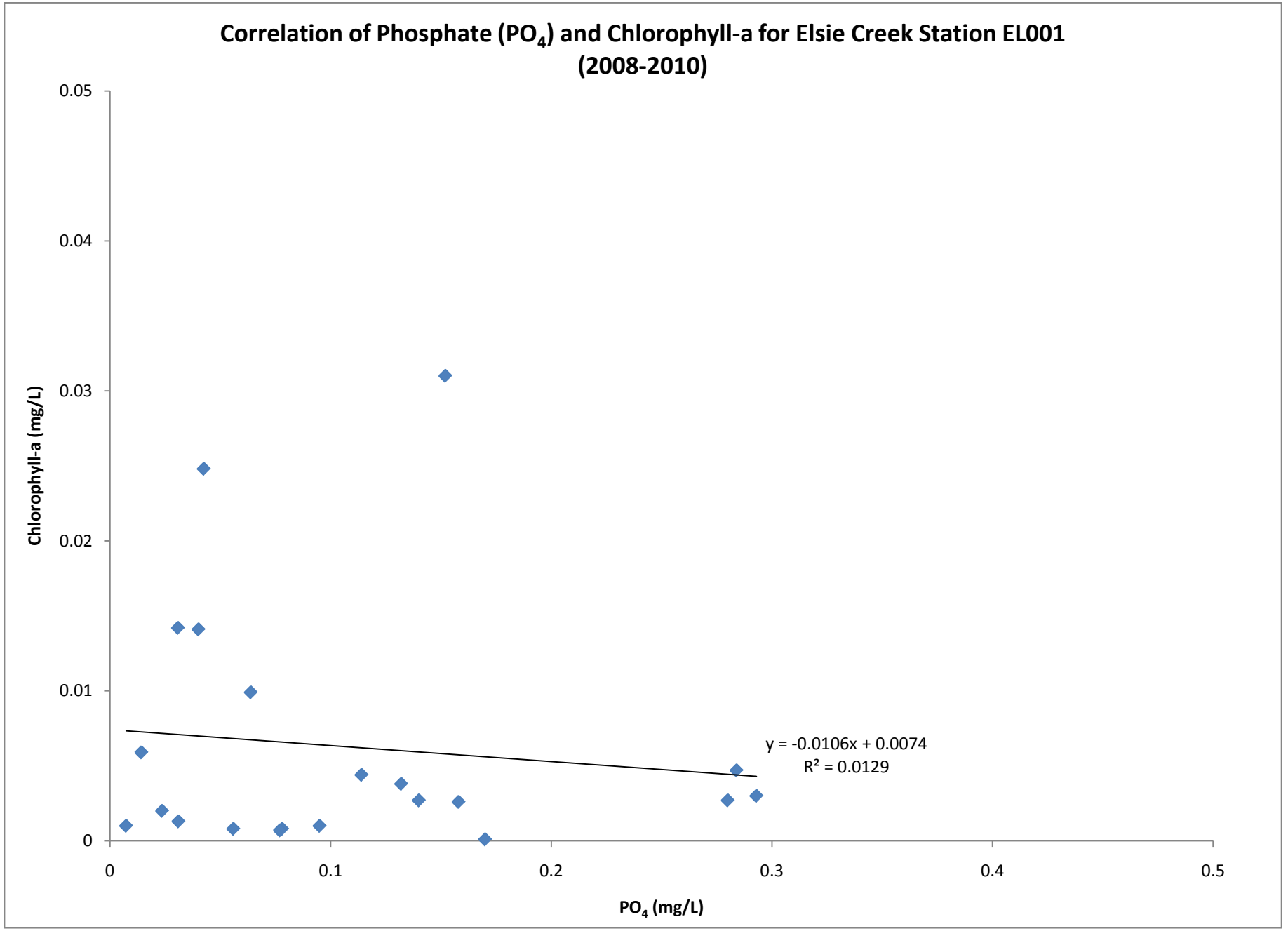

Correlation of Phosphate (PO_4) and Chlorophyll-a for Buckhorn Creek Station BU000 (2008-2010)
Chlorohpyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0105x + 0.0088
R^2 = 0.0118

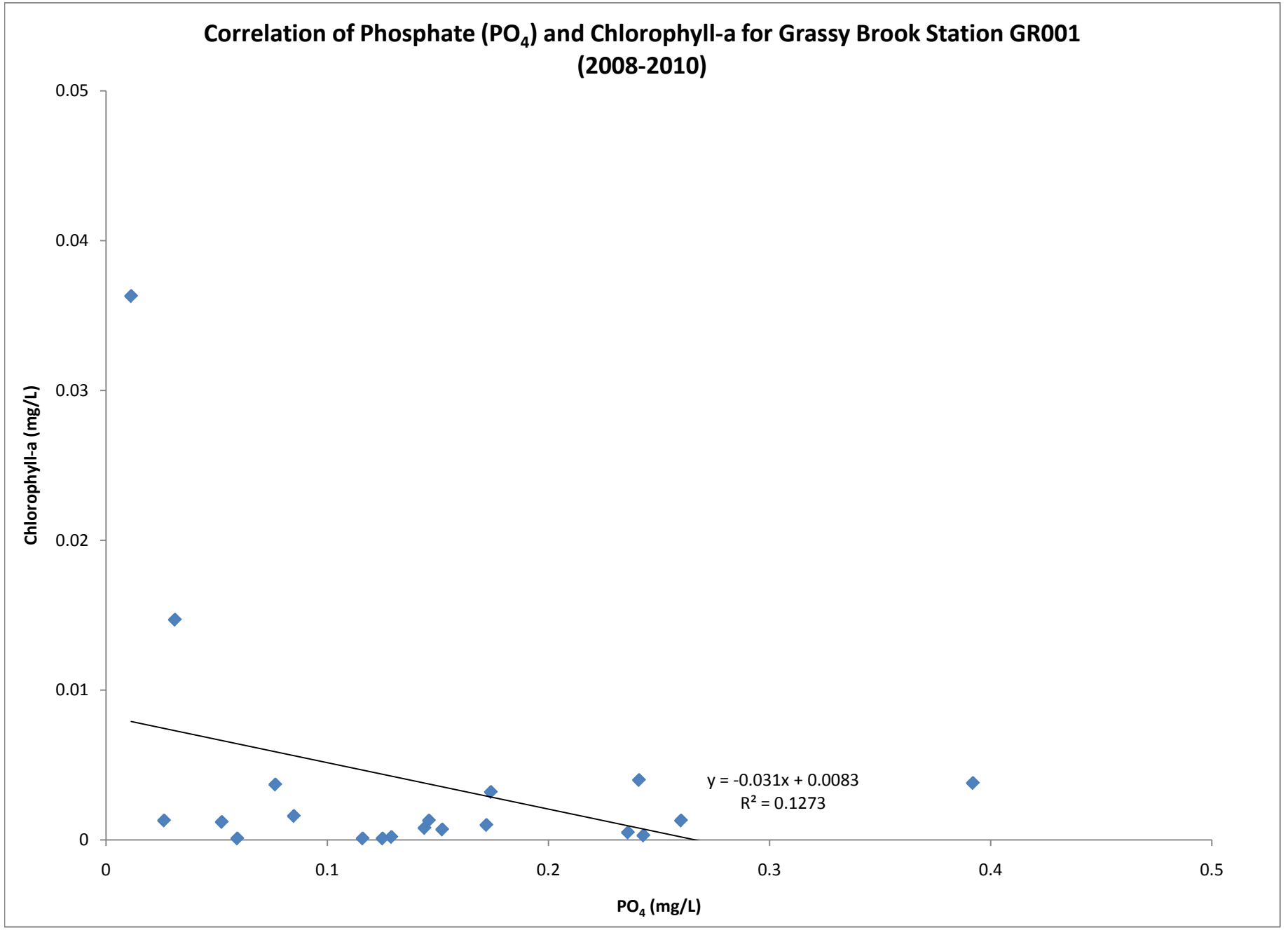

Correlation of Phosphate (PO_4) and Chlorophyll-a for Buckhorn Creek Station BU001 (2008-2010)
Chlorophyll-a (mg/L)
0.06
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0195x + 0.0065
R^2 = 0.0405

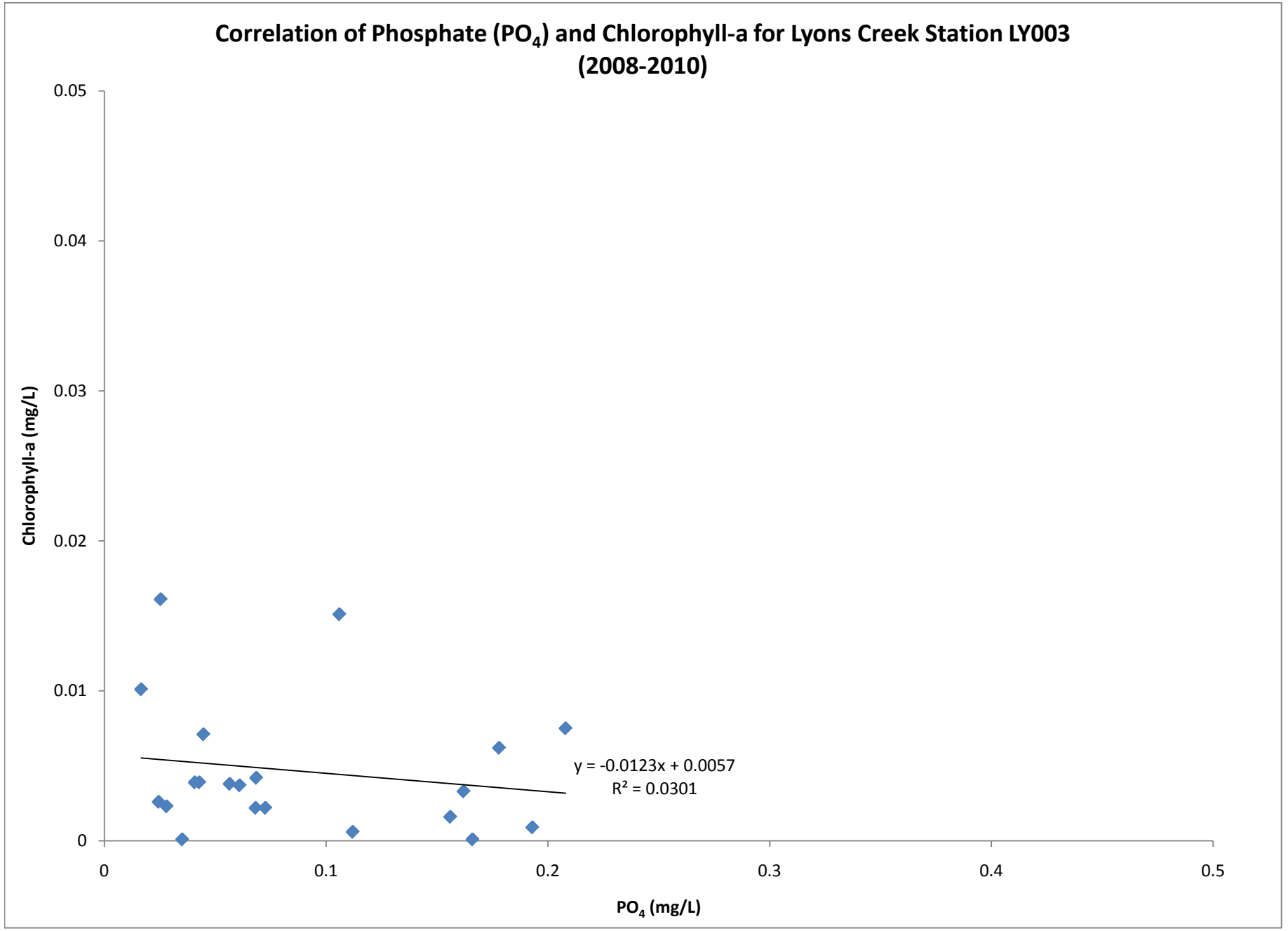

Correlation of Phosphate (PO_4) and Chlorophyll-a for Beaver Creek Station BV001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
PO_4 (mg/L)
y = 0.0017x + 0.0021
R^2 = 0.0117

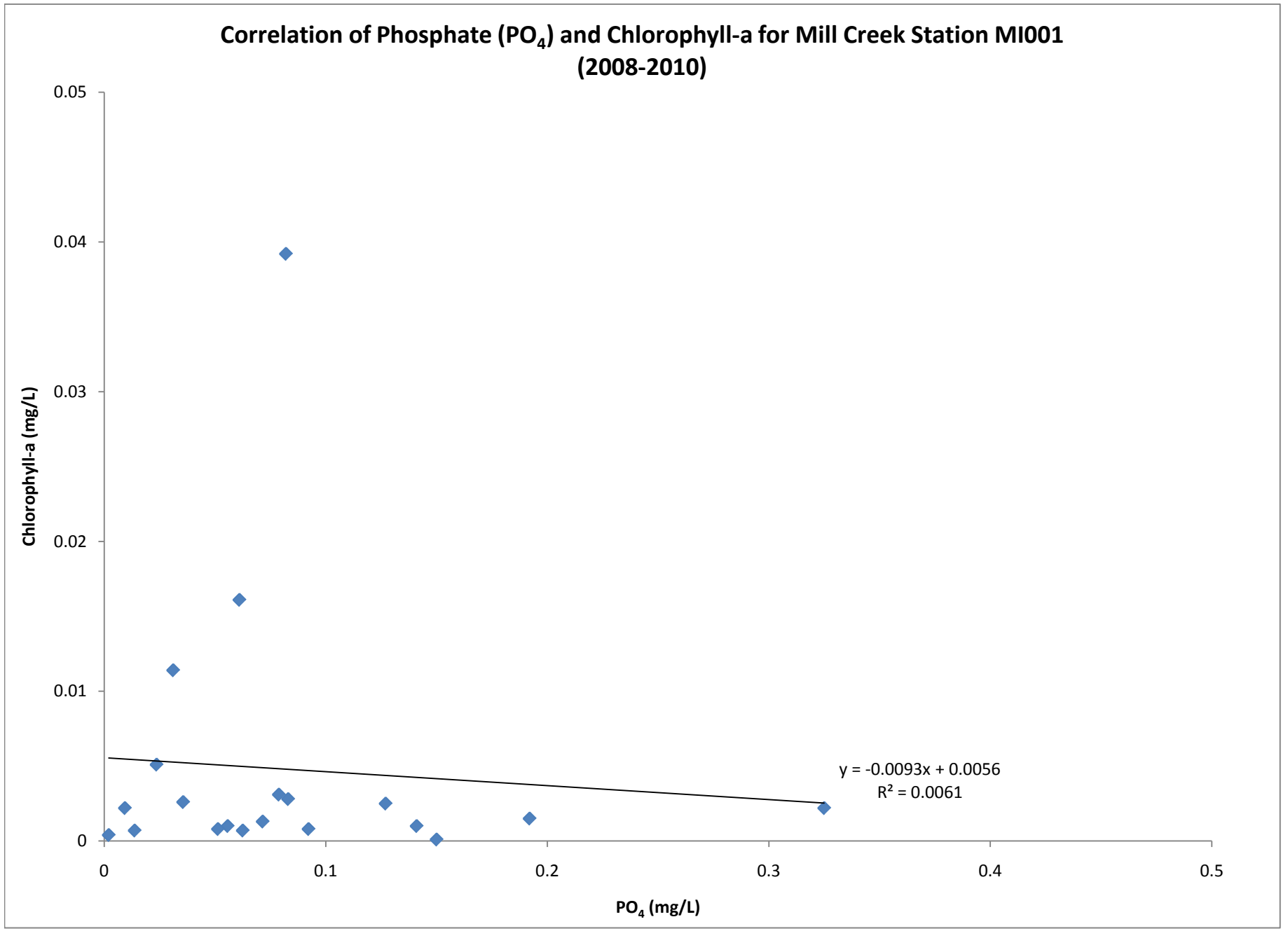

Correlation of Phosphate (PO_4) and Chlorophyll-a for Coyle Creek Station CO001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0029x + 0.0037
R^2 = 0.0025

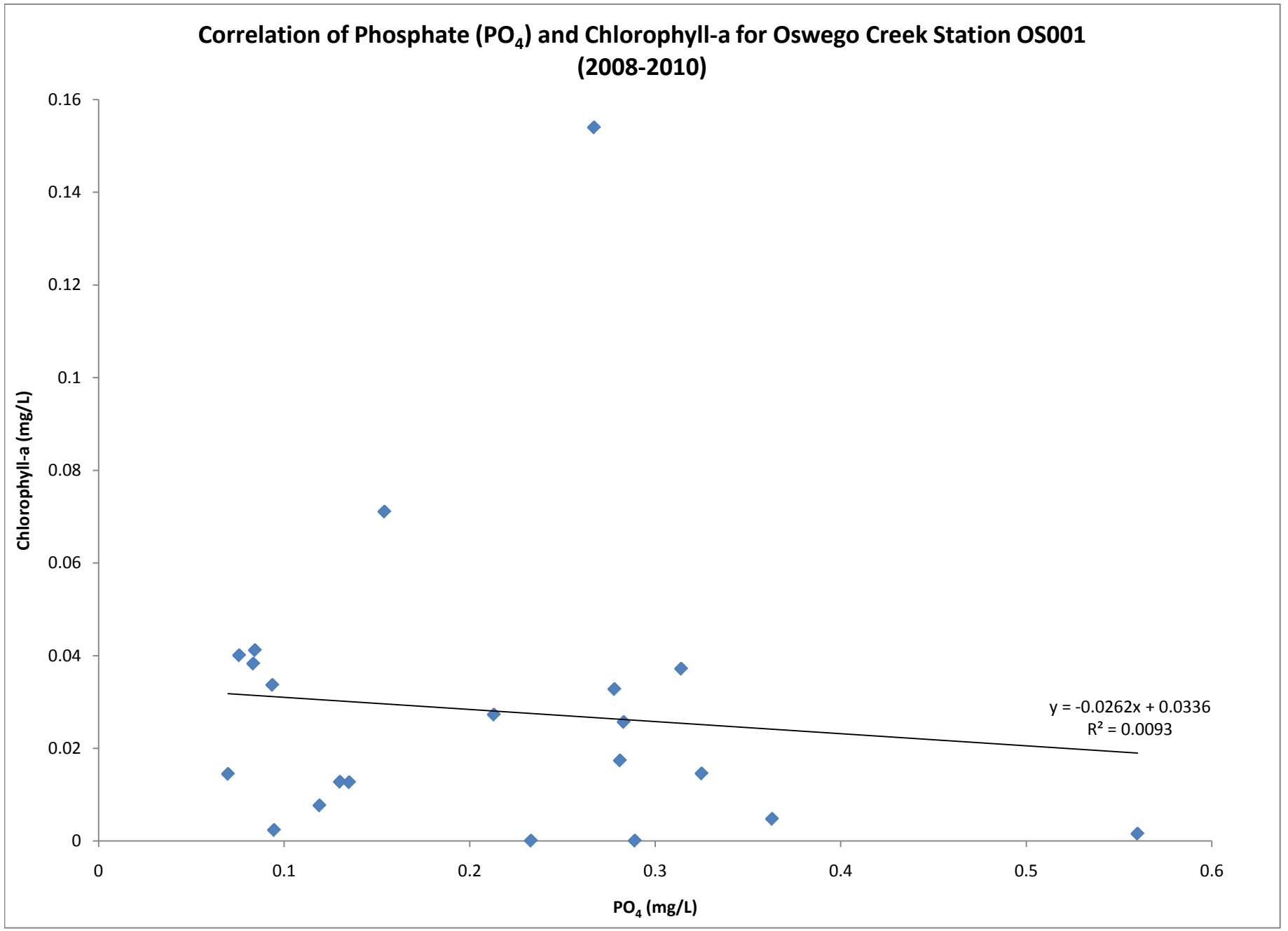

Correlation of Phosphate (PO_4) and Chlorophyll-a for Drapers Creek Station DR001 (2008-2010)
0.05
0.04
0.03
0.02
0.01
0
Chlorophyll-a (mg/L)
y = -0.0281x + 0.0039
R^2 = 0.2449
0
0.1
0.2
PO_4 (mg/L)

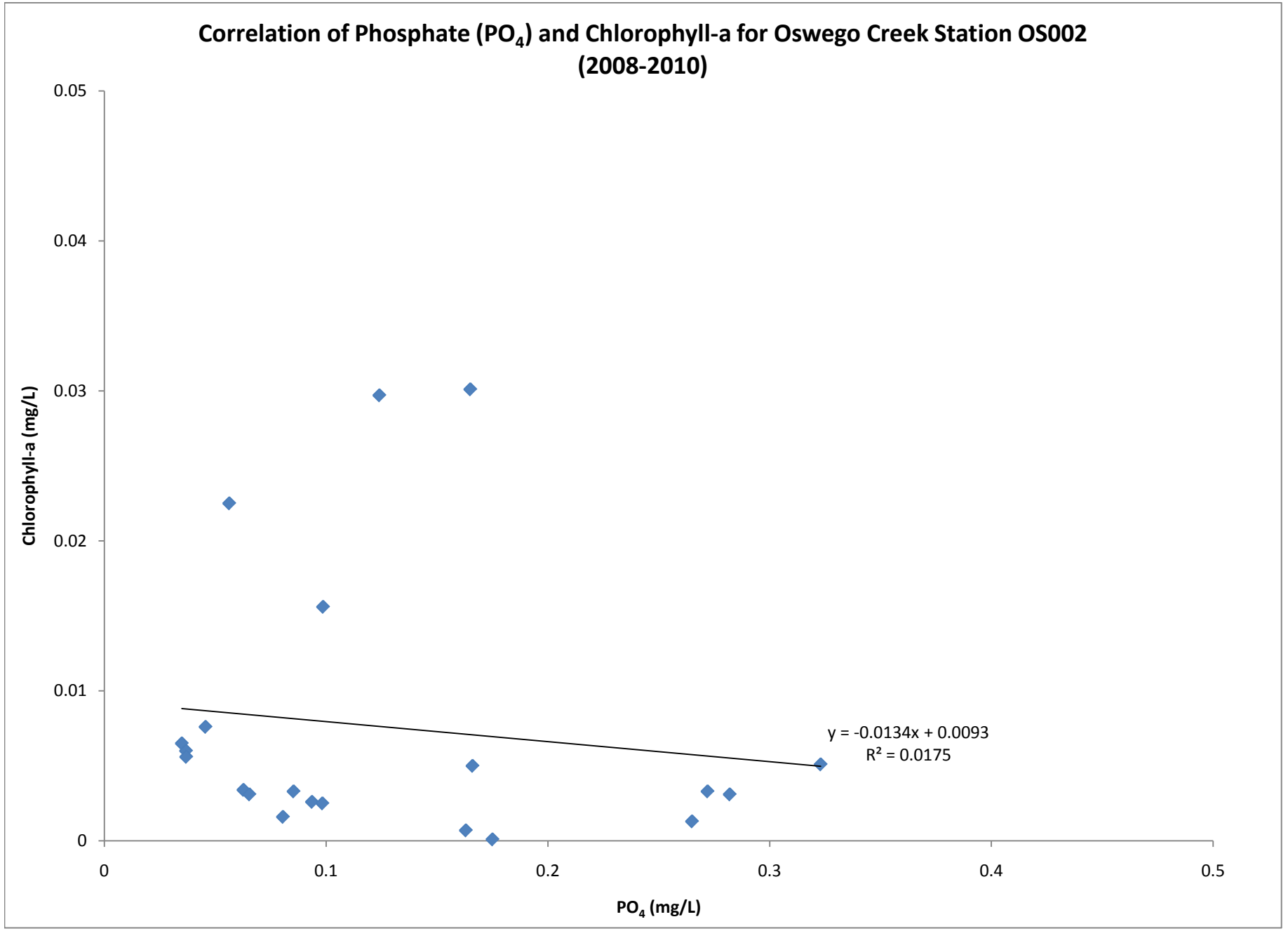

Correlation of Phosphate (PO_4) and Chlorophyll-a for Elsie Creek Station EL001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0106x + 0.0074
R^2 = 0.0129

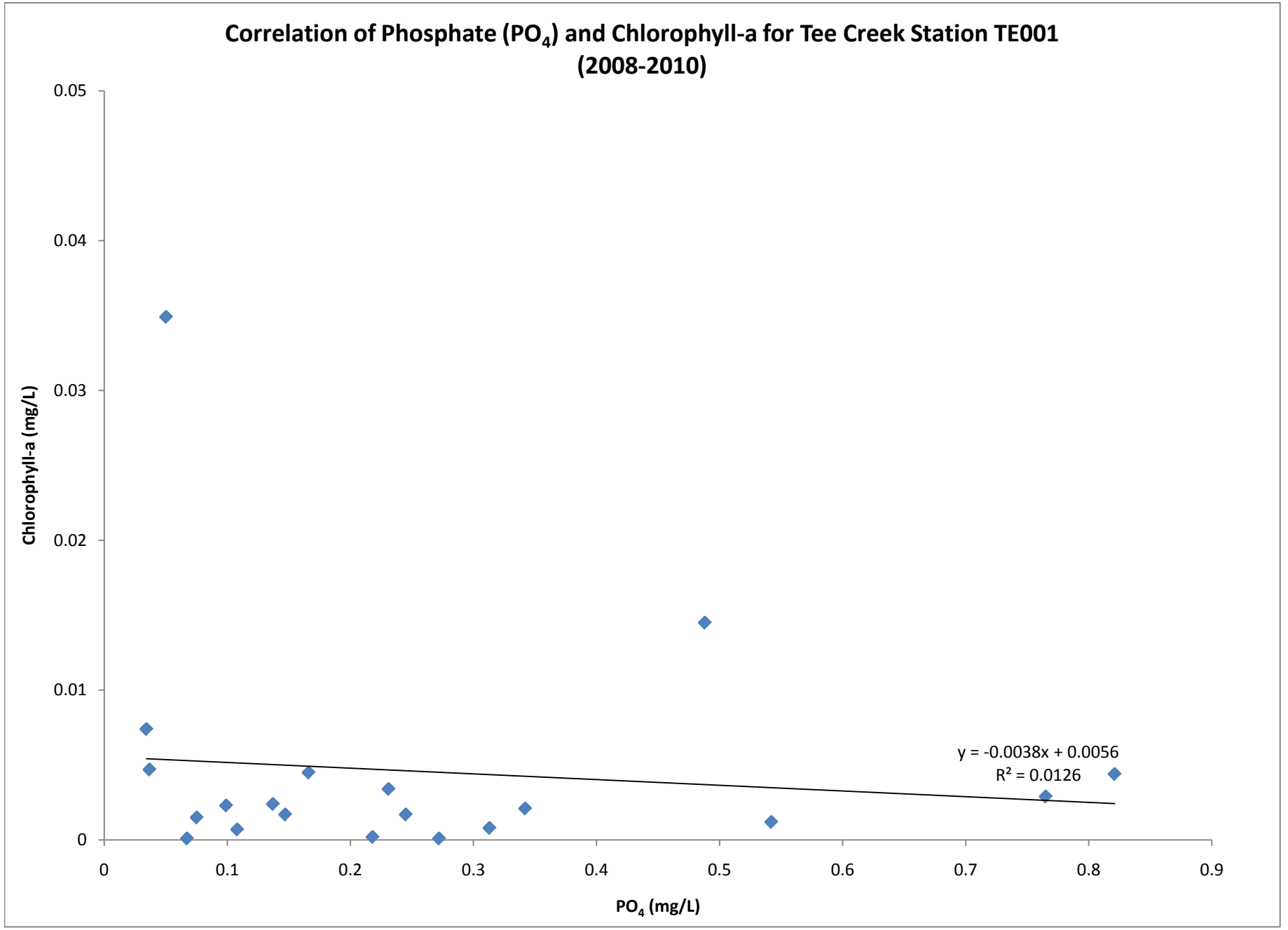

Correlation of Phosphate (PO_4) and Chlorophyll-a for Grassy Brook Station GR001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.031x + 0.0083
R^2 = 0.1273

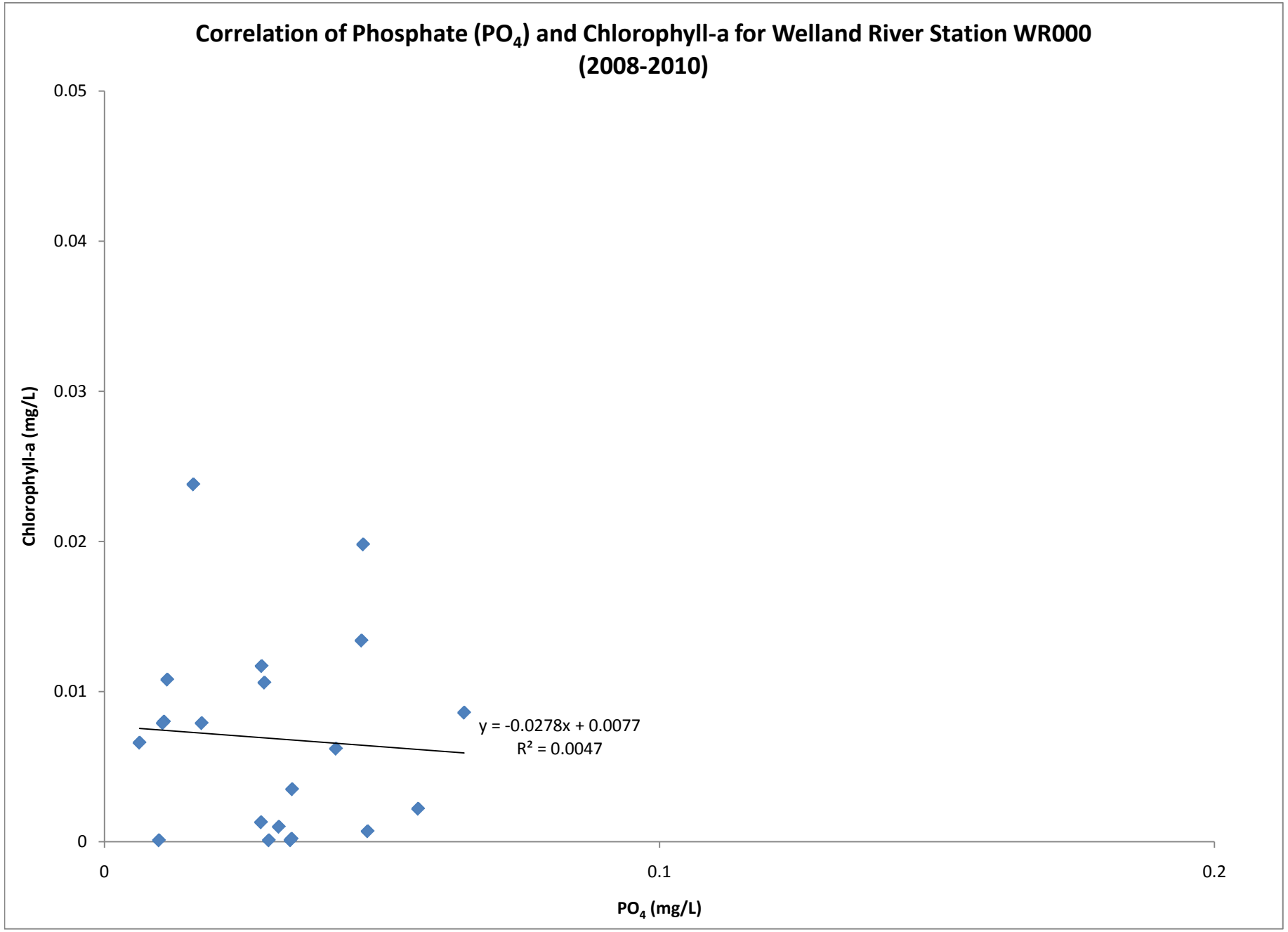

Correlation of Phosphate (PO_4) and Chlorophyll-a for Lyons Creek Station LY003 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0123x + 0.0057
R² = 0.0301

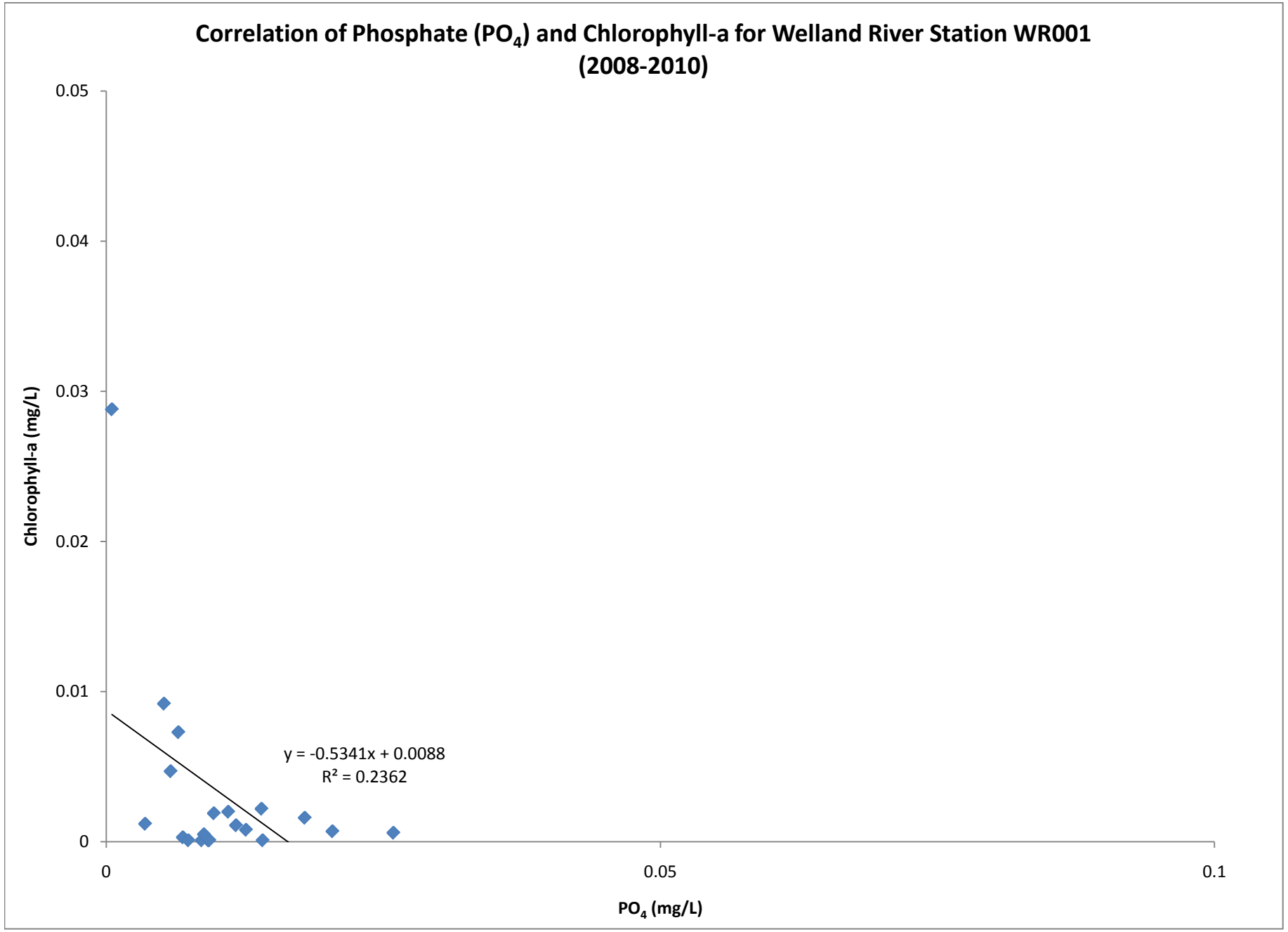

Correlation of Phosphate (PO_4) and Chlorophyll-a for Mill Creek Station MI001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0093x + 0.0056
R^2 = 0.0061

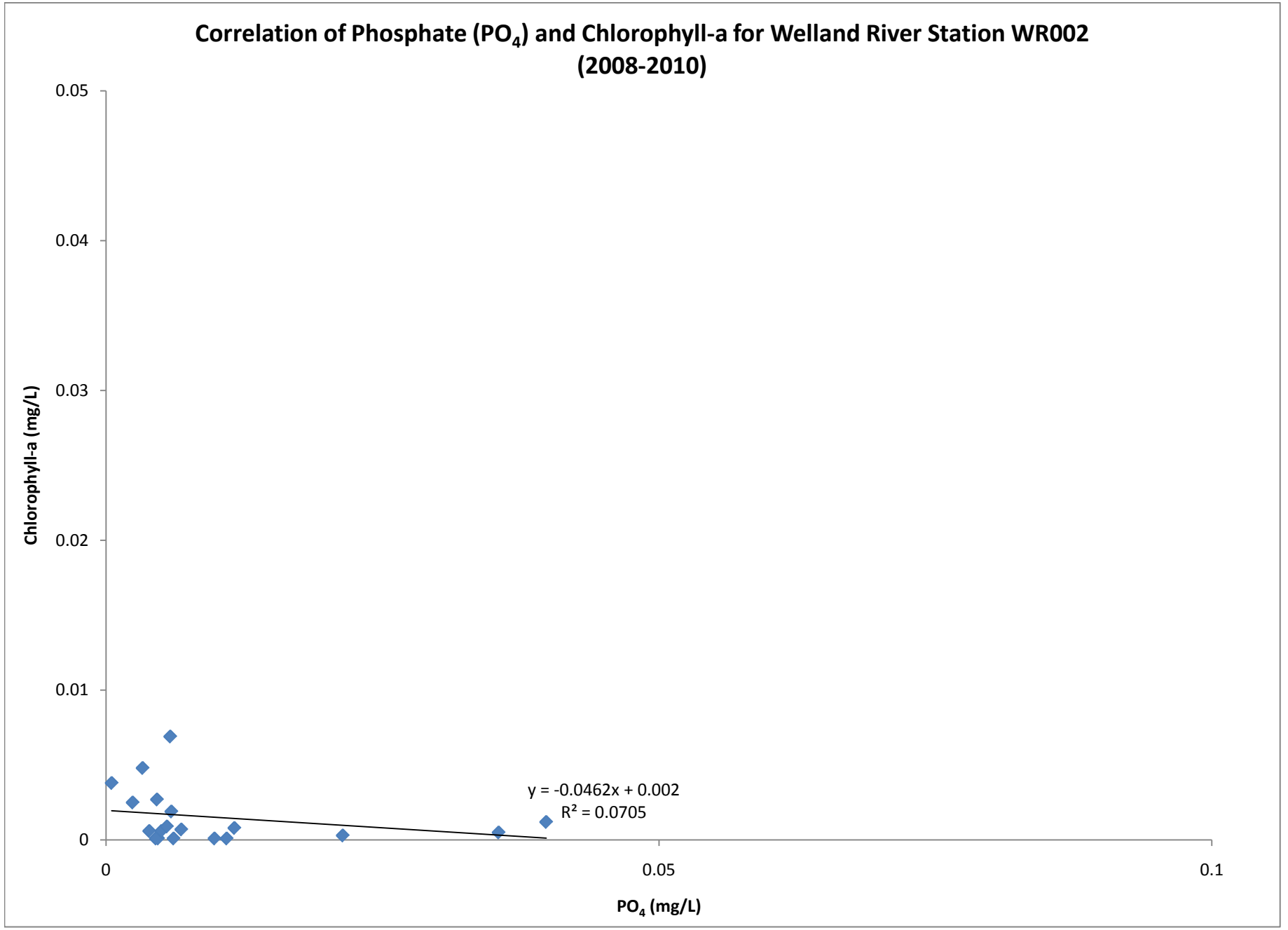

Correlation of Phosphate (PO_4) and Chlorophyll-a for Oswego Creek Station OS001 (2008-2010)
Chlorophyll-a (mg/L)
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6
PO_4 (mg/L)
y = -0.0262x + 0.0336
R^2 = 0.0093

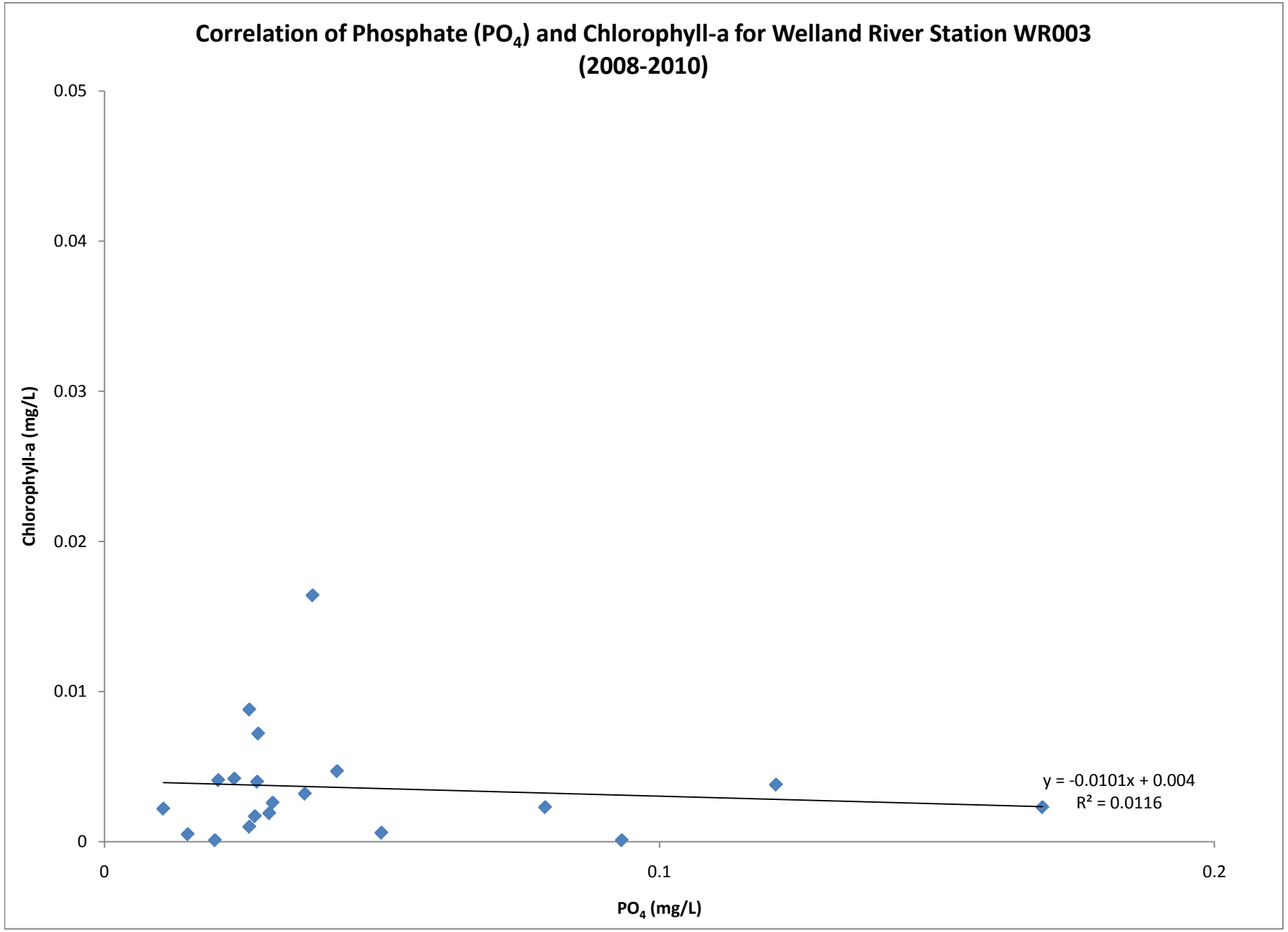

Correlation of Phosphate (PO_4) and Chlorophyll-a for Oswego Creek Station OS002 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0134x + 0.0093
R^2 = 0.0175

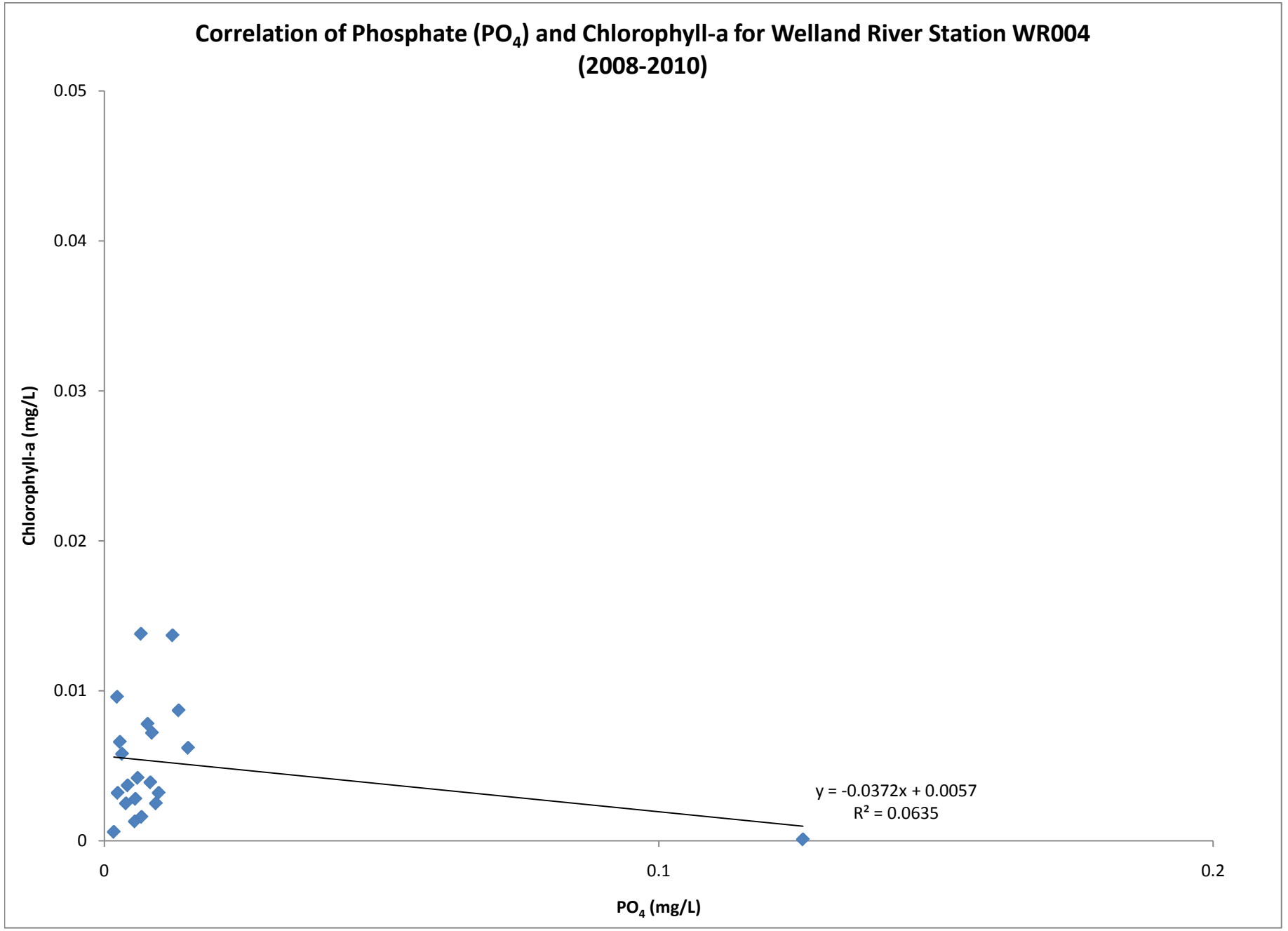

Correlation of Phosphate (PO_4) and Chlorophyll-a for Tee Creek Station TE001 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
PO_4 (mg/L)
y = -0.0038x + 0.0056
R^2 = 0.0126

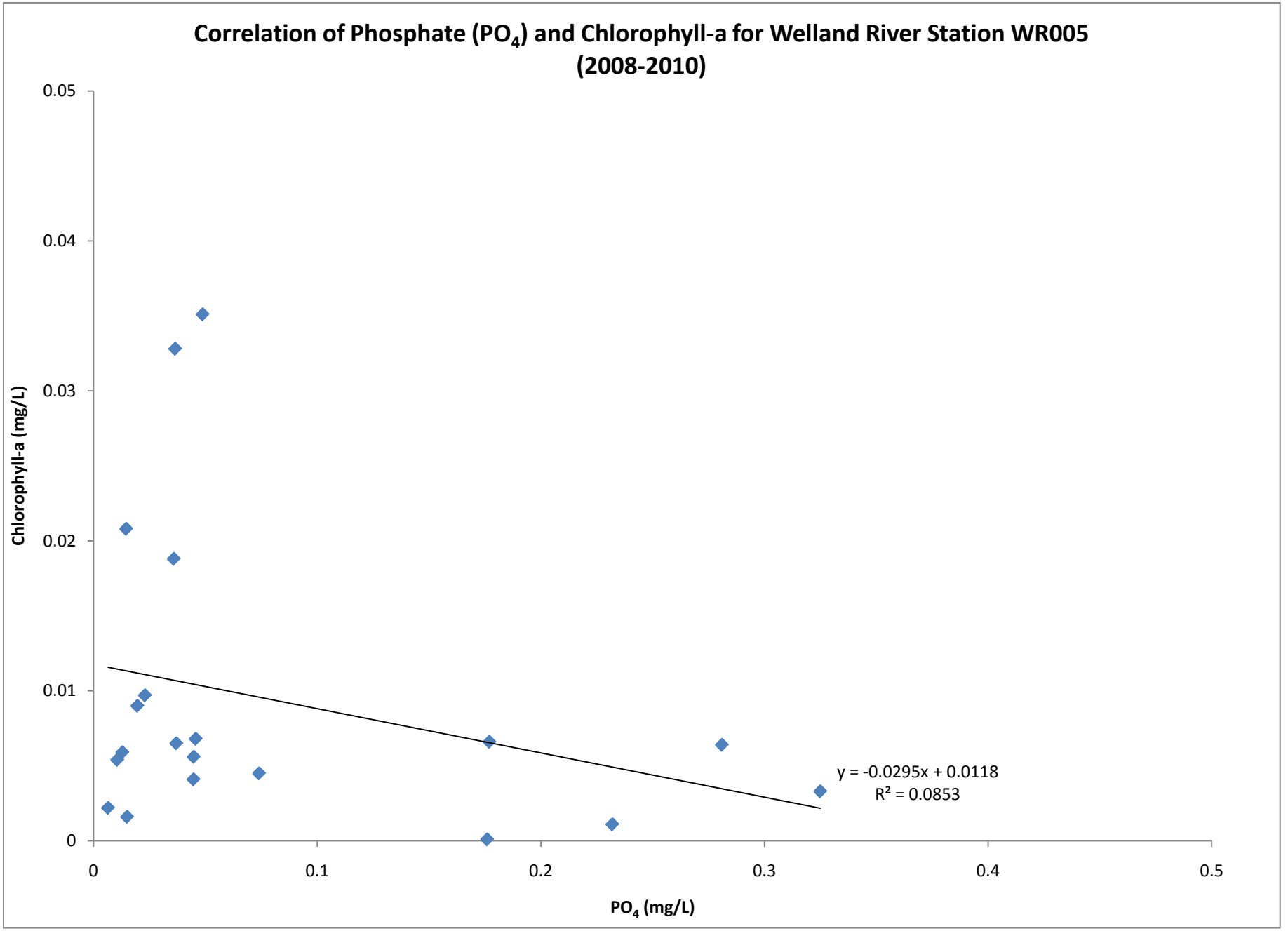

Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR000 (2008-2010)
0.05
0.04
0.03
0.02
0.01
0
Chlorophyll-a (mg/L)
y = -0.0278x + 0.0077
R² = 0.0047
0
0.1
0.2
PO4 (mg/L)

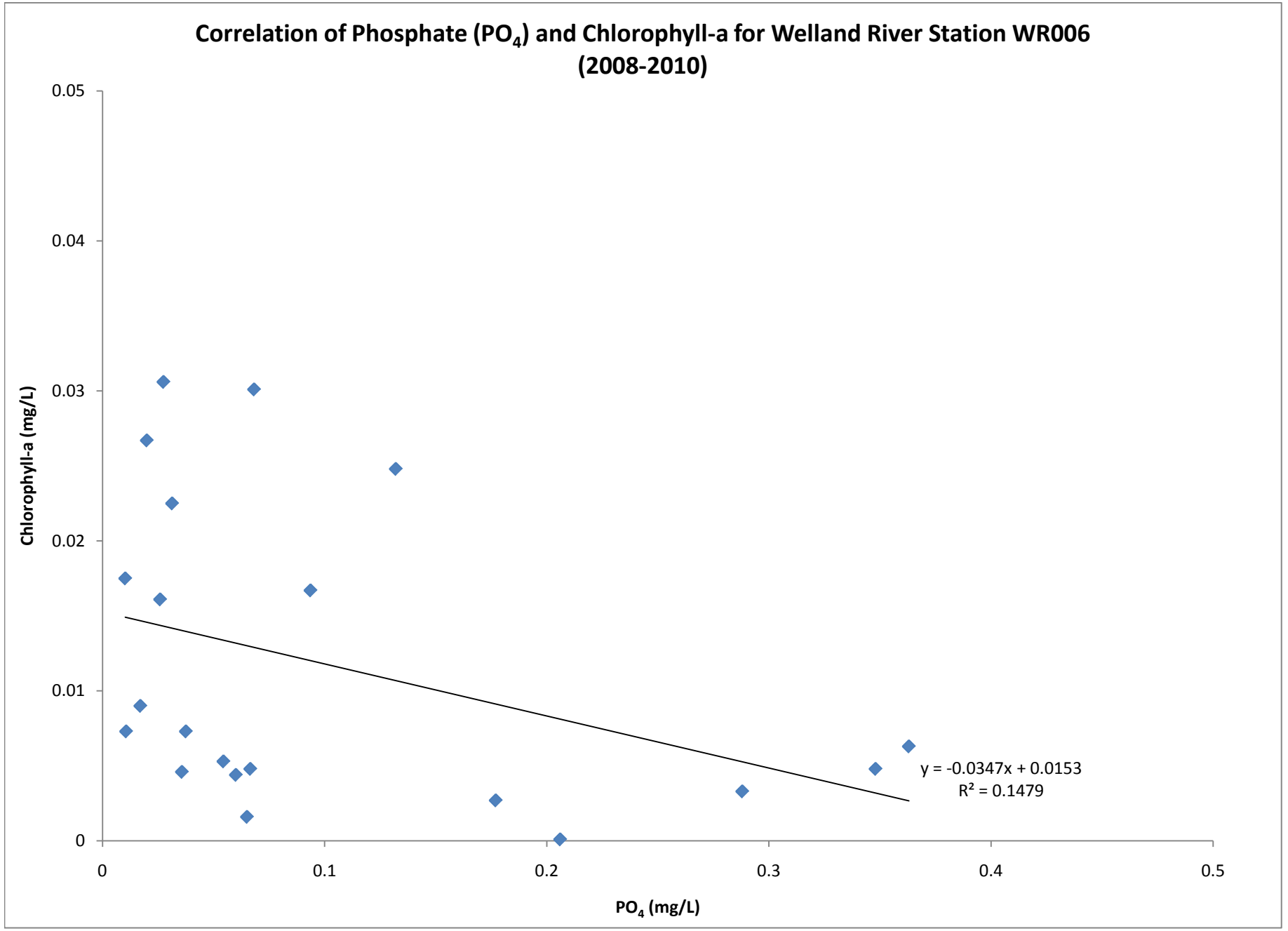

Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR001 (2008-2010)
0.05
0.04
0.03
0.02
0.01
0
Chlorophyll-a (mg/L)
y = -0.5341x + 0.0088
R² = 0.2362
0
0.05
0.1
PO_4 (mg/L)

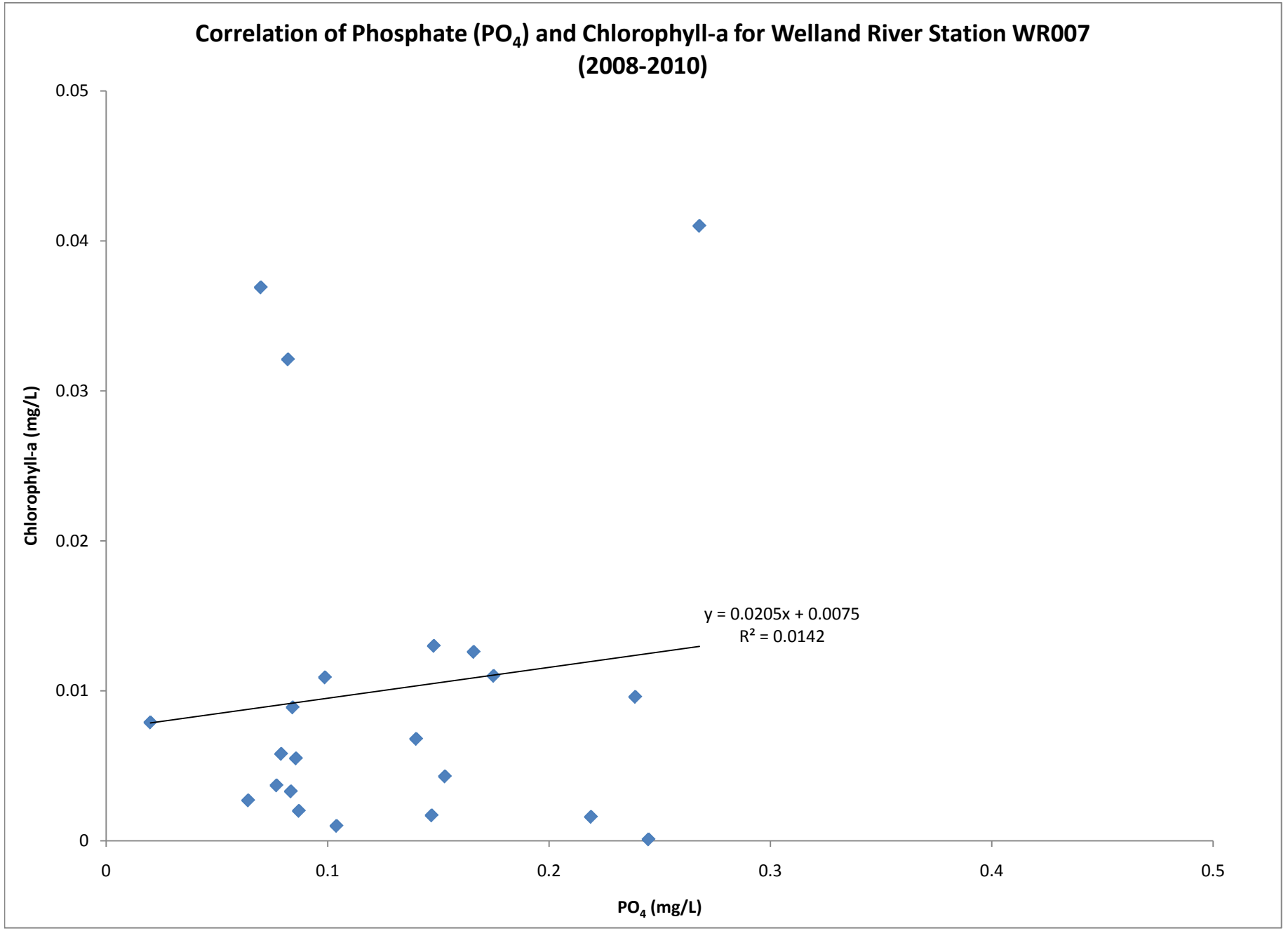

Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR002 (2008-2010)
0.05
0.04
0.03
0.02
0.01
0
Chlorophyll-a (mg/L)
y = -0.0462x + 0.002
R² = 0.0705
0
0.05
0.1
PO4 (mg/L)

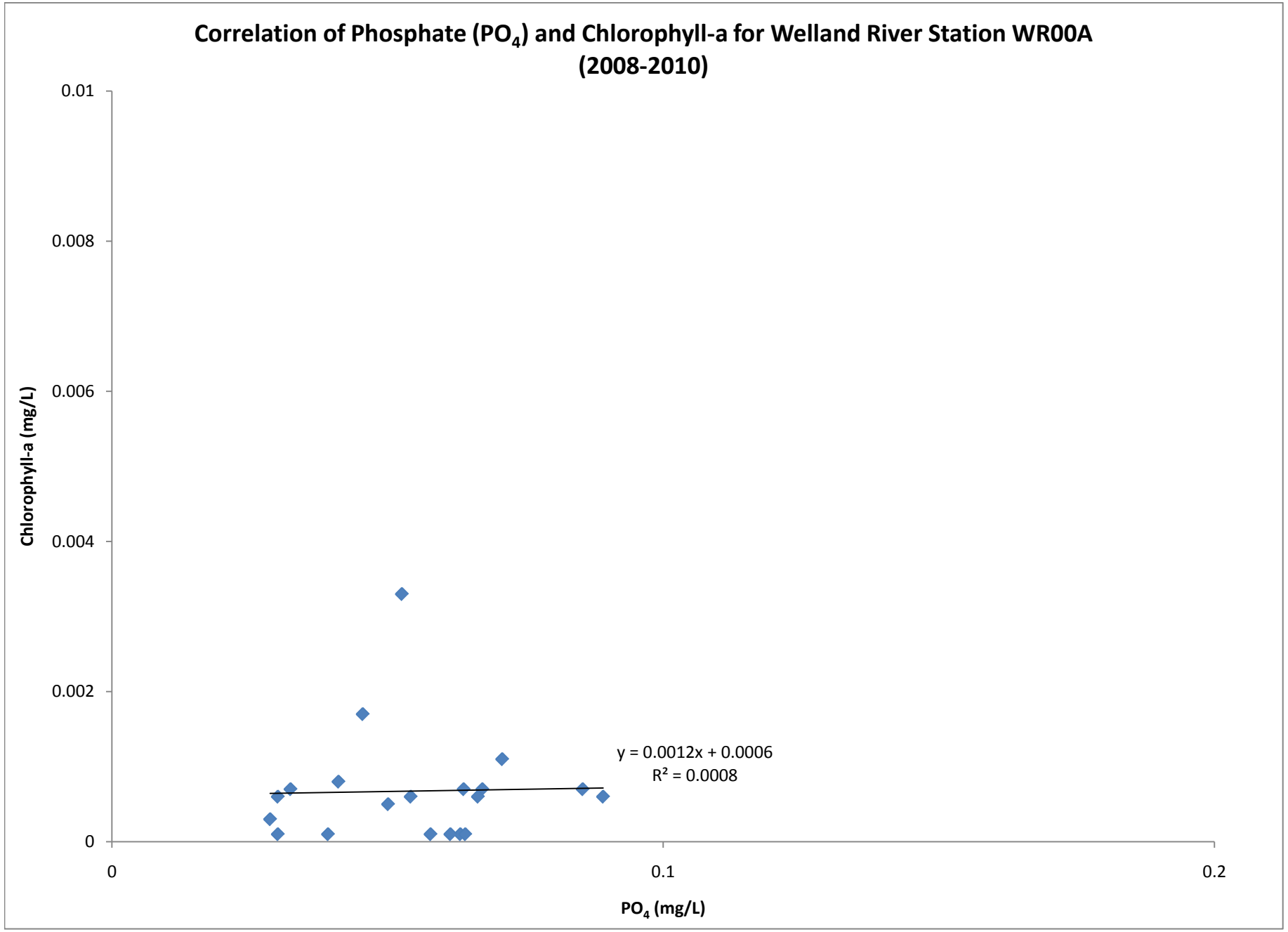

Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR003 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
PO_4 (mg/L)
y = -0.0101x + 0.004
R^2 = 0.0116

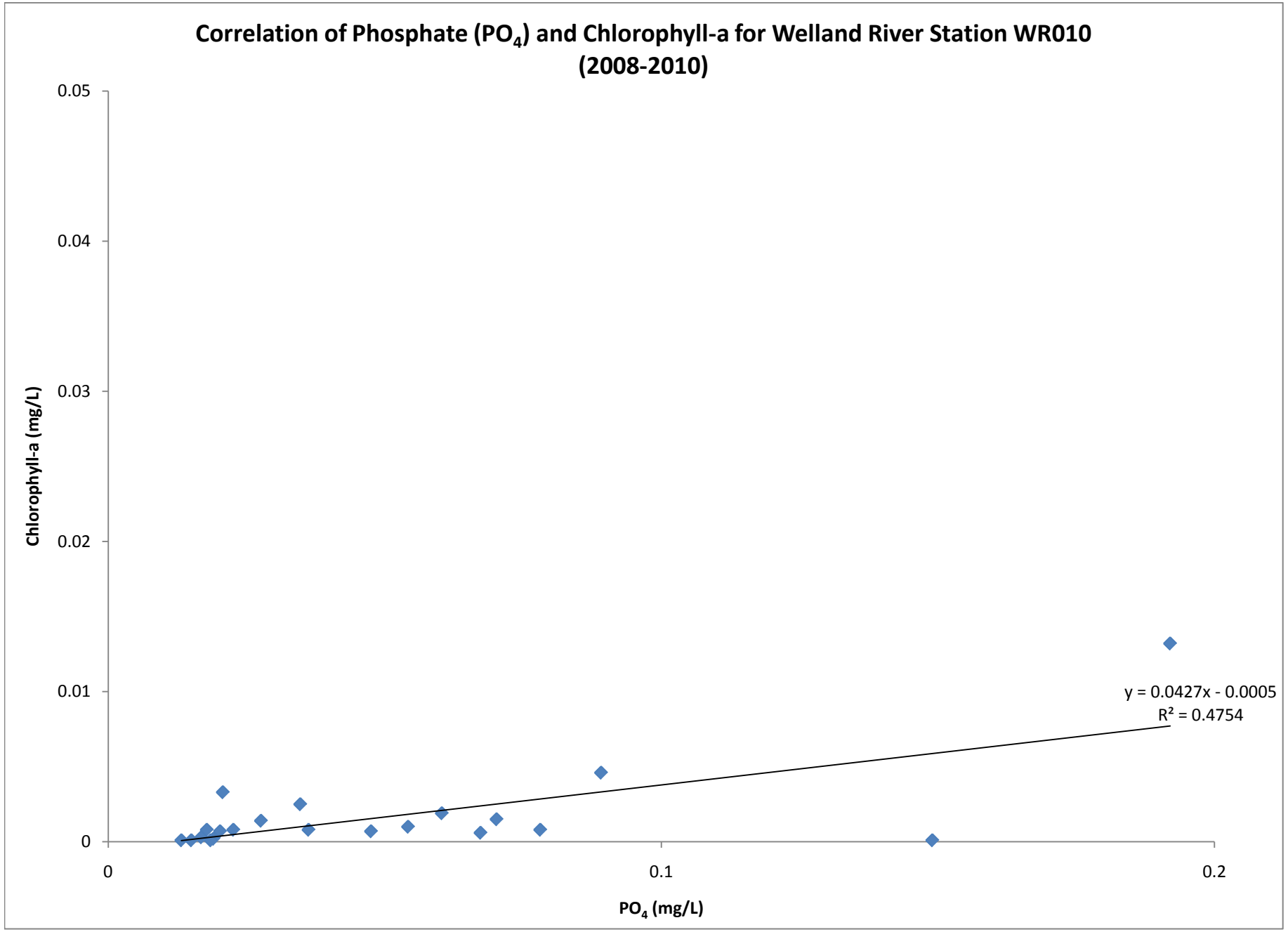

Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR004 (2008-2010)
0.05
0.04
0.03
0.02
0.01
0
Chlorophyll-a (mg/L)
0
0.1
0.2
PO_4 (mg/L)
y = -0.0372x + 0.0057
R^2 = 0.0635


Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR005 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0295x + 0.0118
R^2 = 0.0853


Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR006 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = -0.0347x + 0.0153
R^2 = 0.1479


Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR007 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
0.3
0.4
0.5
PO_4 (mg/L)
y = 0.0205x + 0.0075
R^2 = 0.0142


Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR00A (2008-2010)
Chlorophyll-a (mg/L)
0.01
0.008
0.006
0.004
0.002
0
0
0.1
0.2
PO_4 (mg/L)
y = 0.0012x + 0.0006
R^2 = 0.0008


Correlation of Phosphate (PO_4) and Chlorophyll-a for Welland River Station WR010 (2008-2010)
Chlorophyll-a (mg/L)
0.05
0.04
0.03
0.02
0.01
0
0
0.1
0.2
PO_4 (mg/L)
y = 0.0427x - 0.0005
R^2 = 0.4754

Station WR00A Correlation Matrix

Correlations

		WRA Turbidity NTU	WRA Total Phosphorus ug/L	WRA Phosphate ug/L	WRA TSS mg/L	WRA Total Nitrogen ug/L	WRA Chlorophyll-a ug/L
WRA Turbidity NTU	Pearson Correlation	1.000	.787**	-.063	.277	.167	-.206
	Sig. (2-tailed)	.	.002	.846	.383	.603	.520
	N	12	12	12	12	12	12
WRA Total Phosphorus ug/L	Pearson Correlation	.787**	1.000	.059	.450*	.160	-.299
	Sig. (2-tailed)	.002	.	.784	.027	.456	.155
	N	12	24	24	24	24	24
WRA Phosphate ug/L	Pearson Correlation	-.063	.059	1.000	.196	-.067	.134
	Sig. (2-tailed)	.846	.784	.	.359	.757	.533
	N	12	24	24	24	24	24
WRA TSS mg/L	Pearson Correlation	.277	.450*	.196	1.000	.673**	-.071
	Sig. (2-tailed)	.383	.027	.359	.	.000	.742
	N	12	24	24	24	24	24
WRA Total Nitrogen ug/L	Pearson Correlation	.167	.160	-.067	.673**	1.000	-.118
	Sig. (2-tailed)	.603	.456	.757	.000	.	.582
	N	12	24	24	24	24	24
WRA Chlorophyll-a ug/L	Pearson Correlation	-.206	-.299	.134	-.071	-.118	1.000
	Sig. (2-tailed)	.520	.155	.533	.742	.582	.
	N	12	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station WR000 Correlation Matrix

Correlations

		WR0 Turbidity NTU	WR0 Total Phosphorus ug/L	WR0 Phosphate ug/L	WR0 TSS mg/L	WR0 Total Nitrogen ug/L	WR0 Chlorophyll-a ug/L
WR0 Turbidity NTU	Pearson Correlation	1.000	-.027	.230	.546	-.015	-.185
	Sig. (2-tailed)	.	.931	.450	.054	.960	.544
	N	13	13	13	13	13	13
WR0 Total Phosphorus ug/L	Pearson Correlation	-.027	1.000	.239	-.012	.142	.079
	Sig. (2-tailed)	.931	.	.261	.955	.508	.715
	N	13	24	24	24	24	24
WR0 Phosphate ug/L	Pearson Correlation	.230	.239	1.000	.202	-.066	.012
	Sig. (2-tailed)	.450	.261	.	.343	.759	.955
	N	13	24	24	24	24	24
WR0 TSS mg/L	Pearson Correlation	.546	-.012	.202	1.000	.206	.052
	Sig. (2-tailed)	.054	.955	.343	.	.333	.808
	N	13	24	24	24	24	24
WR0 Total Nitrogen ug/L	Pearson Correlation	-.015	.142	-.066	.206	1.000	.720**
	Sig. (2-tailed)	.960	.508	.759	.333	.	.000
	N	13	24	24	24	24	24
WR0 Chlorophyll-a ug/L	Pearson Correlation	-.185	.079	.012	.052	.720**	1.000
	Sig. (2-tailed)	.544	.715	.955	.808	.000	.
	N	13	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station WR001 Correlation Matrix

Correlations

		WR1 Turbidity NTU	WR1 Total Phosphorus ug/L	WR1 Phosphate ug/L	WR1 TSS mg/L	WR1 Total Nitrogen ug/L	WR1 Chlorophyll-a ug/L
WR1 Turbidity NTU	Pearson Correlation	1.000	.366	.264	.786**	-.025	.411
	Sig. (2-tailed)	.	.218	.383	.001	.935	.163
	N	13	13	13	13	13	13
WR1 Total Phosphorus ug/L	Pearson Correlation	.366	1.000	.003	.442*	-.238	.104
	Sig. (2-tailed)	.218	.	.990	.035	.275	.636
	N	13	23	23	23	23	23
WR1 Phosphate ug/L	Pearson Correlation	.264	.003	1.000	.080	-.541**	-.442*
	Sig. (2-tailed)	.383	.990	.	.716	.008	.035
	N	13	23	23	23	23	23
WR1 TSS mg/L	Pearson Correlation	.786**	.442*	.080	1.000	-.043	-.018
	Sig. (2-tailed)	.001	.035	.716	.	.846	.936
	N	13	23	23	23	23	23
WR1 Total Nitrogen ug/L	Pearson Correlation	-.025	-.238	-.541**	-.043	1.000	.080
	Sig. (2-tailed)	.935	.275	.008	.846	.	.718
	N	13	23	23	23	23	23
WR1 Chlorophyll-a ug/L	Pearson Correlation	.411	.104	-.442*	-.018	.080	1.000
	Sig. (2-tailed)	.163	.636	.035	.936	.718	.
	N	13	23	23	23	23	23

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station WR002 Correlation Matrix

Correlations

		WR2 Turbidity NTU	WR2 Total Phosphorus ug/L	WR2 Phosphate ug/L	WR2 TSS mg/L	WR2 Total Nitrogen ug/L	WR2 Chlorophyll-a ug/L
WR2 Turbidity NTU	Pearson Correlation	1.000	-.323	.018	-.062	.420	-.129
	Sig. (2-tailed)	.	.282	.954	.841	.153	.675
	N	13	13	13	13	13	13
WR2 Total Phosphorus ug/L	Pearson Correlation	-.323	1.000	.166	-.163	.141	-.033
	Sig. (2-tailed)	.282	.	.439	.446	.512	.877
	N	13	24	24	24	24	24
WR2 Phosphate ug/L	Pearson Correlation	.018	.166	1.000	-.043	-.161	-.167
	Sig. (2-tailed)	.954	.439	.	.842	.452	.436
	N	13	24	24	24	24	24
WR2 TSS mg/L	Pearson Correlation	-.062	-.163	-.043	1.000	.062	.163
	Sig. (2-tailed)	.841	.446	.842	.	.773	.447
	N	13	24	24	24	24	24
WR2 Total Nitrogen ug/L	Pearson Correlation	.420	.141	-.161	.062	1.000	-.173
	Sig. (2-tailed)	.153	.512	.452	.773	.	.418
	N	13	24	24	24	24	24
WR2 Chlorophyll-a ug/L	Pearson Correlation	-.129	-.033	-.167	.163	-.173	1.000
	Sig. (2-tailed)	.675	.877	.436	.447	.418	.
	N	13	24	24	24	24	24

Station WR003 Correlation Matrix

Correlations

		WR3 Turbidity NTU	WR3 Total Phosphorus ug/L	WR3 Phosphate ug/L	WR3 TSS mg/L	WR3 Total Nitrogen ug/L	WR3 Chlorophyll-a ug/L
WR3 Turbidity NTU	Pearson Correlation	1.000	.608*	.825**	.865**	.588*	-.156
	Sig. (2-tailed)	.	.028	.001	.000	.035	.611
	N	13	13	13	13	13	13
WR3 Total Phosphorus ug/L	Pearson Correlation	.608*	1.000	.402	.360	.412*	.080
	Sig. (2-tailed)	.028	.	.052	.084	.045	.711
	N	13	24	24	24	24	24
WR3 Phosphate ug/L	Pearson Correlation	.825**	.402	1.000	.285	.576**	-.209
	Sig. (2-tailed)	.001	.052	.	.177	.003	.328
	N	13	24	24	24	24	24
WR3 TSS mg/L	Pearson Correlation	.865**	.360	.285	1.000	.399	.496*
	Sig. (2-tailed)	.000	.084	.177	.	.053	.014
	N	13	24	24	24	24	24
WR3 Total Nitrogen ug/L	Pearson Correlation	.588*	.412*	.576**	.399	1.000	.067
	Sig. (2-tailed)	.035	.045	.003	.053	.	.755
	N	13	24	24	24	24	24
WR3 Chlorophyll-a ug/L	Pearson Correlation	-.156	.080	-.209	.496*	.067	1.000
	Sig. (2-tailed)	.611	.711	.328	.014	.755	.
	N	13	24	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Station WR004 Correlation Matrix

Correlations

		WR4 Turbidity NTU	WR4 Total Phosphorus ug/L	WR4 Phosphate ug/L	WR4 TSS mg/L	WR4 Total Nitrogen ug/L	WR4 Chlorophyll-a ug/L
WR4 Turbidity NTU	Pearson Correlation	1.000	.043	.855**	.341	.046	.459
	Sig. (2-tailed)	.	.894	.000	.278	.887	.133
	N	12	12	12	12	12	12
WR4 Total Phosphorus ug/L	Pearson Correlation	.043	1.000	.194	-.086	.134	-.321
	Sig. (2-tailed)	.894	.	.364	.689	.532	.126
	N	12	24	24	24	24	24
WR4 Phosphate ug/L	Pearson Correlation	.855**	.194	1.000	-.077	-.102	-.249
	Sig. (2-tailed)	.000	.364	.	.720	.635	.241
	N	12	24	24	24	24	24
WR4 TSS mg/L	Pearson Correlation	.341	-.086	-.077	1.000	.325	-.058
	Sig. (2-tailed)	.278	.689	.720	.	.121	.787
	N	12	24	24	24	24	24
WR4 Total Nitrogen ug/L	Pearson Correlation	.046	.134	-.102	.325	1.000	-.289
	Sig. (2-tailed)	.887	.532	.635	.121	.	.171
	N	12	24	24	24	24	24
WR4 Chlorophyll-a ug/L	Pearson Correlation	.459	-.321	-.249	-.058	-.289	1.000
	Sig. (2-tailed)	.133	.126	.241	.787	.171	.
	N	12	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station WR005 Correlation Matrix

Correlations

		WR5 Turbidity NTU	WR5 Total Phosphorus ug/L	WR5 Phosphate ug/L	WR5 TSS mg/L	WR5 Total Nitrogen ug/L	WR5 Chlorophyll-a ug/L
WR5 Turbidity NTU	Pearson Correlation	1.000	.874**	.869**	.814**	.450	-.361
	Sig. (2-tailed)	.	.000	.000	.001	.142	.249
	N	12	12	12	12	12	12
WR5 Total Phosphorus ug/L	Pearson Correlation	.874**	1.000	.913**	.808**	.576**	-.116
	Sig. (2-tailed)	.000	.	.000	.000	.003	.590
	N	12	24	24	24	24	24
WR5 Phosphate ug/L	Pearson Correlation	.869**	.913**	1.000	.855**	.662**	-.259
	Sig. (2-tailed)	.000	.000	.	.000	.000	.221
	N	12	24	24	24	24	24
WR5 TSS mg/L	Pearson Correlation	.814**	.808**	.855**	1.000	.552**	-.159
	Sig. (2-tailed)	.001	.000	.000	.	.005	.458
	N	12	24	24	24	24	24
WR5 Total Nitrogen ug/L	Pearson Correlation	.450	.576**	.662**	.552**	1.000	-.301
	Sig. (2-tailed)	.142	.003	.000	.005	.	.153
	N	12	24	24	24	24	24
WR5 Chlorophyll-a ug/L	Pearson Correlation	-.361	-.116	-.259	-.159	-.301	1.000
	Sig. (2-tailed)	.249	.590	.221	.458	.153	.
	N	12	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station WR006 Correlation Matrix

Correlations

		WR6 Turbidity NTU	WR6 Total Phosphorus ug/L	WR6 Phosphate ug/L	WR6 TSS mg/L	WR6 Total Nitrogen ug/L	WR6 Chlorophyll-a ug/L
WR6 Turbidity NTU	Pearson Correlation	1.000	.892**	.944**	.909**	.499	-.551
	Sig. (2-tailed)	.	.000	.000	.000	.098	.063
	N	12	12	12	12	12	12
WR6 Total Phosphorus ug/L	Pearson Correlation	.892**	1.000	.891**	.925**	.553**	-.288
	Sig. (2-tailed)	.000	.	.000	.000	.005	.173
	N	12	24	24	24	24	24
WR6 Phosphate ug/L	Pearson Correlation	.944**	.891**	1.000	.892**	.635**	-.426*
	Sig. (2-tailed)	.000	.000	.	.000	.001	.038
	N	12	24	24	24	24	24
WR6 TSS mg/L	Pearson Correlation	.909**	.925**	.892**	1.000	.516**	-.273
	Sig. (2-tailed)	.000	.000	.000	.	.010	.198
	N	12	24	24	24	24	24
WR6 Total Nitrogen ug/L	Pearson Correlation	.499	.553**	.635**	.516**	1.000	-.282
	Sig. (2-tailed)	.098	.005	.001	.010	.	.182
	N	12	24	24	24	24	24
WR6 Chlorophyll-a ug/L	Pearson Correlation	-.551	-.288	-.426*	-.273	-.282	1.000
	Sig. (2-tailed)	.063	.173	.038	.198	.182	.
	N	12	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station WR007 Correlation Matrix

Correlations

		WR7 Turbidity NTU	WR7 Total Phosphorus ug/L	WR7 Phosphate ug/L	WR7 TSS mg/L	WR7 Total Nitrogen ug/L	WR7 Chlorophyll-a ug/L
WR7 Turbidity NTU	Pearson Correlation	1.000	.627*	.240	.770**	.292	.535
	Sig. (2-tailed)	.	.039	.478	.006	.383	.090
	N	11	11	11	11	11	11
WR7 Total Phosphorus ug/L	Pearson Correlation	.627*	1.000	.376	.441*	.117	.338
	Sig. (2-tailed)	.039	.	.070	.031	.594	.106
	N	11	24	24	24	23	24
WR7 Phosphate ug/L	Pearson Correlation	.240	.376	1.000	.409*	.254	.047
	Sig. (2-tailed)	.478	.070	.	.047	.241	.828
	N	11	24	24	24	23	24
WR7 TSS mg/L	Pearson Correlation	.770**	.441*	.409*	1.000	.367	.362
	Sig. (2-tailed)	.006	.031	.047	.	.085	.082
	N	11	24	24	24	23	24
WR7 Total Nitrogen ug/L	Pearson Correlation	.292	.117	.254	.367	1.000	.393
	Sig. (2-tailed)	.383	.594	.241	.085	.	.064
	N	11	23	23	23	23	23
WR7 Chlorophyll-a ug/L	Pearson Correlation	.535	.338	.047	.362	.393	1.000
	Sig. (2-tailed)	.090	.106	.828	.082	.064	.
	N	11	24	24	24	23	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Station WR010 Correlation Matrix

Correlations

		WR10 Turbidity NTU	WR10 Total Phosphorus ug/L	WR10 Phosphate ug/L	WR10 TSS mg/L	WR10Total Nitrogen ug/L	WR10 Chlorophyll-a ug/L
WR10 Turbidity NTU	Pearson Correlation	1.000	.891**	.707*	.880**	.647*	.527
	Sig. (2-tailed)	.	.000	.015	.000	.032	.096
	N	11	11	11	11	11	11
WR10 Total Phosphorus ug/L	Pearson Correlation	.891**	1.000	.964**	.887**	.871**	.814**
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000
	N	11	24	24	24	23	24
WR10 Phosphate ug/L	Pearson Correlation	.707*	.964**	1.000	.755**	.852**	.692**
	Sig. (2-tailed)	.015	.000	.	.000	.000	.000
	N	11	24	24	24	23	24
WR10 TSS mg/L	Pearson Correlation	.880**	.887**	.755**	1.000	.687**	.886**
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000
	N	11	24	24	24	23	24
WR10Total Nitrogen ug/L	Pearson Correlation	.647*	.871**	.852**	.687**	1.000	.642**
	Sig. (2-tailed)	.032	.000	.000	.000	.	.001
	N	11	23	23	23	23	23
WR10 Chlorophyll-a ug/L	Pearson Correlation	.527	.814**	.692**	.886**	.642**	1.000
	Sig. (2-tailed)	.096	.000	.000	.000	.001	.
	N	11	24	24	24	23	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station BF001 Correlation Matrix

Correlations

		BFTurbidity NTU	BF Total Phosphorus ug/L	BF Phosphate ug/L	BF TSS mg/L	BF Total Nitrogen ug/L	BF Chlorophyll-a ug/L
BFTurbidity NTU	Pearson Correlation	1.000	.263	.188	.547	.729**	-.050
	Sig. (2-tailed)	.	.409	.559	.066	.007	.877
	N	12	12	12	12	12	12
BF Total Phosphorus ug/L	Pearson Correlation	.263	1.000	.706**	.284	-.407*	.146
	Sig. (2-tailed)	.409	.	.000	.179	.048	.497
	N	12	24	23	24	24	24
BF Phosphate ug/L	Pearson Correlation	.188	.706**	1.000	.410	-.266	.336
	Sig. (2-tailed)	.559	.000	.	.052	.219	.117
	N	12	23	23	23	23	23
BF TSS mg/L	Pearson Correlation	.547	.284	.410	1.000	.011	.342
	Sig. (2-tailed)	.066	.179	.052	.	.961	.102
	N	12	24	23	24	24	24
BF Total Nitrogen ug/L	Pearson Correlation	.729**	-.407*	-.266	.011	1.000	-.348
	Sig. (2-tailed)	.007	.048	.219	.961	.	.095
	N	12	24	23	24	24	24
BF Chlorophyll-a ug/L	Pearson Correlation	-.050	.146	.336	.342	-.348	1.000
	Sig. (2-tailed)	.877	.497	.117	.102	.095	.
	N	12	24	23	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station BU000 Correlation Matrix

Correlations

		BU0 Turbidity NTU	BU0 Total Phosphorus ug/L	BU0Phosphate ug/L	BU0 TSS mg/L	BU0Total Nitrogen ug/L	BU0Chlorophyll-a ug/L
BU0 Turbidity NTU	Pearson Correlation	1.000	.170	.292	.659*	-.125	.077
	Sig. (2-tailed)	.	.579	.332	.014	.683	.803
	N	13	13	13	13	13	13
BU0 Total Phosphorus ug/L	Pearson Correlation	.170	1.000	.655**	.188	.474*	.261
	Sig. (2-tailed)	.579	.	.001	.378	.019	.218
	N	13	24	24	24	24	24
BU0Phosphate ug/L	Pearson Correlation	.292	.655**	1.000	-.082	.606**	-.055
	Sig. (2-tailed)	.332	.001	.	.704	.002	.797
	N	13	24	24	24	24	24
BU0 TSS mg/L	Pearson Correlation	.659*	.188	-.082	1.000	-.129	.412*
	Sig. (2-tailed)	.014	.378	.704	.	.547	.046
	N	13	24	24	24	24	24
BU0Total Nitrogen ug/L	Pearson Correlation	-.125	.474*	.606**	-.129	1.000	-.187
	Sig. (2-tailed)	.683	.019	.002	.547	.	.381
	N	13	24	24	24	24	24
BU0Chlorophyll-a ug/L	Pearson Correlation	.077	.261	-.055	.412*	-.187	1.000
	Sig. (2-tailed)	.803	.218	.797	.046	.381	.
	N	13	24	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Station BU001 Correlation Matrix

Correlations

		BU1 Turbidity NTU	BU1 Total Phosphorus ug/L	BU1 Phosphate ug/L	BU1 TSS mg/L	BU1 Total Nitrogen ug/L	BU1 Chlorophyll-a ug/L
BU1 Turbidity NTU	Pearson Correlation	1.000	.774**	.931**	.805**	.528	-.200
	Sig. (2-tailed)	.	.002	.000	.001	.064	.512
	N	13	13	13	13	13	13
BU1 Total Phosphorus ug/L	Pearson Correlation	.774**	1.000	.257	-.071	.098	-.149
	Sig. (2-tailed)	.002	.	.226	.743	.648	.486
	N	13	24	24	24	24	24
BU1 Phosphate ug/L	Pearson Correlation	.931**	.257	1.000	.232	.633**	-.163
	Sig. (2-tailed)	.000	.226	.	.276	.001	.445
	N	13	24	24	24	24	24
BU1 TSS mg/L	Pearson Correlation	.805**	-.071	.232	1.000	.057	-.028
	Sig. (2-tailed)	.001	.743	.276	.	.792	.896
	N	13	24	24	24	24	24
BU1 Total Nitrogen ug/L	Pearson Correlation	.528	.098	.633**	.057	1.000	-.083
	Sig. (2-tailed)	.064	.648	.001	.792	.	.700
	N	13	24	24	24	24	24
BU1 Chlorophyll-a ug/L	Pearson Correlation	-.200	-.149	-.163	-.028	-.083	1.000
	Sig. (2-tailed)	.512	.486	.445	.896	.700	.
	N	13	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station BV001 Correlation Matrix

Correlations

		BV Turbidity NTU	BV Total Phosphorus ug/L	BV Phosphate ug/L	BV TSS mg/L	BV Total Nitrogen ug/L	BV Chlorophyll-a ug/L
BV Turbidity NTU	Pearson Correlation	1.000	.780**	-.058	.958**	.701*	.070
	Sig. (2-tailed)	.	.005	.866	.000	.016	.838
	N	11	11	11	11	11	11
BV Total Phosphorus ug/L	Pearson Correlation	.780**	1.000	.710**	.751**	.443*	.225
	Sig. (2-tailed)	.005	.	.000	.000	.030	.290
	N	11	24	24	24	24	24
BV Phosphate ug/L	Pearson Correlation	-.058	.710**	1.000	.320	.201	.191
	Sig. (2-tailed)	.866	.000	.	.127	.346	.372
	N	11	24	24	24	24	24
BV TSS mg/L	Pearson Correlation	.958**	.751**	.320	1.000	.762**	.248
	Sig. (2-tailed)	.000	.000	.127	.	.000	.242
	N	11	24	24	24	24	24
BV Total Nitrogen ug/L	Pearson Correlation	.701*	.443*	.201	.762**	1.000	.038
	Sig. (2-tailed)	.016	.030	.346	.000	.	.858
	N	11	24	24	24	24	24
BV Chlorophyll-a ug/L	Pearson Correlation	.070	.225	.191	.248	.038	1.000
	Sig. (2-tailed)	.838	.290	.372	.242	.858	.
	N	11	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station CO001 Correlation Matrix

Correlations

		CO Turbidity NTU	CO Total Phosphorus ug/L	CO Phosphate ug/L	CO TSS mg/L	CO Total Nitrogen ug/L	CO Chlorophyll-a ug/L
CO Turbidity NTU	Pearson Correlation	1.000	.416	.117	.723*	.281	.533
	Sig. (2-tailed)	.	.203	.732	.012	.402	.091
	N	11	11	11	11	11	11
CO Total Phosphorus ug/L	Pearson Correlation	.416	1.000	.902**	.750**	.504*	-.131
	Sig. (2-tailed)	.203	.	.000	.000	.012	.541
	N	11	24	24	24	24	24
CO Phosphate ug/L	Pearson Correlation	.117	.902**	1.000	.536**	.510*	-.211
	Sig. (2-tailed)	.732	.000	.	.007	.011	.322
	N	11	24	24	24	24	24
CO TSS mg/L	Pearson Correlation	.723*	.750**	.536**	1.000	.290	.249
	Sig. (2-tailed)	.012	.000	.007	.	.169	.241
	N	11	24	24	24	24	24
CO Total Nitrogen ug/L	Pearson Correlation	.281	.504*	.510*	.290	1.000	-.013
	Sig. (2-tailed)	.402	.012	.011	.169	.	.953
	N	11	24	24	24	24	24
CO Chlorophyll-a ug/L	Pearson Correlation	.533	-.131	-.211	.249	-.013	1.000
	Sig. (2-tailed)	.091	.541	.322	.241	.953	.
	N	11	24	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Station DR001 Correlation Matrix

Correlations

		DR Total Phosphorus ug/L	DR Phosphate ug/L	DR TSS mg/L	DR Total Nitrogen ug/L	DR Chlorophyll-a ug/L
DR Total Phosphorus ug/L	Pearson Correlation	1.000	.548**	.858**	.026	-.237
	Sig. (2-tailed)	.	.006	.000	.903	.265
	N	24	24	24	24	24
DR Phosphate ug/L	Pearson Correlation	.548**	1.000	.255	-.015	-.596**
	Sig. (2-tailed)	.006	.	.229	.945	.002
	N	24	24	24	24	24
DR TSS mg/L	Pearson Correlation	.858**	.255	1.000	-.083	-.003
	Sig. (2-tailed)	.000	.229	.	.701	.989
	N	24	24	24	24	24
DR Total Nitrogen ug/L	Pearson Correlation	.026	-.015	-.083	1.000	-.119
	Sig. (2-tailed)	.903	.945	.701	.	.578
	N	24	24	24	24	24
DR Chlorophyll-a ug/L	Pearson Correlation	-.237	-.596**	-.003	-.119	1.000
	Sig. (2-tailed)	.265	.002	.989	.578	.
	N	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station EL001 Correlation Matrix

Correlations

		EL Turbidity NTU	EL Total Phosphorus ug/L	EL Phosphate ug/L	EL TSS mg/L	EL Total Nitrogen ug/L	EL Chlorophyll-a ug/L
EL Turbidity NTU	Pearson Correlation	1.000	.864**	.810**	.776**	.019	-.046
	Sig. (2-tailed)	.	.000	.001	.002	.951	.882
	N	13	13	13	13	13	13
EL Total Phosphorus ug/L	Pearson Correlation	.864**	1.000	.921**	.669**	.100	-.063
	Sig. (2-tailed)	.000	.	.000	.000	.650	.771
	N	13	24	24	24	23	24
EL Phosphate ug/L	Pearson Correlation	.810**	.921**	1.000	.592**	-.005	-.112
	Sig. (2-tailed)	.001	.000	.	.002	.980	.603
	N	13	24	24	24	23	24
EL TSS mg/L	Pearson Correlation	.776**	.669**	.592**	1.000	.090	.042
	Sig. (2-tailed)	.002	.000	.002	.	.682	.847
	N	13	24	24	24	23	24
EL Total Nitrogen ug/L	Pearson Correlation	.019	.100	-.005	.090	1.000	-.032
	Sig. (2-tailed)	.951	.650	.980	.682	.	.884
	N	13	23	23	23	23	23
EL Chlorophyll-a ug/L	Pearson Correlation	-.046	-.063	-.112	.042	-.032	1.000
	Sig. (2-tailed)	.882	.771	.603	.847	.884	.
	N	13	24	24	24	23	24

**. Correlation is significant at the 0.01 level (2-tailed).

Station GR001 Correlation Matrix

Correlations

		GR Turbidity NTU	GR Total Phosphorus ug/L	GR Phosphate ug/L	GR TSS mg/L	GR Total Nitrogen ug/L	GR Chlorophyll-a ug/L
GR Turbidity NTU	Pearson Correlation	1.000	.826**	.657*	.950**	.158	.606*
	Sig. (2-tailed)	.	.002	.028	.000	.643	.048
	N	11	11	11	11	11	11
GR Total Phosphorus ug/L	Pearson Correlation	.826**	1.000	.791**	.819**	.629**	-.047
	Sig. (2-tailed)	.002	.	.000	.000	.001	.829
	N	11	24	24	24	24	24
GR Phosphate ug/L	Pearson Correlation	.657*	.791**	1.000	.566**	.318	-.310
	Sig. (2-tailed)	.028	.000	.	.004	.131	.141
	N	11	24	24	24	24	24
GR TSS mg/L	Pearson Correlation	.950**	.819**	.566**	1.000	.370	.081
	Sig. (2-tailed)	.000	.000	.004	.	.075	.705
	N	11	24	24	24	24	24
GR Total Nitrogen ug/L	Pearson Correlation	.158	.629**	.318	.370	1.000	.185
	Sig. (2-tailed)	.643	.001	.131	.075	.	.388
	N	11	24	24	24	24	24
GR Chlorophyll-a ug/L	Pearson Correlation	.606*	-.047	-.310	.081	.185	1.000
	Sig. (2-tailed)	.048	.829	.141	.705	.388	.
	N	11	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station LY003 Correlation Matrix

Correlations

		LY Turbidity NTU	LY Total Phosphorus ug/L	LY Phosphate ug/L	LY TSS mg/L	LY Total Nitrogen ug/L	LY Chlorophyll-a ug/L
LY Turbidity NTU	Pearson Correlation	1.000	.888**	.550	.977**	.378	.373
	Sig. (2-tailed)	.	.000	.080	.000	.252	.259
	N	11	11	11	11	11	11
LY Total Phosphorus ug/L	Pearson Correlation	.888**	1.000	.789**	.789**	.406*	-.011
	Sig. (2-tailed)	.000	.	.000	.000	.049	.960
	N	11	24	24	24	24	24
LY Phosphate ug/L	Pearson Correlation	.550	.789**	1.000	.457*	.272	-.192
	Sig. (2-tailed)	.080	.000	.	.025	.198	.368
	N	11	24	24	24	24	24
LY TSS mg/L	Pearson Correlation	.977**	.789**	.457*	1.000	.297	.315
	Sig. (2-tailed)	.000	.000	.025	.	.159	.134
	N	11	24	24	24	24	24
LY Total Nitrogen ug/L	Pearson Correlation	.378	.406*	.272	.297	1.000	.124
	Sig. (2-tailed)	.252	.049	.198	.159	.	.564
	N	11	24	24	24	24	24
LY Chlorophyll-a ug/L	Pearson Correlation	.373	-.011	-.192	.315	.124	1.000
	Sig. (2-tailed)	.259	.960	.368	.134	.564	.
	N	11	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station MI001 Correlation Matrix

Correlations

		MI Turbidity NTU	MI Total Phosphorus ug/L	MI Phosphate ug/L	MI TSS mg/L	MI Total Nitrogen ug/L	MI Chlorophyll-a ug/L
MI Turbidity NTU	Pearson Correlation	1.000	.910**	.892**	.794**	.657*	-.217
	Sig. (2-tailed)	.	.000	.000	.001	.015	.476
	N	13	13	13	13	13	13
MI Total Phosphorus ug/L	Pearson Correlation	.910**	1.000	.939**	.711**	.490*	-.137
	Sig. (2-tailed)	.000	.	.000	.000	.015	.523
	N	13	24	24	24	24	24
MI Phosphate ug/L	Pearson Correlation	.892**	.939**	1.000	.627**	.462*	-.106
	Sig. (2-tailed)	.000	.000	.	.001	.023	.622
	N	13	24	24	24	24	24
MI TSS mg/L	Pearson Correlation	.794**	.711**	.627**	1.000	.264	.016
	Sig. (2-tailed)	.001	.000	.001	.	.212	.940
	N	13	24	24	24	24	24
MI Total Nitrogen ug/L	Pearson Correlation	.657*	.490*	.462*	.264	1.000	-.181
	Sig. (2-tailed)	.015	.015	.023	.212	.	.397
	N	13	24	24	24	24	24
MI Chlorophyll-a ug/L	Pearson Correlation	-.217	-.137	-.106	.016	-.181	1.000
	Sig. (2-tailed)	.476	.523	.622	.940	.397	.
	N	13	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station OS001 Correlation Matrix

Correlations

		OS1 Turbidity NTU	OS1 Total Phosphorus ug/L	OS1 Phosphate ug/L	OS1 TSS mg/L	OS1 Total Nitrogen ug/L	OS1 Chlorophyll-a ug/L
OS1 Turbidity NTU	Pearson Correlation	1.000	.743**	.579*	.728**	.620*	-.040
	Sig. (2-tailed)	.	.006	.048	.007	.031	.902
	N	12	12	12	12	12	12
OS1 Total Phosphorus ug/L	Pearson Correlation	.743**	1.000	.135	.180	.242	-.100
	Sig. (2-tailed)	.006	.	.529	.400	.254	.640
	N	12	24	24	24	24	24
OS1 Phosphate ug/L	Pearson Correlation	.579*	.135	1.000	-.084	.300	-.152
	Sig. (2-tailed)	.048	.529	.	.695	.154	.479
	N	12	24	24	24	24	24
OS1 TSS mg/L	Pearson Correlation	.728**	.180	-.084	1.000	.091	.159
	Sig. (2-tailed)	.007	.400	.695	.	.673	.458
	N	12	24	24	24	24	24
OS1 Total Nitrogen ug/L	Pearson Correlation	.620*	.242	.300	.091	1.000	-.043
	Sig. (2-tailed)	.031	.254	.154	.673	.	.841
	N	12	24	24	24	24	24
OS1 Chlorophyll-a ug/L	Pearson Correlation	-.040	-.100	-.152	.159	-.043	1.000
	Sig. (2-tailed)	.902	.640	.479	.458	.841	.
	N	12	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Station OS002 Correlation Matrix

Correlations

		OS2 Turbidity NTU	OS2 Total Phosphorus ug/L	OS2 Phosphate ug/L	OS2 TSS mg/L	OS2 Total Nitrogen ug/L	OS2 Chlorophyll-a ug/L
OS2 Turbidity NTU	Pearson Correlation	1.000	.828**	.766**	.781**	-.170	-.111
	Sig. (2-tailed)	.	.000	.002	.002	.578	.719
	N	13	13	13	13	13	13
OS2 Total Phosphorus ug/L	Pearson Correlation	.828**	1.000	.819**	.751**	.224	-.077
	Sig. (2-tailed)	.000	.	.000	.000	.292	.720
	N	13	24	24	24	24	24
OS2 Phosphate ug/L	Pearson Correlation	.766**	.819**	1.000	.527**	.202	-.111
	Sig. (2-tailed)	.002	.000	.	.008	.343	.604
	N	13	24	24	24	24	24
OS2 TSS mg/L	Pearson Correlation	.781**	.751**	.527**	1.000	-.070	-.051
	Sig. (2-tailed)	.002	.000	.008	.	.746	.813
	N	13	24	24	24	24	24
OS2 Total Nitrogen ug/L	Pearson Correlation	-.170	.224	.202	-.070	1.000	.487*
	Sig. (2-tailed)	.578	.292	.343	.746	.	.016
	N	13	24	24	24	24	24
OS2 Chlorophyll-a ug/L	Pearson Correlation	-.111	-.077	-.111	-.051	.487*	1.000
	Sig. (2-tailed)	.719	.720	.604	.813	.016	.
	N	13	24	24	24	24	24

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

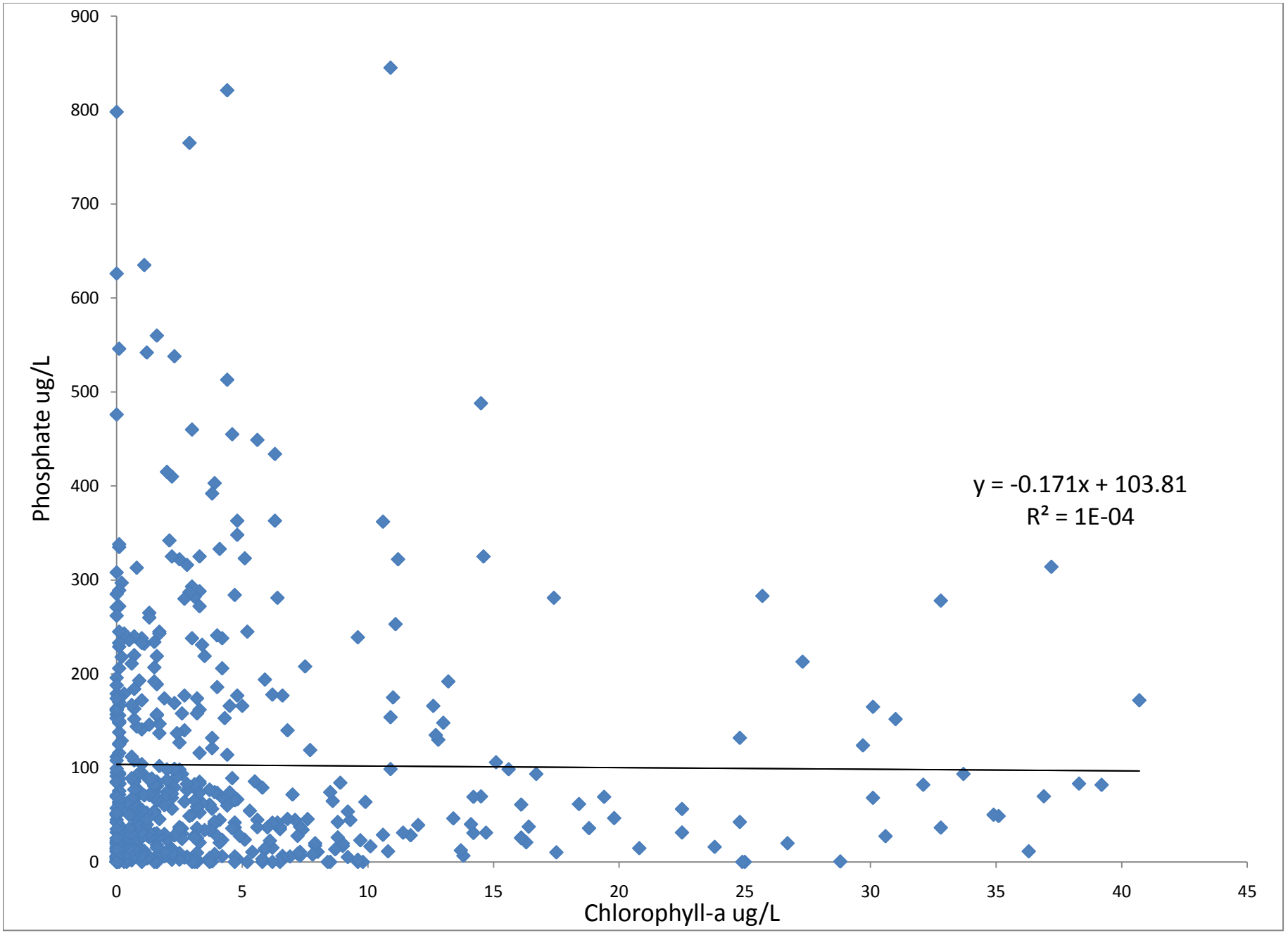
Station TE001 Correlation Matrix

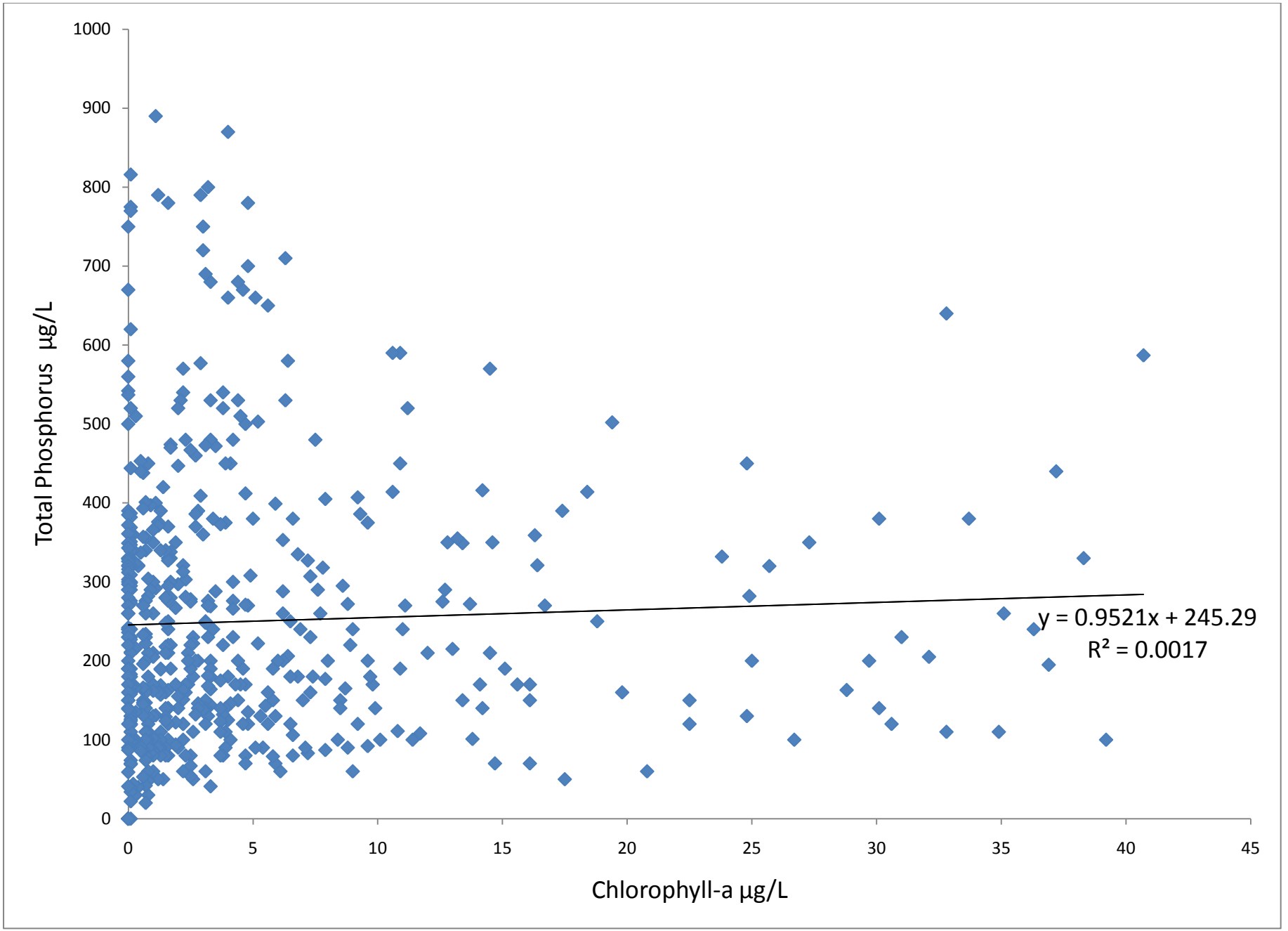
Correlations

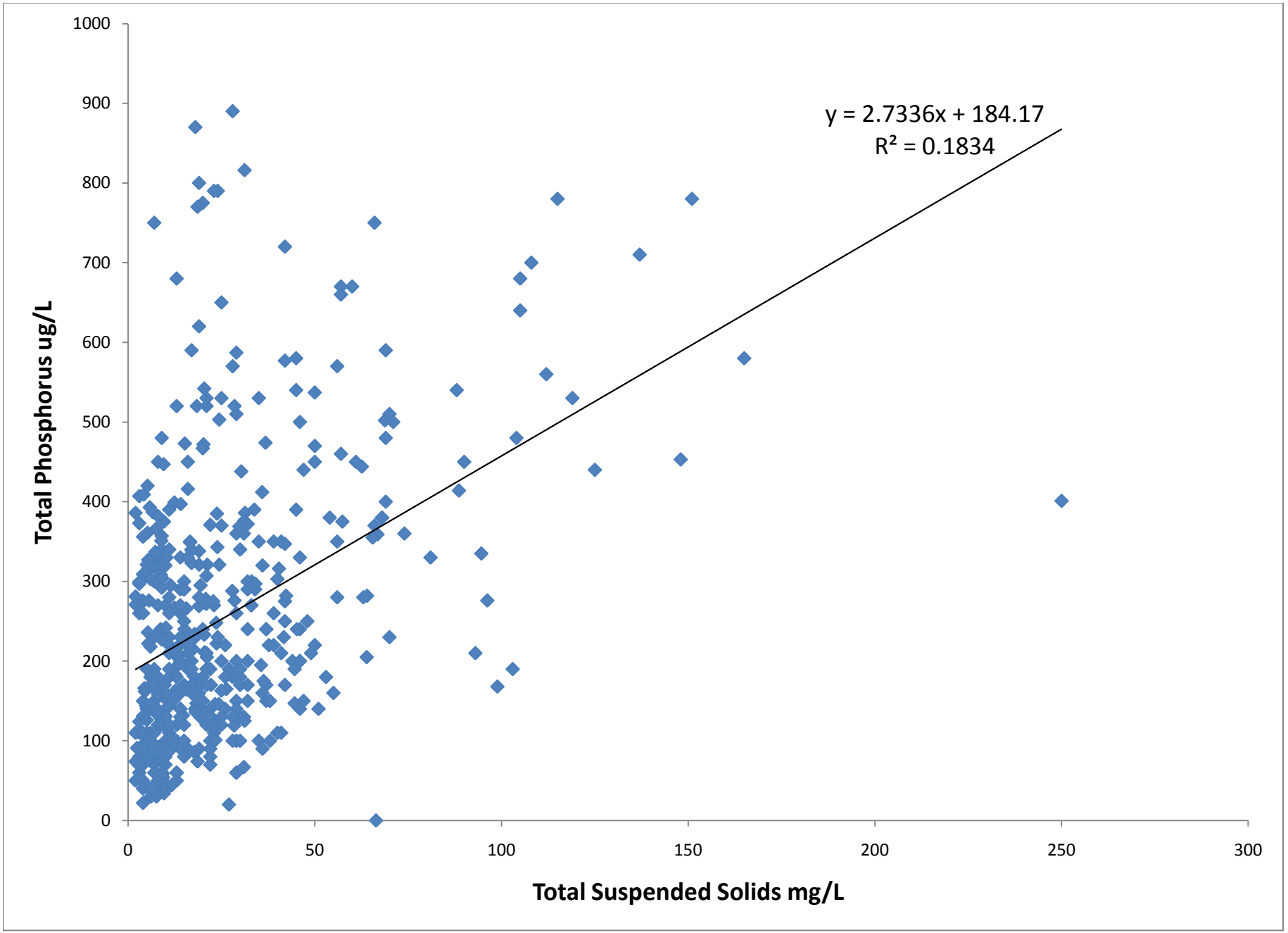
		TE Turbidity NTU	TE Total Phosphorus ug/L	TE Phosphate ug/L	TE TSS mg/L	TE Total Nitrogen ug/L	TE Chlorophyll-a ug/L
TE Turbidity NTU	Pearson Correlation	1.000	-.101	.069	.698*	-.398	.013
	Sig. (2-tailed)	.	.768	.841	.017	.226	.969
	N	11	11	11	11	11	11
TE Total Phosphorus ug/L	Pearson Correlation	-.101	1.000	.681**	.399	.451*	-.159
	Sig. (2-tailed)	.768	.	.000	.053	.027	.458
	N	11	24	24	24	24	24
TE Phosphate ug/L	Pearson Correlation	.069	.681**	1.000	.362	.353	-.094
	Sig. (2-tailed)	.841	.000	.	.082	.091	.661
	N	11	24	24	24	24	24
TE TSS mg/L	Pearson Correlation	.698*	.399	.362	1.000	.086	.058
	Sig. (2-tailed)	.017	.053	.082	.	.690	.787
	N	11	24	24	24	24	24
TE Total Nitrogen ug/L	Pearson Correlation	-.398	.451*	.353	.086	1.000	-.328
	Sig. (2-tailed)	.226	.027	.091	.690	.	.118
	N	11	24	24	24	24	24
TE Chlorophyll-a ug/L	Pearson Correlation	.013	-.159	-.094	.058	-.328	1.000
	Sig. (2-tailed)	.969	.458	.661	.787	.118	.
	N	11	24	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).


900
800
700
600
500
400
300
200
100
0
Phosphate ug/L
0
5
10
15
20
25
30
35
40
45
Chlorophyll-a ug/L
y = -0.171x + 103.81
R² = 1E-04


Total Phosphorus µg/L
1000
900
800
700
600
500
400
300
200
100
0
0
5
10
15
20
25
30
35
40
45
Chlorophyll-a µg/L
y = 0.9521x + 245.29
R² = 0.0017


y = 2.7336x + 184.17
R² = 0.1834
Total Phosphorus ug/L
Total Suspended Solids mg/L
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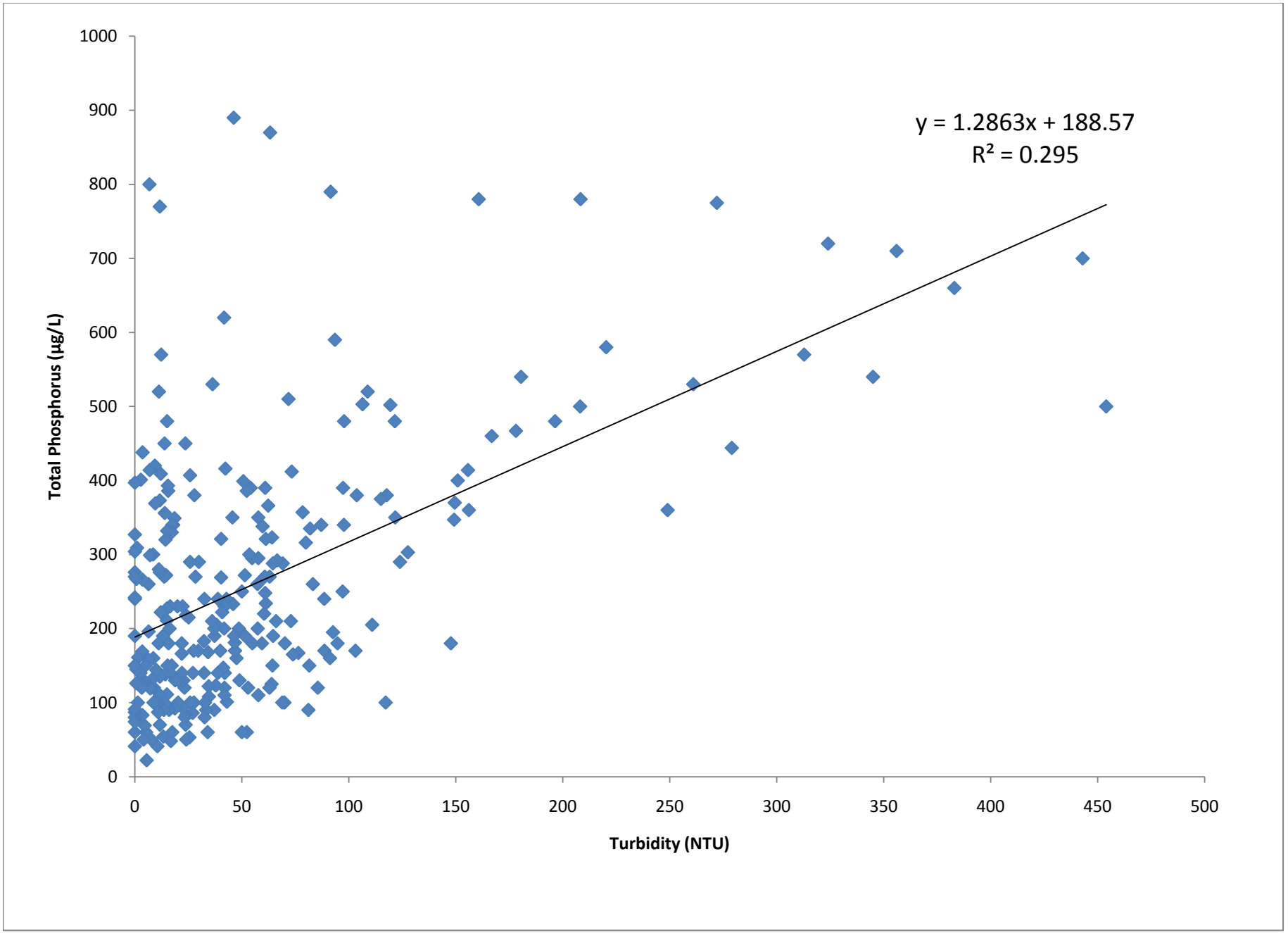
200
300
400
500
600
700
800
900
1000
0
50
100
150
200
250
300


y = 1.2863x + 188.57
R² = 0.295
Total Phosphorus (µg/L)
Turbidity (NTU)
0
100
200
300
400
500
600
700
800
900
1000
0
50
100
150
200
250
300
350
400
450
500

Appendix K

Regression Equations used for determining TP Delisting Criteria for Export Coefficient Option #1.

Subwatershed Regression Equations using Natural Resources Canada (2009) run-off values and Winters and Duthie (2000) Export Coefficients for Crop and Pasture. The equation is y=a + b(x) where: a is 33 the TP concentration (µg/L) when subswatershed is at 100% woodland or 0% disturbance; b is the slope; x is the percentage of disturbance; and y is the TP concentration (µg/L).

Urban Regression Equation	Crop Regression Equation	Pasture Regression Equation
y=33+ 1.33(x)	y=33+ 0.50(x)	y=33+0.34(x)

Regression Equations used for determining TP Delisting Criteria for Export Coefficient Option #2.

Subwatershed Regression Equations using Authority and AquaResources Inc. (2010) run-off values and Winters and Duthie (2000) Export Coefficients for Urban (Drapers Creek only), Crop and Pasture. The equation is y=a + b(x) where: a is 33 the TP concentration (µg/L) when subswatershed is at 100% woodland or 0% disturbance; b is the slope; x is the percentage of disturbance; and y is the TP concentration (µg/L).

Watershed	Urban Regression Equation	Crop Regression Equation	Pasture Regression Equation
Beaver Creek (BV001)		y=33+ 0.77(x)	y=33+0.55(x)
Big Forks Creek (BF001)		y=33+ 0.63(x)	y=33+0.44(x)
Buckhorn Creek (BU001)		y=33+ 0.82(x)	y=33+ 0.59(x)
Coyle Creek (CO001)		y=33+ 0.66(x)	y=33+ 0.46(x)
Drapers Creek (DR001)	y=33+ 0.59(x)	y=33+ 0.13(x)	y=33+ 0.04(x)
Elsie Creek (EL001)		y=33+ 0.86(x)	y=33+ 0.62(x)
Grassy Brook (GR001)		y=33+ 0.49(x)	y=33+ 0.33(x)
Lyons Creek (LY003)		y=33+ 0.50(x)	y=33+ 0.33(x)
Mill Creek (MI001)		y=33+ 0.70(x)	y=33+ 0.49(x)
Oswego Creek (OS001)		y=33+ 0.96(x)	y=33+ 0.71(x)
Tee Creek (TE001)		y=33+ 0.50(x)	y=33+ 0.34(x)

TP Delisting Criteria for Export Coefficient Option #3.

Subwatershed	Watershed Area (ha)	Run-off (L/yr)	Mean TP concentration (mg/L) 2003 -2010	TP (kg/yr)	TP (kg/ha/yr) Export Coefficient
Coyle Creek	3979.52	10022016665.49	0.14	1403.08	0.3526

Subwatershed	Export Coefficient (kg/ha/yr)	Runoff (m/yr)	Delisting Criteria TP (µg/L)
BV001	0.3526	0.23	155
BF001	0.3526	0.26	135
BU001	0.3526	0.22	163
CO001	0.3526	0.25	140
DR001	0.3526	0.54	65
EL001	0.3526	0.21	168
GR001	0.3526	0.30	116
LY003	0.3526	0.30	117
MI001	0.3526	0.24	145
OS001	0.3526	0.19	183
TE001	0.3526	0.30	117