
TOWNSHIP OF HURON-KINLOSS

BASELINE SURFACE
WATER QUALITY MONITORING PROGRAM

2019 ANNUAL REPORT



BMROSS
engineering better communities

TOWNSHIP OF HURON-KINLOSS

BASELINE SURFACE

WATER QUALITY MONITORING PROGRAM

2019 ANNUAL REPORT

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**TOWNSHIP OF HURON-KINLOSS
BASELINE SURFACE WATER
QUALITY MONITORING PROGRAM
2019 ANNUAL REPORT**

1.0 PURPOSE OF MONITORING

The Township of Huron-Kinloss is established in supporting environmental steward activities, and has conducted surface water quality monitoring on various watercourses throughout the municipality for decades. The purpose of the Pine River monitoring program is to establish and maintain a database of water quality information that will assist the Township of Huron-Kinloss in the future evaluation of development proposals. The water quality database will allow for the tracking of water quality changes over time and will provide information to assist the Township in making decisions on how to protect its surface water and beach resources. The database will enable comparison of results and facilitate specific opportunities for water quality improvement, such as identifying specific impaired stream lengths and highlighting areas of interest for stewardship projects.

The Risk Assessment Study for Continued Development on Septic Systems in the Lakeshore Area, completed on October 19, 1997, identified that the principal risk associated with the continued use of private sewage disposal systems is the potential for contamination of beach areas by harmful microorganisms. Risk Management Guidelines that formed part of the document, included the establishment of a Monitoring Program for Surface Water Quality in the Point Clark North sub-area. The commitment to continue the Point Clark program has been continued since then, and has provided useful data which has also served to support the Septic Reinspection Program.

The program is comprehensive in that the sampling will be undertaken on a regular basis and will be continuous from year to year, allowing for the accumulation of a database of results for comparative use. The latest sampling year, 2019, was the nineteenth year of the continuous monitoring program for Pine River program and was the twenty first year for the Point Clark program.

2.0 DESCRIPTION OF MONITORING PROGRAM

2.1 Pine River Program History

The Pine River Surface Water Monitoring Program was initiated in June of 2001 at twenty-six locations throughout the Pine River Watershed. Thirteen of the locations were previously sampled as part of a 1990 study of the watershed carried out by the Saugeen Valley

Conservation Authority (SVCA). Seven additional lake sites and six in-stream sites were added to the 13 SVCA sites which filled in gaps in the study area, resulting in the original twenty-six locations. In 2002, eight additional sites which originate in Huron-Kinloss and discharge into the former Township of Ashfield and eventually into Lake Huron were added for comparative purposes; four along each of the Eighteen Mile Creek and Boyd Creek watercourses. The Ashfield-Colborne Lakefront Association also carries out water quality sampling on both creeks at locations where they cross Highway 21, with results publicly available to 2014.

In 2004, nine locations were removed from the program, as the relatively dense distribution of monitoring sites was not highlighting potential source areas of pollution. The remaining sites were deemed sufficient for monitoring water quality in the streams.

To take advantage of the long term monitoring data from the program, at the end of the tenth year in 2011, BMROSS prepared a summary report comparing the twelve stream sites in the Pine River Watershed. Two sites were observed to have significantly higher nutrients (nitrate and phosphorus). One was Site 17 on the Nesbitt Municipal Drain and the second was Site 18 on the McMurchie Drain. Both of these drains meet and flow into the Pine River shortly before Lake Huron. Under the Research Initiative of the Bruce Clean Water Program, Huron-Kinloss has partnered with Bruce County in 2013 and 2014 to further investigate this subwatershed of the Pine River. This sampling highlighted regions that could be contributing a larger proportion of nutrients, and working with property owners the project completed additional sampling in 2014. This has resulted in further investigation by property owners.

In 2013 the Township of Huron-Kinloss and the SVCA submitted a proposal to the Bruce Clean Water Program – Research Initiative, for funding in support of monitoring activities in the Pine River Watershed, with the purpose of using the monitoring data to contribute to the calibration of their rural storm water model. Extra sites and parameters were sampled for two years.

Two sites, PR37 and PR38, were added in 2016 as part of an initiative to assist in identifying loading sources towards PR11 and were removed from the program in 2018 due to insufficient flow at the two sites.

2.2 Point Clark Program History

The Point Clark Monitoring program was initiated in 1998. Originally, samples were taken at 7 sites that were consistent with sites previously sampled as part of the Risk Assessment Study. Throughout the program, additional sites have been added in an effort to track specific contributing sources of contamination in Jardine Creek, as well as to characterize water quality in the area.

Additional sites were sampled from 2001-2004 to fill gaps in the study area, and since 2005 16 sites have defined the program; three along Lake Huron beaches, three along Clark Creek, and eight along Jardine Creek. In 2017, in an effort to identify sections between Jardine Creek sites 9 and 8 that could be contributing to elevated recorded *E. coli* levels, sampling sites 14 and 15 were reactivated and these four sites were tested for additional parameters. Intermittent flow

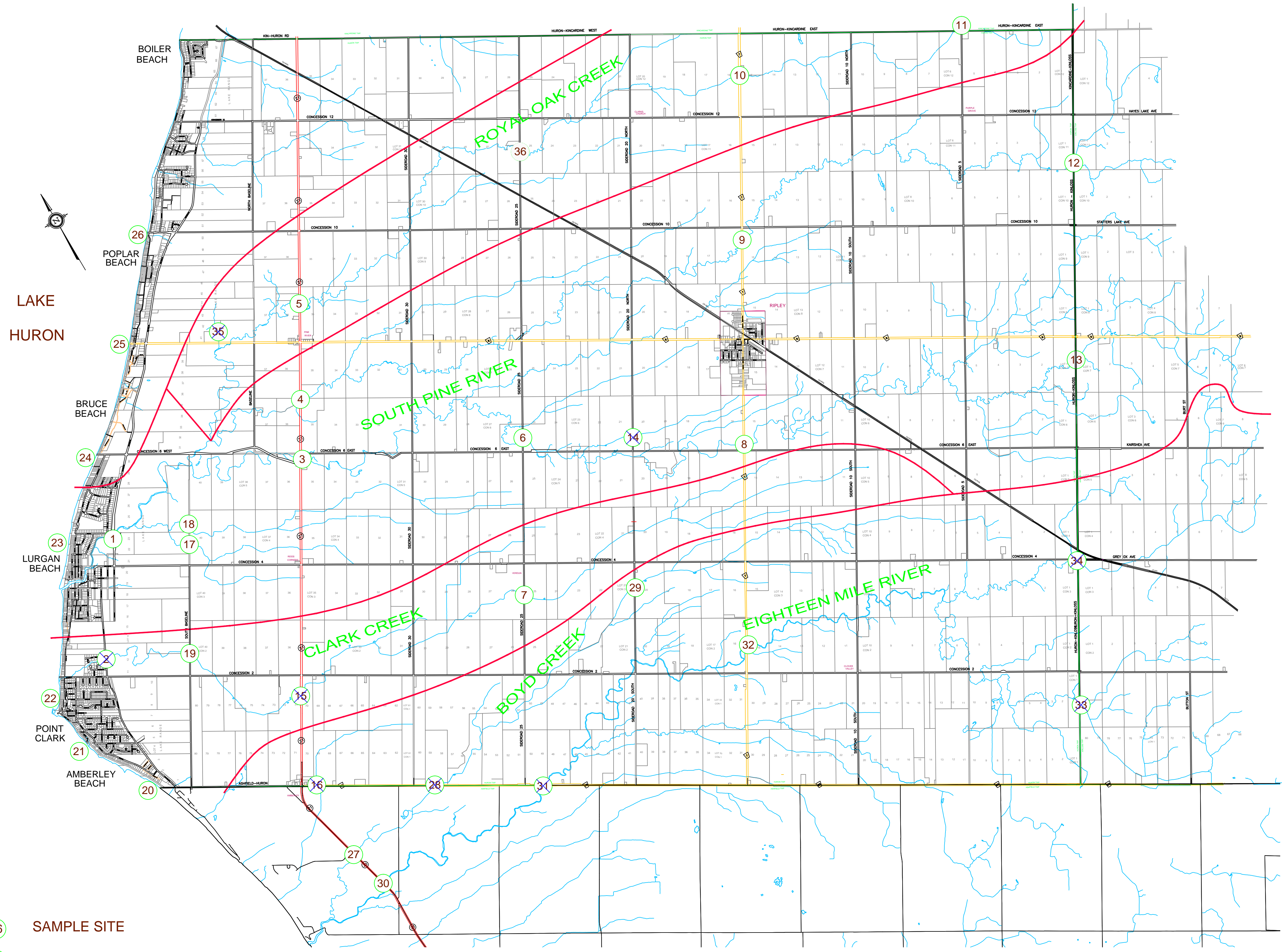
throughout the sampling season as well as the nature of the tested parameters produced inconclusive results with regard to highlighting specific sections of increased bacteria loading along Jardine Creek. Sites 14, 15 and the additional parameters for sites 9 and 8 were discontinued at the end of the 2017 season.

2.3 Amalgamated Baseline Surface Water Quality Monitoring Program

In March of 2018 consideration to decreasing the cost of the sampling program was requested by Huron-Kinloss council. BMROSS defined a consolidated sampling program which could capture the general health of the watershed with respect to nutrient and bacteria levels in as much detail and as efficiently as possible. To satisfy that scope it was determined that the existing Pine River sampling sites could remain in the program and that 6 Point Clark sites could be retired and the remaining Point Clark sites sampling frequency change from bi-weekly to monthly. The remaining Point Clark sites can capture the general water quality conditions of the area as well as capture increased detail through Jardine Creek, which has historically displayed increased bacteria concentrations. The remaining sample sites could be amalgamated into a single program which test for bacteria as well as the nutrients nitrate and phosphorus. The nutrients are additional parameters for the remaining Point Clark sites and can be used to inform Jardine Creek water quality and bacteria trends.

The 2019 Baseline Surface Water Monitoring Program consists of 34 sampling locations; 7 Lake Huron sites, 19 in-stream sites consistent with the Pine River program, and 8 inland sites throughout Point Clark. The sites are presented in Figure 2.1 and 2.2. Water quality results for all monitoring years are included in Appendix A. An inventory of most of the sample locations can be found in Appendix B.

CAD FILE 01124/01124-Sample Program 2002.DWG PLOT SCALE TO FIT

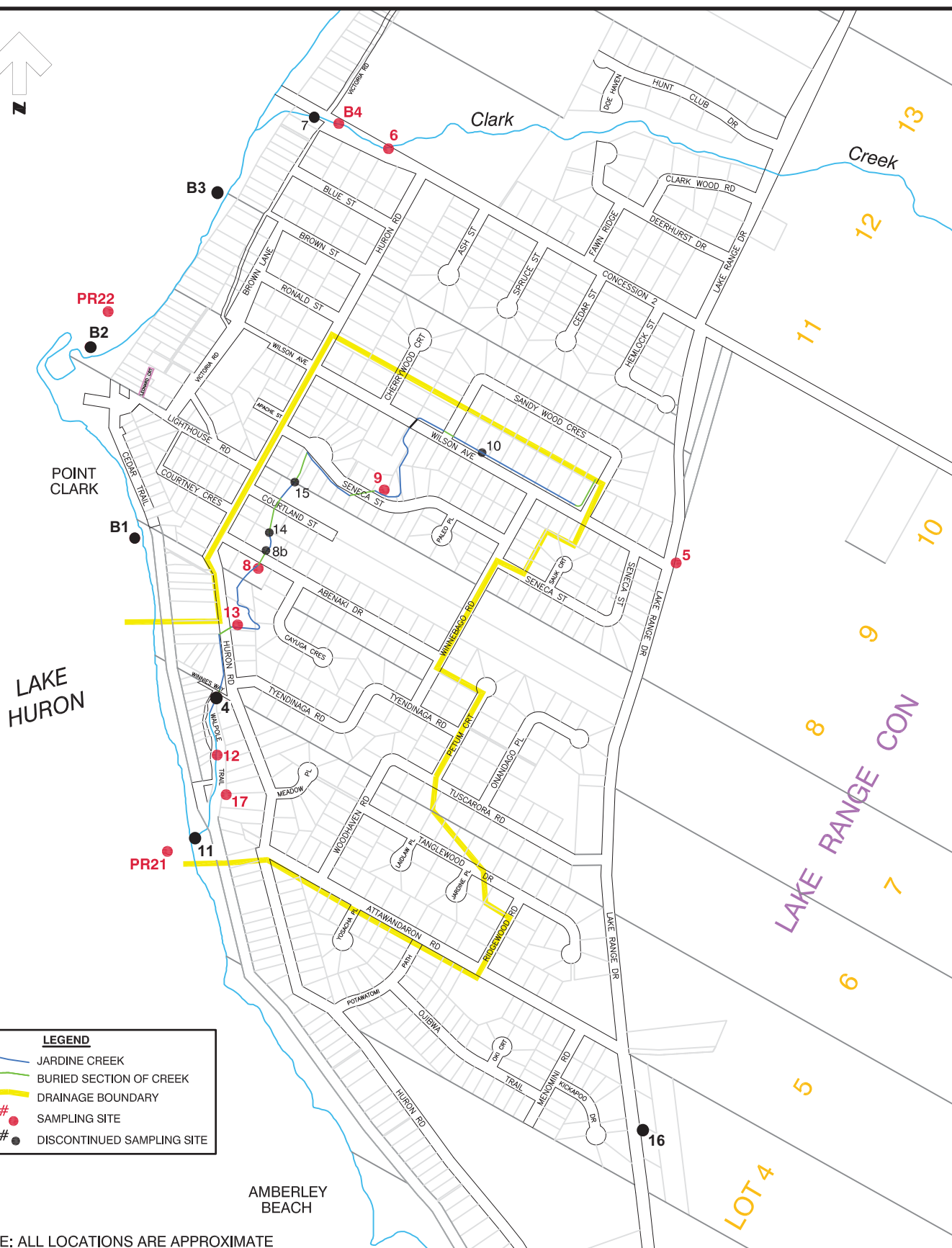


- 16 SAMPLE SITE
- 16 DISCONTINUED SAMPLING
- SUBWATERSHED BOUNDARY



TOWNSHIP OF HURON-KINLOSS
 PINE RIVER WATER QUALITY
 MONITORING PROGRAM (2013)

FILE No.
 01124
 FIG. No.
 2.1



LEGEND	
	JARDINE CREEK
	BURIED SECTION OF CREEK
	DRAINAGE BOUNDARY
	SAMPLING SITE
	DISCONTINUED SAMPLING SITE

NOTE: ALL LOCATIONS ARE APPROXIMATE



Township of Huron-Kinloss
Point Clark Water Quality
Monitoring Program
 Monitoring Location Plan

DATE Nov., 2018
SCALE 1:10,000

PROJECT No. 93147
FIGURE No. 2.2

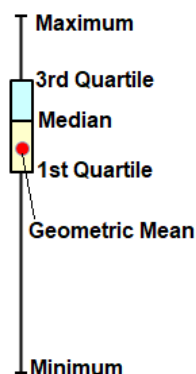
3.0 DISCUSSION AND RESULTS

Definitive conclusions regarding the condition of watercourses or the locations of point sources of pollutants remain difficult to determine, however, certain patterns can be described. Variables including weather, the distribution and intensity of rainfall events, the nature of the pollution sources, and the nature of the sampling protocol are constraints that should be considered when evaluating results.

Water samples were taken on a monthly basis in 2019, occurring from March to November for a total of nine sampling events. Single grab samples are collected by BMROSS and sent to private labs where they are analyzed for total phosphorus and nitrate, which are plant nutrients, and *E. coli*, which is an indicator bacterium found in the digestive tract of warm-blooded animals. To help control the reporting of non-representative results, samples from stream sites are collected only if there has been recent or observable flow. Collection of representative lake samples consists of wading to a sample depth of about one metre and collecting a single grab sample using a reach pole and dip cup. Environmental conditions present at the time of sample collection are also recorded; wave height, water clarity, presence of algae, weather conditions, unusual odours and any other observations are noted in the sampler's log. This information is useful for exploring links between unusual sampling results and environmental factors.

It should be noted that the sampling protocol for testing bacteria consists of a single grab sample and does not follow the Health Unit's beach sampling protocol, in which five grab samples are taken at a single location and a geometric mean calculated. The Health Unit's method reduces the potential deviation caused by the natural spatial distribution of bacteria in the water (bacteria tend to clump together and are not homogenous throughout a water sample). This program's single grab sample is meant to provide a "snapshot" of the water quality at the time of sampling and is not intended for use in determining beach swimming policy.

The results for *E. coli*, nitrate, and phosphorus were plotted to show the spatial trends of the measured indicators for the sampling season. Box and whisker type graphs are used to show the distribution of sampling results for each sample location in the Pine River watershed. The median, minimum, and maximum values, as well as a first and third quartile value for each site have been taken into consideration. The box length shows the central 50% of values, from the 25th percentile to the 75th percentile, with the median as a line within the box length. The lines above and below the box denotes the maximum and minimum values respectively. For *E. coli*, the geometric mean is included in the graphs, displayed as a circle usually within the box length. *E. coli* graphs are presented on a logarithmic scale due to the large variation in reported values.



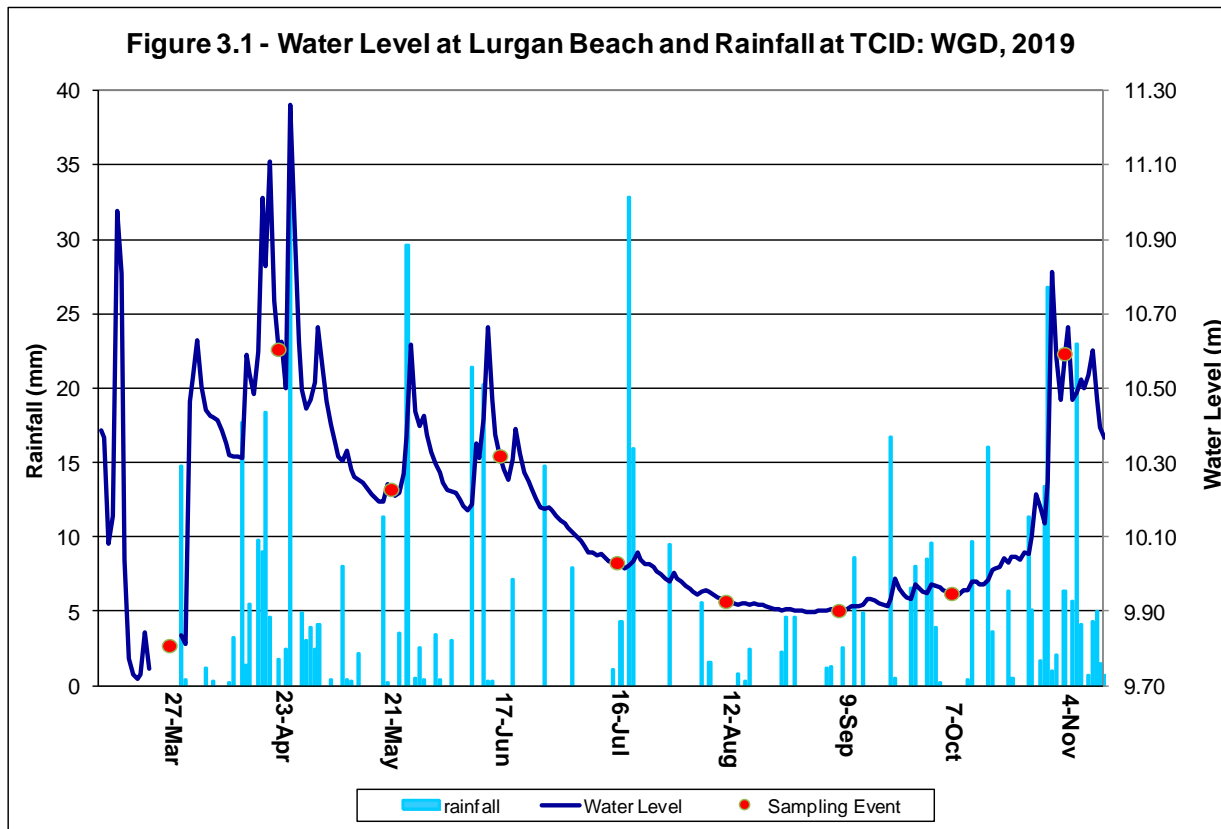
3.1 Weather, Rainfall and Water Levels

Weather varies year to year and is reflected by the number of monitoring sites with insufficient flow at the time of sampling. Table 3.1 summarizes each year's sampling season rainfall from March through November. Peaks in precipitation are often linked to elevated levels of contaminants since various sources are collected through surface runoff and, for lakes, from wave and wind action. Specific relationships between increased results and weather conditions are difficult to determine, however for illustrative purposes the recorded rainfall for the Pine River area, obtained from the Goderich WMO weather station 71261, is presented in Figure 3.1 and includes water levels obtained from the Environment Canada hydrometric station 02FD001 from Pine River at Lurgan Beach.

An apparent relationship of increased water levels can be observed corresponding to the timing of rainfall events, indicating overland and groundwater flow contributing to stream water levels, and may ultimately carry a greater amount of pollutants into Lake Huron with the increased flow. The included water levels show the dynamic nature of weather; large precipitation events are associated with runoff and increased river water levels and associated transport of contaminants, but not all rainfall produces runoff. Other factors that may influence results include sample depth, time of day, site conditions and adjacent land use such and the stage of crop development, and the sampling protocol. Time of day, sample depth and the sampling protocol are controlled by the field technician, but all factors should be considered when interpreting results.

Table 3.1
Summary of Sampling Season Rainfall

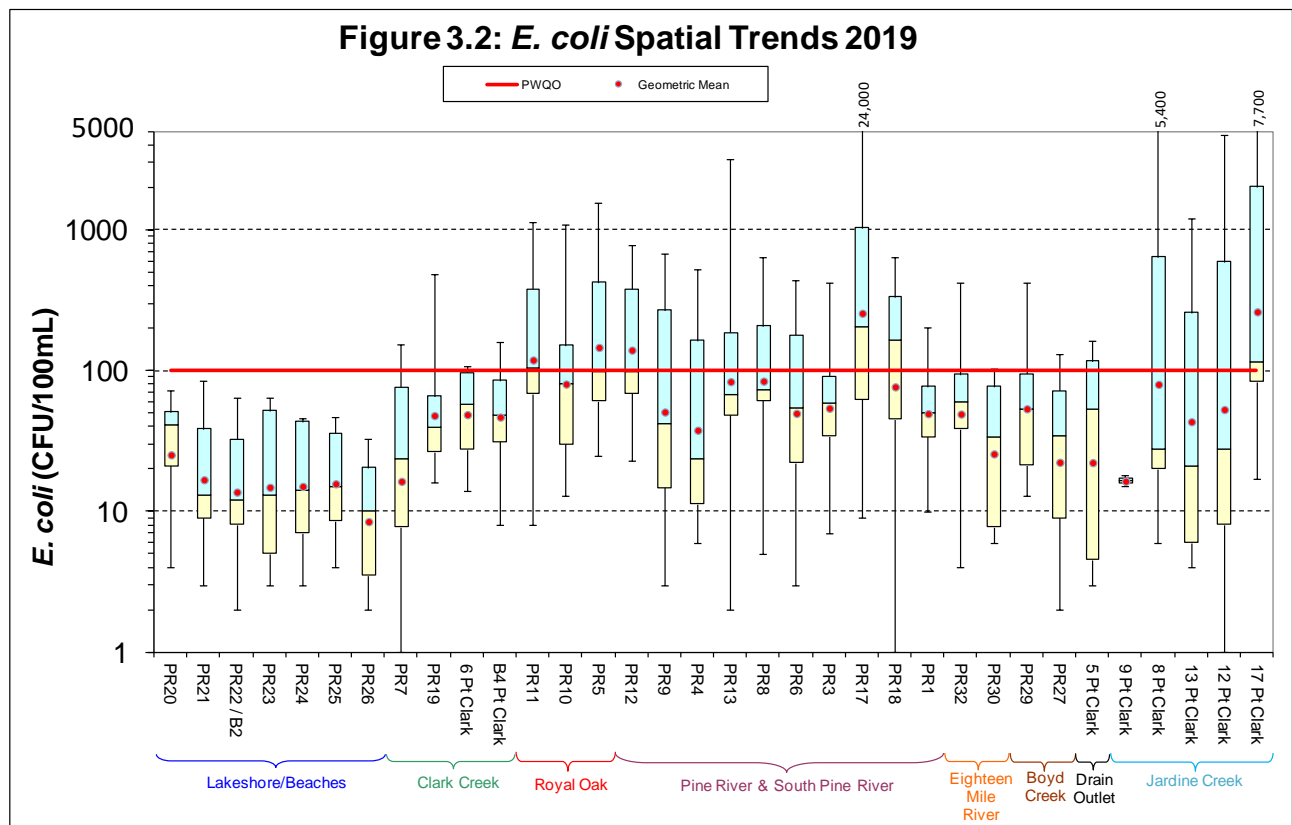
Sampling Year	Seasonal Rainfall (March-November)
2019	624.7 mm
2018	656.9 mm
2017	771.4 mm
2016	704.9 mm
2015	544.6 mm
2014	695.9 mm
2013	720.3 mm
2012	406.9 mm
2011	833.3 mm
2010	608.5 mm
2009	582.9 mm
2008	972.4 mm
2007	584.0 mm
2006	661.2 mm
2005	564.9 mm
2004	496.8 mm
2003	514.0 mm
2002	491.6 mm



3.2 Escherichia coli (*E. coli*)

E. coli is found naturally only in warm-blooded animals. Since some of these bacteria are shed with animal waste, its presence can be used as an indicator for fecal contamination. *E. coli* is not naturally mobile so once shed it will stay in its original location unless transported. *E. coli* typically can only survive about 48 hours outside of its native environment, but has been shown to survive for more than a week while traveling down streams and can form perpetual colonies under proper conditions in shallow lake sediment and the swash zone.

The Provincial Water Quality Objective (PWQO) for the concentration of *E. coli* in recreational waters is 100 cfu/100 mL. It should be noted that other than the Lake Sites PR20 to PR26, the majority of sampling sites would not normally be used for recreational swimming; water levels are too low and the sites are not conducive to recreational use. Figure 3.2 presents the spatial distribution box plot of *E. coli* for all samples in 2019. The box plot chart shows that *E. coli* levels vary within each monitoring site as well as between monitoring locations.



Lake sites' results were consistently excellent, with all site geometric means below the PWQO and zero exceedances through 2019. Generally, lake site results are well below the PWQO and lower than in-stream sites, while in-stream sites results are higher and have much more variability.

Inland sites showed good results, with only 5 inland sampling sites having seasonal geometric means above the PWQO, with various sites having single event spikes into the 1000's CFU and one site, PR17, having one event result of 24,000 CFU. The seasonal geometric means and percent of samples in exceedance for each subwatershed's group of sites are presented in Table 3.2, which shows zero groups with an elevated seasonal geometric mean. Site 17 is located downstream of a storm outlet for a large portion of Point Clark, and is the only site with variability mostly above the PWQO, suggesting a more constant source of *E. Coli*.

Table 3.2
Watershed Group Geometric Means and Percent over Guideline for *E. coli* in 2019

Stream Group	Geometric Mean (cfu/100 mL)	Percent at or over PWQO
Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26)	15	0%
Pine River – (PR12 , PR9, PR4, PR13, PR8, PR6, PR3, PR17 , PR18, PR1)	74	41%
Clark Creek – (PR7, PR19, 6, B4)	37	25%
Royal Oak Creek – (PR11 , PR10, PR5)	74	52%
Eighteen Mile River – (PR32, PR30)	36	21%
Boyd Creek – (PR29, PR27)	35	29%
Jardine Creek, Point Clark – (9, 8, 13, 12, 17)	80	52%
Field Tile Drain at Point Clark – (5)	22	50%
<i>Bold indicates geometric mean equals or exceeds PWQO</i>		

Increased *E. coli* levels in surface water are influenced by many factors. Wildlife populations, specifically from large groups such as geese and gull flocks defecating into open water, can shed large amounts of *E. coli*. Increased cottage use could elevate levels by way of under sized, improperly maintained or constructed, or malfunctioning private sewage treatment systems. Agricultural activity, specifically livestock operations through manure application and animal access to streams, can be a source of *E. coli*. Weather events and sample timing are also a significant factor, where runoff can transport *E. coli* and where high winds upturn lake sediment which mobilizes settled *E. coli*.

3.3 Nitrate

Nitrate is the most common, and one of the several forms of nitrogen that is present in surface waters. It is highly mobile in both ground and surface waters. Though it is naturally occurring in the environment at about 1mg/L, additional nitrate is introduced through agricultural fertilizers, manure, septic systems, and industrial waste. If it is not taken up through plant growth it can be carried away in surface runoff or groundwater. Nitrate is an essential plant nutrient and high levels can contribute to eutrophication of water systems through excessive growth of aquatic plants and algae, and can be toxic to fish and amphibians. In 2003 the Canadian Water Quality Guideline (CWQG) to protect freshwater is 2.93 mg/L for nitrate, expressed as N, was adopted. This guideline has been superseded by newer studies, such as the Canadian Council of Ministers of the Environment (CCME) 2007 study on nitrate for the long term protection of freshwater aquatic life which formed a Guiding Principle of 3.0 mg/L, which has been adopted as the CWQG.

The spatial distribution of nitrate results for 2019 is presented in Figure 3.3. Medians and percent of samples in exceedance for each group are presented in Table 3.3. The table shows Lake sites continue to have low results through 2019, with all median concentrations well below the CWQG and with spikes of up to about 6 mg/L. Five of the group watershed medians and 17 of the 27 inland site medians were above the CWQG, with only the Pine River and Jardine Creek group medians below the CWQG.

Figure 3.3 displays 17 inland site results with elevated seasonal medians. All of Clark Creek and Boyd Creek sites, and individual sites PR17, PR18, and 5 stand out within the figure. All Clark Creek and Boyd Creek sites show elevated seasonal medians with little attenuation through downstream results. Most of the Pine River group shows low medians, except for PR17 and PR18 at almost 8.0 mg/L and attenuating through downstream site PR1. Site 5 in Point Clark shows a high seasonal median at over 8.0 mg/L.

Precipitation in the days preceding sampling may affect results, where many of the 2019 sampling events were preceded by rainfall. The elevated watershed results can highlight the soluble nature of nitrate in a predominantly agricultural landscape, where it becomes mobilized through overland flow and can remain elevated in streams as their discharge and water levels remain high. Site PR17 and PR18 results in Figure 3.3 have high medians and maximum values, indicating loading factors upstream of each site. Site 5 receives storm drainage from the surrounding agricultural area and samples weren't collected due to low flow at events from July to October, where stream water levels and discharge were the lowest in the season. Given the limited number of samples, which were only collected through high flow periods, as well as the surrounding land use, results could be expected to reflect increased nutrient loading.

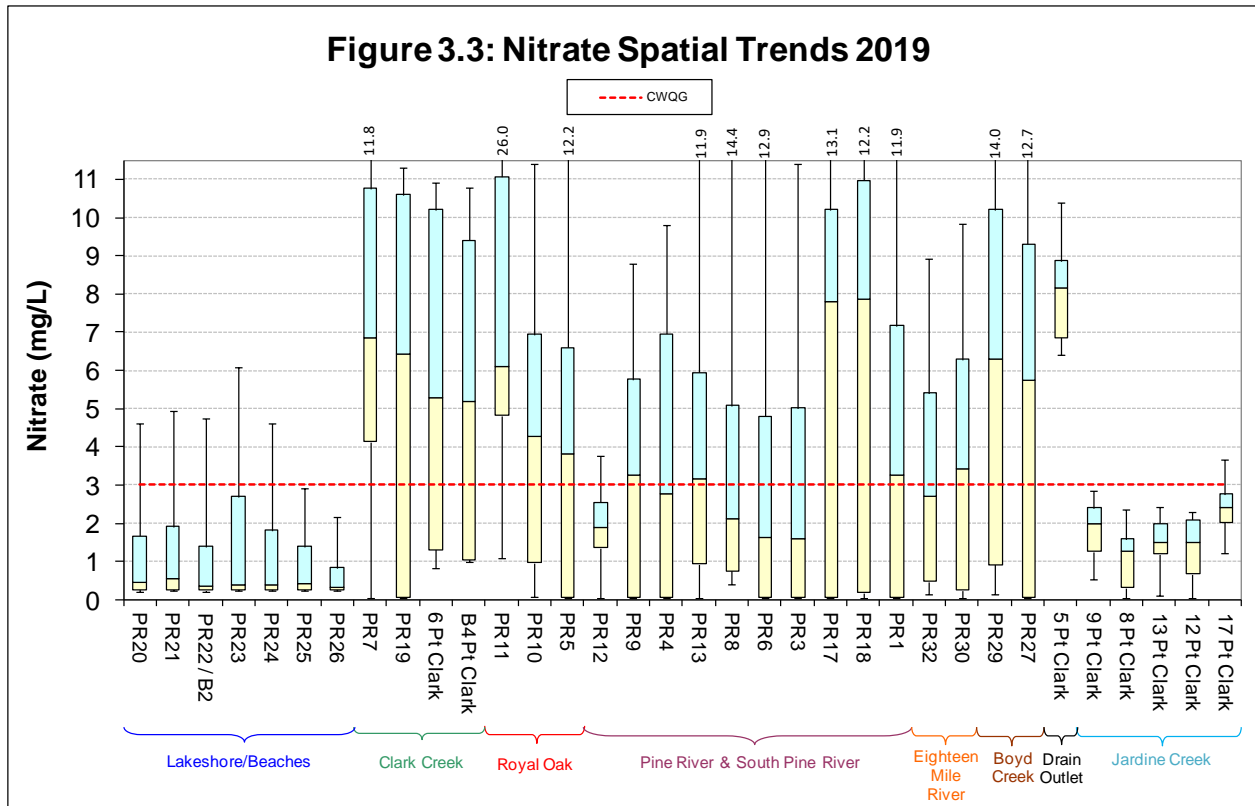


Table 3.3
Watershed Group Medians and Percent over Guideline for Nitrate in 2019

Stream Group	Median (mg/L)	Average (mg/L)	Percent over CWQG
Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26)	0.32	1.28	13%
Pine River – (PR12, PR9 , PR4, PR13 , PR8 , PR6, PR3, PR17 , PR18 , PR1)	2.87	4.33	49%
Clark Creek – (PR7 , PR19 , 6, B4)	5.89	5.52	60%
Royal Oak Creek – (PR11 , PR10 , PR5)	5.17	5.91	68%
Eighteen Mile River – (PR32, PR30)	3.04	3.65	50%
Boyd Creek – (PR29 , PR27)	5.92	5.68	61%
Jardine Creek, Point Clark – (9, 8, 13, 12, 17)	1.7	1.62	3%
Field Tile Drain at Point Clark – (5)	8.16	8.14	100%

Bold indicates median equals or exceeds CWQG

3.4 Total Phosphorus

Phosphorus in the environment is usually bound to soil as phosphate and is not as water soluble as nitrate, and new research is indicating that dissolved and ortho-phosphorus is becoming a more common form of phosphorus in agricultural soils. Rain events tend to wash sediments and soils into streams which elevate phosphorus levels during those events. Phosphorus is also a nutrient that can stimulate algal growth in surface waters. Too much algal growth results in increased organic matter and depletion of oxygen levels, resulting in eutrophic waters which can threaten aquatic fauna and also reduce the aesthetic value of lakes and streams. Phosphorus is introduced to the environment from many sources which include agricultural chemicals, animal waste, and septic waste. Figure 3.4 presents the spatial trends for phosphorus in 2019.

There are interim objectives for phosphorus under the Provincial Water Quality Objectives (PWQO), (1994). The suggested guidelines are:

- To avoid nuisance concentrations of algae in lakes, average total phosphorus concentrations for the ice-free period should not exceed 0.02 mg/L.
- Excessive plant growth in rivers and streams should be eliminated at a total phosphorus concentration below 0.03 mg/L.

The spatial distribution of phosphorus results for 2019 is presented in Figure 3.4, and the medians and percent of samples in exceedance for each watershed group are presented in Table 3.4.

Lake site results for phosphorus were elevated through many sites and events in 2019. The interim PWQO of 0.02mg/L was exceeded in 45% of samples and had combined median of 0.015 mg/L, with PR20 and PR21 seasonal medians above the PWQO at 0.021 mg/L and 0.025 mg/L respectively. 17 sites as well as the Pine River, Royal Oak Creek, and Jardine Creek watersheds had elevated seasonal medians.

The Royal Oak group and all of its individual sites show elevated results. PR11's high concentration and low variability through its first and third quartile indicate a consistent loading of phosphorus within the watershed, although interpretation of results is limited since no samples were collected from August to October due to low flow.

Site PR17 is obviously elevated within its watershed group. The extremely high maximum result of over 8 mg/L may have been influenced by a concentration effect due to low water levels, however even when scratching the high result the seasonal median is over 0.12 mg/L which is still obviously elevated. PR17 results at the high maximum event were also 24,000 CFU for *E. Coli* and had nitrate results below the detection limit of 0.06 mg/L. High *E.coli*, high phosphorus, and very low nitrate indicate factors other than a concentrating effect, and given the field observations of the event which described the stream water with an atypically brown discolouration, a direct loading factor upstream of the site is likely.

The Jardine Creek group phosphorus results are consistently elevated, with its sites' results higher than most other rural in-stream locations and its group median the highest of all groups. This group also had very low nitrate results and except for Site 17, low *E. Coli*. This more urban group's results may be mediated by factors different than the predominantly rural sites of the program.

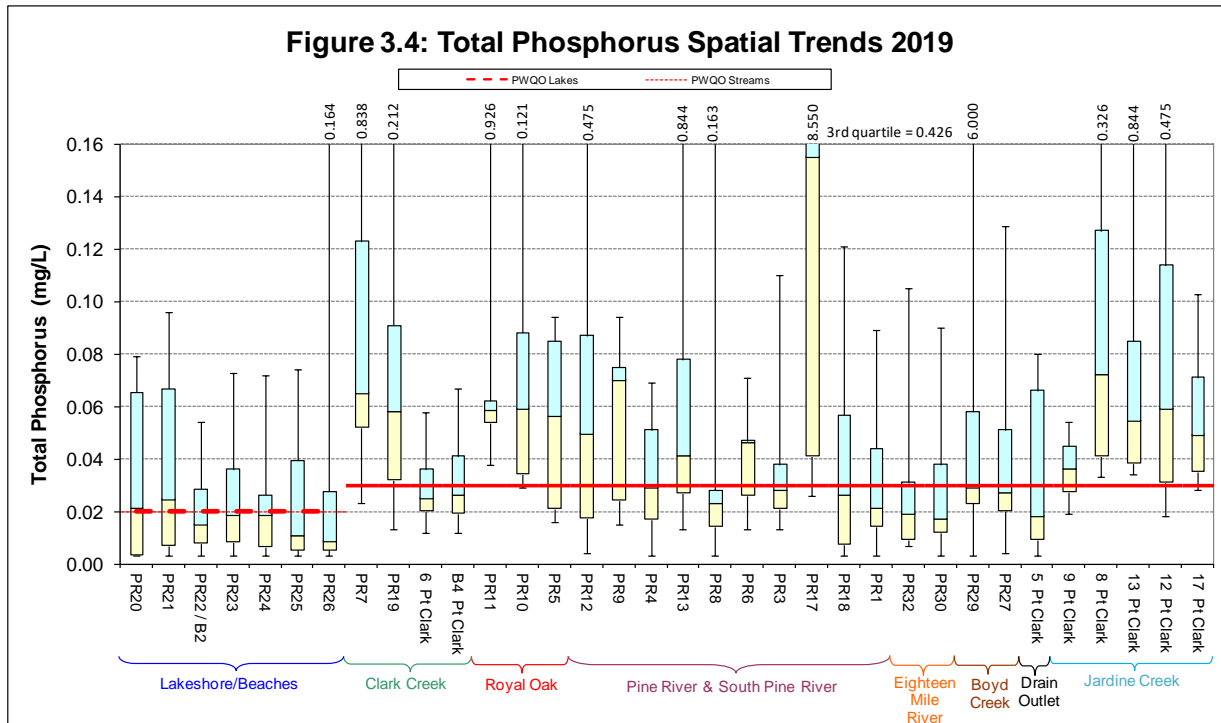


Table 3.4
Watershed Group Medians and Percent over Guidelines for Phosphorus in 2019

Stream Group	Median (mg/L)	Average (mg/L)	Percent over PWQO
Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26)	0.015	0.028	45%
Pine River – (PR12, PR9, PR4, PR13, PR8, PR6, PR3, PR17, PR18, PR1)	0.038	0.170	53%
Clark Creek – (PR7, PR19, 6, B4)	0.026	0.031	39%
Royal Oak Creek – (PR11, PR10, PR5)	0.052	0.080	65%
Eighteen Mile River – (PR32, PR30)	0.018	0.028	33%
Boyd Creek – (PR29, PR27)	0.028	0.377	44%
Jardine Creek, Point Clark – (9, 8, 13, 12, 17)	0.057	0.081	89%
Field Tile Drain at Point Clark – (5)	0.018	0.040	40%

Bold indicates median equals or exceeds PWQO

4.0 COMPARISONS WITH HISTORIC RESULTS

4.1 General

The Pine River Watershed Study, conducted in 1990 for the SVCA, contained some historic data on contaminant levels in the Pine River. There is bacterial sampling information from 1972 to 1978, and nutrient information from 1965 to 1978. Samples were taken at the bridge over Pine River on Lake Range Drive, which coincides with the sampling site PR1. At this point, Pine River and South Pine River merge into one watercourse. The current dataset for PR1 was started in 2000 and continues through 2019.

4.2 *Escherichia coli* (*E. coli*)

Figure 4.1 presents the 1972 to 1978 historical sample data, the 1990 data, and the data from the current monitoring period Site PR1. The data is expressed as a logarithmic box plot with the geometric mean of *E. coli* for all samples for each sampling year. The Figure shows that the current and historic group of samples have similar variability, likely due to loading factors and the influence of weather conditions on measured populations.

Figure 4.2 shows the results of beach site PR23 (Lurgan Beach) in comparison to PR1 (Pine River). Lurgan Beach is located near the outflow of the Pine River into Lake Huron. The 2019 sample results are similar to previous years; the stream site continues to have proportionally higher bacteria counts than the lake site. *E. coli* levels are highly variable and have many factors contributing to their origins, transport, survivability, and measured concentrations. The lake dilution factor, the isolation from direct sources of input, as well as site conditions at lake sites that are conducive to bacteria sterilization may partially account for the difference between the in-stream and lake site. Site conditions and associated sources of bacteria change depending on sampling location, however taking PR1 and PR23 as representatives of in-stream and lake sampling sites, we can assume this relationship generally exists between the program's in-stream and lake sites.

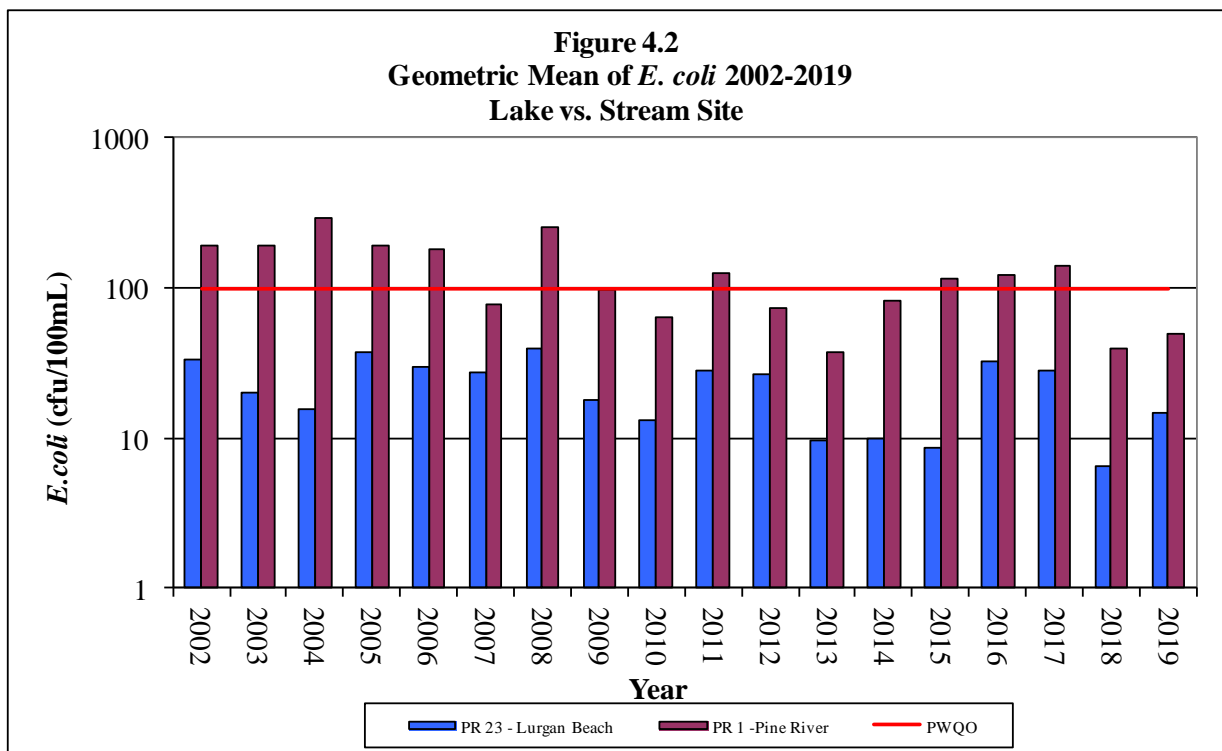
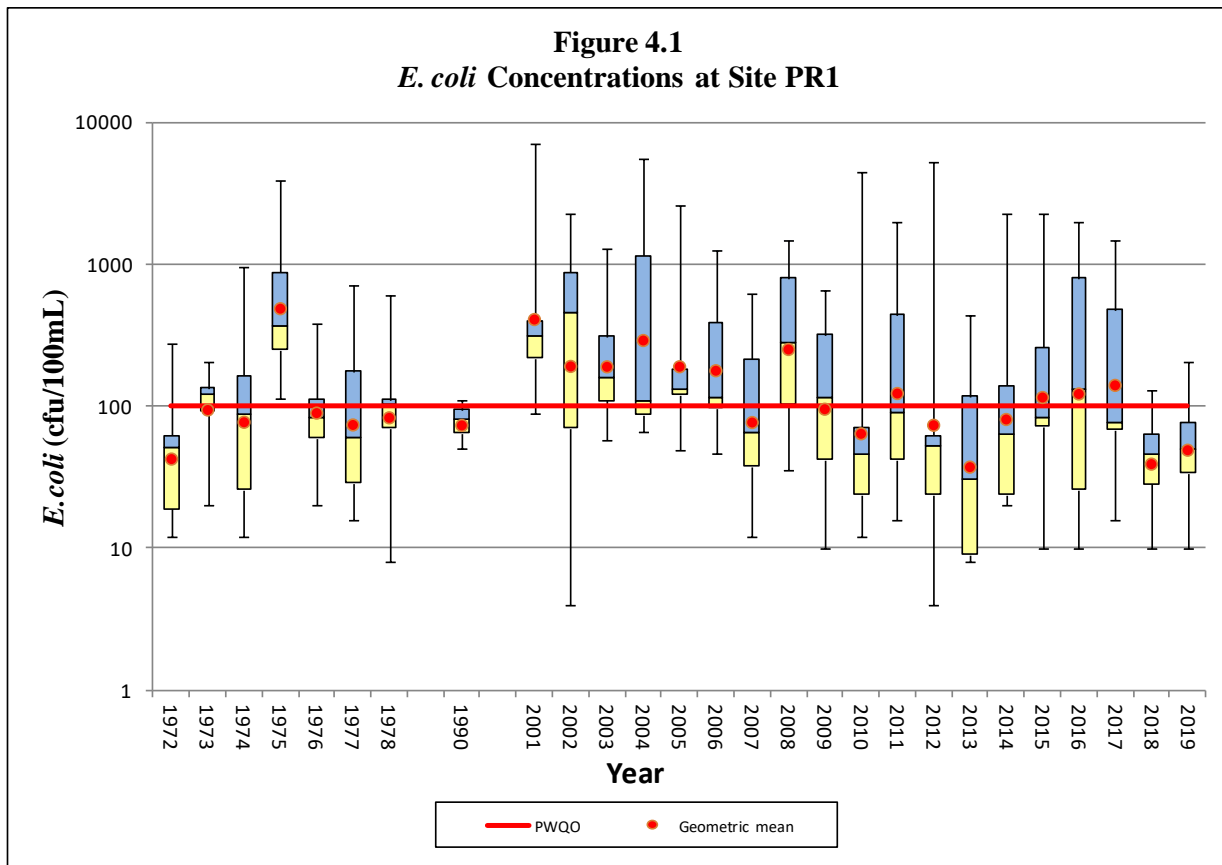
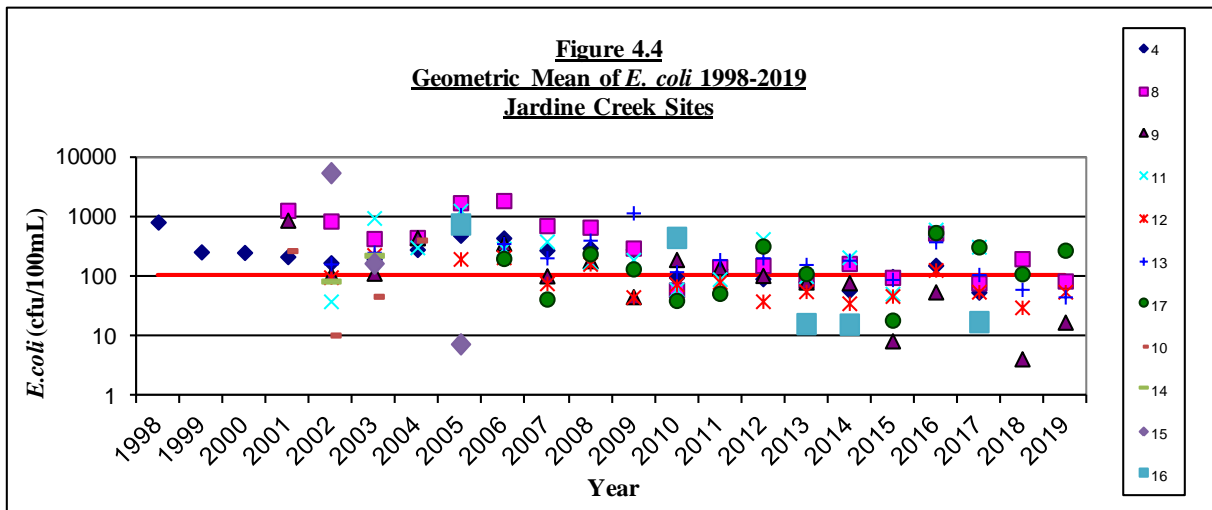
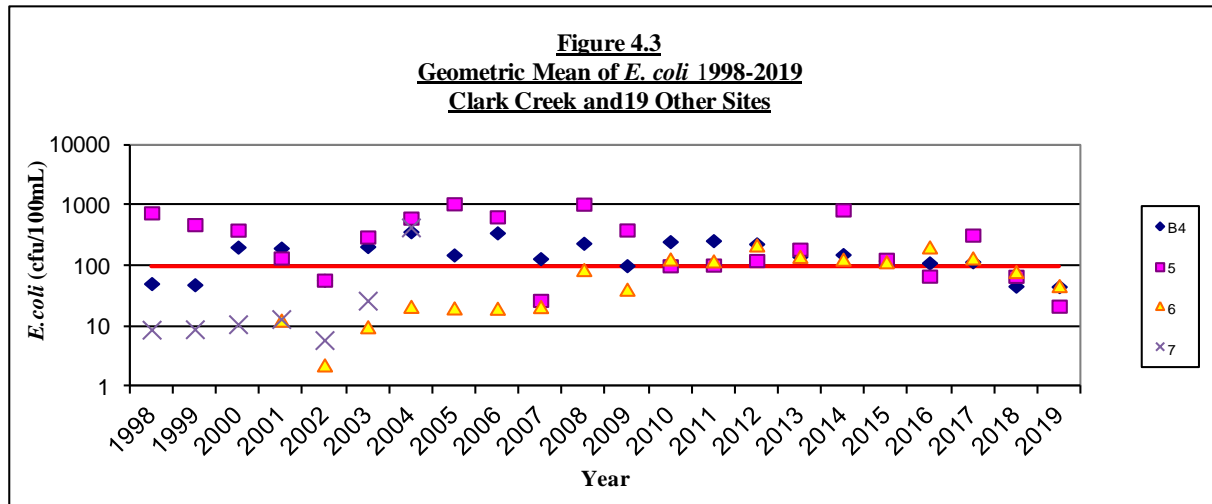


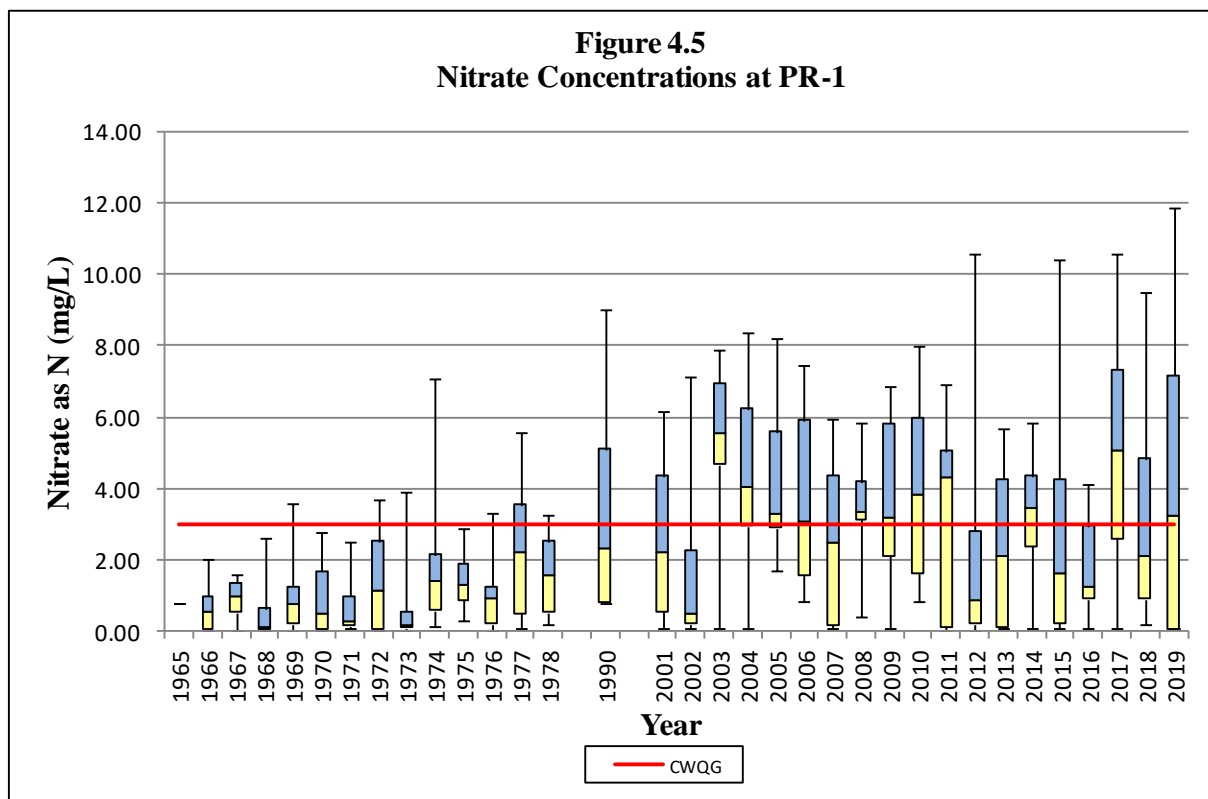
Figure 4.3 and 4.4 display historical results for the Point Clark sampling sites. The Clark Creek *E. coli* seasonal geometric means show little variability between sites through much of the sampling history. The Jardine Creek sites have shown more variability between sites, with both groups showing generally good to moderate results.

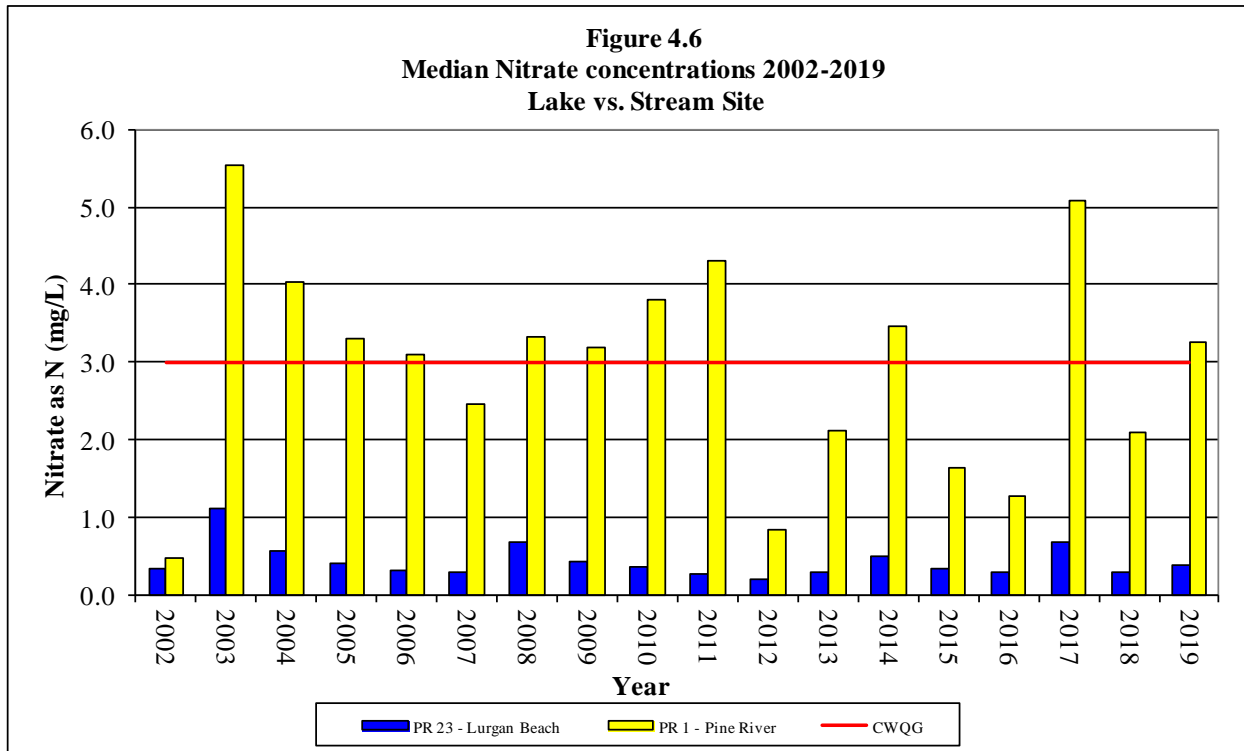


4.3 Nitrate

Figure 4.5 presents the historical and current nitrate data for sample Site PR1. Throughout the current sampling program, PR1's nitrate levels have generally been higher than historical data, with a median of over 3 mg/L compared to 0.78 mg/L, and with no historic year median above the CWQG. The median values for the current sampling period have been within the range of those found historically, however the current period's large variability towards higher results, as well as with the majority of medians being above the CWQG, indicate the current sampling period results for PR1 are elevated from those found historically.

Figure 4.6 compares the nitrate concentrations between a representative stream and lake site. It is apparent that concentrations at the lake site, most likely due to a dilution factor, almost consistently remain below the Canadian Water Quality Guideline while in-stream the stream site can have concentrations well above the lake site's, though not necessarily over the CWQG. Using the two as representative sites, it can be assumed that this relationship exists between all in-stream and lake sampling sites.

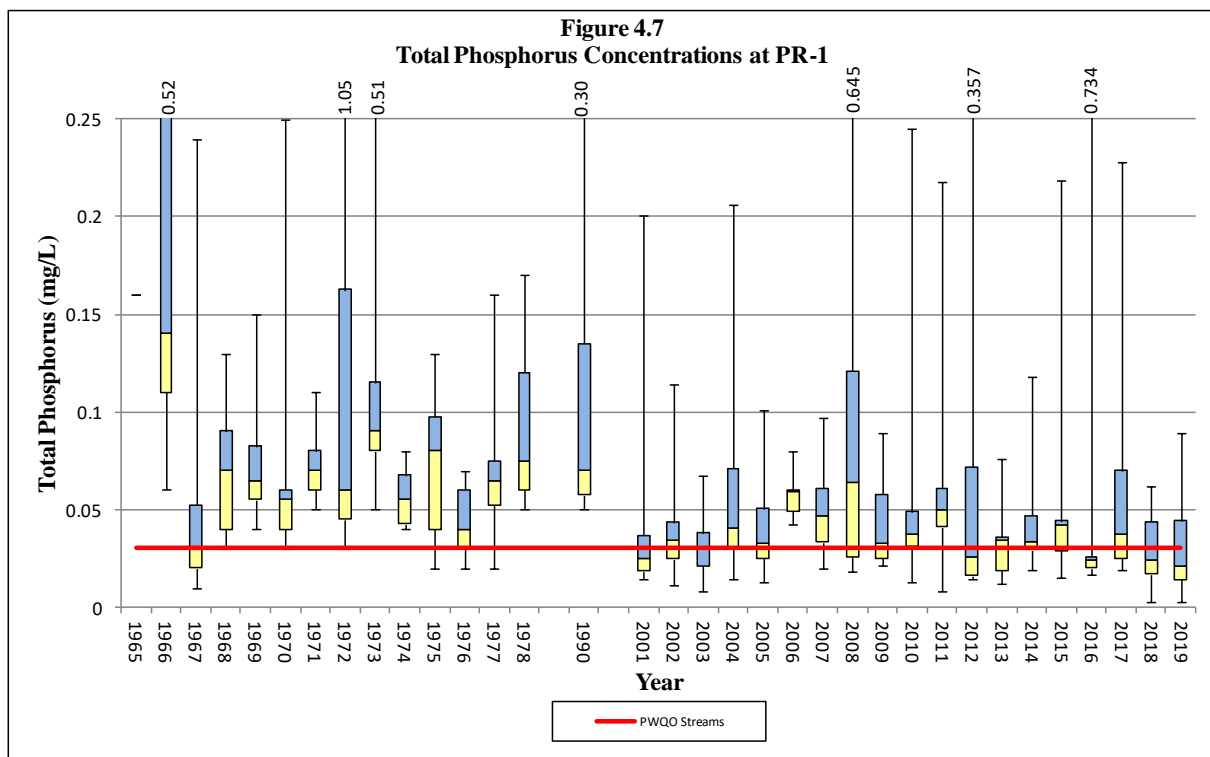


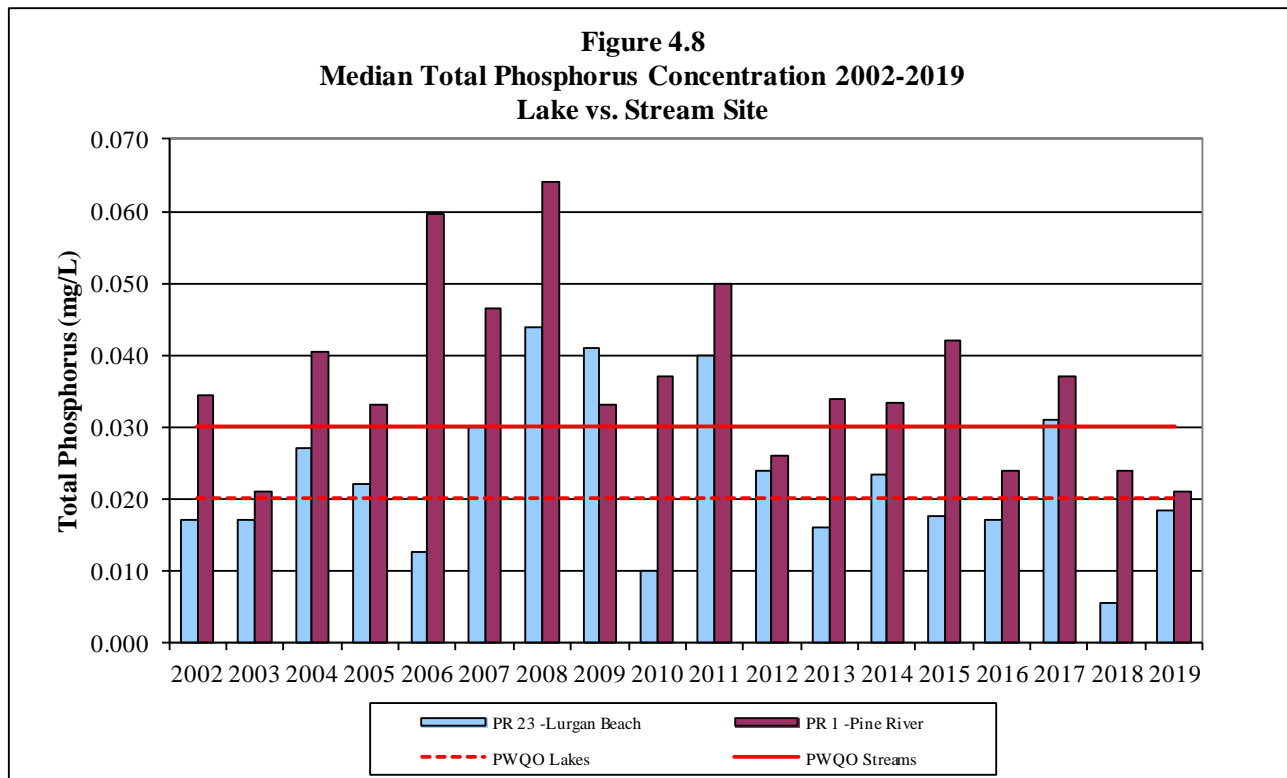


4.4 Total Phosphorus

Figure 4.7 presents the accumulated phosphorus data for sample Site PR1. Historically the results have been variable while remaining well above the interim PWQO. Concentrations for the current sampling program group of sites are lower than the historical results but have generally remained above the interim PWQO, with intermittent years displaying seasonal medians below the objective. Possible contributing factors for the lower concentration in the current group may be related to adoption of best management practices including improvements in soil management to reduce soil erosion, improvements in fertilizer management and application, as well as the updating of septic systems.

Figure 4.8 compares PR23 and PR1 phosphorus levels. Results have been variable from year to year, with the lake site consistently lower than the in-stream site. The lake dilution factor will typically lower phosphorus levels at lake sites.





5.0 CONCLUSIONS

The Township of Huron-Kinloss is accumulating a database of information regarding water quality in area streams and the nearshore of Lake Huron. The data collected to date shows that the streams have variable water quality with respect to *E. coli*, total phosphorus, and nitrate concentrations. No definable sources of nutrient or *E. coli* loadings have been identified beyond general agricultural and rural residential land use, and soil and sediment transport throughout the landscape.

Stream *E. coli* levels regularly exceed the 100 cfu/100 mL Provincial Water Quality Objective and can show extreme spikes in concentration at any time throughout the sampling season, however all group geometric means displayed excellent results in 2019. Lake sites display excellent results and zero exceedances. All sites are subject to spikes likely related to weather conditions, and ultimately the loading factors which enable transport of *E. coli*. The Point Clark’s Jardine Creek group showed variability toward the elevated range, with Site 17 remaining almost consistently elevated.

Nitrate results at lake sites remain well under the CWQO, which has been a consistent trend. In-stream nitrate results were generally elevated, with most group medians above or just below the CWQO which may reflect weather and sampling timing in relation to stream nitrate loading.

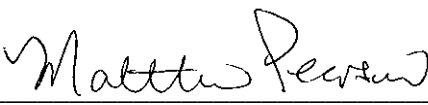
Point Clark Jardine Creek nitrate results were almost consistently excellent, indicating results may be mediated by different factors in the more urban setting than in the more rural Pine River sampling sites. Site 5 in Point Clark remained elevated in 2019. Site 5 is located at the outlet of agricultural drains and may be subject to more rural influences, although the low number of samples limits interpretation. Continued monitoring of the relatively new nutrient parameters throughout Point Clark will benefit interpretation.

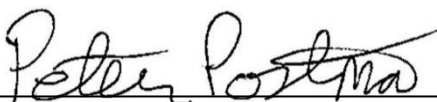
Phosphorus levels are improved compared to historical data, although they are still generally above the PWQO for streams and rivers. Phosphorus levels are lower at lake sites compared to in-stream sites, although results for any site are variable and can show large spikes in concentration. Specific factors at each site may be influencing phosphorus levels, such as interactions with sediment in the nearshore water where the sample is taken, or from receiving contributions from overland transport of soil and other phosphorus loadings into streams. Elevated in-stream sites of interest in 2019 include PR11 and PR17 due to their consistently elevated results. Phosphorus within Jardine Creek is generally found at levels above those found at more rural sites. Continued sampling of Point Clark sites will help establish baseline concentrations for comparison and identification of stewardship opportunities.

The Township should continue this monitoring program, so that the database of information continues to build and in-depth determinations can be made.

All of which is respectfully submitted.

B. M. ROSS AND ASSOCIATES LIMITED

Per 
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APPENDIX A

**WATER QUALITY RESULTS FOR THE YEARS
2002 - 2019**

2019 RESULTS

E.coli
Nitrates
Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2019 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		27-Mar	23-Apr	21-May	17-Jun	16-Jul	12-Aug	9-Sep	12-Oct	4-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	35	58	68	203	104	30	42	10	No Result
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	7	77	89	420	97	40	37	26	No Result
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	6	72	21	440	520	13	6	26	No Result
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	25	121	254	920	1560	68	75	38	No Result
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	10	105	37	400	72	3	26	440	No Result
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0	153	54	34	143	13	0	10	No Result
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	5	76	39	640	135	69	420	70	No Result
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3	18	65	217	680	420	15	14	No Result
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	13	122	81	180	1100	24	Dry	36	No Result
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	68	1140	8	380	103	Dry	Dry	Dry	No Result
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	46	360	23	780	400	92	Dry	98	No Result
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	2	3200	52	320	141	78	56	37	No Result
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	9	71	89	320	2900	37	400	24000	No Result
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	1	640	27	186	164	63	Dry	480	No Result
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	16	43	35	70	64	19	29	480	No Result
PR20	Beach at Hwy. 86 -Amberely Road.	Ice	36	4	41	53	6	49	72	No Result
PR21	Beach off of Attawandron Road-Public Walkway	Ice	45	13	32	85	3	8	10	No Result
PR22	Beach-Point Clark Swimming Area	Ice	23	12	64	42	2	7	9	No Result
PR23	Lurgan Beach-Public Walkway	Ice	41	3	63	13	5	5	64	No Result
PR24	Beach at 6th Conc.	Ice	45	3	42	14	7	7	46	No Result
PR25	Beach at 8th Conc.	Ice	37	6	15	35	11	4	47	No Result
PR26	Beach at 10th Conc.	Ice	10	2	4	25	3	16	33	No Result
PR27	Boyd Creek at Hwy. 21 before Amberely	3	45	55	132	122	2	11	24	No Result
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	13	59	46	420	79	19	22	142	No Result
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	18	74	6	103	84	49	7	8	No Result
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	4	84	12	124	52	68	420	47	No Result
B4	Clark Creek at the Lake	8	33	160	139	50	67	46	26	No Result
5	Ditch at field drain outlet, Lake Range Road	3	5	100	164	Dry	Dry	Dry	Dry	No Result
6	New outlet to Clark Creek across from 3491 2nd Conc.	14	29	107	106	60	94	54	23	No Result
8	Jardine Creek at Abenaki St.	6	11	125	23	5400	26	29	2200	No Result
9	Jardine Creek at Seneca	Dry	18	15	Dry	Dry	Dry	Dry	Dry	No Result
12	Halfway to lake from Road	1	5	298	19	1460	36	9	4700	No Result
13	CSP where creek crosses Huron Rd.	6	4	1200	21	257	Dry	Dry	Dry	No Result
17	Outlet in Jardine Creek between sites 11 & 12	123	102	29	17	105	1880	2400	7700	No Result

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2019 Sampling Results**

		Nitrate as N (mg/L)								
SAMPLE ID	LOCATION	Sample Date								
		27-Mar	23-Apr	21-May	17-Jun	16-Jul	12-Aug	9-Sep	12-Oct	4-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	4.53	7.17	3.26	10.90	0.71	< 0.06	< 0.06	< 0.06	11.90
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.43	6.80	2.85	11.4	0.34	< 0.06	< 0.06	< 0.06	12.5
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	4.22	6.96	2.76	9.50	0.14	< 0.06	< 0.06	< 0.06	9.82
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	4.62	6.60	3.82	10.1	0.36	< 0.06	< 0.06	< 0.06	12.2
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.30	6.31	2.86	11.6	0.36	< 0.06	< 0.06	< 0.06	12.9
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.50	11.80	6.32	10.7	< 0.06	< 0.06	< 0.06	7.37	10.9
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	4.61	6.46	3.3	12.00	0.80	0.41	0.60	0.96	14.40
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.66	5.76	3.27	8.16	< 0.06	< 0.06	< 0.06	< 0.06	8.81
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.35	5.81	4.21	10.30	0.80	0.09	Dry	1.03	11.40
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	5.11	7.09	4.73	12.40	1.1	Dry	Dry	Dry	26.00
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.88	1.91	1.56	3.78	0.77	< 0.06	Dry	2.43	2.88
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	3.16	3.37	2.62	11.20	0.93	< 0.06	< 0.06	5.94	11.90
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	7.80	13.10	10.2	12.10	0.28	< 0.06	0.07	< 0.06	8.76
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	7.77	12.10	7.95	12.20	0.23	< 0.06	Dry	< 0.06	10.60
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	6.43	11.20	6.42	11.30	0.78	< 0.06	< 0.06	< 0.06	10.60
PR20	Beach at Hwy. 86 -Amberely Road.	Ice	4.60	0.66	2.88	0.26	0.26	0.22	0.27	1.26
PR21	Beach off of Attawandron Road-Public Walkway	Ice	4.60	0.80	4.93	0.28	0.24	0.25	0.27	1.01
PR22	Beach-Point Clark Swimming Area	Ice	2.94	0.87	4.75	0.20	0.23	0.26	0.27	0.46
PR23	Lurgan Beach-Public Walkway	Ice	6.07	0.49	4.65	0.23	0.23	0.27	0.27	2.05
PR24	Beach at 6th Conc.	Ice	4.60	0.49	2.78	0.26	0.23	0.27	0.27	1.50
PR25	Beach at 8th Conc.	Ice	2.92	0.54	0.97	0.26	0.24	0.28	0.27	2.67
PR26	Beach at 10th Conc.	Ice	2.16	0.49	0.36	0.26	0.25	0.27	0.26	1.86
PR27	Boyd Creek at Hwy. 21 before Amberely	6.10	9.31	5.73	12.70	0.94	< 0.06	< 0.06	< 0.06	11.30
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	7.05	10.20	6.28	14.00	0.92	0.13	0.13	4.63	12.70
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.27	6.28	3.41	9.65	1.88	0.07	< 0.06	0.25	9.84
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.38	5.40	2.69	8.94	0.75	0.24	0.48	0.15	7.94
B4	Clark Creek at the Lake	5.89	10.40	5.17	10.80	1.1	0.98	1.02	1.05	9.40
5	Ditch at field drain outlet, Lake Range Road	6.86	8.87	6.4	8.16	Dry	Dry	Dry	Dry	10.40
6	New outlet to Clark Creek across from 3491 2nd Conc.	6.20	10.70	5.28	10.90	1.38	0.96	0.84	1.31	10.20
8	Jardine Creek at Abenaki St.	2.02	2.35	1.58	1.26	0.47	0.32	< 0.06	1.39	0.16
9	Jardine Creek at Seneca	Dry	2.84	1.97	Dry	Dry	Dry	Dry	Dry	0.54
12	Halfway to lake from Road	2.09	2.31	1.49	1.16	0.67	0.24	0.06	2.05	2.29
13	CSP where creek crosses Huron Rd.	2.15	2.43	1.54	1.44	1.10	Dry	Dry	Dry	0.12
17	Outlet in Jardine Creek between sites 11 & 12	2.77	3.68	3.49	1.21	2.02	1.82	2.40	2.21	2.48

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2019 Sampling Results**

SAMPLE ID	LOCATION	Total Phosphorus (mg/L)								
		Sample Date								
		27-Mar	23-Apr	21-May	17-Jun	16-Jul	12-Aug	9-Sep	12-Oct	4-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.044	0.089	0.021	< 0.003	0.025	0.014	0.019	0.013	0.081
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.038	0.038	0.013	0.018	0.028	0.110	0.028	0.021	0.058
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.039	0.051	0.016	0.017	0.029	< 0.003	0.053	0.025	0.069
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.063	0.085	0.021	0.016	0.021	0.021	0.086	0.056	0.094
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.026	0.046	0.013	0.025	0.029	0.046	0.071	0.047	0.061
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.065	0.032	0.052	0.023	0.092	0.059	0.123	0.838	0.208
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.025	0.040	0.006	0.023	0.028	0.003	0.016	0.014	0.163
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.024	0.041	0.015	0.021	0.075	0.088	0.075	0.070	0.094
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.057	0.155	0.029	0.031	0.061	0.035	Dry	0.066	0.386
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.063	0.059	0.058	0.038	0.052	Dry	Dry	Dry	0.926
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.018	0.123	0.015	0.043	0.056	0.075	Dry	0.004	0.475
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.026	0.844	0.013	0.027	0.041	0.078	0.059	0.038	0.262
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.040	0.041	0.090	0.026	0.155	0.426	0.358	8.550	0.641
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.018	0.009	0.003	< 0.003	0.034	0.121	Dry	0.065	0.054
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.046	0.032	0.025	0.013	0.091	0.058	0.212	0.140	0.085
PR20	Beach at Hwy. 86 -Amberely Road.	Dry	0.067	0.028	< 0.003	0.014	< 0.003	0.003	0.065	0.079
PR21	Beach off of Attawandron Road-Public Walkway	Dry	0.096	0.024	0.007	0.065	< 0.003	0.007	0.025	0.072
PR22	Beach-Point Clark Swimming Area	Dry	0.054	0.016	0.009	0.014	< 0.003	0.004	0.022	0.048
PR23	Lurgan Beach-Public Walkway	Dry	0.073	0.026	0.011	0.008	< 0.003	0.008	0.060	0.028
PR24	Beach at 6th Conc.	Dry	0.072	0.026	0.004	0.015	< 0.003	0.007	0.022	0.027
PR25	Beach at 8th Conc.	Dry	0.053	0.012	< 0.003	0.009	< 0.003	0.006	0.035	0.074
PR26	Beach at 10th Conc.	Dry	0.066	0.008	< 0.003	0.009	< 0.003	0.006	0.015	0.164
PR27	Boyd Creek at Hwy. 21 before Amberely	0.027	0.020	0.008	0.004	0.025	0.051	0.051	0.030	0.129
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.029	0.026	0.008	6.000	0.058	< 0.003	0.049	0.023	0.244
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.038	0.043	0.017	0.015	0.020	< 0.003	0.012	0.007	0.090
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.031	0.043	0.009	0.019	0.025	0.007	0.008	0.014	0.105
B4	Clark Creek at the Lake	0.041	0.032	0.026	0.012	0.019	0.067	0.024	0.019	0.054
5	Ditch at field drain outlet, Lake Range Road	0.018	0.009	0.066	< 0.003	Dry	Dry	Dry	Dry	0.080
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.046	0.025	0.020	0.012	0.018	0.036	0.029	0.020	0.058
8	Jardine Creek at Abenaki St.	0.033	0.038	0.041	0.056	0.127	0.159	0.326	0.103	0.072
9	Jardine Creek at Seneca	Dry	0.019	0.036	Dry	Dry	Dry	Dry	Dry	0.054
12	Halfway to lake from Road	0.018	0.020	0.031	0.057	0.114	0.262	0.302	0.059	0.063
13	CSP where creek crosses Huron Rd.	0.034	0.034	0.051	0.094	0.181	Dry	Dry	Dry	0.058
17	Outlet in Jardine Creek between sites 11 & 12	0.028	0.036	0.031	0.064	0.072	0.103	0.071	0.035	0.049

2018 RESULTS

E.coli
Nitrates
Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2018 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		23-Apr	16-May	11-Jun	16-Jul	13-Aug	12-Sep	15-Oct	12-Nov	
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	12	113	46	34	10	46	48	129	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	46	74	14	50	64	374	34	102	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	34	16	2	8	28	64	18	35	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	50	168	500	56	64	178	22	50	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	52	42	30	100	20	436	100	89	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	44	26	48	178	6	84	< 2	61	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	60	302	460	4960	210	1040	400	400	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	36	8	28	2000	20	16	14	85	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	22	86	172	47600	60	214	84	105	
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	20	6	1120	1440	Dry	12	6	105	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	10	102	226	4880	490	78	10	39	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	154	66	1360	242	116	130	112	560	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	4	60	2200	Dry	84	40	44	58	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	< 2	52	44	Dry	1000	72	100	118	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	44	296	10	44	116	22	6	143	
PR20	Beach at Hwy. 86 -Amberely Road.	< 2	< 2	< 2	250	2	88	20	16	
PR21	Beach off of Attawandron Road-Public Walkway	4	2	58	136	< 0	12	29	4	
PR22	Beach-Point Clark Swimming Area	10	< 2	< 2	2	20	4	20	2	
PR23	Lurgan Beach-Public Walkway	< 2	12	< 2	< 2	12	< 2	20	63	
PR24	Beach at 6th Conc.	< 2	8	< 2	12	2	< 2	4	35	
PR25	Beach at 8th Conc.	< 2	7	< 2	6	6	2	18	24	
PR26	Beach at 10th Conc.	< 2	4	< 2	< 2	2	< 2	24	24	
PR27	Boyd Creek at Hwy. 21 before Amberely	42	34	20	3760	40	32	60	65	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	24	106	66	2700	320	66	560	123	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	132	24	58	2080	52	60	52	42	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	200	N/S	6	1920	40	148	18	61	
B4	Clark Creek at the Lake	20	4	230	124	274	16	52	52	
5	Ditch at field drain outlet, Lake Range Road	1540	44	8	Dry	68	34	Dry	90	
6	New outlet to Clark Creek across from 3491 2nd Conc.	26	38	294	118	414	46	58	62	
8	Jardine Creek at Abenaki St.	12	42	1720	3600	198	1680	72	22	
9	Jardine Creek at Seneca	4	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
12	Halfway to lake from Road	24	4	142	124	112	134	10	2	
13	CSP where creek crosses Huron Rd.	58	22	366	Dry	102	164	48	6	
17	Outlet in Jardine Creek between sites 11 & 12	18	18	166	348	22	24	520	3080	

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2018 Sampling Results**

SAMPLE ID	LOCATION	Nitrate as N (mg/L)								
		Sample Date								
		23-Apr	16-May	11-Jun	16-Jul	13-Aug	12-Sep	15-Oct	12-Nov	
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	4.70	5.22	1.09	0.40	1.41	2.76	0.22	9.49	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.98	2.76	0.56	< 0.06	< 0.06	2.64	< 0.06	9.89	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	3.93	1.93	0.41	< 0.06	< 0.06	2.27	< 0.06	9.93	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	4.56	3.30	0.83	< 0.06	0.11	2.62	0.6	10.2	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.45	2.78	0.6	< 0.06	< 0.06	2.59	0.3	10.5	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.86	2.95	< 0.06	< 0.06	< 0.06	4.25	2.78	8.59	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	4.20	3.31	1.44	0.45	0.24	2.43	1.29	11.40	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.48	3.17	0.48	< 0.06	< 0.06	1.72	< 0.06	8.62	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.89	2.36	0.36	1.37	0.10	2.08	0.96	9.08	
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	5.29	4.54	3.25	0.07	Dry	< 0.06	0.16	10.8	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.66	1.16	1.58	0.08	< 0.06	< 0.06	< 0.06	6.62	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	3.59	3.55	2.98	0.06	< 0.06	1.85	1.87	6.15	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	10.20	8.90	4.29	Dry	1.20	4.10	0.53	9.91	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	8.32	7.45	2.28	Dry	< 0.06	2.66	< 0.06	9.95	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	7.20	6.28	2.88	1.23	1.4	3.67	0.16	8.3	
PR20	Beach at Hwy. 86 -Amberely Road.	0.89	0.50	0.28	0.24	0.22	0.31	0.29	0.67	
PR21	Beach off of Attawandron Road-Public Walkway	2.51	0.69	0.44	0.21	0.28	0.27	0.29	0.40	
PR22	Beach-Point Clark Swimming Area	1.85	0.63	0.27	0.23	0.30	0.30	0.30	0.35	
PR23	Lurgan Beach-Public Walkway	1.21	0.45	0.3	0.24	0.27	0.30	0.28	3.50	
PR24	Beach at 6th Conc.	0.77	0.47	0.31	0.25	0.28	0.36	0.28	2.12	
PR25	Beach at 8th Conc.	0.95	1.62	0.38	0.28	0.27	0.32	0.29	1.66	
PR26	Beach at 10th Conc.	0.78	0.63	0.35	0.26	0.26	0.34	0.29	1.75	
PR27	Boyd Creek at Hwy. 21 before Amberely	6.27	5.24	1.96	0.49	1.1	3.68	< 0.06	10.4	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	6.41	5.40	1.85	9.02	0.13	5.95	4.35	14.20	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.76	3.82	2.3	1.57	0.79	2.58	0.59	7.75	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.95	N/S	1.08	0.37	0.14	1.79	0.64	7.05	
B4	Clark Creek at the Lake	7.39	6.24	3.15	1.87	1.98	3.13	1.58	8.08	
5	Ditch at field drain outlet, Lake Range Road	9.82	11.00	5.61	Dry	2.88	2.15	Dry	9.04	
6	New outlet to Clark Creek across from 3491 2nd Conc.	7.5	6.70	2.97	1.50	1.64	< 0.06	2.25	8.70	
8	Jardine Creek at Abenaki St.	2.16	2.08	1.65	1.84	1.41	1.84	1.68	1.92	
9	Jardine Creek at Seneca	2.88	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
12	Halfway to lake from Road	2.46	1.83	1	< 0.06	1.00	1.50	0.78	1.34	
13	CSP where creek crosses Huron Rd.	2.33	2.08	2.06	Dry	1.37	1.88	1.49	2.14	
17	Outlet in Jardine Creek between sites 11 & 12	3.51	3.01	1.48	1.85	2.69	2.61	2.11	2.82	

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2018 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		23-Apr	16-May	11-Jun	16-Jul	13-Aug	12-Sep	15-Oct	12-Nov	
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.062	0.046	0.018	0.026	0.014	< 0.003	0.022	0.043	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.072	0.020	0.013	0.027	0.025	< 0.003	0.023	0.042	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.050	0.017	0.024	0.080	0.027	0.003	0.03	0.051	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.078	0.076	0.038	0.046	0.058	0.019	0.058	0.055	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.044	0.016	0.023	0.080	0.053	0.024	0.034	0.037	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.026	0.047	0.068	0.147	0.315	0.048	0.074	0.037	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.056	0.021	0.024	0.088	0.030	< 0.003	0.016	0.032	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.047	0.081	0.03	0.034	0.049	0.010	0.131	0.035	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.045	0.022	0.037	0.598	0.077	0.033	0.029	0.302	
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.052	0.157	0.063	0.138	Dry	0.028	0.125	0.093	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.025	0.022	0.03	0.238	0.196	0.012	0.048	0.034	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.057	0.030	0.028	0.088	0.061	0.010	0.03	0.037	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.020	0.124	0.03	Dry	0.213	0.064	0.235	0.055	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	< 0.009	0.009	0.012	Dry	0.037	< 0.003	0.016	0.013	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.024	0.035	0.03	0.050	0.045	0.020	0.049	0.024	
PR20	Beach at Hwy. 86 -Amberely Road.	0.012	0.007	< 0.003	0.006	0.003	< 0.003	0.031	0.017	
PR21	Beach off of Attawandron Road-Public Walkway	0.022	0.008	0.007	0.007	0.003	0.009	0.043	0.012	
PR22	Beach-Point Clark Swimming Area	< 0.009	0.009	0.005	0.003	0.01	< 0.003	0.021	0.010	
PR23	Lurgan Beach-Public Walkway	0.018	0.007	0.006	< 0.003	0.005	< 0.003	0.003	0.029	
PR24	Beach at 6th Conc.	0.013	0.007	0.004	< 0.003	< 0.003	< 0.003	0.003	0.021	
PR25	Beach at 8th Conc.	0.015	0.033	< 0.003	0.008	< 0.003	< 0.003	< 0.003	0.016	
PR26	Beach at 10th Conc.	< 0.009	0.01	< 0.003	< 0.003	0.004	< 0.003	0.008	0.017	
PR27	Boyd Creek at Hwy. 21 before Amberely	0.031	0.020	0.025	0.165	0.022	0.006	0.024	0.034	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.020	0.018	0.043	0.366	0.345	0.021	0.039	0.037	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.054	0.015	0.009	0.045	0.014	< 0.003	0.017	0.040	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.055	N/S	0.016	0.028	0.026	< 0.003	0.013	0.079	
B4	Clark Creek at the Lake	0.018	0.019	0.011	0.024	0.025	0.011	0.022	0.034	
5	Ditch at field drain outlet, Lake Range Road	< 0.009	0.043	0.037	Dry	0.051	0.051	Dry	0.044	
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.022	0.016	0.011	0.010	0.020	< 0.003	0.035	0.041	
8	Jardine Creek at Abenaki St.	0.019	0.045	0.052	0.107	0.037	0.036	0.073	0.067	
9	Jardine Creek at Seneca	0.022	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
12	Halfway to lake from Road	0.021	0.042	0.112	0.328	0.104	0.062	0.086	0.055	
13	CSP where creek crosses Huron Rd.	0.017	0.033	0.081	Dry	0.109	0.077	0.067	0.066	
17	Outlet in Jardine Creek between sites 11 & 12	0.025	0.035	0.095	0.156	0.037	0.023	0.044	0.047	

2017 RESULTS

E.coli

Nitrates

Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2017 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		27-Mar	24-Apr	23-May	19-Jun	17-Jul	14-Aug	11-Sep	10-Oct	6-Nov
			25-Apr	24-May	20-Jun	18-Jul	15-Aug	12-Sep	11-Oct	7-Nov
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	40	76	900	480	68	70	158	16	1480
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	46	50	70	58	82	96	130	6	1540
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	32	54	560	84	66	38	196	270	1520
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	30	50	720	560	280	70	170	30	6600
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	46	44	52	64	40	145	164	360	1080
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	116	24	22	48	62	136	10	32	182
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	102	44	1680	740	720	2160	428	640	760
PR9	Pine River-Bridge on the 15th South of 10th Conc.	16	74	480	102	68	74	226	16	800
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	104	320	84	134	110	234	96	840	292
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north of Huron-Kincardine East	1100	1660	4100	154	2100	Dry	78	60	272
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	245	28	106	94	42	256	78	116	196
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	136	20	14000	560	1000	800	96	188	286
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	780	26	7600	600	500	Dry	40	12800	700
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	8	18	44	420	700	Dry	960	Dry	1120
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	36	12	220	600	108	2	140	20	620
PR20	Beach at Hwy. 86 -Amberely Road.	20	8	36	34	16	10	8	264	300
PR21	Beach off of Attawandron Road-Public Walkway	360	36	50	80	20	6	22	132	220
PR22	Beach-Point Clark Swimming Area	< 2	10	30	40	26	2	14	90	420
PR23	Lurgan Beach-Public Walkway	4	< 2	420	50	12	4	600	36	74
PR24	Beach at 6th Conc.	< 2	2	380	ns	8	14	80	70	14
PR25	Beach at 8th Conc.	2	< 2	380	32	16	2	28	36	22
PR26	Beach at 10th Conc.	14	2	160	30	22	4	4	104	38
PR27	Boyd Creek at Hwy. 21 before Amberely	18	32	94	82	88	38	88	62	560
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	94	16	42	158	260	246	520	126	186
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	36	34	38	98	58	105	96	38	440
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	38	22	22	96	56	110	103	246	720
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* **Bold results indicate second day of sampling**

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2017 Sampling Results**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		27-Mar	24-Apr	23-May	19-Jun	17-Jul	14-Aug	11-Sep	10-Oct	6-Nov
			25-Apr	24-May	20-Jun	18-Jul	15-Aug	12-Sep	11-Oct	7-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	4.77	6.63	10.6	7.34	2.61	< 0.06	5.08	< 0.06	7.52
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.85	6.23	6.84	1.31	2.7	< 0.06	4.19	< 0.06	7.40
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	4.18	5.15	8.22	6.24	0.34	< 0.06	4.9	< 0.06	7.16
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	5.39	6.93	10.3	13.70	1.76	< 0.06	6.83	< 0.06	7.85
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	5.52	6.26	4.87	2.28	5.42	< 0.06	4.38	< 0.06	9.21
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.99	7.73	11.2	7.91	0.13	< 0.06	3.47	3.32	10.40
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	5.76	6.51	4.84	8.82	4.44	0.80	4.45	0.74	9.87
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.71	4.36	3.89	6.08	0.31	< 0.06	2.7	< 0.06	6.35
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	5.34	6.94	8.61	13.40	2.41	0.10	5.31	0.71	8.70
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	6.06	7.69	9.91	14.80	7.36	Dry	3.08	< 0.06	9.58
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.84	5.08	4.11	11.30	2.27	< 0.06	2.99	< 0.06	3.91
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	5.52	6.12	6.22	13.30	7.56	< 0.06	2.97	0.61	7.03
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	5.87	10.30	18.1	6.36	3.11	Dry	2.64	0.10	8.65
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	6.20	10.80	17.5	10.30	4.01	Dry	0.73	Dry	8.95
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	6.52	9.98	18.4	4.52	1.84	< 0.06	3.21	< 0.06	8.78
PR20	Beach at Hwy. 86 -Amberely Road.	1.88	2.85	3.12	0.43	0.64	0.30	0.22	0.28	3.06
PR21	Beach off of Attawandron Road-Public Walkway	1.94	3.56	2.23	0.38	0.70	0.28	0.31	0.27	2.87
PR22	Beach-Point Clark Swimming Area	1.25	2.61	2.42	0.35	0.67	0.28	0.32	0.27	3.22
PR23	Lurgan Beach-Public Walkway	3.60	0.81	6.78	1.73	0.62	0.27	0.25	0.28	0.68
PR24	Beach at 6th Conc.	0.51	0.69	4.98	0.79	0.62	0.27	0.28	0.27	0.42
PR25	Beach at 8th Conc.	1.01	0.88	5.02	0.73	0.60	0.29	0.27	0.27	0.41
PR26	Beach at 10th Conc.	0.77	0.67	6.01	0.73	0.60	0.26	0.30	0.26	0.44
PR27	Boyd Creek at Hwy. 21 before Amberely	7.98	10.10	13.3	4.21	6.85	< 0.06	7.45	< 0.06	10.6
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	8.03	9.16	10.4	19.00	8.39	0.35	8.15	2.57	13.00
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.33	5.50	4.64	12.90	5.17	0.02	5.09	0.7	6.66
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	4.14	5.09	4.15	7.41	3.73	0.40	4.14	0.14	6.16
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* **Bold results indicate second day of sampling**

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2017 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		27-Mar	24-Apr	23-May	19-Jun	17-Jul	14-Aug	11-Sep	10-Oct	6-Nov
			25-Apr	24-May	20-Jun	18-Jul	15-Aug	12-Sep	11-Oct	7-Nov
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	0.038	0.023	0.070	0.029	0.019	0.025	0.109	0.037	0.228
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.040	0.018	0.025	0.029	0.026	0.026	0.104	0.036	0.196
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.016	0.013	0.045	0.013	0.030	0.048	0.193	0.119	0.128
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.035	0.029	0.052	0.024	0.036	0.074	0.09	0.108	0.314
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.026	0.018	0.038	0.029	0.033	0.033	0.095	0.081	0.078
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.040	0.025	0.062	0.116	0.227	0.333	0.052	0.102	0.071
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.027	0.011	0.017	0.036	0.240	0.017	0.048	0.035	0.063
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.028	0.025	0.018	0.032	0.530	0.038	0.097	0.153	0.065
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.104	0.004	0.035	0.053	0.107	0.294	0.05	0.042	0.071
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	0.337	0.073	0.082	0.083	0.177	Dry	0.106	0.321	0.054
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.720	0.022	0.027	0.027	0.058	0.050	0.042	0.049	0.030
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.104	0.021	0.111	0.042	0.037	0.106	0.063	0.131	0.048
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.076	0.014	0.079	0.283	0.194	Dry	0.156	2.4	0.099
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	< 0.009	0.015	0.044	0.018	0.016	Dry	0.033	Dry	0.037
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.021	0.022	0.034	0.053	0.087	0.106	0.068	0.070	0.204
PR20	Beach at Hwy. 86 -Amberely Road.	0.017	0.025	0.028	0.025	0.029	0.016	0.022	0.074	0.125
PR21	Beach off of Attawandron Road-Public Walkway	0.017	0.048	0.031	0.027	0.046	0.019	0.02	0.094	0.092
PR22	Beach-Point Clark Swimming Area	0.024	0.028	0.040	0.018	0.013	0.005	< 0.009	0.072	0.097
PR23	Lurgan Beach-Public Walkway	0.048	< 0.009	0.065	0.031	0.027	0.011	0.009	0.072	0.037
PR24	Beach at 6th Conc.	0.024	< 0.009	0.078	0.043	0.020	0.010	< 0.009	0.029	0.021
PR25	Beach at 8th Conc.	0.040	< 0.009	0.085	0.020	0.009	< 0.003	0.016	0.056	0.029
PR26	Beach at 10th Conc.	0.052	0.01	0.131	0.024	0.013	0.009	0.014	0.114	0.020
PR27	Boyd Creek at Hwy. 21 before Amberely	0.013	0.010	0.019	0.019	0.034	0.038	0.034	0.051	0.196
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.061	0.009	0.014	0.025	0.042	0.042	0.065	0.106	0.059
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.030	0.016	0.009	0.018	0.018	0.023	0.047	0.025	0.093
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.024	0.013	0.010	0.031	0.028	0.025	0.049	0.028	0.059
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* Bold results indicate second day of sampling

2016 RESULTS

E.coli

Nitrates

Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2016 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		31-Mar	27-Apr	25-May	20-Jun	18-Jul	17-Aug	12-Sep	11-Oct	7-Nov
			28-Apr	26-May	21-Jun	19-Jul	18-Aug	13-Sep		
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	900	132	24	38	148	>2000	800	10	26
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	250	118	114	38	14	132	30	16	4
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	790	146	280	30	24	800	18	142	< 2
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	1600	400	420	102	104	1400	640	162	48
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2900	136	176	188	98	254	276	380	87
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	1700	760	18	152	700	1020	< 2	6	6
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	1300	156	5100	960	50	520	88	960	640
PR9	Pine River-Bridge on the 15th South of 10th Conc.	790	560	440	46	54	7200	480	Dry	44
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	2000	192	300	1120	132	520	1420	86	194
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north of Huron-Kincardine East	2900	680	1140	1160	520	6400	Dry	150	196
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	560	36	6400	200	Dry	360	100	2	2
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	4300	106	4200	600	82	2060	64	30	134
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	2000	146	66	800	Dry	>2000	82	14	152
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	190	80	32	74	380	>2000	740	760	84
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	2000	16	32	22	2	230	20	16	44
PR20	Beach at Hwy. 86 -Amberely Road.	380	< 2	4	224	360	960	90	48	8
PR21	Beach off of Attawandron Road-Public Walkway	180	< 2	92	1560	124	1120	122	112	29
PR22	Beach-Point Clark Swimming Area	116	< 2	34	320	52	204	40	76	6
PR23	Lurgan Beach-Public Walkway	800	2	6	50	28	80	42	54	18
PR24	Beach at 6th Conc.	540	4	66	98	38	28	34	22	4
PR25	Beach at 8th Conc.	210	< 2	460	34	44	52	10	6	< 2
PR26	Beach at 10th Conc.	70	< 2	20	50	42	100	26	20	< 2
PR27	Boyd Creek at Hwy. 21 before Amberely	390	30	52	122	18	520	62	< 2	18
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	470	52	680	170	4800	>2000	44	80	174
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	970	46	12	360	80	540	48	30	20
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	2300	118	96	82	62	480	72	44	36
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	14200	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	3100	800	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* **Bold results indicate second day of sampling**

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2016 Sampling Results**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		31-Mar	27-Apr	25-May	20-Jun	18-Jul	17-Aug	12-Sep	11-Oct	7-Nov
			28-Apr	26-May	21-Jun	19-Jul	18-Aug	13-Sep		
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	2.96	2.95	4.13	3.03	0.13	1.27	< 0.006	0.9	1.18
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	3.43	2.73	3.37	4.10	0.08	0.18	< 0.006	< 0.006	0.09
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.42	2.25	2.94	2.89	< 0.006	8.08	< 0.006	< 0.006	< 0.006
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	2.20	3.35	4.72	3.12	< 0.006	5.42	< 0.006	< 0.006	2.46
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2.43	2.99	3.43	4.11	< 0.006	0.06	< 0.006	< 0.006	< 0.006
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	3.70	4.45	2.94	2.08	< 0.006	6.99	< 0.006	< 0.006	3.06
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.05	3.36	4.1	4.62	0.50	1.36	0.57	0.57	1.33
PR9	Pine River-Bridge on the 15th South of 10th Conc.	2.12	2.64	2.50	0.09	< 0.006	0.34	< 0.006	Dry	< 0.006
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	2.67	4.34	4.65	5.63	1.10	15.80	0.10	0.36	6.25
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	3.02	5.96	8.9	11.20	1.68	0.08	Dry	< 0.006	7.31
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.94	1.32	2.33	4.29	Dry	0.76	< 0.006	0.31	5.87
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	1.71	2.66	4.28	0.24	< 0.006	2.67	0.19	0.14	5.21
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	3.80	6.68	11	5.54	Dry	3.80	0.50	0.31	1.04
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	3.25	5.79	7.84	6.30	< 0.006	0.08	< 0.006	< 0.006	0.13
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	3.26	4.57	7.31	3.82	< 0.006	0.18	< 0.006	< 0.006	0.01
PR20	Beach at Hwy. 86 -Amberely Road.	2.82	0.64	0.44	0.29	0.23	0.19	0.24	0.24	0.29
PR21	Beach off of Attawandron Road-Public Walkway	3.16	0.72	0.56	0.26	0.26	0.12	0.21	0.24	0.28
PR22	Beach-Point Clark Swimming Area	2.62	0.62	0.24	0.21	0.24	0.21	0.23	0.25	0.27
PR23	Lurgan Beach-Public Walkway	3.58	0.33	0.51	0.30	0.23	0.23	0.23	0.24	0.30
PR24	Beach at 6th Conc.	3.90	0.33	0.44	0.32	0.23	0.23	0.24	0.24	0.28
PR25	Beach at 8th Conc.	3.08	0.34	0.41	0.30	0.20	0.24	0.24	0.25	0.28
PR26	Beach at 10th Conc.	2.71	0.39	0.32	0.28	0.21	0.26	0.24	0.22	0.31
PR27	Boyd Creek at Hwy. 21 before Amberely	2.67	4.21	4.84	3.12	0.06	< 0.006	0.08	< 0.006	< 0.006
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	3.03	4.18	4.88	2.84	0.14	1.34	0.27	0.19	1.43
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	2.40	3.05	3.98	1.67	< 0.006	0.07	< 0.006	< 0.006	0.14
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	1.60	2.40	3.05	0.47	0.18	0.08	0.12	0.16	0.37
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	2.98	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	3.40	0.46	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* **Bold results indicate second day of sampling**

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2016 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		31-Mar	27-Apr	25-May	20-Jun	18-Jul	17-Aug	12-Sep	11-Oct	7-Nov
			28-Apr	26-May	21-Jun	19-Jul	18-Aug	13-Sep		
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	0.734	0.020	0.018	0.020	0.026	0.148	0.025	0.017	0.024
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.328	0.013	0.01	< 0.009	0.036	0.060	0.038	0.023	0.022
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.801	0.023	0.023	0.018	0.063	0.227	0.096	0.047	0.053
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.931	0.028	0.025	0.015	0.139	0.156	0.129	0.072	0.025
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.963	0.011	0.013	0.031	0.083	0.096	0.077	0.087	0.041
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.706	0.025	0.035	0.090	0.504	0.779	0.261	0.148	0.119
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.958	0.028	0.02	0.022	0.035	0.590	0.026	0.025	0.017
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.491	0.022	0.022	0.046	0.101	0.189	0.278	Dry	0.048
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.936	0.037	0.027	0.042	0.113	0.311	0.275	0.095	0.066
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	1.390	0.054	0.047	0.059	0.201	1.31	Dry	0.138	0.166
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.771	0.033	0.017	0.044	Dry	0.105	0.091	0.031	0.020
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	1.020	0.019	0.015	0.062	0.159	0.522	0.148	0.051	0.035
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.531	0.069	0.022	0.077	Dry	0.999	0.362	0.337	0.199
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.596	< 0.009	0.011	< 0.009	0.206	0.086	0.054	0.139	0.026
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.679	0.019	0.02	0.032	0.106	0.190	0.170	0.144	0.078
PR20	Beach at Hwy. 86 -Amberely Road.	0.622	0.010	< 0.009	0.036	0.070	0.029	0.089	0.044	0.036
PR21	Beach off of Attawandron Road-Public Walkway	0.322	0.012	0.011	0.057	0.075	0.188	0.092	0.173	0.050
PR22	Beach-Point Clark Swimming Area	0.249	< 0.009	< 0.009	0.016	0.024	< 0.009	0.026	0.021	0.010
PR23	Lurgan Beach-Public Walkway	0.529	< 0.009	0.013	< 0.009	0.028	< 0.009	0.017	0.024	0.023
PR24	Beach at 6th Conc.	0.251	< 0.009	< 0.009	< 0.009	0.026	< 0.009	0.018	< 0.009	< 0.009
PR25	Beach at 8th Conc.	0.514	< 0.009	0.009	< 0.009	0.032	< 0.009	0.013	< 0.009	< 0.009
PR26	Beach at 10th Conc.	0.431	< 0.009	< 0.009	< 0.009	0.031	< 0.009	0.018	< 0.009	0.017
PR27	Boyd Creek at Hwy. 21 before Amberely	0.683	0.020	0.025	0.013	0.043	0.047	0.053	0.040	0.022
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.625	0.015	0.01	0.042	0.134	0.136	0.063	0.062	0.060
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.824	0.024	0.011	< 0.009	0.028	0.060	0.018	0.010	0.018
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.772	0.026	< 0.009	0.027	0.045	0.045	0.017	< 0.009	0.014
PR37	Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East	1.69	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PR38	Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5	1.920	0.045	Dry	Dry	Dry	Dry	Dry	Dry	Dry

* Bold results indicate second day of sampling

2015 RESULTS

E.coli

Nitrates

Total Phosphorus

Total Suspended Solids

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2015 Sampling Result**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		07-Apr	27-Apr	25-May	22-Jun	20-Jul	17-Aug	14-Sep	13-Oct	09-Nov
			28-Apr	26-May	23-Jun	21-Jul	18-Aug	15-Sep	14-Oct	10-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.100	0.038	0.016	0.219	0.015	0.044	0.043	0.029	0.042
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.050	0.023	< 0.009	0.039	0.019	0.027	0.017	0.030	0.029
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.076	0.029	0.015	0.071	0.037	0.048	0.021	0.028	0.028
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.110	0.033	0.038	0.220	0.049	0.057	0.06	0.063	0.059
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.065	0.017	0.016	0.027	0.025	0.051	0.055	0.084	0.029
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.083	0.042	< 0.009	0.057	0.503	0.355	0.237	0.286	0.484
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.062	0.021	0.018	0.052	0.035	0.049	0.039	0.036	0.041
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.062	0.014	0.054	0.026	0.058	0.060	0.024	0.048	0.022
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.067	0.038	0.07	0.083	0.102	0.139	0.1	0.062	0.067
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.135	0.074	0.09	0.215	0.244	1.82	0.257	0.320	0.132
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.013	0.016	0.026	0.277	0.039	0.487	0.035	0.050	0.026
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.024	0.022	0.047	0.160	0.069	0.317	0.108	0.071	0.054
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.069	0.034	0.029	0.110	0.13	0.568	0.15	0.26	0.145
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.018	< 0.009	0.014	0.034	0.066	0.056	0.037	0.1	0.03
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.077	0.019	0.079	0.032	0.113	0.098	0.104	0.095	0.036
PR20	Beach at Hwy. 86 -Amberely Road.	ICE	0.019	0.023	0.018	0.025	0.023	0.106	0.126	0.031
PR21	Beach off of Attawandron Road-Public Walkway	ICE	< 0.009	0.040	0.014	0.055	0.078	0.063	0.076	0.021
PR22	Beach-Point Clark Swimming Area	ICE	0.013	0.016	0.015	< 0.009	0.021	0.022	0.116	0.014
PR23	Lurgan Beach-Public Walkway	ICE	< 0.009	0.015	< 0.009	0.020	< 0.009	0.047	0.152	0.029
PR24	Beach at 6th Conc.	ICE	< 0.009	0.023	< 0.009	0.011	< 0.009	0.042	0.154	0.025
PR25	Beach at 8th Conc.	ICE	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	0.075	0.120	0.014
PR26	Beach at 10th Conc.	ICE	< 0.009	< 0.009	0.019	0.021	< 0.009	0.028	0.091	0.026
PR27	Boyd Creek at Hwy. 21 before Amberely	0.055	0.010	0.018	0.027	0.028	0.037	0.038	0.044	0.078
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.038	< 0.009	0.043	0.014	0.056	0.066	0.093	0.103	0.060
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.036	0.023	< 0.009	0.028	0.019	0.022	0.017	0.038	0.023
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.066	< 0.009	0.014	0.030	0.027	0.030	0.021	0.025	0.044

n/s = No sample

2014 RESULTS

E.coli

Nitrates

Total Phosphorus

Total Suspended Solids

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2014 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		28-Apr	26-May	23-Jun	21-Jul	18-Aug	15-Sep	14-Oct	10-Nov	
			27-May	24-Jun	22-Jul	19-Aug	16-Sep	15-Oct	11-Nov	
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	0.031	0.028	0.118	0.019	0.036	0.046	0.030	0.050	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.044	0.027	0.018	0.017	0.039	0.028	0.022	0.067	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.018	0.030	0.037	0.028	n/s	0.031	0.031	0.051	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.059	0.025	0.106	0.069	0.095	0.098	0.054	0.066	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.038	0.034	0.046	0.026	0.025	0.031	0.022	0.056	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.082	0.031	0.065	0.316	0.715	1.02	0.069	0.079	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.030	0.026	0.034	0.017	0.029	0.032	0.028	0.052	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.030	0.053	0.053	0.021	0.050	0.088	0.051	0.044	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.051	0.028	0.066	0.069	0.126	0.238	0.205	0.088	
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kinloss East	0.112	0.097	0.191	0.135	0.267	0.494	0.37	0.118	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.025	0.040	0.054	0.037	0.035	0.047	0.476	0.038	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.086	0.110	0.082	0.228	Dry	0.133	0.32	0.059	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.071	0.050	0.125	0.102	Dry	0.040	0.304	0.058	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.020	0.015	0.043	0.030	0.052	0.433	0.031	0.021	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.045	0.050	0.069	0.030	0.148	0.118	0.027	0.065	
PR20	Beach at Hwy. 86 -Amberely Road.	0.016	0.029	0.012	0.014	0.011	0.094	0.028	0.052	
PR21	Beach off of Attawandron Road-Public Walkway	0.027	0.072	<0.009	0.016	0.011	0.169	0.044	0.061	
PR22	Beach-Point Clark Swimming Area	<0.009	0.028	<0.009	<0.009	0.021	0.051	0.067	0.046	
PR23	Lurgan Beach-Public Walkway	0.022	0.025	<0.009	<0.009	<0.009	0.082	0.029	0.046	
PR24	Beach at 6th Conc.	0.014	0.016	<0.009	<0.009	0.012	0.083	0.02	0.026	
PR25	Beach at 8th Conc.	0.010	<0.009	<0.009	0.010	0.017	0.047	0.016	0.025	
PR26	Beach at 10th Conc.	<0.009	0.013	<0.009	<0.009	0.022	0.057	0.015	0.061	
PR27	Boyd Creek at Hwy. 21 before Amberely	0.048	<0.009	0.029	0.024	0.019	0.027	0.093	0.070	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.029	0.016	0.053	0.044	0.068	0.090	0.058	0.057	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.033	0.024	0.033	0.020	<0.009	0.044	0.016	0.048	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.040	<0.009	0.027	0.024	0.030	0.051	<0.009	0.069	

n/s = No sample

2013 RESULTS

E.coli

Nitrate

Total Phosphorus

Total Suspended Solids

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2013 Sampling Result**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		02-Apr	29-Apr	27-May	24-Jun	22-Jul	19-Aug	16-Sep	15-Oct	11-Nov
			30-Apr	28-May	25-Jun	23-Jul	20-Aug	17-Sep	16-Oct	12-Nov
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	9	8	31	33	28	8	118	180	440
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	12	74	70	65	106	97	82	38	1220
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	4	24	39	142	49	127	201	240	220
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	23	6	144	77	92	68	89	1180	480
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	10	60	155	33	102	217	120	54	1460
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	2	280	303	69	164	32	10	60	420
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	8	860	1360	980	101	94	263	410	660
PR9	Pine River-Bridge on the 15th South of 10th Conc.	10	189*	4540	180	139	76	2340	117	820
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	118	17*	400	820	73	120	371	300	122
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	n/s	n/s	n/s	254	Dry	Dry	532	920	106
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	6	37*	325	46	Dry	25	103	2060	22
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	620	63*	5820	193	Dry	14	378	1460	420
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	3	13	164	5	Dry	Dry	89	1380	125
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	110	12	164	58	Dry	Dry	393	500	48
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	1	4	92	9	12	31	75	690	124
PR20	Beach at Hwy. 86 -Amberely Road.	4	< 2	< 2	11	13	76	92	154	18
PR21	Beach off of Attawandron Road-Public Walkway	2	62	< 2	46	13	113	47	88	15
PR22	Beach-Point Clark Swimming Area	2	< 2	14	7	11	4	96	128	121
PR23	Lurgan Beach-Public Walkway	0	< 2	< 2	20	5	18	21	88	60
PR24	Beach at 6th Conc.	n/s	2	< 2	6	0	7	20	56	29
PR25	Beach at 8th Conc.	n/s	4	< 2	5	2	12	15	60	44
PR26	Beach at 10th Conc.	1	< 2	< 2	6	3	116	36	108	26
PR27	Boyd Creek at Hwy. 21 before Amberely	2	< 2	15	58	127	25	159	136	61
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	2	640	213	106	110	102	43	470	460
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	12	82	220	86	13	13	222	106	247
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	9	56*	92	117	23	34	63	100	202
PR36	Royal Oak Creek-Sideroad 25 South of Concession 12	n/s	n/s	n/s	1160	Dry	155	1520	1540	130

n/s = No sample * = Sample age over 48h

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2013 Sampling Result**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		02-Apr	29-Apr	27-May	24-Jun	22-Jul	19-Aug	16-Sep	15-Oct	11-Nov
			30-Apr	28-May	25-Jun	23-Jul	20-Aug	17-Sep	16-Oct	12-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	4.27	5.67	2.12	0.96	0.12	0.07	<0.06	3.74	5.08
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.25	5.19	2.41	0.62	<0.06	<0.06	<0.06	4.03	4.25
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	3.74	4.99	1.21	0.32	<0.06	<0.06	<0.06	2.52	5.13
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	5.00	6.31	4.77	1.14	<0.06	<0.06	<0.06	3.42	5.96
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.51	4.93	3.38	0.86	<0.06	<0.06	0.45	4.14	4.21
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.68	7.19	4.04	<0.06	<0.06	<0.06	<0.06	4.05	5.82
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	4.97	4.81	4.08	1.25	0.56	0.87	0.96	2.92	5.04
PR9	Pine River-Bridge on the 15th South of 10th Conc.	4.00	4.54	2.97	0.19	<0.06	<0.06	<0.06	3.31	5.09
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	5.71	5.84	5.21	2.08	0.22	0.19	0.24	3.84	5.87
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	n/s	n/s	n/s	5.03	Dry	Dry	0.19	5.16	5.85
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.56	2.35	2.25	0.37	Dry	<0.06	<0.06	<0.06	1.53
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	4.67	4.11	3.58	0.78	Dry	<0.06	<0.06	2.27	3.49
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	9.56	9.56	3.32	1.12	Dry	Dry	<0.06	4.41	7.00
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	7.10	7.30	2.86	0.92	Dry	Dry	<0.06	3.20	7.51
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	6.29	7.30	3.39	4.22	<0.06	<0.06	<0.06	4.50	6.19
PR20	Beach at Hwy. 86 -Amberely Road.	0.84	5.03	0.55	0.41	0.30	0.22	0.17	0.68	0.55
PR21	Beach off of Attawandron Road-Public Walkway	0.88	4.07	0.53	0.19	0.25	0.12	0.24	0.60	0.05
PR22	Beach-Point Clark Swimming Area	0.88	3.86	0.61	0.22	0.29	0.26	0.19	0.67	0.69
PR23	Lurgan Beach-Public Walkway	0.35	4.55	0.45	0.26	0.30	0.22	0.21	0.24	2.28
PR24	Beach at 6th Conc.	n/s	3.56	0.44	0.26	0.29	0.16	0.21	0.26	2.08
PR25	Beach at 8th Conc.	n/s	3.13	0.4	0.31	0.29	0.21	0.21	0.28	1.37
PR26	Beach at 10th Conc.	0.47	6.65	0.36	0.22	0.30	0.17	0.22	0.27	1.36
PR27	Boyd Creek at Hwy. 21 before Amberely	5.46	6.83	5.81	1.55	0.57	0.44	0.20	6.13	5.51
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	5.72	6.29	6.38	1.52	0.32	0.10	0.18	5.98	5.60
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	3.98	5.08	3.9	2.94	0.17	0.15	0.13	4.93	4.64
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.78	4.21	3.68	0.99	0.1	0.21	0.26	4.08	4.41
PR36	Royal Oak Creek-Sideroad 25 South of Concession 12	n/s	n/s	n/s	0.54	Dry	<0.06	<0.06	2.98	5.99

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2013 Sampling Result**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		02-Apr	29-Apr	27-May	24-Jun	22-Jul	19-Aug	16-Sep	15-Oct	11-Nov
			30-Apr	28-May	25-Jun	23-Jul	20-Aug	17-Sep	16-Oct	12-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.034	0.019	0.012	0.012	0.027	0.036	0.036	0.042	0.076
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.021	0.014	0.010	0.021	0.036	0.030	0.023	0.024	0.105
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.011	0.011	0.019	0.032	0.054	0.079	0.039	0.044	0.048
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.047	0.024	0.021	0.047	0.062	0.046	0.067	0.058	0.119
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.026	0.020	0.018	0.026	0.050	0.048	0.048	0.031	0.094
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.025	0.018	0.028	0.194	0.119	0.179	0.078	0.062	0.050
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.022	0.016	0.018	0.028	0.042	0.027	0.019	0.033	0.063
PR9	Pine River-Bridge on the 15th South of 10th Conc.	<0.009	0.016	0.036	0.073	0.138	0.168	0.532	0.042	0.058
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.063	0.050	0.031	0.036	0.129	0.158	0.183	0.108	0.084
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	n/s	n/s	n/s	0.044	Dry	Dry	0.202	0.152	0.091
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	<0.009	0.024	0.031	0.050	Dry	0.069	0.037	0.050	0.028
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.047	0.032	0.04	0.062	Dry	0.220	0.184	0.180	0.052
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.019	0.031	0.082	0.246	Dry	Dry	0.954	0.349	0.067
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.020	0.020	0.013	0.020	Dry	Dry	0.063	0.03	0.013
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	<0.009	0.014	0.022	0.048	0.106	0.048	0.06	0.028	0.050
PR20	Beach at Hwy. 86 -Amberely Road.	0.027	0.020	0.016	0.028	0.029	0.088	0.136	0.046	0.080
PR21	Beach off of Attawandron Road-Public Walkway	0.035	0.011	0.017	0.029	0.025	0.036	0.041	0.042	0.049
PR22	Beach-Point Clark Swimming Area	0.021	<0.009	<0.009	0.022	0.024	0.012	0.109	0.027	0.057
PR23	Lurgan Beach-Public Walkway	<0.009	0.011	<0.009	0.016	0.016	0.017	0.039	0.015	0.034
PR24	Beach at 6th Conc.	n/s	0.016	<0.009	<0.009	<0.009	0.023	0.035	0.016	0.022
PR25	Beach at 8th Conc.	n/s	<0.009	<0.009	<0.009	0.011	0.012	0.024	0.010	0.024
PR26	Beach at 10th Conc.	0.042	0.021	<0.009	<0.009	0.021	0.019	0.014	0.016	0.013
PR27	Boyd Creek at Hwy. 21 before Amberely	0.010	0.012	0.012	0.024	0.028	0.034	0.026	0.015	0.039
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.014	0.021	0.022	0.028	0.085	0.077	0.056	0.046	0.055
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.025	0.017	0.014	0.027	0.016	0.019	0.034	0.020	0.063
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.021	0.022	<0.009	0.021	0.032	0.016	0.024	0.023	0.056
PR36	Royal Oak Creek-Sideroad 25 South of Concession 12	n/s	n/s	n/s	0.044	Dry	0.077	0.071	0.077	0.075

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2013 Sampling Result**

Total Suspended Solids - TSS (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		02-Apr	29-Apr	27-May	24-Jun	23-Jul	19-Aug	16-Sep	15-Oct	11-Nov
			30-Apr	28-May	25-Jun				16-Oct	12-Nov
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	n/s	n/s	n/s	9	12	25	10	8	26
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	n/s	n/s	n/s	5	4	9	4	2	32
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	n/s	n/s	n/s	3	15	23	4	10	11
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	n/s	n/s	n/s	4	17	18	19	12	16
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	n/s	n/s	n/s	3	16	11	17	4	26
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	n/s	n/s	n/s	8	8	5	3	4	15
PR9	Pine River-Bridge on the 15th South of 10th Conc.	n/s	n/s	n/s	4	12	80	134	3	4
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	n/s	n/s	n/s	4	12	13	13	3	6
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	n/s	n/s	n/s	4	Dry	Dry	22	6	2
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	n/s	n/s	n/s	7	Dry	10	8	4	2
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	n/s	n/s	n/s	5	Dry	15	17	2	4
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	n/s	4	Dry	Dry	16	7	7
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	n/s	7	Dry	Dry	9	2	4
PR36	Royal Oak Creek-Sideroad 25 South of Concession 12	n/s	n/s	n/s	24	Dry	16	22	38	9

n/s = No sample

2012 RESULTS

E.coli

Nitrate

Total Phosphorus

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2012 Sampling Result**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		2-Apr	30-Apr 01-May	28-May 29-May	25-Jun 26-Jun	23-Jul 24-Jul	20-Aug 21-Aug	17-Sep 18-Sep	15-Oct 16-Oct	12-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	22	24	4	62	34	960	60	5200	52
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4	2	40	408	16	32	8	280	48
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	16	6	4	18	30	340	30	640	72
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	92	26	16	570	84	28	136	8000	92
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	58	166	140	420	84	58	76	420	50
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	2	194	146	42	46	58	10	1960	16
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	14	84	102	360	1620	620	1520	880	148
PR9	Pine River-Bridge on the 15th South of 10th Conc.	20	220	1200	98	152	Dry	Dry	Stagnant	150
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	16	1080	900	780	Dry	Dry	13600	1500	166
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	18	44	440	50	Dry	28	Dry	860	760
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	24	214	1280	78	Dry	Dry	Dry	2380	28000
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	4	<2	440	72	Dry	Dry	Dry	18	194
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	4	2	1820	206	Dry	Dry	Dry	2000	720
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	20	2	96	54	34	10	170	1360	1540
PR20	Beach at Hwy. 86 -Amberely Road.	8	<2	<2	176	32	10	20	26	16
PR21	Beach off of Attawandron Road-Public Walkway	4	8	98	60	52	30	360	24	26
PR22	Beach-Point Clark Swimming Area	14	132	88	192	58	22	196	46	108
PR23	Lurgan Beach-Public Walkway	<2	2	32	52	46	16	200	240	32
PR24	Beach at 6th Conc.	<2	<2	416	142	10	10	102	800	32
PR25	Beach at 8th Conc.	4	<2	16	232	900	8	98	380	12
PR26	Beach at 10th Conc.	12	0	60	640	4	16	54	76	12
PR27	Boyd Creek at Hwy. 21 before Amberely	2	<2	146	720	248	96	10	6000	62
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	2	1280	74	240	Dry	Dry	52	5200	130
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	22	4	74	1120	14	70	34	740	30
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	14	14	110	130	760	56	356	1200	94

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2012 Sampling Result**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		2-Apr	30-Apr 01-May	28-May 29-May	25-Jun 26-Jun	23-Jul 24-Jul	20-Aug 21-Aug	17-Sep 18-Sep	15-Oct 16-Oct	12-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	3.71	0.84	0.21	2.83	0.47	0.08	<0.05	1.59	10.60
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	3.12	0.72	<0.05	<0.05	<0.05	<0.05	<0.05	0.24	9.08
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.74	0.10	0.38	1.59	<0.05	<0.05	<0.05	4.09	10.60
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	4.96	0.82	0.35	1.74	<0.05	<0.05	<0.05	2.80	13.20
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2.92	0.94	0.12	0.06	<0.05	<0.05	<0.05	0.07	9.25
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	3.55	<0.05	0.19	<0.05	<0.05	<0.05	<0.05	8.67	8.97
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	3.22	1.57	0.57	0.60	0.32	0.30	0.36	10.30	9.15
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.42	0.98	<0.05	<0.05	<0.05	Dry	Dry	Stagnant	9.68
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.95	1.66	0.68	1.15	Dry	Dry	4.70	12.60	9.64
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.66	1.40	2.44	0.22	Dry	<0.05	Dry	7.08	5.90
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	3.79	1.65	1.78	<0.05	Dry	Dry	Dry	12.00	9.42
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	9.13	2.79	1.9	5.86	Dry	Dry	Dry	7.83	9.92
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	6.71	1.90	0.61	1.83	Dry	Dry	Dry	4.18	11.10
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	4.89	1.14	0.79	1.80	<0.05	<0.05	<0.05	10.3	8.50
PR20	Beach at Hwy. 86 -Amberely Road.	0.78	0.24	0.21	0.06	0.18	<0.05	0.09	0.22	0.78
PR21	Beach off of Attawandron Road-Public Walkway	0.86	0.20	0.08	0.09	0.11	<0.05	0.06	0.24	1.02
PR22	Beach-Point Clark Swimming Area	1.32	0.34	0.12	0.32	0.08	0.05	<0.05	0.24	1.32
PR23	Lurgan Beach-Public Walkway	0.46	0.32	0.17	0.21	0.09	0.05	0.05	0.30	2.96
PR24	Beach at 6th Conc.	0.45	0.36	0.17	0.24	0.07	0.11	0.06	0.30	3.04
PR25	Beach at 8th Conc.	0.43	0.38	0.21	0.19	0.14	0.09	0.08	0.27	2.85
PR26	Beach at 10th Conc.	0.45	0.33	0.17	0.23	0.13	<0.05	0.05	0.26	2.71
PR27	Boyd Creek at Hwy. 21 before Amberely	4.75	1.61	0.65	1.56	<0.05	<0.05	<0.05	9.52	10.90
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	4.63	1.84	0.1	<0.05	Dry	Dry	0.26	17.9	13.10
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.28	2.60	1.15	1.69	<0.05	0.11	<0.05	0.05	9.02
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.00	1.10	0.21	0.22	0.13	0.1	0.26	4.94	7.29

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2012 Sampling Result**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		2-Apr	30-Apr 01-May	28-May 29-May	25-Jun 26-Jun	23-Jul 24-Jul	20-Aug 21-Aug	17-Sep 18-Sep	15-Oct 16-Oct	12-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.014	0.016	0.016	0.026	0.072	0.078	0.056	0.357	0.017
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.015	0.014	0.032	0.025	0.040	0.019	0.039	0.046	0.010
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.012	0.028	0.046	0.044	0.079	0.073	0.066	0.092	0.018
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.024	0.053	0.043	0.030	0.058	0.051	0.093	0.196	0.017
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.020	0.021	0.028	0.038	0.094	0.106	0.062	0.092	0.017
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.018	0.025	0.036	0.028	0.779	0.166	0.105	0.084	0.029
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.017	0.013	0.016	0.031	0.032	0.032	0.036	0.099	0.020
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.023	0.023	0.091	0.082	0.802	Dry	Dry	Stagnant	0.023
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.028	0.034	0.071	0.047	Dry	Dry	0.922	0.189	0.111
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.015	0.021	0.028	0.045	Dry	0.046	Dry	0.057	0.034
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.016	0.017	0.047	0.051	Dry	Dry	Dry	0.252	0.735
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.030	0.035	0.06	0.164	Dry	Dry	Dry	0.27	0.182
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	<0.009	0.011	0.014	0.021	Dry	Dry	Dry	0.027	0.021
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.023	0.037	0.056	0.059	0.199	0.142	0.145	0.078	0.019
PR20	Beach at Hwy. 86 -Amberely Road.	0.021	<0.009	0.040	0.034	0.052	0.012	0.03	0.027	0.031
PR21	Beach off of Attawandron Road-Public Walkway	0.031	0.009	0.034	0.042	0.042	0.030	0.022	0.024	0.013
PR22	Beach-Point Clark Swimming Area	0.045	<0.009	0.022	0.158	0.022	0.106	0.024	0.590	0.032
PR23	Lurgan Beach-Public Walkway	0.020	0.010	0.021	0.017	0.029	0.065	0.027	0.047	0.024
PR24	Beach at 6th Conc.	0.018	0.009	0.015	0.029	0.019	0.038	0.02	0.040	0.033
PR25	Beach at 8th Conc.	0.025	<0.009	0.015	0.042	0.014	<0.009	0.02	0.026	0.034
PR26	Beach at 10th Conc.	0.032	<0.009	0.011	0.035	0.045	0.055	0.022	0.026	0.038
PR27	Boyd Creek at Hwy. 21 before Amberely	0.015	0.013	0.040	0.039	0.080	0.029	0.023	0.070	<0.009
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.014	0.024	0.063	0.076	Dry	Dry	0.592	0.151	0.033
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.020	0.018	0.021	0.034	0.039	0.036	0.021	0.054	<0.009
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.018	0.025	0.012	0.028	0.034	0.026	0.025	0.120	0.010

n/s = No sample

2011 RESULTS

E.coli
Total Phosphorus
Hydrogen Sulphide

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2011 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		5-Apr	26-Apr	24-May 25-May	20-Jun 21-Jun	18-Jul 19-Jul	15-Aug 16-Aug	12-Sep 13-Sep	11-Oct 12-Oct	7-Nov 8-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	440	90	2000	64	760	92	42	16	30
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	380	58	146	44	1480	5600	24	12	74
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	380	154	780	66	840	560	40	56	160
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	262	88	2840	226	102	22	52	8	144
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	150	14	68	248	360	104	560	300	62
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	420	114	186	840	760	Dry	Dry	42	36
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	198	170	400	130	106	46	38	20	86
PR9	Pine River-Bridge on the 15th South of 10th Conc.	148	100	1300	138	360	Dry	Dry	Stagnant	126
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	440	56	360	202	880	Dry	Dry	480	260
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	26	6	94	98	560	Dry	Dry	166	460
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	168	82	500	1040	1180	2280	1380	780	1060
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	110	108	660	720	188	780	Dry	Stagnant	84
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	40	6	96	132	13600	Dry	Dry	880	66
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	246	24	186	16	10	Dry	Dry	Stagnant	24
PR20	Beach at Hwy. 86 -Amberely Road.	2	12	118	2	132	160	560	70	32
PR21	Beach off of Attawandron Road-Public Walkway	24	88	112	4	720	52	560	1240	24
PR22	Beach-Point Clark Swimming Area	114	8	500	<2	880	68	156	74	42
PR23	Lurgan Beach-Public Walkway	6	22	640	2	122	38	76	6	36
PR24	Beach at 6th Conc.	132	2	660	<2	12	46	88	6	18
PR25	Beach at 8th Conc.	136	4	184	2	18	56	32	2	30
PR26	Beach at 10th Conc.	80	2	126	<2	38	56	34	18	14
PR27	Boyd Creek at Hwy. 21 before Amberely	108	28	150	24	1520	100	52	8	66
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	52	4	46	720	320	Dry	Dry	540	480
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	200	80	58	56	720	600	90	100	60
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	162	64	38	68	84	44	30	82	84

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2011 Sampling Result**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		5-Apr	26-Apr	24-May 25-May	20-Jun 21-Jun	18-Jul 19-Jul	15-Aug 16-Aug	12-Sep 13-Sep	11-Oct 12-Oct	7-Nov 8-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	4.36	5.05	6.91	4.3	0.14	< 0.05	0.05	0.13	6.64
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.23	4.29	3.14	3.04	0.06	0.09	<0.05	<0.05	5.01
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	3.77	4.05	4.93	2.5	0.05	< 0.05	<0.05	1.95	6.06
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	4.2	5.61	6.96	4.11	< 0.05	Dry	<0.05	<0.05	9.56
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.26	4.02	3.18	2.69	0.10	< 0.05	<0.05	0.68	5.01
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.51	6.04	5.17	6.49	< 0.05	Dry	Dry	1	7.98
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	4.34	4.07	3.35	3.58	0.70	0.78	0.88	1.7	4.69
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.66	4.15	2.77	0.8	< 0.05	Dry	Dry	Dry	5.98
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.83	5.89	5.28	3.74	0.16	Dry	Dry	0.95	8.46
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	3.44	2.98	3	2.81	< 0.05	Dry	Dry	<0.05	2.55
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	3.26	4.03	3.69	4.61	0.18	0.14	0.08	0.81	5.09
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	7.94	8.57	7.88	13.2	< 0.05	< 0.05	Dry	Dry	10.4
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	7.7	8.06	8.23	8.49	< 0.05	Dry	Dry	<0.05	7.15
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	6.6	6.96	6.44	10.4	0.24	Dry	Dry	Dry	7.59
PR20	Beach at Hwy. 86 -Amberely Road.	0.68	1.56	0.97	0.33	0.29	0.22	0.29	0.27	0.88
PR21	Beach off of Attawandron Road-Public Walkway	0.82	2.18	0.71	0.58	0.24	0.23	0.25	0.2	1.01
PR22	Beach-Point Clark Swimming Area	2	4.27	1.2	0.29	0.34	0.22	0.24	0.24	1.09
PR23	Lurgan Beach-Public Walkway	0.73	0.92	2.76	0.28	0.25	0.27	0.22	0.25	2.59
PR24	Beach at 6th Conc.	1.78	0.80	3.2	0.29	0.25	0.28	0.23	0.23	2.19
PR25	Beach at 8th Conc.	2.1	0.72	1.84	0.29	0.27	0.29	0.28	0.22	2.15
PR26	Beach at 10th Conc.	1.21	0.76	4.57	0.26	0.31	0.28	0.28	0.19	2.51
PR27	Boyd Creek at Hwy. 21 before Amberely	5.62	5.87	6.16	7.12	0.45	< 0.05	<0.05	3.67	8.06
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	5.35	5.70	6.01	6.51	0.20	Dry	Dry	3.2	8.24
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.41	4.80	4.83	4.59	1.23	0.18	0.22	3.11	5.78
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	4.13	4.28	3.57	3.06	0.22	0.15	0.22	1.36	4.25

n/s = No sample

**Municipality of Huron-Kinlos
Pine River Water Quality Monitoring Program
2011 Sampling Result**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		5-Apr	26-Apr	24-May 25-May	20-Jun 21-Jun	18-Jul 19-Jul	15-Aug 16-Aug	12-Sep 13-Sep	11-Oct 12-Oct	7-Nov 8-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.218	0.061	0.116	0.055	0.041	0.050	<0.009	0.047	0.018
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.191	0.069	0.023	0.054	0.078	0.105	0.024	0.058	0.016
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.205	0.044	0.040	0.067	0.098	0.125	0.088	0.043	0.023
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.174	0.058	0.137	0.082	0.124	0.119	0.065	0.108	0.028
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.174	0.058	0.062	0.069	0.041	0.137	0.192	0.037	0.014
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.103	0.034	0.059	0.026	0.155	Dry	Dry	0.09	0.023
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.144	0.033	0.018	0.036	0.026	0.029	<0.009	0.023	0.016
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.117	0.027	0.065	0.033	0.121	Dry	Dry	Dry	0.012
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.194	0.075	0.112	0.072	0.363	Dry	Dry	0.376	0.043
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.095	0.026	0.059	0.053	0.083	Dry	Dry	0.052	0.047
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.128	0.064	0.038	0.064	0.310	0.135	0.128	0.126	0.049
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.067	0.047	0.142	0.058	0.398	0.301	Dry	Dry	0.111
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.074	0.034	0.016	0.01	0.136	Dry	Dry	0.018	0.01
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.120	0.022	0.05	0.033	0.092	Dry	Dry	Dry	0.016
PR20	Beach at Hwy. 86 -Amberely Road.	0.128	0.025	0.067	0.036	0.044	0.113	0.105	0.038	0.018
PR21	Beach off of Attawandron Road-Public Walkway	0.115	< 0.009	0.071	0.016	0.074	0.173	0.09	0.023	0.056
PR22	Beach-Point Clark Swimming Area	0.132	0.052	0.151	0.037	0.134	0.121	0.088	0.015	0.049
PR23	Lurgan Beach-Public Walkway	0.076	0.025	0.066	0.026	0.040	0.042	<0.009	0.018	0.084
PR24	Beach at 6th Conc.	0.288	0.048	0.079	0.034	0.018	0.036	<0.009	0.02	0.1
PR25	Beach at 8th Conc.	0.240	0.014	0.055	0.017	0.019	0.027	<0.009	0.011	0.108
PR26	Beach at 10th Conc.	0.153	0.036	0.106	0.024	0.050	0.038	<0.009	0.014	0.093
PR27	Boyd Creek at Hwy. 21 before Amberely	0.147	0.043	0.016	0.058	0.023	0.049	<0.009	0.04	<0.009
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.080	0.028	0.035	0.059	0.090	Dry	Dry	0.039	0.04
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.202	0.041	0.028	0.047	0.045	0.119	<0.009	0.308	<0.009
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.139	0.038	0.06	0.023	0.035	0.058	<0.009	0.015	0.01

n/s = No sample

2010 RESULTS

E.coli
Nitrates
Total Phosphorus
Hydrogen Sulphide

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2010 Sampling Results**

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date									
		29-Mar	26-Apr	31-May 1-Jun	21-Jun 22-Jun	19-Jul 20-Jul	16-Aug 17-Aug	13-Sep 14-Sep	12-Oct 13-Oct	8-Nov 9-Nov	
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	24	30	70	48	4480	12	46	16	208	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	8	520	28	52	414	74	240	26	48	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	150	20	252	154	2320	54	16	18	108	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	38	60	122	94	2840	156	6	42	240	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4	30	4580	500	580	98	160	30	140	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	4	6	478	4200	186	78	8	920	340	
PR7 - Outlet	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	n/s	<2	Overflowing	2	99	2	<2	12	14	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	106	20	5020	1040	740	152	52	82	200	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	24	570	4720	480	940	102	92	32	130	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	18	80	2600	13200	660	7200	56	218	38	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	30	80	2880	4000	460	90	22	10	130	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	110	40	24800	90000	500	480	440	1120	180	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	720	38	2640	700	620	178	104	320	140	
PR17 - Outlet	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	52	252	1100	620	460	dry	288	70	
PR18 - Outlet	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	<2	Overflowing	122	460	52	dry	2	8	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	22	360	84	700	54	60	30	540	
PR19 - Outlet	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	<2	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR20	Beach at Hwy. 86 -Amberely Road.	60	50	10	2	100	118	44	2	30	
PR21	Beach off of Attawandron Road-Public Walkway	184	78	38	8	164	56	32	8	10	
PR22	Beach-Point Clark Swimming Area	6	90	14	10	262	28	24	12	16	
PR23	Lurgan Beach-Public Walkway	<1	<10	18	2	178	24	10	10	82	
PR24	Beach at 6th Conc.	<1	<10	6	<2	94	24	26	4	24	
PR25	Beach at 8th Conc.	2	20	30	2	136	40	10	2	6	
PR26	Beach at 10th Conc.	8	30	6	6	210	66	14	6	60	
PR27	Boyd Creek at Hwy. 21 before Amberely	10	10	70	204	214	640	66	124	46	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	22	180	3840	3200	700	24	2	150	142	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	2	20	100	60	1240	70	38	18	74	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	4	<10	3800	400	640	166	300	516	120	

n/s = No Sample

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2010 Sampling Results**

**Hydrogen Sulphide (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Hydrogen Sulphide (mg/L)								
		26-Apr	22-Jun	5-Jul	20-Jul	17-Aug	14-Sep	13-Oct	9-Nov	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	
PR7 - Outlet	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.43	1.71	4.39	3.53	6.13	7.4	<0.02	0.04	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	<0.02	<0.02	n/s	n/s	n/s	n/s	n/s	n/s	
PR17 - Outlet	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	<0.02	<0.02	<0.02	0.02	0.09	dry	<0.02	<0.02	
PR18 - Outlet	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.48	0.037	0.02	0.02	3.3	dry	0.08	<0.02	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	<0.02	<0.02	n/s	0.02	n/s	n/s	n/s	n/s	
PR19 - Outlet	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.39	n/s	n/s	n/s	n/s	n/s	n/s	n/s	

n/s = No Sample

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2010 Sampling Results**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date									
		29-Mar	26-Apr	31-May 1-Jun	21-Jun 22-Jun	19-Jul 20-Jul	16-Aug 17-Aug	13-Sep 14-Sep	12-Oct 13-Oct	8-Nov 9-Nov	
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	6.02	1.05	2.92	7.98	4.7	0.82	<0.05	1.83	5.97	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	3.74	0.71	0.98	6.09	3.48	0.57	<0.05	1.99	3.89	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	3.27	0.84	1.06	4.96	2.69	0.12	<0.05	0.48	4.04	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	5.96	5.59	3.51	11.3	4.94	2.67	<0.05	1.93	6.86	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	3.71	0.90	18.4	5.51	2.95	0.47	0.71	2.11	3.7	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	4.71	2.23	28.2	4.19	2.89	<0.05	<0.05	1.83	4.9	
PR7 - Outlet	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	n/s	<0.05	Overflowing	<0.05	1.54	<0.05	<0.05	<0.05	2.44	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	3.24	1.27	25.9	5.96	3.85	1.11	0.93	2.44	4.11	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.14	0.99	9.3	4	3.44	0.33	<0.05	0.66	3.67	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	7.65	2.45	19.5	6.78	6.8	0.51	0.09	2.71	5.73	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.27	1.27	11.4	2.19	1.9	<0.05	<0.05	<0.05	1.97	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	2.94	2.72	24.5	10.4	3.2	0.12	0.06	2.59	4.15	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	8.74	4.97	37.7	15.2	6.02	0.21	0.88	1.33	7.39	
PR17 - Outlet	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	3.98	27.4	13.6	6.81	0.06	dry	0.63	7.53	
PR18 - Outlet	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	2.33	Overflowing	10	3.81	<0.05	dry	<0.05	4.94	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	2.80	23.1	9.34	3.49	<0.05	<0.05	1.52	7.44	
PR19 - Outlet	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	<0.05	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR20	Beach at Hwy. 86 -Amberely Road.	0.64	0.24	0.35	0.82	0.52	0.34	0.25	0.15	1.61	
PR21	Beach off of Attawandron Road-Public Walkway	1.05	0.34	0.3	0.76	0.65	0.35	0.23	0.24	1.02	
PR22	Beach-Point Clark Swimming Area	2.69	0.41	0.21	0.62	1.02	0.36	0.29	0.37	1.2	
PR23	Lurgan Beach-Public Walkway	0.37	0.29	0.47	0.67	0.53	0.35	0.29	0.26	1.44	
PR24	Beach at 6th Conc.	0.29	0.31	0.29	0.58	0.43	0.36	0.26	0.27	1.08	
PR25	Beach at 8th Conc.	0.28	0.30	0.32	0.64	0.53	0.36	0.25	0.28	0.57	
PR26	Beach at 10th Conc.	0.33	0.31	0.28	0.57	0.9	0.32	0.25	0.27	1.57	
PR27	Boyd Creek at Hwy. 21 before Amberely	5.61	2.88	4.5	14.7	4.3	0.57	0.98	4.88	6.27	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	6.1	3.77	37.6	13.8	7.73	0.86	<0.05	8.45	9.24	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	3.95	4.27	2.34	7.15	3.34	1.7	<0.05	2.74	4.61	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.67	1.54	18.7	5.76	2.79	0.63	0.46	2.19	3.22	

n/s = No Sample

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2010 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date									
		29-Mar	26-Apr	31-May 1-Jun	21-Jun 22-Jun	19-Jul 20-Jul	16-Aug 17-Aug	13-Sep 14-Sep	12-Oct 13-Oct	8-Nov 9-Nov	
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.049	0.013	0.072	0.032	0.245	0.031	0.016	0.037	0.039	
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.037	<0.01	0.047	0.04	0.088	0.018	<0.009	0.045	0.02	
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.052	0.014	0.031	0.039	0.21	0.04	0.034	0.042	0.014	
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.044	0.023	0.052	0.057	0.227	0.049	0.075	0.048	0.015	
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.033	<0.01	0.554	0.024	0.2	0.021	0.055	0.074	0.021	
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.02	0.013	0.222	0.106	0.03	0.054	0.068	0.054	<0.009	
PR7 - Outlet	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	n/s	0.011	Overflowing	0.015	0.046	0.02	0.026	0.023	0.014	
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.026	0.012	0.352	0.052	0.165	0.024	0.021	0.047	0.071	
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.031	0.025	0.948	0.04	0.145	0.072	0.166	0.053	0.047	
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.025	0.044	0.116	0.216	0.103	0.223	0.211	0.062	0.037	
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.015	<0.01	0.314	0.431	0.089	0.038	0.072	0.042	0.027	
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc	0.047	<0.01	0.196	0.462	0.095	0.123	0.538	0.064	0.056	
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.072	0.044	0.176	0.066	0.216	0.135	0.088	0.154	0.087	
PR17 - Outlet	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	n/s	n/s	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	<0.01	0.099	0.014	0.036	0.032	dry	0.042	0.018	
PR18 - Outlet	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	n/s	<0.01	Overflowing	0.014	0.037	<0.0009	dry	0.016	<0.009	
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	0.030	0.176	0.01	0.065	0.053	0.093	0.039	0.02	
PR19 - Outlet	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	n/s	<0.01	Overflowing	n/s	n/s	n/s	n/s	n/s	n/s	
PR20	Beach at Hwy. 86 -Amberely Road.	0.097	<0.01	0.028	0.023	0.069	0.064	0.056	0.028	<0.009	
PR21	Beach off of Attawandron Road-Public Walkway	0.06	<0.01	0.029	0.027	0.064	0.061	0.027	0.018	0.035	
PR22	Beach-Point Clark Swimming Area	0.065	<0.01	0.015	0.016	0.151	0.113	<0.009	0.027	<0.009	
PR23	Lurgan Beach-Public Walkway	0.027	<0.01	0.01	0.039	0.087	0.081	<0.009	<0.009	<0.009	
PR24	Beach at 6th Conc.	0.032	<0.01	<0.01	0.021	0.079	0.059	0.016	<0.009	0.011	
PR25	Beach at 8th Conc.	0.025	<0.01	0.012	0.029	0.05	0.055	0.01	0.018	<0.009	
PR26	Beach at 10th Conc.	0.042	<0.01	0.023	0.029	0.226	0.086	<0.009	<0.009	<0.009	
PR27	Boyd Creek at Hwy. 21 before Amberely	0.024	<0.01	0.044	0.032	0.087	0.028	<0.009	0.016	0.029	
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.02	<0.01	0.192	0.06	0.072	0.044	0.078	0.059	0.016	
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.038	<0.01	0.037	0.026	0.099	0.039	0.021	<0.009	<0.009	
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.03	0.012	0.274	0.012	0.11	0.01	0.031	0.024	0.043	

n/s = No Sample

2009 RESULTS

E.coli
Nitrates
Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2009 Sampling Results**

E. coli (cfu/100mL)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Mar31-Apr1	Apr28-29	May25-26	Jun23-24	Jul20-21	Aug17-18	Sep14-15	Oct13-14	Nov9-10
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	208	660	12	42	10	320	64	440	116
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	100	360	48	60	49	116	26	220	22
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	740	580	840	28	14	132	360	6400	206
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	82	940	110	76	5	94	54	1420	94
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	74	580	780	80	272	540	106	126	60
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	540	100	70	302	440	320	580	66	26
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	520	540	90	92	14	84	20	150	72
PR9	Pine River-Bridge on the 15th South of 10th Conc.	158	320	1020	110	164	62	Dry	98	70
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	360	98	340	248	900	No Flow	84	240	156
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	400	34	64	78	Dry	Dry	Dry	134	190
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	580	1020	194	700	26	42	134	460	116
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	460	10400	760	580	Dry	Dry	Dry	6800	800
PR20	Beach at Hwy. 86	54	82	2	<2	37	520	440	18	4
PR21	Beach off of Attawandron Road-Public Walkway	30	170	76	78	29	300	138	198	<2
PR22	Beach-Point Clark Swimming Area	140	500	14	<2	35	560	226	16	28
PR23	Lurgan Beach-Public Walkway	18	98	36	2	9	110	38	<2	38
PR24	Beach at 6th Conc.	4	106	4	34	40	48	84	14	46
PR25	Beach at 8th Conc.	2	420	1	2	4	36	78	6	8
PR26	Beach at 10th Conc.	2	18	6	2	2	240	400	34	10
PR27	Boyd Creek at Hwy. 21 (Ashfield)	272	360	440	48	186	Dry	Dry	90	46
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	460	76	172	94	74	420	46	118	232
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	72	480	24	36	162	57	980	86	46
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	150	300	68	12	78	340	32	66	56

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2009 Sampling Results**

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Mar31-Apr1	Apr28-29	May25-26	Jun23-24	Jul20-21	Aug17-18	Sep14-15	Oct13-14	Nov9-10
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	3.19	6.88	3.01	5.82	0.67	0.11	2.12	5.92	5.76
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	2.61	3.85	2.18	3.06	<0.05	0.67	2.70	4.66	4.70
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.46	4.18	2.14	2.14	0.19	<0.05	0.70	11.00	4.61
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.21	9.75	4.59	1.17	1.27	0.06	1.57	4.92	6.36
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2.60	4.37	2.16	1.57	1.20	1.69	0.15	4.45	3.85
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.05	7.75	3.94	2.16	0.24	0.25	0.27	2.57	5.24
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.62	4.23	2.34	1.66	0.82	0.50	0.85	4.53	4.08
PR9	Pine River-Bridge on the 15th South of 10th Conc.	2.54	4.24	2.69	1.23	3.88	<0.05	Dry	4.59	4.50
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	3.10	4.81	2.62	2.82	5.50	No Flow	1.42	6.29	5.36
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.23	1.84	1.99	2.59	Dry	Dry	Dry	3.48	4.60
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	2.92	4.20	11.00	3.84	0.81	0.31	<0.05	9.32	4.27
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	7.07	6.71	8.48	5.7	Dry	Dry	Dry	5.50	8.70
PR20	Beach at Hwy. 86	1.47	2.85	1.52	0.25	0.14	0.29	0.18	0.30	1.20
PR21	Beach off of Attawandron Road-Public Walkway	1.36	3.08	1.80	0.93	0.10	0.25	0.22	0.65	1.02
PR22	Beach-Point Clark Swimming Area	1.92	3.87	1.40	0.27	0.17	0.23	0.23	0.40	1.06
PR23	Lurgan Beach-Public Walkway	1.25	2.33	1.11	0.28	0.15	0.44	0.25	0.30	2.60
PR24	Beach at 6th Conc.	1.03	2.61	0.82	0.27	0.21	0.25	0.26	0.37	2.89
PR25	Beach at 8th Conc.	1.18	2.54	0.56	0.32	0.23	0.24	0.27	0.31	0.99
PR26	Beach at 10th Conc.	1.24	0.80	0.44	0.36	0.14	0.66	0.25	0.35	0.89
PR27	Boyd Creek at Hwy. 21 (Ashfield)	4.50	6.78	4.38	4.70	1.12	Dry	Dry	8.76	7.52
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	3.50	7.41	3.96	4.48	0.18	1.01	0.30	8.56	6.83
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	3.24	11.60	3.31	2.75	1.68	0.06	1.61	5.37	4.74
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.25	9.53	4.14	2.12	0.210	2.97	0.81	4.68	4.06

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2009 Sampling Results**

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Mar31-Apr1	Apr28-29	May25-26	Jun23-24	Jul20-21	Aug17-18	Sep14-15	Oct13-14	Nov9-10
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.064	0.089	0.025	0.026	0.021	0.033	0.023	0.058	0.034
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.038	0.044	0.033	0.032	0.047	0.064	0.034	0.038	0.044
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.040	0.042	0.121	0.036	0.031	0.044	0.028	0.041	0.039
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.042	0.060	0.020	0.035	0.046	0.061	0.032	0.062	0.041
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.040	0.058	0.018	0.029	0.040	0.043	0.020	0.018	0.019
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.085	0.032	0.035	0.036	0.249	0.887	0.177	0.070	0.027
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.075	0.038	0.052	0.042	0.026	0.030	<0.010	0.029	0.018
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.051	0.038	0.042	0.053	0.083	0.295	Dry	0.050	0.017
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.124	0.058	0.035	0.117	0.343	No Flow	0.294	0.074	0.043
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.106	0.037	0.558	0.052	Dry	Dry	Dry	0.101	0.074
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.130	0.033	0.025	0.060	0.115	0.159	0.106	0.053	0.031
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.038	0.249	0.058	0.074	Dry	Dry	Dry	1.660	0.206
PR20	Beach at Hwy. 86 -Amberely Road.	0.108	0.247	0.034	0.014	0.023	0.014	0.069	0.047	0.065
PR21	Beach off of Attawandron Road-Public Walkway	0.122	0.260	0.059	0.023	0.227	0.138	0.070	0.032	0.076
PR22	Beach-Point Clark Swimming Area	0.105	0.406	2.050	0.016	0.014	0.056	0.065	0.058	0.106
PR23	Lurgan Beach-Public Walkway	0.046	0.042	0.062	<0.010	0.023	0.075	0.012	0.017	0.041
PR24	Beach at 6th Conc.	0.053	0.044	0.068	<0.010	0.030	0.065	0.024	0.026	0.047
PR25	Beach at 8th Conc.	0.038	0.050	0.030	<0.010	<0.01	0.027	0.024	0.044	0.040
PR26	Beach at 10th Conc.	0.028	0.019	0.065	<0.010	0.017	0.127	0.066	0.049	0.046
PR27	Boyd Creek at Hwy. 21 before Amberely	0.038	0.066	0.016	0.031	0.037	Dry	Dry	0.030	0.016
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.083	0.027	0.018	0.038	0.174	0.222	0.202	0.030	0.024
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.086	0.094	0.024	0.015	0.034	0.028	0.037	0.024	0.021
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.055	0.047	0.014	0.019	0.024	0.042	0.014	0.310	0.018

2008 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2008 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr 1 & 2	Apr 28 & 29	May 26 & 27	Jun 23 & 24	Jul 21 & 22	Aug 18 & 19	Sept 15 & 16	Oct 14 & 15	Nov 10 & 11
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	800	280	108	1240	102	38	720	36	1460
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	640	34	106	920	77	16	720	90	1040
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	820	48	660	1340	180	<2	960	40	1000
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	500	38	44	144	360	340	10000	1500	1580
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	104	220	60	188	200	134	800	400	1020
PR7-1	Upstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	52	26	36	72	600	28	400	34	1520
PR7-2	Downstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	58	26	240	78	860	60	150	30	1300
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	136	24	380	192	304	38	960	460	2800
PR9	Pine River-Bridge on the 15th South of 10th Conc.	140	68	1600	400	88	156	1460	820	2600
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	128	72	420	188	140	96	1200	94	2180
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	140	136	130	56	112	DRY	700	1040	560
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	150	68	9000	660	11200	3600	1260	1040	11200
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	900	96	3520	1540	*	*	1520	640	660
PR18-1	Upstream Pine River Tributary- South Baseline North of PR 17	20	22	64	108	42	12	580	300	66
PR18-2	Downstream Pine River Tributary- South Baseline North of PR 17	40	38	46	112	78	DRY	440	260	96
PR19-1	Upstream Clark Creek- South Baseline Rd. North of Concession 2	460	82	132	132	51	54	540	100	420
PR19-2	Downstream Clark Creek -South Baseline Rd. North of Concession 2	N/A	56	152	80	64	126	580	76	294
PR20	Beach at Hwy. 86	N/A	740	90	14	33	86	8400	1100	138
PR21	Beach off of Attawandron Road-Public Walkway	N/A	12	156	52	540	106	6400	700	54
PR22	Beach-Point Clark Swimming Area	N/A	176	20	6	44	8	680	64	12
PR23	Lurgan Beach-Public Walkway	N/A	34	10	32	5	24	108	64	640
PR24	Beach at 6th Conc.	N/A	42	140	16	5	14	640	80	460
PR25	Beach at 8th Conc.	N/A	78	6	4	19	8	600	40	190
PR26	Beach at 10th Conc.	N/A	152	80	26	>2000	4	150	38	206
PR27	Boyd Creek at Hwy. 21 (Ashfield)	360	240	48	132	166	46	840	94	340
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	38	12	180	520	92	200	940	500	114
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	2700	72	76	182	96	82	960	14	2560
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	360	120	86	100	66	100	1060	84	1840
PR35-1	Upstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	60	4	10	8	13	248	N/A	n/a	n/a
PR35-2	Downstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	<20	4	2	20	N/A	N/A	640	74	66

Notes:

ND = Not detected, detection limit 0.002 mg/L

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N/A= not able to sample at this time

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2008 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr 1 & 2	Apr 28 & 29	May 26 & 27	Jun 23 & 24	Jul 21 & 22	Aug 18 & 19	Sept 15 & 16	Oct 14 & 15	Nov 10 & 11
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	4.19	3.22	3.39	5.87	0.43	2.78	3.33	3.14	5.59
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	2.65	5.64	2.46	6.27	1.59	4.92	1.68	6.14	5.16
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	4.03	0.20	2.37	5.08	0.34	<0.05	3.25	2.51	5.93
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.60	0.55	4.66	9.45	<0.05	0.66	7.92	4.41	6.20
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	3.65	2.62	2.19	7.16	0.97	1.01	4.28	2.79	4.42
PR7-1	Upstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.26	1.71	0.93	8.57	<0.05	<0.05	6.06	3.92	7.47
PR7-2	Downstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.28	1.94	0.45	8.32	<0.05	0.26	7.26	3.77	7.65
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	4.05	2.93	2.81	5.75	0.80	1.01	4.31	2.85	4.35
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.75	2.75	2.77	4.57	3.62	0.10	5.33	4.03	5.75
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	6.45	4.99	5.08	8.81	0.40	0.73	4.04	3.86	5.05
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.60	2.77	4.46	3.95	1.51	DRY	4.93	4.68	1.83
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	3.54	4.24	5.39	5.59	2.70	0.06	6.89	3.21	5.07
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	5.44	8.47	6.89	13.0	*	*	9.42	10.60	9.23
PR18-1	Upstream Pine River Tributary- South Baseline North of PR 17	4.94	7.68	7.02	11.9	<0.05	<0.05	7.25	2.11	7.60
PR18-2	Downstream Pine River Tributary- South Baseline North of PR 17	5.04	7.63	7.00	12.1	<0.05	DRY	7.11	2.80	7.74
PR19-1	Upstream Clark Creek- South Baseline Rd. North of Concession 2	3.57	6.85	6.08	11.3	1.14	<0.05	7.00	3.61	7.72
PR19-2	Downstream Clark Creek -South Baseline Rd. North of Concession 2	N/A	8.24	6.28	12.2	1.02	<0.05	6.83	4.10	7.77
PR20	Beach at Hwy. 86	N/A	1.60	0.67	1.94	0.26	0.25	0.23	0.62	0.41
PR21	Beach off of Attawandron Road-Public Walkway	N/A	0.30	0.77	1.97	0.92	0.66	1.65	0.55	0.40
PR22	Beach-Point Clark Swimming Area	N/A	0.21	0.55	1.00	0.24	0.14	1.39	0.43	0.39
PR23	Lurgan Beach-Public Walkway	N/A	0.19	1.35	4.05	0.31	0.21	0.33	1.04	3.65
PR24	Beach at 6th Conc.	N/A	1.90	0.86	1.13	0.39	0.55	0.29	0.73	2.02
PR25	Beach at 8th Conc.	N/A	0.20	0.66	1.82	0.34	0.18	0.34	0.82	0.91
PR26	Beach at 10th Conc.	N/A	1.98	0.51	5.71	0.23	0.20	0.44	0.73	1.31
PR27	Boyd Creek at Hwy. 21 (Ashfield)	3.15	5.79	6.22	14.10	4.22	0.14	11.40	4.10	6.44
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	5.32	5.87	5.87	8.92	0.35	1.70	5.82	4.58	5.06
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	2.47	4.12	3.78	6.32	1.54	0.66	3.14	3.46	5.31
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.76	3.54	2.71	5.75	0.610	0.92	4.17	3.09	4.67
PR35-1	Upstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	4.06	7.62	10.7	35.2	9.03	0.53	n/a	n/a	n/a
PR35-2	Downstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	4.08	8.02	11.1	34.3	N/A	N/A	8.58	4.98	9.84

Notes:

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**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2008 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr 1 & 2	Apr 28 & 29	May 26 & 27	Jun 23 & 24	Jul 21 & 22	Aug 18 & 19	Sept 15 & 16	Oct 14 & 15	Nov 10 & 11
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.645	0.020	0.042	0.121	0.018	0.026	0.497	0.064	0.111
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.533	0.032	0.039	0.113	0.025	0.03	0.156	0.061	0.088
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.481	0.030	0.032	0.048	0.030	0.039	0.261	0.034	0.092
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.879	0.055	0.039	0.033	0.078	0.067	0.433	0.049	0.136
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.150	<0.010	0.047	0.043	0.021	0.032	0.230	0.023	0.074
PR7-1	Upstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.084	0.016	0.094	0.042	0.169	0.095	0.070	0.143	0.084
PR7-2	Downstream Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.112	0.097	0.057	0.046	0.120	0.058	0.044	0.066	0.084
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.105	<0.010	0.022	0.024	0.034	0.016	0.167	0.018	0.123
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.102	0.013	0.056	0.034	0.140	0.097	0.113	0.048	0.082
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.135	0.018	0.026	0.038	0.090	0.153	0.131	0.075	0.168
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.094	0.020	0.076	0.035	0.105	DRY	0.091	0.167	0.045
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.092	0.024	0.207	0.046	0.748	0.065	0.165	0.064	0.115
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.363	0.026	0.107	0.219	*	*	0.200	0.281	0.126
PR18-1	Upstream Pine River Tributary- South Baseline North of PR 17	0.251	0.018	0.035	0.012	0.031	0.076	0.051	0.037	<0.10
PR18-2	Downstream Pine River Tributary- South Baseline North of PR 17	0.248	<0.010	0.031	<.010	0.058	DRY	0.052	0.049	<0.10
PR19-1	Upstream Clark Creek- South Baseline Rd. North of Concession 2	0.357	0.015	0.059	0.022	0.043	0.061	0.273	0.034	0.046
PR19-2	Downstream Clark Creek -South Baseline Rd. North of Concession 2	N/A	0.014	0.059	0.054	0.045	0.057	0.279	0.037	0.045
PR20	Beach at Hwy. 86 -Amberely Road.	N/A	0.028	0.048	0.016	0.031	0.361	0.216	0.616	0.395
PR21	Beach off of Attawandron Road-Public Walkway	N/A	0.034	0.091	0.043	0.042	0.161	0.430	0.588	0.169
PR22	Beach-Point Clark Swimming Area	N/A	0.146	1.470	0.016	0.026	0.274	0.383	0.202	0.037
PR23	Lurgan Beach-Public Walkway	N/A	0.082	0.054	0.022	<0.01	0.133	0.025	0.034	0.082
PR24	Beach at 6th Conc.	N/A	0.076	0.040	0.018	<0.01	0.106	0.012	0.062	0.050
PR25	Beach at 8th Conc.	N/A	0.085	0.033	0.017	<0.01	0.048	0.020	0.036	0.025
PR26	Beach at 10th Conc.	N/A	0.051	0.047	0.019	<0.01	0.037	0.024	0.065	0.046
PR27	Boyd Creek at Hwy. 21 before Amberely	0.603	<0.010	0.042	0.027	0.027	0.044	0.405	0.055	0.083
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.126	0.016	0.053	0.023	0.076	0.075	0.136	0.074	0.013
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.727	0.020	0.054	0.023	0.027	0.039	0.676	0.022	0.134
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.132	0.012	0.018	0.020	0.026	0.025	0.133	0.028	0.077
PR35-1	Upstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	0.587	0.048	0.070	0.028	0.103	0.406	n/a	n/a	n/a
PR35-2	Downstream Pollock Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	0.303	0.043	0.151	0.023	N/A	N/A	0.128	0.046	0.037

Notes:

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2007 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2007 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-02,03	Apr-30,May-1	May-28,29	Jun-25,26	Jul-23,24	Aug20,21	Sep- 17,18	Oct- 15-16	Nov- 12,13
PR1	Pine River-'Bridge on Lake Range Road North of 4th Conc. (Lowery's)	252	20	204	44	620	12	86	*	46
PR2	Clark Creek -'Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	920	74	118	208	360	DRY	42	DRY	DRY
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	76	26	184	56	102	36	22	12	4
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	176	108	52	24	166	74	18	18	6
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.past Pine River	400	54	180	154	38	120	14	32	180
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	124	52	236	1200	134	*	DRY	DRY	DRY
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	122	30	132	286	92	DRY	280	DRY	116
PR8	South Pine River-Culvert on Hwy. 7 just north of Conc. 6	178	86	86	1040	92	2	104	34	4
PR9	Pine River-Bridge on Hwy 7 south of 10th Conc.	336	580	300	112	96	*	8	DRY	DRY
PR10	Royal Oak Creek-Bridge on Hwy 7 North of the 12th Conc.	960	300	3800	80	126	*	880	DRY	1720
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	580	520	1280	214	800	*	DRY	DRY	1200
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	26	58	190	*	DRY	DRY	DRY	DRY	*
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	6	60	520	36	218	DRY	DRY	DRY	*
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	1120	60	DRY	*	*	DRY	*	DRY	800
PR18	Pine River Tributary- on South Baseline North of PR 17	N/A	N/A	N/A	1760	360	DRY	DRY	*	DRY
PR20	Beach at end of Hwy. 86	94	240	44	48	4	14	28	36	<2
PR21	Beach off of Attawandron Road-Public Walkway	44	38	116	96	42	144	14	186	116
PR22	Beach-Point Clark Swimming Area at Lighthouse	6	32	56	0	10	12	8	6	78
PR23	Lurgan Beach-Public Walkway	720	22	68	16	2	20	10	16	90
PR24	Beach at 6th Conc.	80	14	84	22	2	6	10	6	16
PR25	Beach at 8th Conc.	24	8	12	2	2	38	8	16	2
PR26	Beach at 10th Conc.	24	34	8	6	<2	42	40	32	*
PR27	Boyd Creek at Hwy. 21 (Ashfield)	62	86	142	132	74	*	DRY	*	DRY
PR29	Boyd Creek on Sideroad 20 South of Conc. 4	148	46	112	80	D	DRY	DRY	DRY	DRY
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	78	16	78	104	244	440	76	106	30
PR32	Eighteen Mile Creek on Hwy 7 north of 2nd Conc.	260	42	198	120	24	164	200	256	118
PR 35	Polluk Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	N/A	N/A	N/A	3000	80	20	1400	214	25200

Notes:

DRY = no flow at time of sampling

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N/A= not yet part of sampling program

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2007 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-02,03	Apr-30,May-1	May-28,29	Jun-25,26	Jul-23,24	Aug 20,21	Sep- 17,18	Oct- 15-16	Nov- 12,13
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	4.00	3.17	5.94	1.76	5.47	0.69	0.220	*	0.11
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	5.99	6.24	5.22	2.51	3.67	DRY	<0.05	DRY	DRY
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	2.79	2.53	2.16	0.42	0.14	<0.05	<0.05	<0.05	0.60
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.80	2.52	0.73	1.70	0.24	0.17	<0.05	0.78	0.12
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.13	2.94	1.83	1.38	1.78	0.18	<0.05	0.06	0.76
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.71	2.59	1.00	0.40	1.16	*	DRY	DRY	DRY
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.21	5.25	5.44	1.38	1.71	DRY	0.49	DRY	DRY
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.57	2.48	1.58	1.27	1.00	0.037	0.76	0.93	0.97
PR9	Pine River-Bridge on the 15th South of 10th Conc.	2.45	2.47	1.70	0.06	1.07	*	<0.05	DRY	DRY
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.82	3.20	2.18	1.56	1.15	*	0.11	DRY	6.29
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	2.60	3.25	3.73	0.11	2.44	*	DRY	DRY	6.77
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.16	0.90	1.02	*	DRY	DRY	DRY	DRY	*
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	1.30	0.40	0.63	0.26	1.77	DRY	DRY	DRY	*
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	6.61	6.81	DRY	*	*	DRY	*	DRY	1.55
PR 18	Pine River Tributary- on South Baseline North of PR 17	N/A	N/A	N/A	2.19	1.54	DRY	DRY	*	DRY
PR20	Beach at Hwy. 86	3.31	0.38	0.30	0.28	0.24	0.16	0.21	0.30	0.41
PR21	Beach off of Attawandron Road-Public Walkway	2.46	2.51	0.26	1.08	0.82	0.34	0.19	0.67	0.34
PR22	Beach-Point Clark Swimming Area	1.82	0.46	0.25	0.16	0.24	0.09	0.23	0.28	0.36
PR23	Lurgan Beach-Public Walkway	3.01	0.38	0.40	0.21	0.25	0.21	0.22	0.30	0.61
PR24	Beach at 6th Conc.	2.66	0.79	0.33	0.21	0.24	0.32	0.22	0.28	0.47
PR25	Beach at 8th Conc.	1.95	0.50	0.30	0.27	0.29	0.17	0.22	0.23	0.32
PR26	Beach at 10th Conc.	0.88	0.45	0.28	0.15	0.12	0.06	0.22	0.24	*
PR27	Boyd Creek at Hwy. 21 (Ashfield)	4.92	4.87	3.51	1.82	1.24	*	DRY	*	DRY
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	4.66	5.79	2.81	0.05	DRY	DRY	DRY	DRY	DRY
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	3.75	4.07	3.29	2.48	0.14	<0.05	0.09	0.26	0.08
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	2.86	2.74	1.42	0.51	0.29	0.29	0.63	0.16	0.15
PR 33	Polluk Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	N/A	N/A	N/A	0.620	7.850	0.52	0.350	0.78	15.00

Notes:

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**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2007 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-02-03	Apr-30,May-1	May-28,29	Jun-25,26	Jul-23,24	Aug 20,21	Sep- 17,18	Oct- 15-16	Nov- 12,13
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.097	0.034	0.020	0.031	0.090	0.051	0.047	*	0.046
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.086	0.037	0.031	0.081	0.078	DRY	0.108	DRY	DRY
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.029	0.015	0.025	0.028	0.100	0.048	0.088	0.034	0.038
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.030	0.012	0.030	0.052	0.044	0.077	0.093	0.073	0.040
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.068	0.037	0.034	0.044	0.073	0.090	0.074	0.065	0.173
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.041	0.014	0.028	0.027	0.046	*	DRY	DRY	DRY
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.034	0.027	0.066	0.154	0.088	DRY	0.063	DRY	DRY
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.037	0.028	0.012	0.025	0.020	2.000	<0.01	0.020	<0.010
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.041	0.011	0.035	0.056	0.087	*	0.074	DRY	DRY
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.069	0.045	0.186	0.431	1.440	*	3.160	DRY	0.189
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.050	0.037	0.334	0.092	0.106	*	DRY	DRY	0.117
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.032	0.012	0.057	*	DRY	DRY	DRY	DRY	*
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.035	0.037	0.044	0.067	0.184	DRY	DRY	DRY	*
PR17	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.128	0.221	DRY	*	*	DRY	*	DRY	0.313
PR 18	Pine River Tributary- on South Baseline North of PR 17	N/A	N/A	N/A	0.068	0.149	DRY	DRY	*	DRY
PR20	Beach at Hwy. 86	0.114	0.029	0.049	0.018	0.094	0.026	0.099	<0.010	0.020
PR21	Beach off of Attawandron Road-Public Walkway	0.028	0.036	0.021	0.041	0.051	0.030	0.037	<0.011	<0.010
PR22	Beach-Point Clark Swimming Area	0.016	0.021	0.103	0.018	0.014	0.097	0.030	0.011	0.052
PR23	Lurgan Beach-Public Walkway	0.095	0.031	0.019	0.018	0.019	0.051	0.030	0.017	0.032
PR24	Beach at 6th Conc.	0.064	0.022	0.016	0.023	0.011	0.015	0.013	<0.010	<0.010
PR25	Beach at 8th Conc.	0.067	0.022	<0.01	0.032	0.028	0.016	0.018	0.011	<0.010
PR26	Beach at 10th Conc.	0.119	<0.010	0.013	0.011	<0.01	0.023	0.029	0.033	*
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.041	0.065	0.031	0.029	0.033	*	DRY	*	DRY
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.023	0.034	0.042	0.064	DRY	DRY	DRY	DRY	DRY
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.031	0.024	0.026	0.044	0.026	<0.05	0.045	0.060	<0.010
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.067	0.029	0.024	0.025	0.021	0.290	0.020	0.040	0.013
PR 35	Polluk Drain- Con 8, west of Royal Oak Creek Bridge (in ditch)	N/A	N/A	N/A	0.199	0.146	0.520	0.902	0.171	0.088

Notes:

DRY = no flow at time of sampling

* = Sample not analyzed-Stagnant water

2006 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2006 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-03,04	May-01,02	May-29,30	Jun-26,27	Jul-24,25	Aug-21,22	Sept-18,19	Oct-16,17	Nov-13,14
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	122	10	104	94	46	no flow	no flow	1240	480
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	700	66	122	360	94	no flow	no flow	540	108
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	62	54	70	840	no flow	no flow	1020	280	52
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	200	156	184	no flow	no flow	no flow	162	2200	460
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	380	84	184	540	no flow	no flow	no flow	840	88
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	102	46	192	900	no flow	no flow	no flow	600	84
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	170	4	150	no flow	no flow	no flow	no flow	240	54
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	116	32	106	580	74	380	118	160	92
PR9	Pine River-Bridge on the 15th South of 10th Conc.	840	104	104	no flow	no flow	no flow	no flow	1320	400
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	2160	128	1000	84	no flow	no flow	1180	1840	134
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	980	82	680	no flow	no flow	no flow	no flow	1800	90
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	150	520	216	no flow	78	no flow	1780	300	66
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	<12	0	222	64	no flow	no flow	no flow	260	12
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	13600	58	640	380	no flow	no flow	no flow	1700	740
PR20	Beach at Hwy. 86	8	10	42	8	400	112	420	74	40
PR21	Beach off of Attawandron Road-Public Walkway	44	66	50	4	160	56	820	16	96
PR22	Beach-Point Clark Swimming Area	6	<2	28	62	36	38	400	24	460
PR23	Lurgan Beach-Public Walkway	Ice	4	26	46	<2	54	260	460	22
PR24	Beach at 6th Conc.	2	<2	14	12	<2	19	102	146	44
PR25	Beach at 8th Conc.	2	<2	8	<2	2	29	36	122	36
PR26	Beach at 10th Conc.	6	<2	32	10	16	50	50	102	6
PR27	Boyd Creek at Hwy. 21 (Ashfield)	140	12	142	1220	no flow	no flow	no flow	98	82
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	260	148	128	no flow	no flow	no flow	no flow	580	68
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	114	24	100	900	68	no flow	900	300	380
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	80	32	28	84	48	no flow	29	268	204
OL	Otter Lake from Fisherman's Cove	4								
SL	Silver Lake from Silver Lake Campground	6								

Notes:

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2006 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-03,04	May-01,02	May-29,30	Jun-26,27	Jul-24,25	Aug-21,22	Sept-18,19	Oct-16,17	Nov-13,14
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	2.23	4.52	3.37	0.85	1.36	no flow	no flow	7.48	6.56
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	3.47	6.97	4.23	0.06	1.01	no flow	no flow	8.19	9.31
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	2.17	3.63	2.06	<0.05	no flow	no flow	2.78	7.15	7.78
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.04	2.96	1.15	no flow	no flow	no flow	0.84	6.46	6.25
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.48	5.71	3.52	0.28	no flow	no flow	no flow	6.99	6.43
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2.43	3.53	2.07	<0.05	no flow	no flow	no flow	7.32	6.33
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	4.81	6.37	4.19	no flow	no flow	no flow	no flow	9.56	9.44
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.83	4.28	2.52	0.54	1.20	1.49	0.70	7.76	6.61
PR9	Pine River-Bridge on the 15th South of 10th Conc.	1.90	2.86	0.74	no flow	no flow	no flow	no flow	9.65	5.88
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	4.22	5.91	4.44	1.71	no flow	no flow	0.84	6.08	6.53
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	3.71	6.73	3.21	no flow	no flow	no flow	no flow	5.56	6.40
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.03	2.36	1.85	no flow	5.20	no flow	0.10	3.48	2.31
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	6.76	8.98	5.93	0.34	no flow	no flow	no flow	3.93	1.09
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	3.11	11.10	3.33	0.88	no flow	no flow	no flow	8.47	9.31
PR20	Beach at Hwy. 86	1.02	1.35	0.58	0.24	0.34	0.17	0.32	0.81	3.19
PR21	Beach off of Attawandron Road-Public Walkway	0.60	1.86	0.36	0.08	0.25	0.31	0.24	0.31	2.96
PR22	Beach-Point Clark Swimming Area	0.77	0.77	0.27	0.22	1.29	0.25	0.25	0.38	5.90
PR23	Lurgan Beach-Public Walkway	Ice	0.29	0.62	0.29	0.32	0.29	0.22	2.46	0.66
PR24	Beach at 6th Conc.	1.58	0.36	0.42	0.32	0.41	0.30	0.22	2.08	0.66
PR25	Beach at 8th Conc.	1.39	0.39	0.40	0.31	0.31	0.29	0.27	1.60	0.65
PR26	Beach at 10th Conc.	1.45	0.34	0.31	0.27	0.39	0.26	0.29	0.87	1.02
PR27	Boyd Creek at Hwy. 21 (Ashfield)	3.44	7.23	5.30	0.47	no flow	no flow	no flow	9.35	9.80
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	4.21	6.76	2.75	no flow	no flow	no flow	no flow	9.24	9.75
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	2.57	3.94	2.92	0.25	0.33	no flow	0.20	7.69	6.97
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	2.32	3.08	2.12	0.25	0.48	no flow	0.22	7.86	7.07
OL	Otter Lake from Fisherman's Cove									
SL	Silver Lake from Silver Lake Campground									

Notes:

ND = Not Detected, detection limit 0.05 mg/L

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2006 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		Apr-03,04	May-01,02	May-29,30	Jun-26,27	Jul-24,25	Aug-21,22	Sept-18,19	Oct-16,17	Nov-13,14
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.080	0.048	0.037	0.046	0.060	no flow	no flow	0.060	0.059
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.090	0.040	0.046	0.056	0.090	no flow	no flow	0.040	0.045
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	<0.03	<0.01	0.029	0.064	no flow	no flow	0.048	0.050	0.028
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.060	0.022	0.049	no flow	no flow	no flow	0.036	0.080	0.012
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.080	0.026	0.056	0.072	no flow	no flow	no flow	0.110	0.036
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.060	<0.01	0.036	0.037	no flow	no flow	no flow	<0.01	0.031
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.100	0.033	0.077	no flow	no flow	no flow	no flow	0.070	0.029
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.050	0.017	0.034	0.026	0.038	0.070	0.011	0.010	0.029
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.070	0.019	0.076	no flow	no flow	no flow	no flow	0.01	0.022
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.160	0.050	0.170	0.832	no flow	no flow	0.211	0.350	0.066
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.100	0.033	0.162	no flow	no flow	no flow	no flow	0.10	0.035
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	<0.03	0.042	0.100	no flow	0.057	no flow	1.060	0.05	0.039
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.070	0.040	0.085	0.102	no flow	no flow	no flow	0.05	<0.01
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	0.700	0.074	0.324	1.390	no flow	no flow	no flow	0.15	0.125
PR20	Beach at Hwy. 86	0.130	0.012	0.020	0.014	0.080	0.080	0.170	0.050	0.057
PR21	Beach off of Attawandron Road-Public Walkway	0.080	0.014	0.032	0.024	0.010	0.080	0.130	0.010	0.058
PR22	Beach-Point Clark Swimming Area	0.050	<0.01	0.020	0.032	0.010	0.030	0.020	0.020	0.050
PR23	Lurqan Beach-Public Walkway	Ice	0.014	<0.01	0.022	0.010	0.040	0.040	<0.01	0.011
PR24	Beach at 6th Conc.	0.030	<0.01	<0.01	0.020	0.030	<0.01	0.030	0.020	0.012
PR25	Beach at 8th Conc.	<0.03	0.012	<0.01	0.014	0.020	0.020	<0.01	0.030	0.020
PR26	Beach at 10th Conc.	0.030	<0.01	<0.01	0.015	0.030	0.050	0.020	0.110	<0.01
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.040	<0.01	0.064	0.053	no flow	no flow	no flow	0.020	0.020
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.030	0.015	0.063	no flow	no flow	no flow	no flow	0.120	0.010
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.040	0.028	0.052	0.050	0.021	no flow	0.055	0.020	0.027
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.040	0.011	0.031	0.028	0.040	no flow	0.012	0.020	0.023
OL	Otter Lake from Fisherman's Cove	0.050								
SL	Silver Lake from Silver Lake Campground	0.040								

Notes:

ND = Not detected, detection limit 0.002 mg/L

2005 RESULTS

E.Coli
Nitrates
Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2005 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-11,12	May-2,3	May-30,31	Jun-27,28	Jul-25,26	Aug.-22,23	Sep.-19,20	Oct-17,19	Nov.-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	120	120	100	140	2600	No Flow	No Flow	195	49
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	20	70	120	1200	No Flow	No Flow	No Flow	243	275
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	80	50	190	550	No Flow	No Flow	No Flow	440	580
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	320	230	450	340	No Flow	No Flow	No Flow	20	66
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	50	210	700	No Flow	14500	No Flow	No Flow	480	400
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	10	170	1200	3700	No Flow	No Flow	No Flow	580	710
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	20	740	620	No Flow	No Flow	No Flow	No Flow	94	5200
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	20	80	290	230	5500	148	20	29	1900
PR9	Pine River-Bridge on the 15th South of 10th Conc.	40	200	140	No Flow	No Flow	Dry	Dry	No Flow	2880
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	90	370	580	No Flow	223000	No Flow	No Flow	400	9600
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	280	200	210	No Flow	No Flow	Dry	Dry	No Flow	11000
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	8400	120	1400	No Flow	6200	No Flow	No Flow	Dry	2920
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	10	30	80	1000	No Flow	Dry	Dry	26	5000
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	160	400	4000	1900	No Flow	No Flow	No Flow	No Flow	700
PR20	Beach at Hwy. 86	1	30	60	26	480	320	25	291	12
PR21	Beach off of Attawandron Road-Public Walkway	40	80	17	38	590	90	380	34	22
PR22	Beach-Point Clark Swimming Area	3	10	5	6	200	180	82	25	44
PR23	Lurgan Beach-Public Walkway	0	170	102	5	310	41	66	14	4
PR24	Beach at 6th Conc.	1	30	2	8	96	56	27	22	2
PR25	Beach at 8th Conc.	4	20	1	9	100	140	5	27	3
PR26	Beach at 10th Conc.	70	10	70	14	110	320	22	40	3
PR27	Boyd Creek at Hwy. 21 (Ashfield)	20	30	22	260	No Flow	No Flow	No Flow	55	182
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	110	430	570	700	No Flow	No Flow	No Flow	440	3
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	21	30	23	230	No Flow	230	No Flow	44	680
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	110	50	70	750	1400	18	No Flow	66	
OL	Otter Lake from Fisherman's Cove	1	5	10	6	23	12	210	31	0
SL	Silver Lake from Silver Lake Campground	0	6	20	80	268	11	10	5	9

Notes:

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2005 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-11,12	May-2,3	May-30,31	Jun-27,28	Jul-25,26	Aug.-22,23	Sep.-19,20	Oct-17,19	Nov.-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	3.30	5.60	1.70	1.10	ND	No Flow	No Flow	2.90	8.20
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	6.90	9.70	2.60	2.00	No Flow	No Flow	No Flow	0.40	7.90
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	2.90	4.40	0.80	ND	No Flow	No Flow	No Flow	ND	3.80
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	2.30	3.30	0.30	0.70	No Flow	No Flow	No Flow	1.20	8.10
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.40	4.60	1.20	No Flow	ND	No Flow	No Flow	0.80	9.10
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	2.70	4.30	1.00	0.70	No Flow	No Flow	No Flow	ND	4.20
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.20	8.60	0.83	No Flow	No Flow	No Flow	No Flow	1.20	9.00
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.80	3.90	1.60	1.10	ND	2.10	0.50	ND	4.20
PR9	Pine River-Bridge on the 15th South of 10th Conc.	2.20	2.80	0.32	No Flow	No Flow	Dry	Dry	No Flow	4.30
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	3.30	4.20	1.14	No Flow	0.80	No Flow	No Flow	1.10	14.00
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	3.20	3.50	0.95	No Flow	No Flow	Dry	Dry	No Flow	16.00
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.40	1.40	1.24	No Flow	ND	No Flow	No Flow	Dry	6.40
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	9.00	10.70	4.65	ND	No Flow	Dry	Dry	ND	3.10
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	9.30	11.70	2.20	2.20	No Flow	No Flow	No Flow	No Flow	8.90
PR20	Beach at Hwy. 86	1.60	5.10	0.30	0.80	ND	0.40	0.30	0.50	0.60
PR21	Beach off of Attawandron Road-Public Walkway	1.70	3.20	0.20	0.40	ND	0.40	ND	0.50	0.30
PR22	Beach-Point Clark Swimming Area	1.50	3.40	0.30	0.30	ND	ND	ND	0.50	0.60
PR23	Lurgan Beach-Public Walkway	0.50	4.90	0.40	0.80	ND	0.40	0.30	0.60	0.30
PR24	Beach at 6th Conc.	0.50	5.10	0.20	0.30	ND	ND	0.30	0.50	0.30
PR25	Beach at 8th Conc.	0.50	5.70	0.20	0.30	ND	0.40	0.30	0.30	0.30
PR26	Beach at 10th Conc.	0.50	4.50	0.3	0.8	ND	ND	0.30	0.5	0.4
PR27	Boyd Creek at Hwy. 21 (Ashfield)	4.40	7.50	2.30	0.90	No Flow	No Flow	No Flow	4.20	9.60
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	4.00	5.90	0.95	0.70	No Flow	No Flow	No Flow	3.10	14.00
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	3.60	4.90	2.70	1.70	No Flow	0.30	No Flow	3.50	3.60
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	2.70	3.60	1.46	1.30	ND	ND	No Flow	2.00	5.40
OL	Otter Lake from Fisherman's Cove	0.40	0.20	ND	ND	ND	ND	ND	ND	ND
SL	Silver Lake from Silver Lake Campground	0.90	1.00	0.62	0.9	ND	ND	ND	ND	ND

Notes:

ND = Not Detected, detection limit 0.05 mg/L

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2005 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-11,12	May-2,3	May-30,31	Jun-27,28	Jul-25,26	Aug.-22,23	Sep.-19,20	Oct-17,19	Nov.-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.054	0.040	0.016	0.025	0.101	No Flow	No Flow	0.013	0.026
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.037	0.023	0.118	0.071	No Flow	No Flow	No Flow	0.027	0.018
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.044	0.021	0.011	0.069	No Flow	No Flow	No Flow	0.022	0.016
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.055	0.019	0.012	0.069	No Flow	No Flow	No Flow	0.018	0.019
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.047	0.025	0.022	No flow	0.098	No Flow	No Flow	0.073	0.014
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.025	0.016	0.002	0.067	No Flow	No Flow	No Flow	0.032	0.028
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.022	0.024	0.031	No Flow	No Flow	No Flow	No Flow	0.068	0.092
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.020	0.018	0.008	0.034	0.078	0.018	0.022	0.012	0.061
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.027	0.019	0.038	No Flow	No Flow	Dry	Dry	No Flow	0.068
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.061	0.067	0.220	No Flow	7.420	No Flow	No Flow	0.503	0.258
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.029	0.025	0.017	No Flow	No Flow	Dry	Dry	No Flow	0.118
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.007	0.024	0.950	No Flow	0.056	No Flow	No Flow	Dry	0.346
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.007	0.029	0.030	0.119	No Flow	Dry	Dry	0.11	0.575
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	0.148	0.064	0.540	0.510	No Flow	No Flow	No Flow	No Flow	0.394
PR20	Beach at Hwy. 86	0.025	0.335	0.012	0.008	0.057	0.180	0.032	0.021	0.073
PR21	Beach off of Attawandron Road-Public Walkway	0.033	0.099	0.028	0.011	0.151	0.430	0.034	0.030	0.103
PR22	Beach-Point Clark Swimming Area	0.103	0.156	0.009	0.009	0.207	0.139	0.019	0.029	0.046
PR23	Lurgan Beach-Public Walkway	0.022	0.074	0.012	0.009	0.673	0.054	0.007	0.011	0.062
PR24	Beach at 6th Conc.	0.013	0.085	0.003	0.023	0.083	0.056	0.004	0.009	0.053
PR25	Beach at 8th Conc.	0.018	0.082	ND	0.009	0.035	0.031	ND	0.020	0.051
PR26	Beach at 10th Conc.	0.090	0.055	0.002	0.014	0.088	0.019	0.012	0.010	0.045
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.014	0.025	0.009	0.026	No Flow	No Flow	No Flow	0.012	0.014
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.011	0.016	0.028	0.073	No Flow	No Flow	No Flow	0.037	0.150
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.049	0.032	ND	0.041	No Flow	0.032	No Flow	0.016	0.006
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.021	0.022	ND	0.023	0.042	0.015	No Flow	0.010	0.075
OL	Otter Lake from Fisherman's Cove	0.018	0.021	0.025	0.016	0.024	0.016	0.024	0.032	0.059
SL	Silver Lake from Silver Lake Campground	0.033	0.010	0.010	0.027	0.018	0.012	0.011	0.009	0.025

Notes:

ND = Not detected, detection limit 0.002 mg/L

2004 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2004 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-6,7	May-3,4	June-1,2	June-28,29	Jul-26,27	Aug-23,24	Sept-20,21	Oct-18,19	Nov-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	100	2200	800	280	66	90	79	5600	120
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	70	750	340	490	470	No Flow	No Flow	N/A	58
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	39	710	670	110	170	100	132	4500	153
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	119	550	1240	490	250	630	No Flow	55000	220
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	64	420	290	1180	810	157	2000	28000	260
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	31	480	250	520	450	200	330	3000	45
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	950 (c)	137	210	140	3000	No Flow	No Flow	2500	53
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	25	460	260	90	340	210	143	4000	23
PR9	Pine River-Bridge on the 15th South of 10th Conc.	260 (d)	500	560	580	230	70	No Flow	1100	0
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	153	390	720	800	730	212	No Flow	8000	780
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	360 (c)	120	3100	2200	930	No Flow	840	2400	163
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	3900 (c)	56	910	6700	440	No Flow	No Flow	2100	1100
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0	1	90	90	230	No Flow	No Flow	118	0
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	101	1100	2650	1200	3200	No Flow	No Flow	11000	970
PR20	Beach at Hwy. 86	5 (a)	250	50	20	10	210	190	140	7
PR21	Beach off of Attawandron Road-Public Walkway	10 (a)	103	600	50	82	59	680	340	4
PR22	Beach-Point Clark Swimming Area	1 (a)	400	90	30	10	50	11	680	4
PR23	Lurgan Beach-Public Walkway	50 (a) (b)	4	90	10	15	60	14	6	4
PR24	Beach at 6th Conc.	2	4	100	20	2	41	6	22	4
PR25	Beach at 8th Conc.	4	6	50	10	4	50	0	16	3
PR26	Beach at 10th Conc.	6	19	10	200	2	21	21	11	2
PR27	Boyd Creek at Hwy. 21 (Ashfield)	5	520	120	710	580	590	490	3800	250
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	214	201	680	1000	1600	No Flow	700	2400	640
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	50	15000	110	160	70	430	280	1740	24
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	29	530	240	70	150	39	710	1400	10
OL	Otter Lake from Fisherman's Cove		158	30	10	4	73	73	27	1
SL	Silver Lake from Silver Lake Campground		11	20	10	16	33	3	26	10

Notes:

- (a) Had to break ice to get water sample
- (b) Excess background bacteria and sediment may have inhibited E.coli growth
- (c) Approximate results: Total Count exceeds 300 colonies
- (d) Estimated

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2004 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-6,7	May-3,4	June-1,2	June-28,29	July-26,27	Aug-23,24	Sept-20,21	Oct-18,19	Nov-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	4.10	6.90	6.03	10.2	3.89	0.15	0.10	8.35	3.99
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	6.44	12.0	10.4	20.3	6.36	No Flow	No Flow	6.37	5.59
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	3.60	5.99	4.60	4.25	2.57	0.10	0.10	6.46	3.18
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	3.46	4.92	3.51	6.39	2.12	0.10	No Flow	3.57	2.61
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	3.76	5.92	4.20	7.80	2.58	0.10	0.10	14.40	4.40
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	3.33	5.72	4.58	5.64	2.34	0.24	0.19	6.70	3.39
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	5.91	8.19	9.09	13.80	4.14	No Flow	No Flow	5.00	5.70
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	3.48	5.75	4.75	4.64	3.16	0.83	0.60	6.20	3.36
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.07	3.97	3.28	4.41	2.93	0.10	No Flow	2.69	2.65
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	3.20	4.96	4.08	5.50	3.14	0.21	No Flow	4.66	3.40
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	2.93	4.94	3.98	5.77	3.32	No Flow	0.10	4.77	2.98
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	1.43	2.39	1.85	5.96	3.57	No Flow	No Flow	2.12	1.81
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	1.65	2.78	5.16	0.10	0.10	No Flow	No Flow	6.81	5.42
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	10.50	13.7	14.9	32.8	4.02	No Flow	No Flow	7.57	5.70
PR20	Beach at Hwy. 86	1.19 (a)	1.46	4.78	1.61	0.36	0.21	0.23	0.46	0.39
PR21	Beach off of Attawandron Road-Public Walkway	1.99 (a)	3.05	2.92	0.52	0.46	0.23	0.24	0.52	0.34
PR22	Beach-Point Clark Swimming Area	2.36 (a)	4.50	2.01	0.82	0.29	0.21	0.22	0.40	0.31
PR23	Lurgan Beach-Public Walkway	0.46 (a)	0.56	4.66	1.33	0.30	0.21	0.24	2.45	0.87
PR24	Beach at 6th Conc.	0.43	0.56	1.21	0.82	0.30	0.20	0.25	0.36	0.85
PR25	Beach at 8th Conc.	0.42	0.41	0.54	1.35	0.29	0.19	0.26	0.37	0.76
PR26	Beach at 10th Conc.	0.46	0.56	0.48	2.59	0.29	0.18	0.20	0.37	0.55
PR27	Boyd Creek at Hwy. 21 (Ashfield)	5.04	7.90	7.63	6.79	4.99	0.10	0.10	0.42	5.03
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	4.67	6.41	6.90	6.62	4.38	No Flow	0.10	7.07	5.14
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	4.09	6.43	6.35	6.34	4.88	2.87	0.54	8.82	4.14
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.26	4.45	4.21	4.89	3.01	0.62	0.50	4.96	3.18
OL	Otter Lake from Fisherman's Cove		0.32	0.26	0.1	0.1	0.10	0.1	0.1	0.21
SL	Silver Lake from Silver Lake Campground		0.99	1.06	0.86	0.31	0.24	0.1	0.1	0.15

Notes:

- (a) Had to break ice to get water sample

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2004 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		April-6,7	May-3,4	June-1,2	June-28,29	July 26,27	Aug-23,24	Sept-20,21	Oct-18,19	Nov-15,16
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.033	0.114	0.057	0.058	0.038	0.021	0.014	0.206	0.043
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.025	0.037	0.018	0.061	0.061	No Flow	No Flow	0.113	0.019
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.023	0.018	0.024	0.031	0.017	0.028	0.016	0.192	0.016
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.022	0.028	0.021	0.039	0.036	0.039	No Flow	0.086	0.029
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.032	0.034	0.024	0.035	0.037	0.110	0.051	0.159	0.037
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.022	0.022	0.023	0.022	0.030	0.039	0.031	0.149	0.030
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.069	0.022	0.053	0.030	0.224	No Flow	No Flow	0.172	0.031
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.024	0.015	0.039	0.023	0.135	0.031	0.038	0.082	0.014
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.022	0.041	0.036	0.038	0.036	0.139	No Flow	0.170	0.019
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.048	0.046	0.089	0.058	0.238	2.710	No Flow	0.183	0.081
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.044	0.024	0.049	0.030	0.087	No Flow	1.510	0.098	0.054
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.023	0.021	0.090	0.031	0.058	No Flow	No Flow	0.029	0.015
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.017	0.023	0.054	0.085	0.060	No Flow	No Flow	0.029	0.014
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	0.061	0.137	0.137	0.291	0.374	No Flow	No Flow	0.460	0.265
PR20	Beach at Hwy. 86	0.068 (a)	0.119	0.009	0.032	0.033	0.395	0.139	0.049	0.035
PR21	Beach off of Attawandron Road-Public Walkway	0.247 (a)	0.089	0.147	0.071	0.032	0.124	0.191	0.071	0.022
PR22	Beach-Point Clark Swimming Area	0.023 (a)	0.070	0.094	0.041	0.026	0.260	0.015	0.061	0.019
PR23	Lurqan Beach-Public Walkway	0.155 (a)	0.027	0.032	0.016	0.009	0.202	0.013	0.025	0.046
PR24	Beach at 6th Conc.	0.059	0.020	0.014	0.020	0.011	0.167	0.004	0.041	0.096
PR25	Beach at 8th Conc.	0.038	0.014	0.015	0.015	0.015	0.083	0.002	0.053	0.048
PR26	Beach at 10th Conc.	0.065	0.007	0.040	0.022	0.011	0.054	0.012	0.045	0.038
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.013	0.036	0.020	0.037	0.024	0.028	0.042	0.182	0.067
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.015	0.023	0.047	0.015	0.034	No Flow	0.119	0.061	0.032
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.024	0.125	0.034	0.024	0.023	0.019	0.020	0.077	0.010
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.015	0.019	0.043	0.028	0.024	0.018	0.036	0.062	0.011
OL	Otter Lake from Fisherman's Cove		0.066	0.051	0.016	0.018	0.016	0.012	0.027	0.031
SL	Silver Lake from Silver Lake Campground		0.009	0.045	0.011	0.009	0.008	0.015	0.015	0.039

Notes:

- (a) Had to break ice to get water sample

2003 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2003 Sampling Results**

E. coli (cfu/100ml)

SAMPLE	LOCATION ID	SAMPLE DATE								
		1,2-Apr	28,29-Apr	27,28- May	24,25-June	22,23-July	19,20-Aug	15,16-Sept	14,15-Oct	11,12-Nov
PR1	Pine River-'Bridge on Lake Range Road North of 4th Conc. (Lowery's)	73	58	460	110	160	150	1300	169	310
PR2	Clark Creek -'Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	135	60	250	142	270	5	700	232	670
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	28	22	140	2000	160	120	no flow	1800	82
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	220	63	820	280	400	240	no flow	28000	7800
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	90	380	420	230	400	120	1400	1100	1600
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	25	41	64	150	530	24	no flow	2900	1800
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	190	12	105	70	500	no flow	no flow	6200	220
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	60	27	40	230	100	400	1200	9400	1100
PR9	Pine River-Bridge on the 15th South of 10th Conc.	220	50	250	70	380	120	no flow	24000	840
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	195	150	1300	1400	8200	no flow	200000	20000	640
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	220	21	370	5600	5000	dry	75000	12000	450
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	105	720	180	190	260	5	4600	17000	290
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	60	0	1	600	130	180	600000	1300	70
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	20	35	3	1900	260	no flow	no flow	1000	270
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	30	3	92	155	120	680	30000	105	810
PR16	Culvert on Hwy. 86 East of Amberley	69	88	470	48	610	dry	dry	1700	1200
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	100	8	4900	11000	520	1100	no flow	600	48000
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	24	45	180	80	620	dry	dry	98	310
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	123	38	1600	350	120	no flow	no flow	1100	54000
PR20	Beach at Hwy. 86	0	3	20	6	27	580	20000	60	15
PR21	Beach off of Attawandron Road-Public Walkway	170	33	115	40	20	420	30000	140	54
PR22	Beach-Point Clark Swimming Area	1	18	80	72	170	120	1300	33	50
PR23	Lurgan Beach-Public Walkway	10	15	10	1	5	70	250	32	120
PR24	Beach at 6th Conc.	n/a	3	40	4	15	2	500	26	28
PR25	Beach at 8th Conc.	n/a	1	10	0	7	140	1700	15	55
PR26	Beach at 10th Conc.	0	1	11	5	12	12	1600	24	53
PR27	Boyd Creek at Hwy. 21 (Ashfield)	110	3	138	173	630	24	1600	430	1000
PR28	Boyd Creek at Hwy. 86 East of Amberley	140	26	330	500	3600	120	no flow	12000	90
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	250	3200	200	190	200	no flow	no flow	3500	970
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	20	19	210	136	510	3300	15000	98	166
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	52	25	130	100	18	73	260	13000	60
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	65	91	76	90	52	630	680	12000	3900
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	130	170	250	1200	2500	430	14000	18000	840
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	118	72	600	2000	700	430	5000	72000	350

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2003 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		1,2-Apr	28,29-Apr	27,28-May	24,25-June	22,23-July	19,20-Aug	15,16-Sept	14,15-Oct	11,12-Nov
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	7.88	6.95	7.66	6.30	4.86	0.12	0.10	5.53	4.68
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	12.10	13.90	16.80	8.21	5.59	0.10	0.13	5.31	6.47
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	7.58	6.02	7.17	4.55	5.36	0.10	no flow	4.22	4.44
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	7.25	6.24	6.91	2.09	n/a	0.10	no flow	5.87	3.84
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	9.58	7.47	7.76	5.38	4.94	0.10	0.15	5.56	5.27
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	5.89	5.74	8.22	5.44	6.08	0.10	no flow	5.48	5.96
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	12.70	10.20	13.00	5.86	1.61	no flow	no flow	7.42	9.57
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	6.09	6.16	8.38	5.08	7.14	0.27	0.98	6.05	6.06
PR9	Pine River-Bridge on the 15th South of 10th Conc.	6.24	5.84	7.00	2.60	4.35	0.10	no flow	3.77	3.83
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	7.10	7.42	7.87	6.59	6.55	no flow	6.00	4.59	5.59
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	7.15	7.30	8.61	7.52	n/a	dry	6.10	5.14	5.23
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	3.95	3.62	4.06	5.81	5.25	0.10	0.23	2.25	2.81
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	0.66	0.10	0.10	0.1	0.10	0.10	0.82	0.27	0.15
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	6.20	4.50	5.34	0.24	0.54	no flow	no flow	4.69	5.26
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	12.10	12.20	15.30	5.73	4.31	0.10	0.17	5.46	6.74
PR16	Culvert on Hwy. 86 East of Amberley	14.10	15.60	17.60	11.8	7.45	dry	dry	7.01	16.60
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	16.30	18.30	20.60	12.9	4.72	0.10	no flow	0.11	13.50
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	12.80	13.50	17.20	12.0	4.17	dry	dry	4.39	7.64
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	12.40	13.20	16.20	6.87	4.33	no flow	no flow	5.39	6.44
PR20	Beach at Hwy. 86	2.02	4.05	0.86	0.47	0.17	0.29	0.12	0.81	1.86
PR21	Beach off of Attawandron Road-Public Walkway	3.06	4.51	2.75	0.21	0.31	0.10	0.12	0.61	1.86
PR22	Beach-Point Clark Swimming Area	6.02	4.18	7.94	0.30	1.12	0.23	0.13	0.32	0.93
PR23	Lurgan Beach-Public Walkway	2.82	5.44	1.54	0.34	0.52	0.26	0.10	1.12	3.55
PR24	Beach at 6th Conc.	N/A	5.68	0.80	0.34	0.45	0.28	0.10	0.75	1.67
PR25	Beach at 8th Conc.	N/A	4.52	0.83	0.36	0.40	0.31	0.10	0.69	0.53
PR26	Beach at 10th Conc.	2.76	1.79	1.15	0.30	0.39	0.24	0.17	0.78	1.01
PR27	Boyd Creek at Hwy. 21 (Ashfield)	9.30	8.01	11.20	7.54	6.90	0.10	0.10	6.63	9.18
PR28	Boyd Creek at Hwy. 86 East of Amberley	7.74	10.10	11.00	6.28	8.10	0.10	no flow	6.91	8.52
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	7.38	7.61	9.66	4.37	6.45	no flow	no flow	7.24	8.15
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	6.18	6.00	6.82	5.87	4.92	0.22	0.23	5.56	5.74
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	6.27	6.07	7.74	5.96	5.80	0.10	0.30	6.08	6.12
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	5.20	4.94	9.66	4.57	n/a	0.10	0.36	5.06	4.73
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	4.48	4.06	5.08	3.05	2.87	0.41	2.38	4.43	4.70
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	5.13	5.27	6.61	2.69	n/a	1.15	3.18	5.13	5.90

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2003 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		1,2-Apr	28,29-Apr	27,28- May	24,25-June	22,23-July	19,20-Aug	15,16-Sept	14,15-Oct	11,12-Nov
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.067	0.008	0.021	0.017	0.035	0.053	0.038	0.021	0.021
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.043	0.007	0.032	0.028	0.093	0.060	0.256	0.035	0.028
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.056	0.008	0.009	0.016	0.014	0.040	no flow	0.031	0.014
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.116	0.008	0.015	0.020	n/a	0.140	no flow	0.124	0.045
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.086	0.007	0.023	0.036	0.038	0.054	0.159	0.611	0.046
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.126	0.003	0.007	0.015	0.027	0.034	no flow	0.095	0.068
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.057	0.022	0.012	0.061	0.142	no flow	no flow	0.127	0.039
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.037	0.006	0.008	0.026	0.03	0.027	0.051	0.351	0.044
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.036	0.012	0.013	0.050	0.054	0.166	no flow	0.140	0.053
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.059	0.028	0.031	0.118	0.131	no flow	0.712	0.322	0.065
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.049	0.019	0.013	0.035	n/a	dry	0.184	0.260	0.044
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	0.022	0.005	0.02	0.023	0.029	0.064	0.231	0.386	0.021
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	0.046	0.025	0.019	0.056	0.152	1.400	1.030	0.051	0.018
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	0.032	0.002	0.005	0.018	0.049	no flow	no flow	0.114	0.044
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	0.06	0.004	0.011	0.071	0.028	0.077	1.460	0.024	0.035
PR16	Culvert on Hwy. 86 East of Amberley	0.025	0.004	0.023	0.026	0.196	dry	dry	0.049	0.032
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	0.079	0.035	0.365	0.273	0.201	2.36	no flow	6.630	0.529
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.031	0.006	0.01	0.007	0.043	dry	dry	0.085	0.051
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	0.049	0.018	0.067	0.049	0.074	no flow	no flow	0.033	0.103
PR20	Beach at Hwy. 86	0.012	0.023	0.006	0.007	0.026	0.029	0.438	0.048	0.021
PR21	Beach off of Attawandron Road-Public Walkway	0.053	0.017	0.008	0.015	0.021	0.015	0.056	0.012	0.018
PR22	Beach-Point Clark Swimming Area	0.028	0.033	0.013	0.004	0.150	0.029	0.139	0.014	0.027
PR23	Lurgan Beach-Public Walkway	0.032	0.026	0.007	0.003	0.026	0.017	0.083	0.011	0.013
PR24	Beach at 6th Conc.	N/A	0.018	0.005	0.004	0.024	0.008	0.029	0.007	0.012
PR25	Beach at 8th Conc.	N/A	0.004	0.007	0.003	0.036	0.014	0.011	0.005	0.005
PR26	Beach at 10th Conc.	0.013	0.011	0.003	0.005	0.160	0.010	0.034	0.021	0.009
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.03	0.005	0.008	0.011	0.062	0.039	0.146	0.014	0.022
PR28	Boyd Creek at Hwy. 86 East of Amberley	0.031	0.006	0.007	0.018	0.031	0.054	no flow	0.296	0.034
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.044	0.018	0.011	0.022	0.020	no flow	no flow	0.158	0.026
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.043	0.01	0.014	0.011	0.028	0.013	0.019	0.014	0.006
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	0.035	0.012	0.009	0.012	0.017	0.030	0.041	0.145	0.048
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.039	0.015	0.008	0.014	n/a	0.032	0.033	0.295	0.075
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	0.042	0.016	0.017	0.019	0.021	0.098	0.402	0.263	0.096
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	0.043	0.018	0.009	0.014	n/a	0.054	0.059	0.317	0.042

2002 RESULTS

E.coli

Nitrates

Total Phosphorus

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2002 Sampling Results**

E. coli (cfu/100ml)

SAMPLE ID	LOCATION	SAMPLE DATE								
		8-Apr	7,8-May	4,5-Jun	2,3-Jul	30,31-Jul	3,4-Sep	1,2-Oct	29,30-Oct	26,27-Nov
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	1100	30	*	650	2300	460	110	4	120
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	980	<10	*	120	120	30	40	40	1600
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	10	<10	*	480	510	300	410	140	1400
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	340	290	*	1100	680	1500	380	130	20
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	560	10	<1	110	50	160	620	30	110
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	1600	50	780	120	450	160	Dry	Dry	Dry
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	950	0	115	950	460	Dry	Dry	Dry	Dry
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	1200	0	106	350	600	40	90	20	20
PR9	Pine River-Bridge on the 15th South of 10th Conc.	700	110	640	140	32000	3400	Dry	Dry	Dry
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	1000	340	600	1200	980	1000	Dry	Dry	650
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	540	40	180	3200	Dry	Dry	Dry	Dry	Dry
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	90	50	52	720	810	Dry	Dry	Dry	Dry
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	<10	0	4	210	1700	Dry	Dry	Dry	Dry
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	450	20	680	1000	1300	Dry	Dry	Dry	Dry
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	750	50	*	240	620	Dry	Dry	34000	60
PR16	Culvert on Hwy. 86 East of Amberley	70	200	*	4900	10000	Dry	Dry	Dry	Dry
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	4000	210	*	260	12000	Dry	Dry	800	340000
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	380	90	*	1100	Dry	Dry	Dry	Dry	Dry
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	3600	100	*	170	310	1300	280	90	1300
PR20	Beach at Hwy. 86	60	10	*	470	110	1300	40	3	10
PR21	Beach off of Attawandron Road-Public Walkway	<10	10	*	310	80	980	90	3	28
PR22	Beach-Point Clark Swimming Area	<10	<10	*	80	40	560	60	110	20
PR23	Lurgan Beach-Public Walkway	10	<10	*	240	70	410	60	2	20
PR24	Beach at 6th Conc.	<10	10	*	120	50	680	60	10	0
PR25	Beach at 8th Conc.	<10	<10	*	340	50	90	30	10	1
PR26	Beach at 10th Conc.	10	0	*	820	60	500	110	4	0
PR27	Boyd Creek at Hwy. 21 (Ashfield)	330	<10	26	260	680	580	Dry	Dry	Dry
PR28	Boyd Creek at Hwy. 86 East of Amberley	430	80	168	2100	2300	1200	Dry	10	960
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	320	450	9	210	180	Dry	Dry	Dry	Dry
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	20	<10	720	280	520	10	310	10	60
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	270	30	23	150	400	100	50	30	17
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	20	60	130	110	200	530	10	50	30
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	1000	130	370	280	740	200	760	90	no flow
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	<10	10	2000	2100	2000	52	580	20	no flow

Notes: On June 4 there appeared to be a lab error with some of the results. These are marked with an *.

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2002 Sampling Results**

Nitrates (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		8-Apr	7,8-May	4,5-Jun	2,3 Jul	30,31 Jul	3,4-Sep	1,2-Oct	29.30-Oct	26,27-Nov
PR1	Pine River-Bridge on Lake Range Road North of 4th Conc. (Lowery's)	7.13	2.29	0.79	0.48	0.26	0.20	<0.1	<0.1	3.41
PR2	Clark Creek -Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	12.40	7.77	3.00	1.09	<0.1	<0.1	<0.1	<0.1	<0.1
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	5.32	2.82	0.77	0.22	<0.1	<0.1	<0.1	0.10	0.21
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	7.10	2.76	<0.1	<0.1	<0.1	<0.1	<0.1	0.10	<0.1
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	5.54	1.69	0.90	0.22	<0.1	<0.1	<0.1	<0.1	7.22
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	6.45	2.32	0.26	<0.1	<0.1	<0.1	Dry	Dry	Dry
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	7.34	5.95	0.90	<0.1	0.11	Dry	Dry	Dry	Dry
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	11.30	3.09	0.39	0.31	0.18	0.37	0.2	0.61	0.52
PR9	Pine River-Bridge on the 15th South of 10th Conc.	5.54	2.18	0.24	<0.1	<0.1	<0.1	Dry	Dry	Dry
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	5.80	3.85	0.70	0.27	0.63	<0.1	Dry	Dry	7.74
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundar	6.32	3.04	0.86	<0.1	Dry	Dry	Dry	Dry	Dry
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	5.15	1.28	0.46	0.77	0.12	Dry	Dry	Dry	Dry
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	2.59	0.16	<0.1	<0.1	<0.1	Dry	Dry	Dry	Dry
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	5.67	3.30	0.34	0.91	0.56	Dry	Dry	Dry	Dry
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	9.13	5.98	1.50	0.11	<0.1	Dry	Dry	<0.1	5.96
PR16	Culvert on Hwy. 86 East of Amberley	11.00	7.75	4.20	5.53	0.54	Dry	Dry	Dry	Dry
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	13.20	11.90	4.46	3.49	0.47	Dry	Dry	1.06	<0.1
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	10.40	9.50	3.61	3.17	Dry	Dry	Dry	Dry	Dry
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	12.30	7.26	2.84	1.92	<0.1	<0.1	<0.1	<0.1	1.87
PR20	Beach at Hwy. 86	4.19	2.02	0.82	0.75	0.30	0.31	0.22	0.39	0.28
PR21	Beach off of Attawandron Road-Public Walkway	1.94	0.85	0.58	0.56	0.25	0.35	0.21	n/a	0.69
PR22	Beach-Point Clark Swimming Area	1.90	0.46	0.62	0.60	0.25	0.26	0.20	0.36	0.32
PR23	Lurgan Beach-Public Walkway	6.98	1.13	0.39	0.64	0.26	0.26	0.18	0.34	0.30
PR24	Beach at 6th Conc.	6.15	0.72	0.42	0.64	0.25	0.26	0.17	0.32	0.28
PR25	Beach at 8th Conc.	3.43	0.60	0.35	0.67	0.27	0.25	0.17	0.34	0.30
PR26	Beach at 10th Conc.	0.82	0.75	0.17	0.65	0.27	0.23	0.16	0.34	0.32
PR27	Boyd Creek at Hwy. 21 (Ashfield)	7.81	3.04	2.18	0.60	<0.1	<0.1	Dry	Dry	Dry
PR28	Boyd Creek at Hwy. 86 East of Amberley	7.51	5.04	2.60	0.86	<0.1	0.22	Dry	0.17	0.48
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	7.82	5.14	0.87	<0.1	0.14	Dry	Dry	Dry	Dry
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	6.74	2.39	1.55	0.87	<0.1	<0.1	<0.1	<0.1	1.46
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	6.42	3.38	1.85	0.86	<0.1	<0.1	<0.1	1.84	4.34
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	5.59	2.36	0.36	0.80	0.12	<0.1	0.22	2.00	0.11
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	5.00	2.92	0.87	0.43	0.40	<0.1	0.16	2.20	no flow
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	6.64	3.60	1.10	1.26	0.63	0.76	0.44	1.33	no flow

**Township of Huron-Kinloss
Pine River Water Quality Monitoring Program
2002 Sampling Results**

Total Phosphorus (mg/l)

SAMPLE ID	LOCATION	SAMPLE DATE								
		8-Apr	7,8-May	4,5-Jun	2,3 Jul	30,31 Jul	3,4-Sep	1,2-Oct	29,30-Oct	26,27-Nov
PR1	Pine River-'Bridge on Lake Range Road North of 4th Conc. (Lowery's)	0.039	0.014	0.011	0.028	0.114	0.030	0.041	0.051	0.084
PR2	Clark Creek -'Bridge on Lake Range Road North of 2nd Conc. (Deer Run Estates)	0.045	0.023	0.027	0.041	0.045	0.126	0.081	0.070	0.210
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.020	0.008	0.011	0.021	0.055	0.106	0.081	0.096	0.127
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.085	0.014	0.017	0.033	0.077	0.113	0.109	0.043	0.046
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.112	0.029	0.052	0.010	0.102	0.106	0.133	0.059	0.023
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.163	0.007	0.022	0.029	0.063	0.137	Dry	Dry	Dry
PR7	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.077	0.031	0.038	0.095	0.202	Dry	Dry	Dry	Dry
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.215	0.009	0.015	0.024	0.036	0.022	0.020	0.015	0.019
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.102	0.020	0.047	0.076	0.221	1.200	Dry	Dry	Dry
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.160	0.062	0.353	0.512	3.080	2.480	Dry	Dry	0.357
PR11	Royal Oak Creek-Bridge on Sideroad 5 North of Huron Twp./Kincardine Twp. Boundary	0.150	0.013	0.013	0.059	DRY	0.183	Dry	Dry	Dry
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc.	0.067	0.011	0.014	0.063	0.120	Dry	Dry	Dry	Dry
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc.	0.101	0.016	0.034	0.075	0.591	Dry	Dry	Dry	Dry
PR14	South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc.	0.061	0.012	0.031	0.033	0.059	Dry	Dry	Dry	Dry
PR15	Clark Creek-Bridge on Hwy. 21 South of 2nd Conc.	0.048	0.016	0.022	0.027	0.140	Dry	Dry	0.120	0.014
PR16	Culvert on Hwy. 86 East of Amberley	0.031	0.031	0.054	0.170	0.121	Dry	Dry	Dry	Dry
PR17	Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc.	0.276	0.166	0.194	0.343	1.570	Dry	Dry	1.200	2.660
PR18	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.052	0.008	0.018	0.042	Dry	Dry	Dry	Dry	Dry
PR19	Clark Creek-Bridge on 2nd Conc. East of Lake Range Road	0.061	0.091	0.104	0.060	0.241	0.295	0.287	0.082	0.198
PR20	Beach at Hwy. 86	0.055	0.091	0.031	0.013	0.020	0.116	0.023	0.006	0.014
PR21	Beach off of Attawandron Road-Public Walkway	0.091	0.026	0.018	0.016	0.042	0.110	0.142	0.013	0.013
PR22	Beach-Point Clark Swimming Area	0.015	0.029	0.007	0.004	0.024	0.112	0.057	0.026	0.021
PR23	Lurgan Beach-Public Walkway	0.021	0.009	0.006	0.014	0.028	0.036	0.084	0.009	0.017
PR24	Beach at 6th Conc.	0.013	0.005	0.007	0.013	0.016	0.029	0.047	0.020	0.018
PR25	Beach at 8th Conc.	0.012	0.005	<0.002	0.005	0.009	0.008	0.071	0.026	0.007
PR26	Beach at 10th Conc.	0.066	0.005	0.002	0.010	0.025	0.013	0.078	0.020	0.006
PR27	Boyd Creek at Hwy. 21 (Ashfield)	0.084	0.006	0.016	0.016	0.035	0.183	Dry	Dry	Dry
PR28	Boyd Creek at Hwy. 86 East of Amberley	0.120	0.005	0.028	0.048	0.060	0.050	Dry	0.017	0.155
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.086	0.008	0.010	0.036	0.180	Dry	Dry	Dry	Dry
PR30	Eighteen Mile Creek at Hwy. 21 (Ashfield)	0.037	0.013	0.014	0.020	0.035	0.030	0.021	0.024	0.021
PR31	Eighteen Mile Creek at Hwy. 86 East of Amberley	0.078	0.007	0.013	0.026	0.057	0.048	0.035	0.027	0.034
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.049	0.007	0.014	0.028	0.041	0.031	0.020	0.014	0.019
PR33	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession	0.175	0.008	0.019	0.023	0.040	0.026	0.031	0.014	no flow
PR34	Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc.	0.154	0.005	<0.002	0.033	0.630	0.042	0.033	0.127	no flow

APPENDIX B

INVENTORY OF SAMPLING LOCATIONS

Pine River Water Monitoring Program
Township of Huron-Kinloss
Inventory of Sampling Locations 2009



PR 1

Bridge over Pine River on Lake Range Road, South of Lurgan Beach Road.

PR 1-Facing WEST



PR 3-Looking across EAST side of bridge



PR 3-Looking down over bridge on EAST side

PR 3

South Pine River Bridge on Highway 21, North of Concession 6



PR 4-Looking across EAST side of bridge

PR 4

Pine River tributary Bridge on Hwy
21 North of Concession 6



PR 4- Looking down over bridge on EAST side



PR 5-Looking across river on EAST side

PR 5

Pine River Tributary, Bridge on Highway 21 North of
Concession 8

PR 6

Concrete Bridge over South Pine River on Sideroad 25 North of Concession 6 east.



PR 6-Looking over Bridge on EAST side



PR 7 – Facing WEST

PR 7

Concrete Culvert, South of Concession 4 on Sideroad 25.

PR 8

Rounded top concrete culvert over the South Pine River, on Bruce County Road 7, North of 6th Concession.



PR 8 –Facing WEST over Pine River tributary



PR 9-Looking across bridge on EAST side



PR 9-Looking at River on EAST side

PR 9

Pine River concrete bridge on County Road 7, south of 10th Concession



PR 10-Looking WEST over dual CSPs



PR 10- WEST side of creek

PR 10

Royal Oak Creek; dual CSPs on County Road 7, north of concession 12



PR 12 –Facing EAST over CSP

PR 12

Bridge over CSP crossing Pine River at Huron Twp./Kinloss Twp. Boundary south of Concession 12.

PR 13

South Pine River bridge at Huron Twp./Kinloss Twp. Boundary south of 8th Concession.



PR 13 –Facing EAST



PR 17 – Facing EAST over Concrete Culvert

PR 17

Pine River Tributary, Southern Culvert at South Baseline Road North of 4th Concession



PR 20

Amberley Beach at Hwy 86 (Ashfield/Huron Boundary)



PR 21

Amberley Beach off Attawandron Road-Public Walkway



PR 22

Beach at Lighthouse in Point Clark-Public Swimming Area





PR 23

Lurgan Beach off of Lake Range Road- Public Walkway



PR 24

Beach at end of Concession 6 West



PR 25

Beach at end of Concession 8 & Lake Range Road



PR 26

Beach at end of Concession 10/Lake Range Road



PR 27-Looking across EAST side of culvert



PR 27-Facing EAST

PR 27

Boyd Creek concrete bridge/culvert on Highway 21(Ashfield)



PR29-Looking down on WEST side of creek



PR 29-Looking WEST over culvert

PR 29

Boyd Creek on Sideroad 20, just south of Concession 4



PR 30-Facing EAST across bridge



PR 30-Facing East over bridge

PR 30

Bridge over Eighteen Mile River on Highway 21



PR 32-Facing WEST

PR 32

Concrete Culvert over Eighteen Mile River on the 15th North of Concession 2