
TOWNSHIP OF HURON-KINLOSS

**BASELINE SURFACE
WATER QUALITY MONITORING PROGRAM**

2023 ANNUAL REPORT



BMROSS
engineering better communities

TOWNSHIP OF HURON-KINLOSS

BASELINE SURFACE

WATER QUALITY MONITORING PROGRAM

2023 ANNUAL REPORT

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B. M. ROSS AND ASSOCIATES LIMITED
Engineers and Planners
62 North Street
Goderich, ON N7A 2T4
Phone: 519-524-2641
www.bmross.net

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**TOWNSHIP OF HURON-KINLOSS
BASELINE SURFACE WATER
QUALITY MONITORING PROGRAM
2023 ANNUAL REPORT**

1.0 PURPOSE OF MONITORING

The Township of Huron-Kinloss has long supported environmental stewardship activities, and has conducted surface water quality monitoring on watercourses throughout the municipality, for two decades. The purpose of the Pine River monitoring program is to establish and maintain a dataset of water quality information that will assist the Township of Huron-Kinloss in the future evaluation of development proposals. The water quality dataset 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 dataset 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 (now integrated into the Baseline Monitoring Program) has been maintained 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 results for comparative use. The latest sampling year, 2023, was the twenty-third year of the continuous monitoring program for Pine River and the twenty-fourth year for sample collection in Point Clark.

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 partnered with Bruce County in 2013 and 2014 to further investigate this sub-watershed 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 intermittent 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.

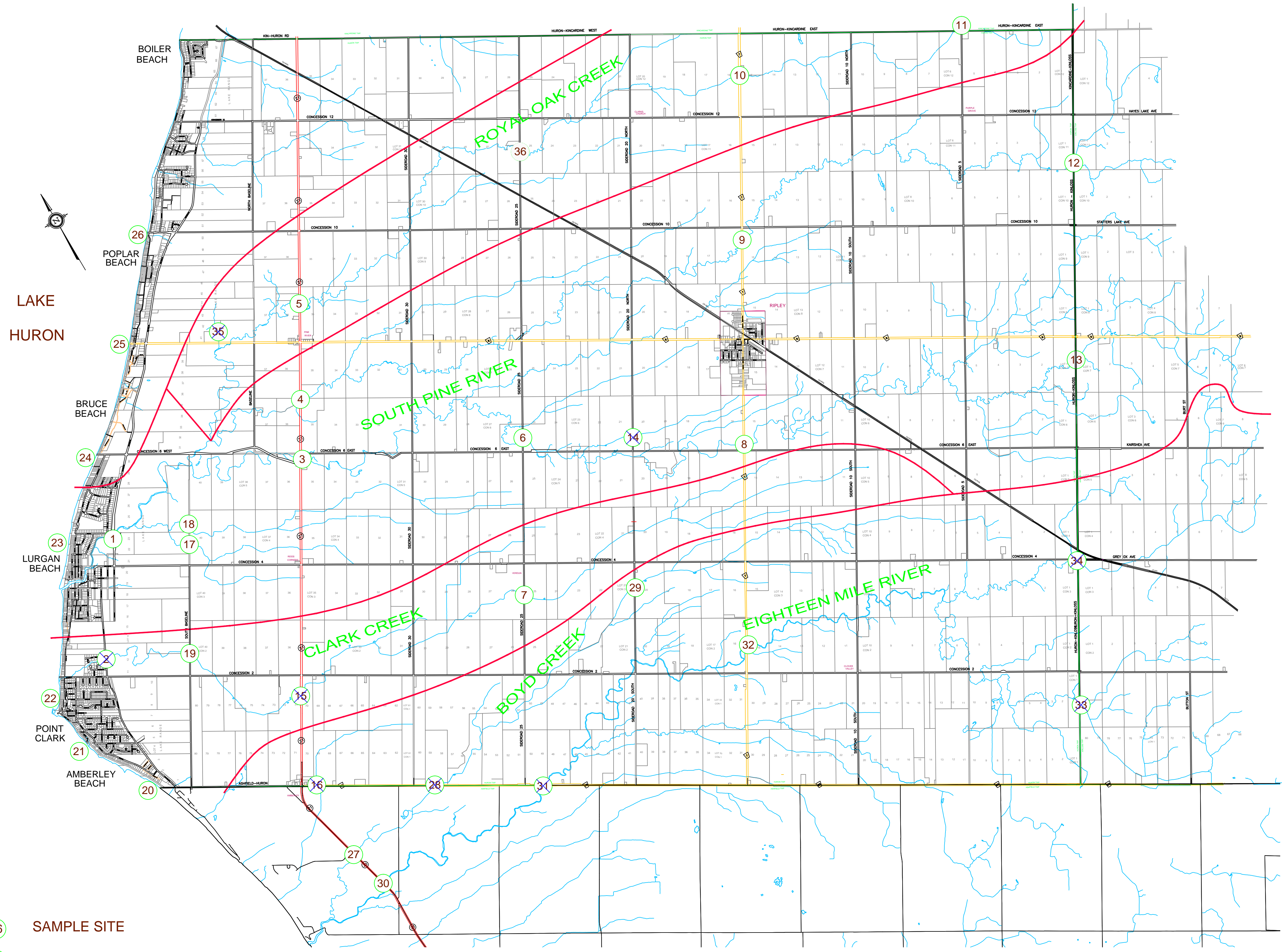
Additional sites were sampled from 2001-2004 to fill gaps in the study area. Since 2005, 16 sites have defined the program; three sites along Lake Huron beaches, three along Clark Creek, and eight along Jardine Creek. In 2017, in an effort to identify sections between Jardine Creek Sites 9 and 8 that 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 presented a consolidated sampling program which would continue to capture the general health of the watershed with respect to nutrient and bacteria levels. The existing Pine River sampling sites could remain in the program, 6 Point Clark sites could be retired, with the remaining Point Clark sites sampling frequency changed from bi-weekly to monthly. The Point Clark sites would continue to capture the general water quality conditions of the area, as well as increased detail through Jardine Creek, which has historically displayed increased bacteria concentrations. The consolidated program tests for bacteria as well as the nutrients nitrate and phosphorus. Nitrate and phosphorus are additional parameters for the Point Clark sites and can be used to inform water quality and bacteria trends through the Point Clark watershed.

The 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 sample locations can be found in Appendix B.

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

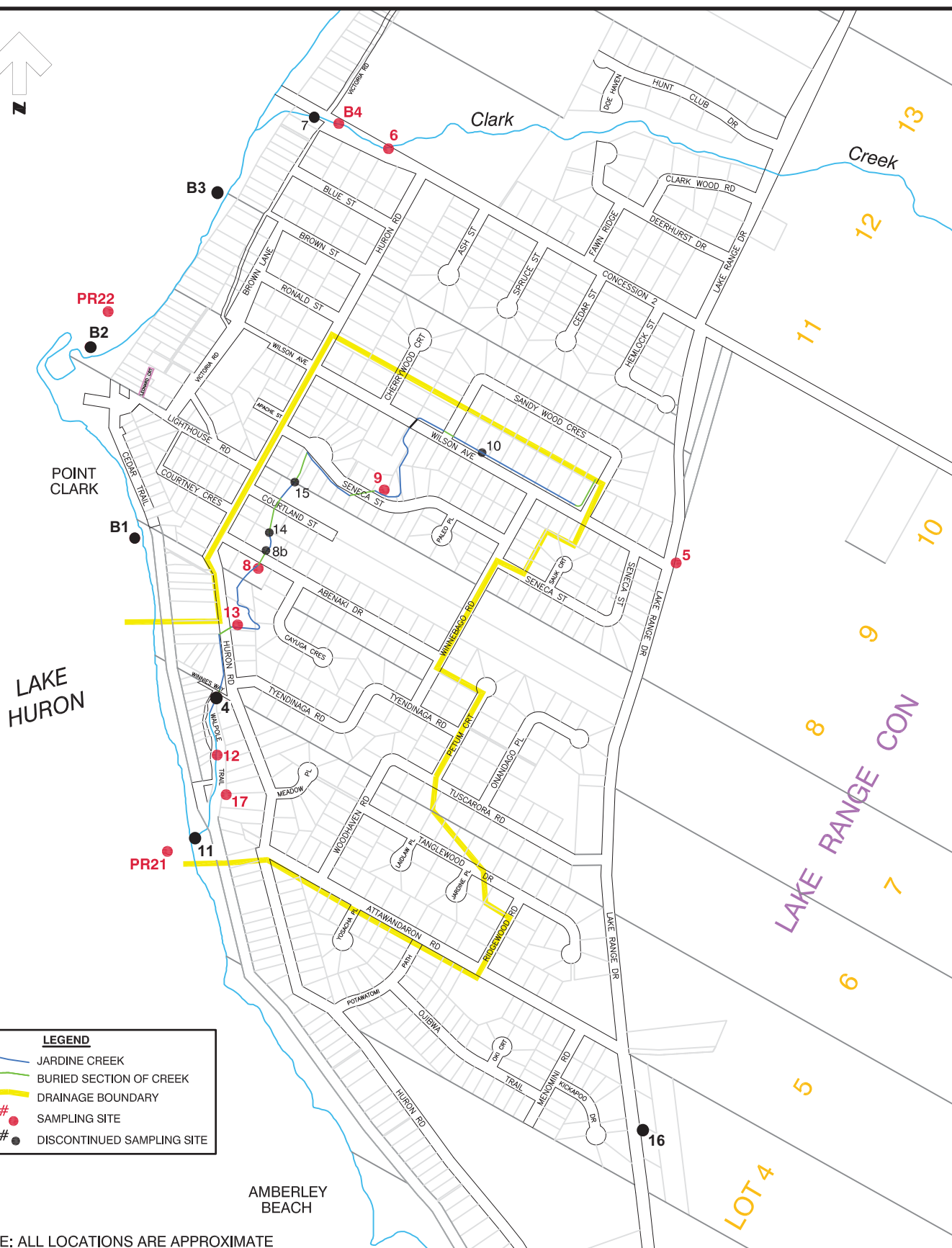


- 16 SAMPLE SITE
- X DISCONTINUED SAMPLING
- SUBWATERSHED BOUNDARY



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

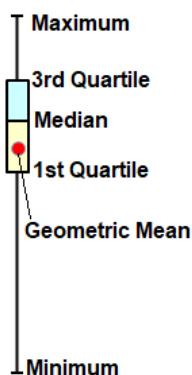
3.0 DISCUSSION AND RESULTS

Statistically confident statements about the condition of watercourses and locations of point sources of pollutants are typically not found through the Program data, but certain patterns can be described. Relationships between sample site results and their surrounding non-point source area, and trends over time can be described; with variables including weather, the distribution and intensity of rainfall events, the nature of the pollution sources, and the nature of the sampling protocol as constraints that should be considered when evaluating results.

Water samples were taken on a monthly basis, 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 typically 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.

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 are 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. The median, minimum and maximum values, as well as a first and third quartile value are included in each box plot, for each site. 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 their exponential growth potential and the large variation in reported values.



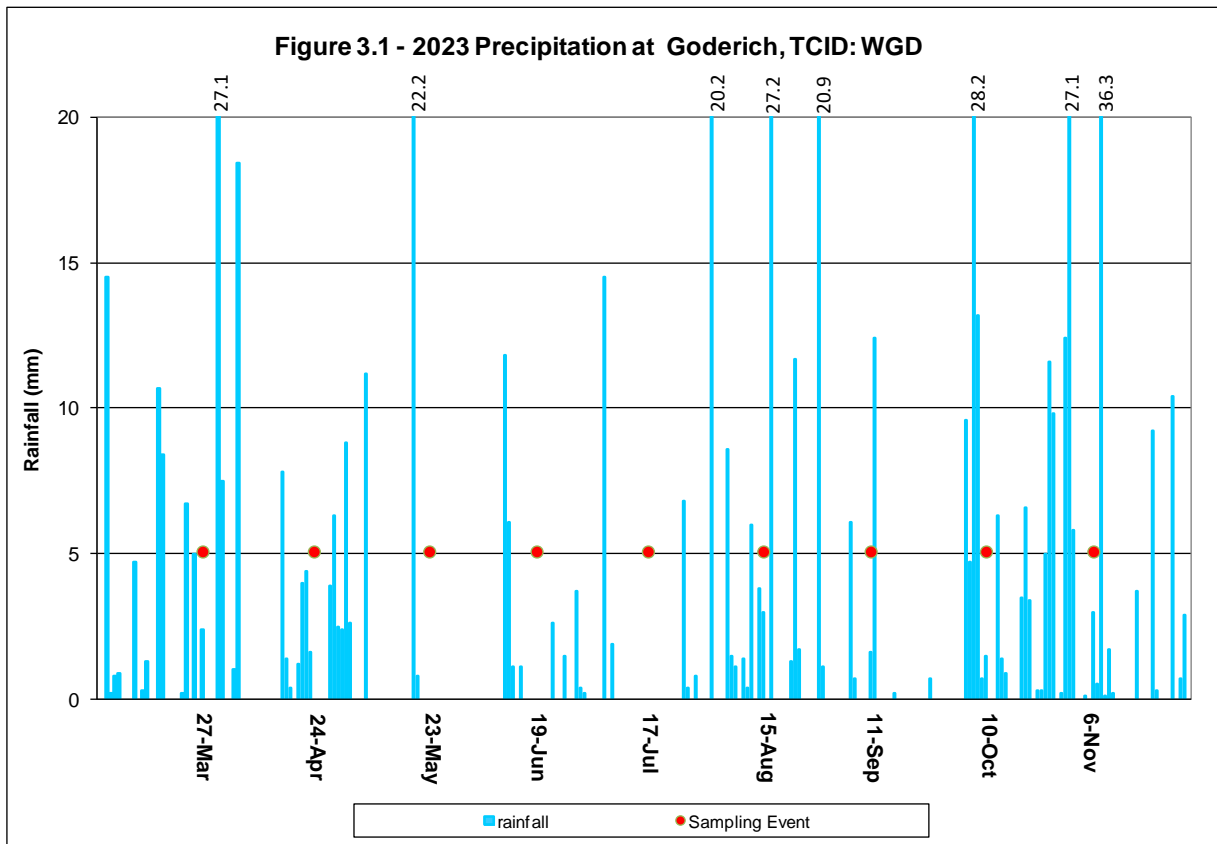
3.1 Weather, Rainfall and Water Levels

Weather and rainfall through the sampling season 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 additionally for lakes, from wave and wind action. Specific relationships between increased results and weather conditions are not statistically correlated in this report; however, for illustrative purposes the recorded rainfall for the Pine River area is presented in Figure 3.1. The data is obtained from the Goderich WMO weather station 71261. Water levels were previously obtained from the Environment Canada hydrometric station 02FD001 for Pine River at Lurgan Beach. Station 02FD001 has been decommissioned and data is unavailable after August 2020.

Increased water levels correspond 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. 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, adjacent land use, plant productivity and the stage of crop development in agricultural areas, and the sampling protocol. Time of day, sample depth and the sampling protocol are controlled by the field technician, and all factors should be considered when interpreting results.

**Table 3.1
 Summary of Sampling Season Precipitation**

Sampling Year	Seasonal Precipitation (March-November)
2023	592.3 mm
2022	551.9 mm
2021	797.3 mm
2020	507.3 mm
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*)

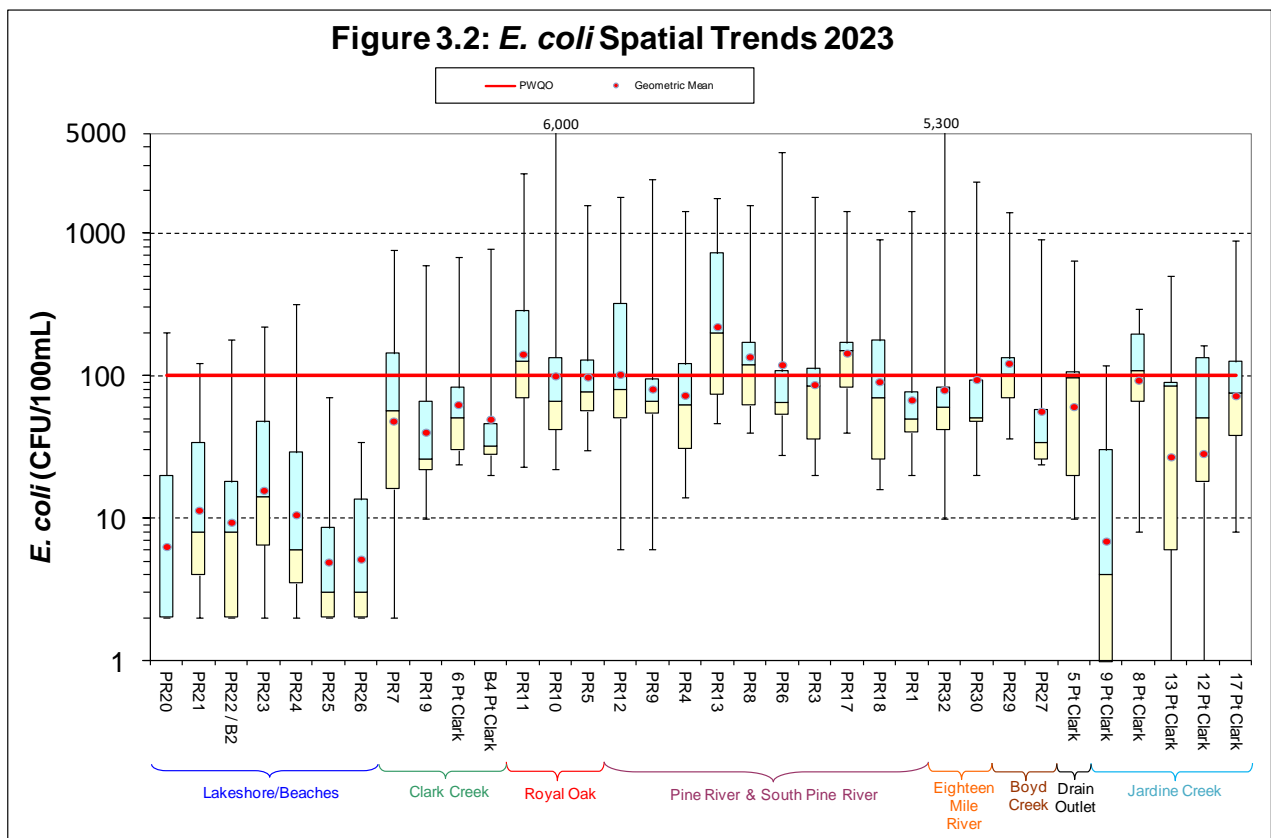
E. coli are shed with warm-blooded animal waste and its presence can be used as an indicator for contamination. *E. coli* is not naturally mobile so once shed it will stay in its original location unless transported, usually through surface runoff and through waterbodies. *E. coli* typically can survive up to 48 hours once shed, but has been shown to survive for more than a week while traveling through water bodies, and can form perpetual colonies under proper conditions such as in shallow lake sediment and the swash zone and other environments conducive to survival such as decomposing vegetation.

The Provincial Water Quality Objective (PWQO) for the concentration of *E. coli* in recreational waters is 100 cfu/100 mL (CFU). Other than the Lake Sites PR20 to PR26, 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 2023. Sites are grouped by watershed group and are ordered from upstream to downstream within each watershed group. The box plot chart shows that *E. coli* levels vary within each monitoring site as well as between monitoring locations. Lake site results are generally well below the PWQO and lower than in-stream sites, while in-stream sites results are higher and regularly have a higher range of variability.

Lake sites PR20-PR26 results show geometric means below the PWQO, with the box-plot range showing most individual results in 2023 below the PWQO. Only 10 of the 63 lake samples collected were above the PWQO, ranging from 100-320 CFU. The results include four October samples marked as overgrown and counted as exceedances. Most exceedances occurred in the

July and October events, where the July event had one significant rainfall eleven days prior and the October event had nearly 60mm of rainfall throughout the five prior days. The other 2023 events had typically good results and variability in preceding rainfall, and were not always preceded by little rainfall, highlighting the compounding nature of weather related loading factors. Environmentally based colonies can perpetuate and grow in warm, calm and survival conducive conditions, rainfall mediated *E. Coli* transport is a loading factor for lakes. Lake mixing and sediment upturn from wind works to distribute overland loading from rainfall events and upturn works to distribute the lake's own *E. Coli*.

Figure 3.2 shows a typical range for inland site results of about 20-200 CFU, with some larger individual sample exceedances, with most sites showing typically good results in 2023. The highest seasonal geometric means occurred at PR13. The range of geometric means for inland sites was about 20-100 CFU. Eight of the twenty-seven inland sites show geometric means above the PWQO, with these ranging from 100-221 CFU.



Transport distance and survivability of *E. Coli* downstream is not defined and is difficult to determine. Assuming a factor of partial transport and survivability of *E. Coli* downstream, ignoring inputs along the reach we can expect a decrease downstream from an upstream location for sites within each watershed group. Generally elevated watershed groups represent stewardship opportunities through the entire catchment, and elevated results at single sites represent opportunities located within the more local upstream reach.

Clark Creek concentration was consistent through its reach and was typically below the PWQO. Attenuation downstream is not noted, as with such good results and the exponential nature of *E. Coli*, the observed typical variability of 20 to less than 100 CFU is considered nearly consistent. Royal Oak site PR11 is adjacent to agricultural fields and is downstream of livestock activity, where results generally attenuate through downstream sites PR10 and PR5 to typically good results.

The Pine River group consists of multiple reaches. PR12 is the initial upstream site of a Pine River reach and may attenuate through PR9 and PR4, however in 2023 the results are consistent and typically under the PWQO. PR13, PR8, PR6 and PR3 are ordered sites within another reach of Pine River and show attenuation downstream, with sites PR6 and PR3 showing nearly consistently good results. PR17 and PR18 are close proximity upstream sample points along separate small reaches and are in the vicinity of farming and homestead activity. PR1 is located at the confluences of all upstream reaches and represents the attenuated loadings from all upstream catchments and showed nearly consistently excellent results through the 2023 sampling season.

Eighteen Mile River sites have nearly consistently low results through the River’s reach. Boyd Creek Sites PR29 and PR27 show attenuation downstream. Point Clark sites are in close proximity and generally show excellent results through the catchment. Site 5 is located outside of Point Clark in a roadside ditch, at the outlet a large drainage area, where inputs are likely related to farming and wildlife activity within its catchment. Jardine Creek Site 8 was observed to have a white coloured streambed film and sewage like smell throughout much of the sampling season. Jardine Creek’s downstream Sites 12 and 17 generally show good results through the 2023 sampling season.

The seasonal geometric means and percent of samples exceeding the PWQO for each sub-watershed’s group of sites are presented in Table 3.2. In 2023 only the Pine River group showed a combined seasonal geometric mean above the PWQO, with 5 of the 10 individual seasonal means above the PWQO. One Boyd Creek and two Royal Oak sites had seasonal geometric means above the PWQO, and all other sites’ seasonal geometric means were below the PWQO.

Table 3.2
Watershed Group Geometric Means and Percent over Guideline for *E. coli* in 2023

Stream Group	Geometric Mean (cfu/100 mL)	Percent at or over PWQO
Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26)	10	16%
Pine River – (PR12, PR9, PR4, PR13, PR8, PR6, PR3, PR17, PR18, PR1)	106	41%
Clark Creek – (PR7, PR19, 6, B4)	44	28%
Royal Oak Creek – (PR11, PR10, PR5)	84	40%
Eighteen Mile River – (PR32, PR30)	87	17%
Boyd Creek – (PR29, PR27)	83	39%
Jardine Creek, Point Clark – (9, 8, 13, 12, 17)	55	37%
Field Tile Drain at Point Clark – (5)	61	44%
<i>Bold indicates geometric mean equals or exceeds PWQO</i>		

Increased *E. coli* levels in surface water are influenced by many factors. Wildlife populations, including large groups such as waterfowl, which can shed great amounts of *E. coli*. Homestead animal activity and pet care can also contribute loadings. 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 1 mg/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 distribution of nitrate results for 2023 is presented in Figure 3.3. Lake sites show consistently excellent results, with one sample exceeding the CWQG in all of 2023. In contrast, many inland sites were nearly consistently elevated through the 2023 sampling season, highlighting a reduction factor for lake sites. For inland sites, the June, August and September events showed almost no exceedance and may highlight the relationship between loading, transport, and plant productivity changes.

Clark Creek Sites PR7, PR19, 6 and B4 show very similar variability and a median of about 8.5mg/L. Sites 6 and B4 are located at the edge of Point Clark and receive a relatively small proportion of loadings from Point Clark. Site 5 is located at the outlet of a large catchment of typically agricultural land-use within the Clark Creek Catchment and has a high median, indicating consistently elevated nitrate through the Clark Creek catchment. Royal Oak Site PR11 is particularly elevated, with downstream Sites PR10 and PR5 showing attenuation to medians still above the CWQG; indicating a loading factor change upstream of PR11 in the Royal Oak catchment.

Pine River and South Pine River sites are generally elevated, with PR17 and PR18 being particularly high. These two sites have catchments within an agricultural landscape and could represent generally elevated conditions or upstream point-loading. Sites within Point Clark contrasted the generally elevated results of the Pine River watershed, with Jardine Creek results showing low variability, generally below the CWQG. The Eighteen Mile River group shows a median over 4 mg/L and the Boyd Creek results show a median of over 10mg/L.

Medians and percent of samples exceeding the CWQG for each group are presented in Table 3.3. Lake sites display low results, with all median concentrations well below the CWQG. For inland sites, only the Jardine Creek watershed had a group median below the CWQG. All other inland groups had medians above the CWQG, and only Site PR12 had medians below the CWQG.

Nitrate in the Lake is partly sourced from overland inputs and it is apparent there is a reduction factor influencing the consistently low results at the lake group of sites. The groups with elevated medians highlight the soluble nature of nitrate in a mostly agricultural landscape, where it becomes mobilized through overland flow and the soil column and can remain elevated in streams as their discharge and water levels retain the ability to transport soil, particulate and soluble nutrients, and as plant productivity becomes unable to utilize the nutrients. Rain accumulation in the week prior to sampling was common for events in 2023. This could indicate proportionally more transport through the nutrient rich soil column than through heavy rain and runoff, resulting in the consistently higher levels in 2023.

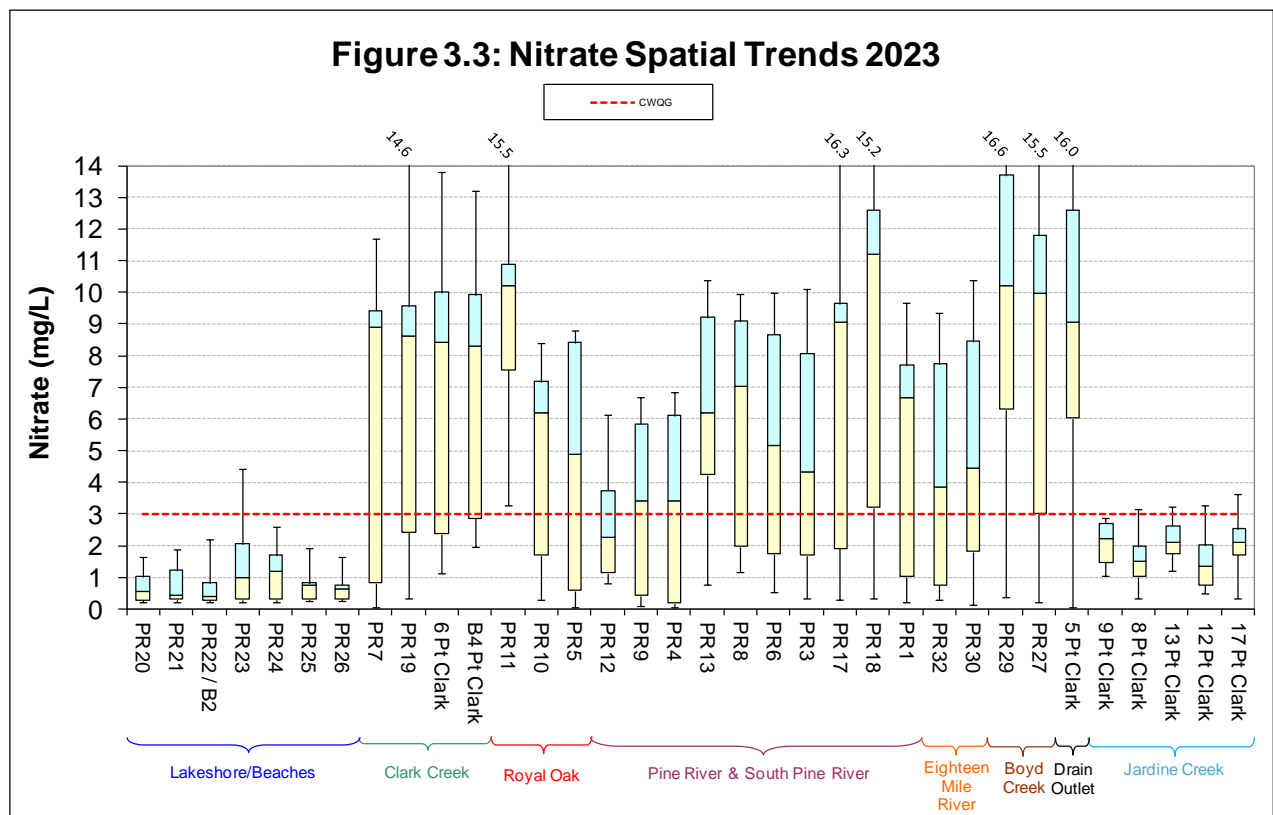


Table 3.3
Watershed Group Medians and Percent over Guideline for Nitrate in 2023

Stream Group	Median (mg/L)	Average (mg/L)	Percent over CWQG
Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26)	0.53	0.87	2%
Pine River – (PR12, PR9, PR4, PR13, PR8, PR6, PR3, PR17, PR18, PR1)	5.12	5.42	64%
Clark Creek – (PR7, PR19, 6, B4)	8.54	7.20	67%
Royal Oak Creek – (PR11, PR10, PR5)	7.58	6.98	73%
Eighteen Mile River – (PR32, PR30)	4.16	4.56	56%
Boyd Creek – (PR29, PR27)	10.08	8.63	78%
Jardine Creek, Point Clark – (9, 8, 13, 12, 17)	1.9	1.9	12%
Field Tile Drain at Point Clark – (5)	9.06	8.78	78%
<i>Bold indicates median equals or exceeds CWQG</i>			

3.4 Total Phosphorus

Phosphorus in the environment is usually bound to soil as phosphate, and is not as water soluble as nitrate. Dissolved and ortho-phosphorus are forms of soluble phosphorus that are also found in the landscape at various concentrations, depending on land use. Rain events tend to wash particulate, sediment and soils into streams which elevates phosphorus levels during those events until it is rebound, or particles settle in the waterbody. Phosphorus is also a plant 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, including agricultural chemicals, animal waste, and septic waste.

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

- 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 distribution of phosphorus results for 2023 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 sites had a combined median of 0.020 mg/L and the interim PWQO was exceeded in 51% of lake samples. All inland sites had good flow conditions in 2023 and results may reflect more consistent nutrient loading and transport through the catchments, and less of a dilution effect at the Lake than typical years. The June 19 event results had a higher detection limit of 0.03mg/L, and are in most sites' cases likely lower than reported. Removing the June results drops the Lake median below the PWQO.

Eighteen of the twenty-seven inland sites, and three group watersheds had elevated seasonal medians with 64% of individual inland samples exceeding the PWQO. Removing the June 19 results only slightly reduces exceedances and medians. Many inland sites displayed lower variability, where typically the sites with higher seasonal medians also had higher variability.

Clark Creek PR7 results were slightly elevated and displayed higher relative variability, where results appear to lower and generally reduce in variability through downstream sites. Point Clark Site 5 is at the outlet of agricultural drainage within the Clark Creek catchment and shows similar results to PR7. Royal Oak upstream Site PR11 was consistently very high, with downstream results at PR10 and PR5 becoming lower and reducing in variability at PR5. Higher upstream results could reflect upstream or site adjacent landscape factors or land use practices, with the downstream attenuation factors including soil uptake and plant productivity, and settling through waterways and the landscape including buffers and tree stands. Pine River and South Pine River results were generally low or not high above the PWQO, with the exception of PR17. The Jardine Creek group results contrast to their particularly low nitrate results. Their results may be mediated by factors different than the predominantly rural sites of the program, such as lawn fertilizer, septic activity, or other organic material. Initiatives to improve results at elevated sites could improve the downstream watershed and decrease group watershed medians toward levels below the CWQG.

With large catchment areas between elevated sites, opportunities for mitigation and attenuation projects exist anywhere along the stream reaches and catchments, including identifying source areas through additional sampling. If further understanding of the phosphorus loading to Site PR17 is desirable, there is an opportunity to add a sampling location on Concession 4, at a stream branch within PR17's catchment.

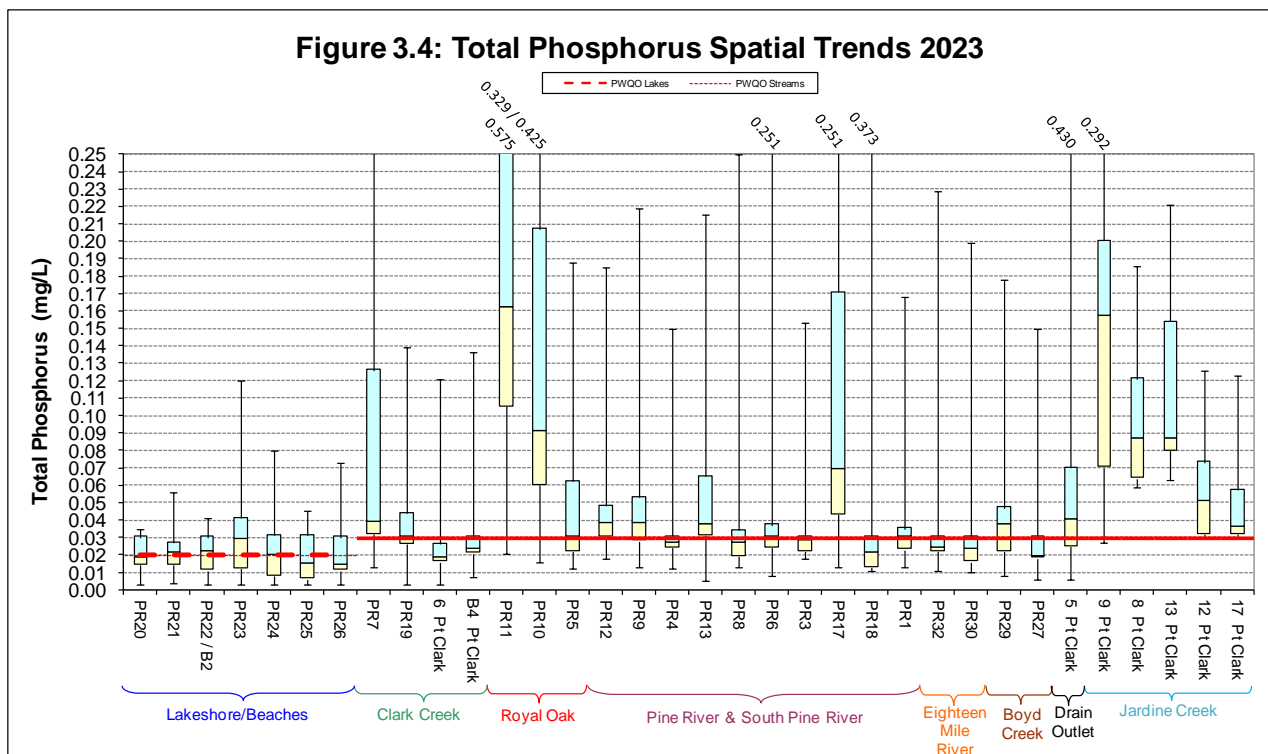


Table 3.4
Watershed Group Medians and Percent over Guidelines for Phosphorus in 2023

Stream Group	Median (mg/L)	Average (mg/L)	Percent over PWQO
Lake – (PR20, PR21 , PR22 , PR23 , PR24 , PR25, PR26)	0.020	0.0024	51%
Pine River – (PR12 , PR9 , PR4, PR13 , PR8, PR6 , PR3, PR17 , PR18, PR1)	0.030	0.059	58%
Clark Creek – (PR7 , PR19 , 6, B4)	0.029	0.050	50%
Royal Oak Creek – (PR11 , PR10 , PR5)	0.049	0.102	67%
Eighteen Mile River – (PR32, PR30)	0.024	0.048	33%
Boyd Creek – (PR29 , PR27)	0.029	0.042	50%
Jardine Creek , Point Clark – (9 , 8 , 13 , 12 , 17)	0.073	0.091	98%
Field Tile Drain at Point Clark – (5)	0.040	0.102	67%
<i>Bold indicates median equals or exceeds PWQO</i>			

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 2023.

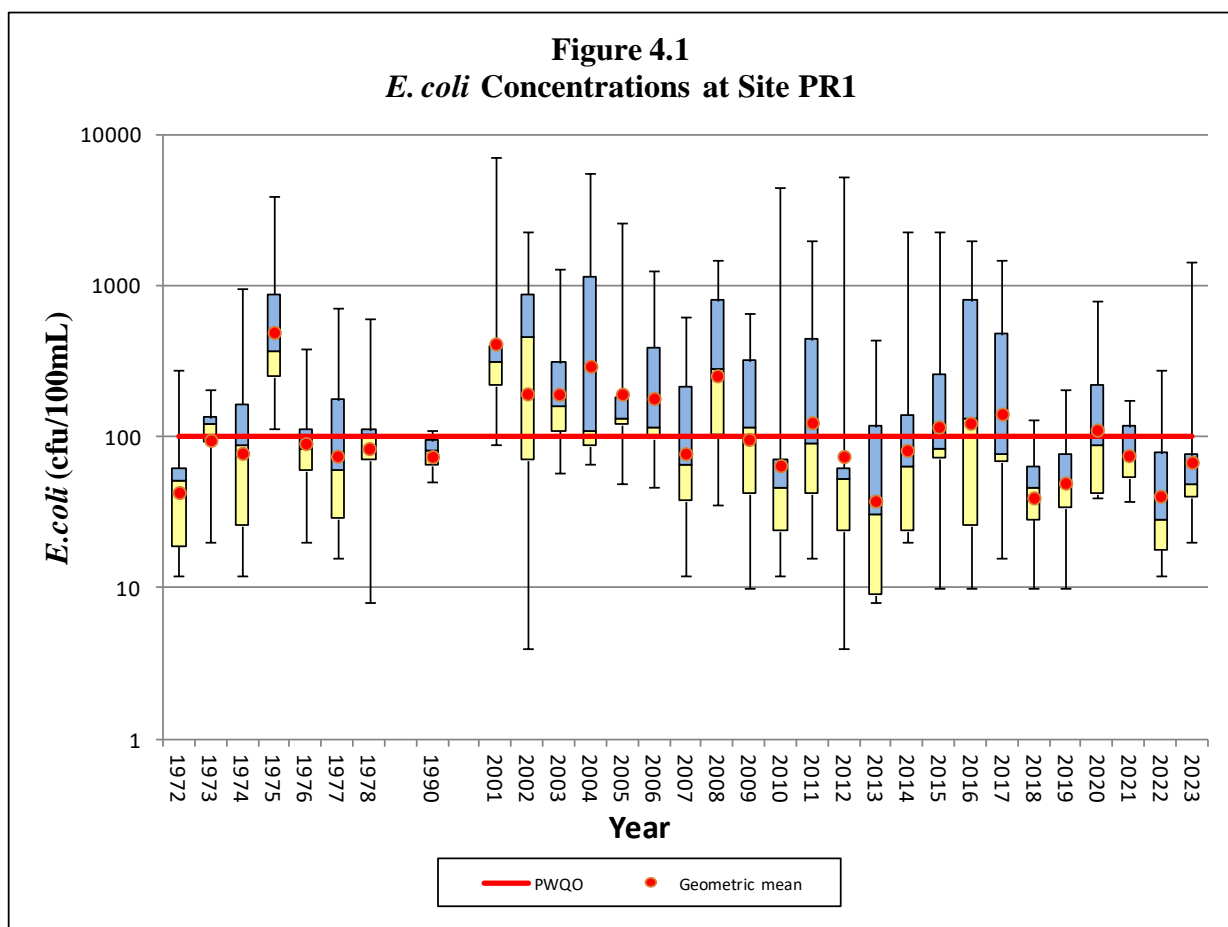
4.2 *E. coli*

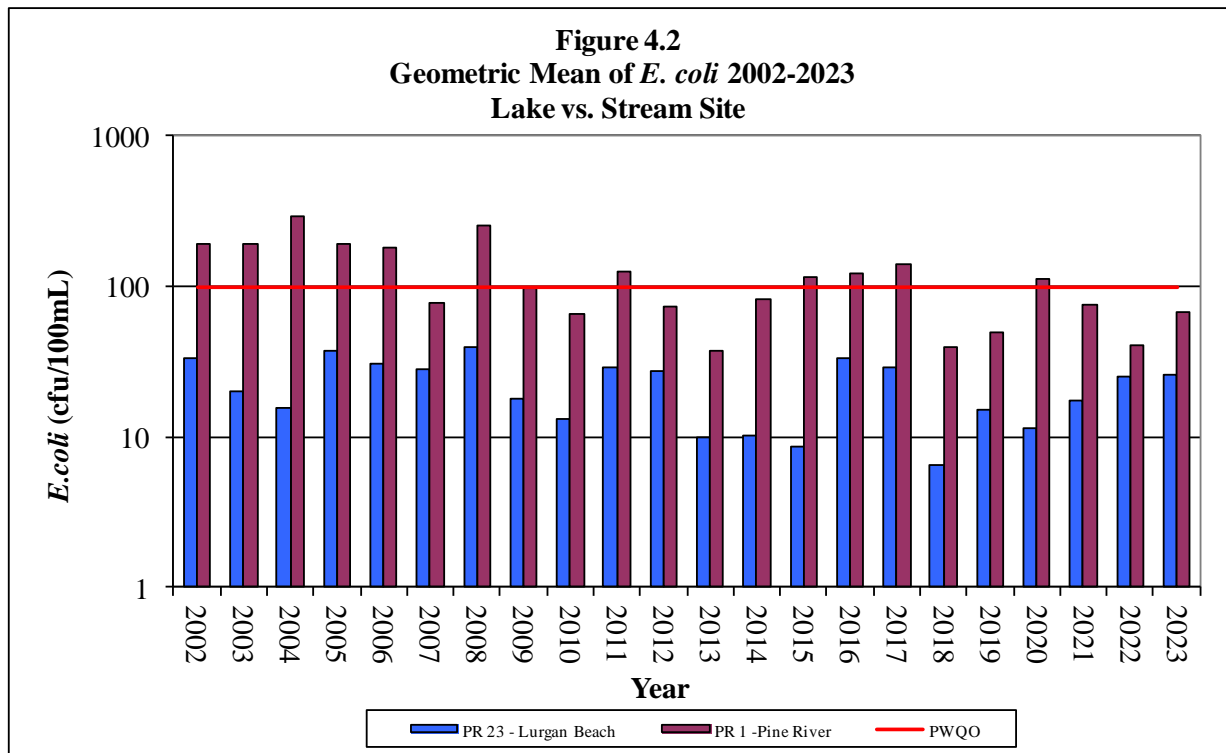
Figure 4.1 presents the 1972 to 1978 historical sample data, the 1990 data, and the data from the current monitoring period Site PR1. The Figure shows that the current and historic group of samples have similar variability, likely due to the influence of the timing of loading factors and weather conditions on measured populations. The variability of geometric means slightly above and below the PWQO throughout the entire monitoring history do not indicate consistent or high concentration loading factors, or a change in inputs between time periods, and may represent a snapshot of the typical natural and agricultural landscape in the monitoring area.

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 2023 sample results are similar to previous years; the stream site continues to have higher bacteria counts than the lake site. Figure 4.22 also shows PR1’s seasonal geometric mean below the PWQO for 5 of the past 6 years. *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.

PR1 results are generally higher than the lake site and have been marginally elevated above the PWQO, with many years, especially recently, showing seasonal medians below the PWQO. PR1 is located at the downstream confluence of the Pine River group of sampling sites and is typically in the low range of group results. Given an expectation of attenuation with no other loading factors, downstream confluence sites may be generalized to represent minimum baseline concentrations for a watershed group.

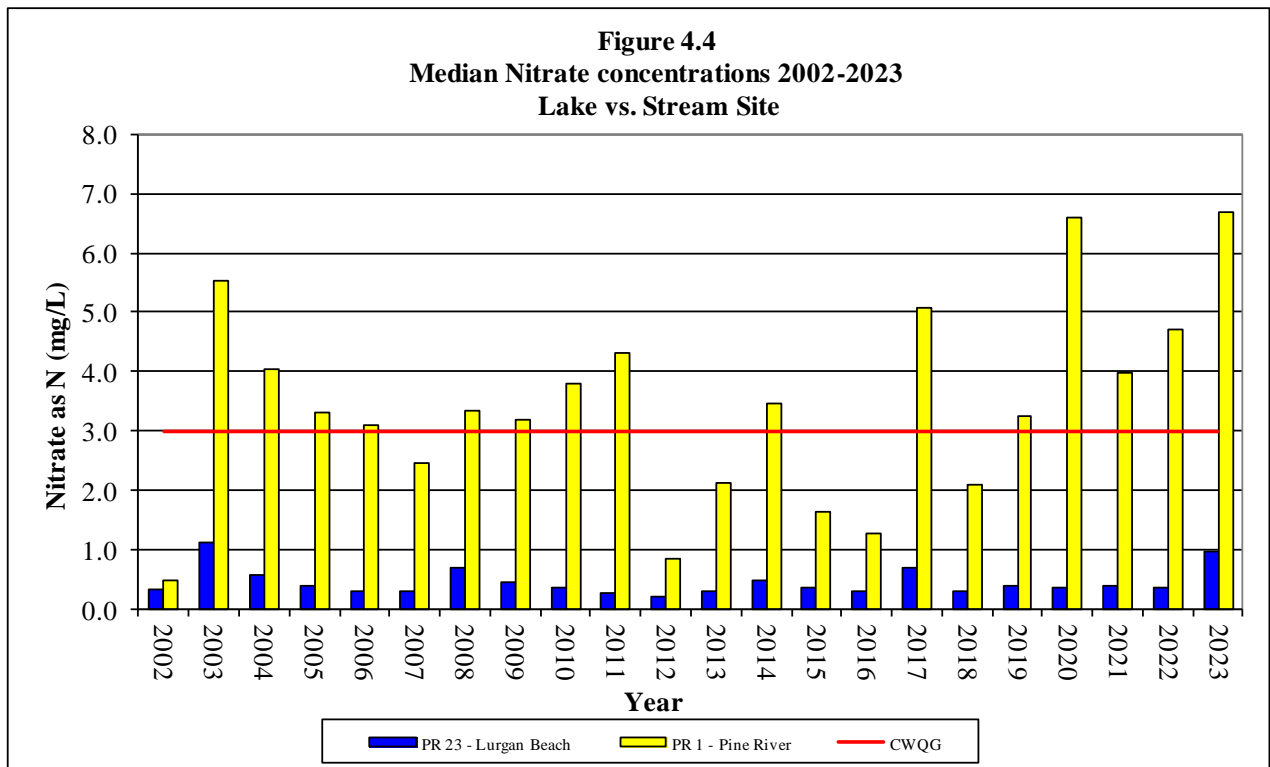
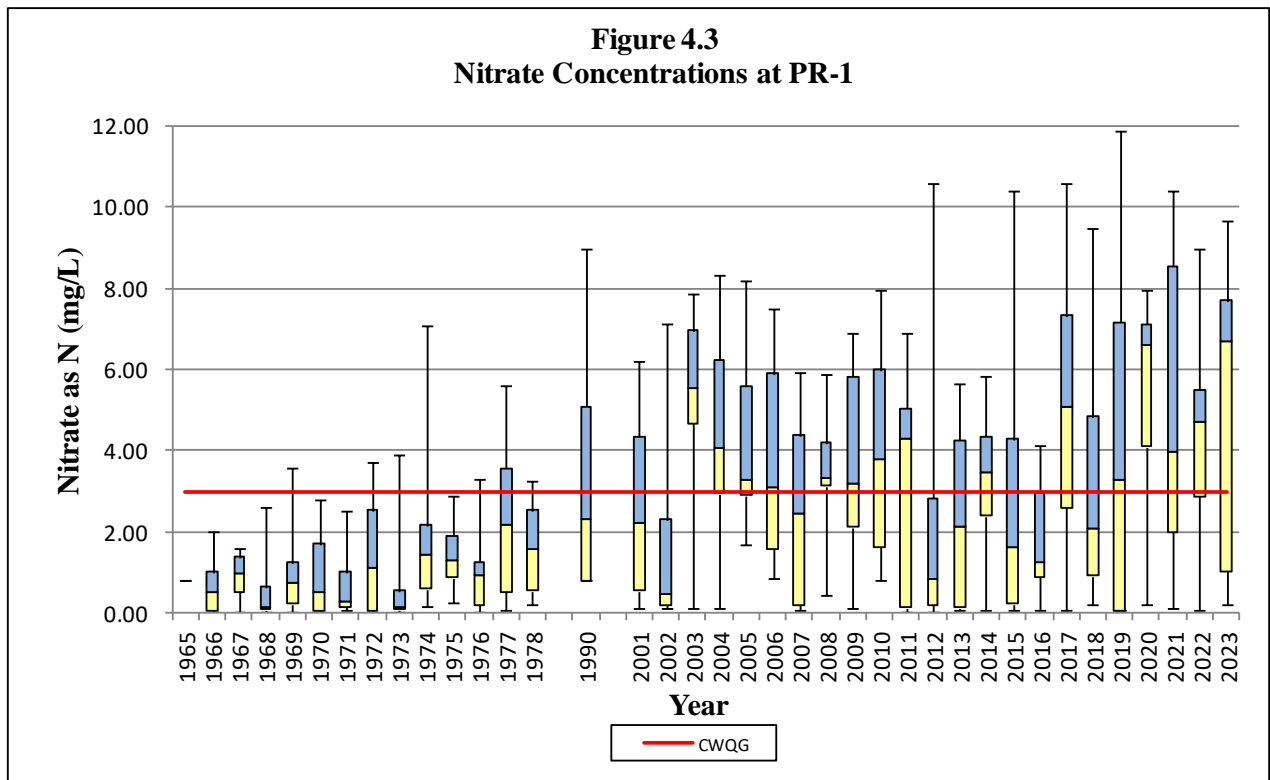




4.3 Nitrate

Figure 4.3 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 combined 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 at inland sites. Expanding PR1’s current elevated state to all inland sites, there is a wide range of stewardship opportunities to mediate improvements throughout the watershed with respect to nitrate loadings, transport, and availability.

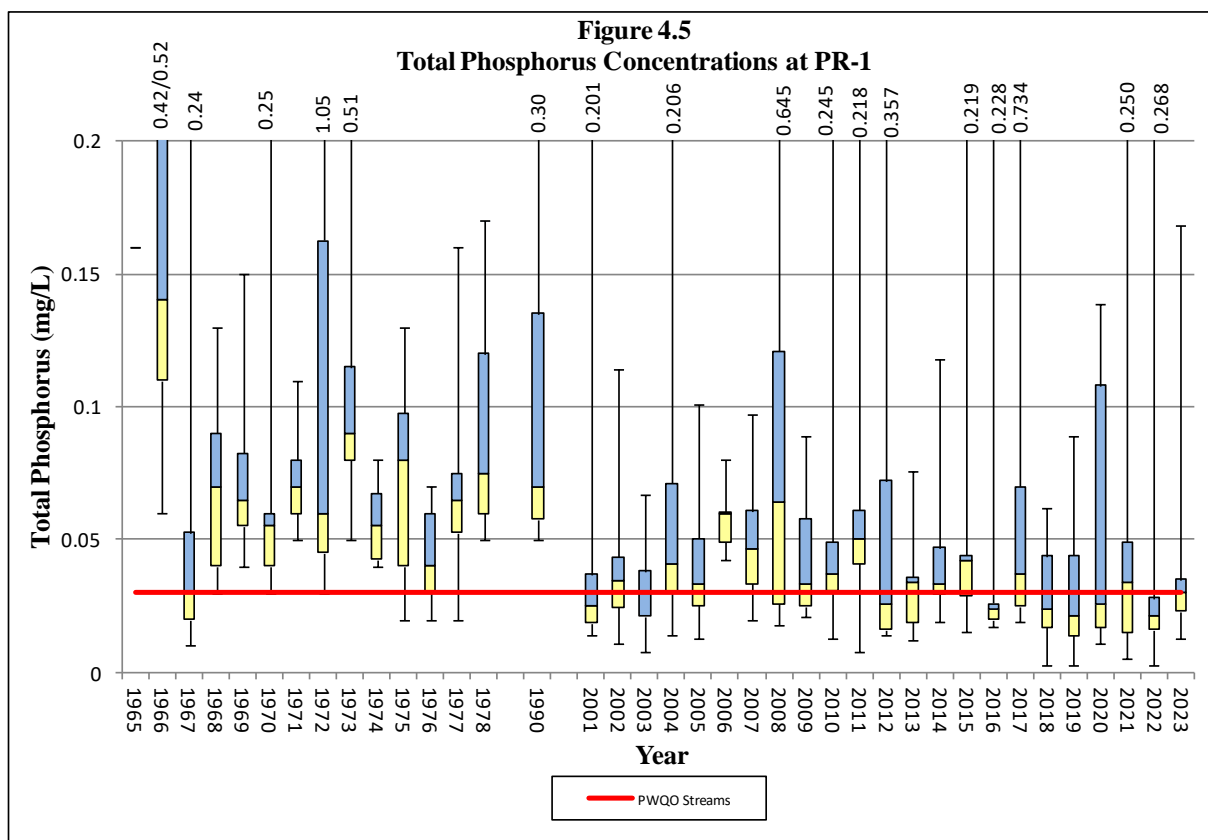
Figure 4.4 compares the nitrate concentrations between a representative stream and lake site. It is apparent that concentrations at the lake site, most likely due to a dilution factor, almost consistently remain below the CWQG, while in-stream the stream site can have concentrations well above the lake site, though not necessarily over the CWQG. Using the two as representative sites, it can be assumed that this relationship exists between in-stream and lake sampling sites.

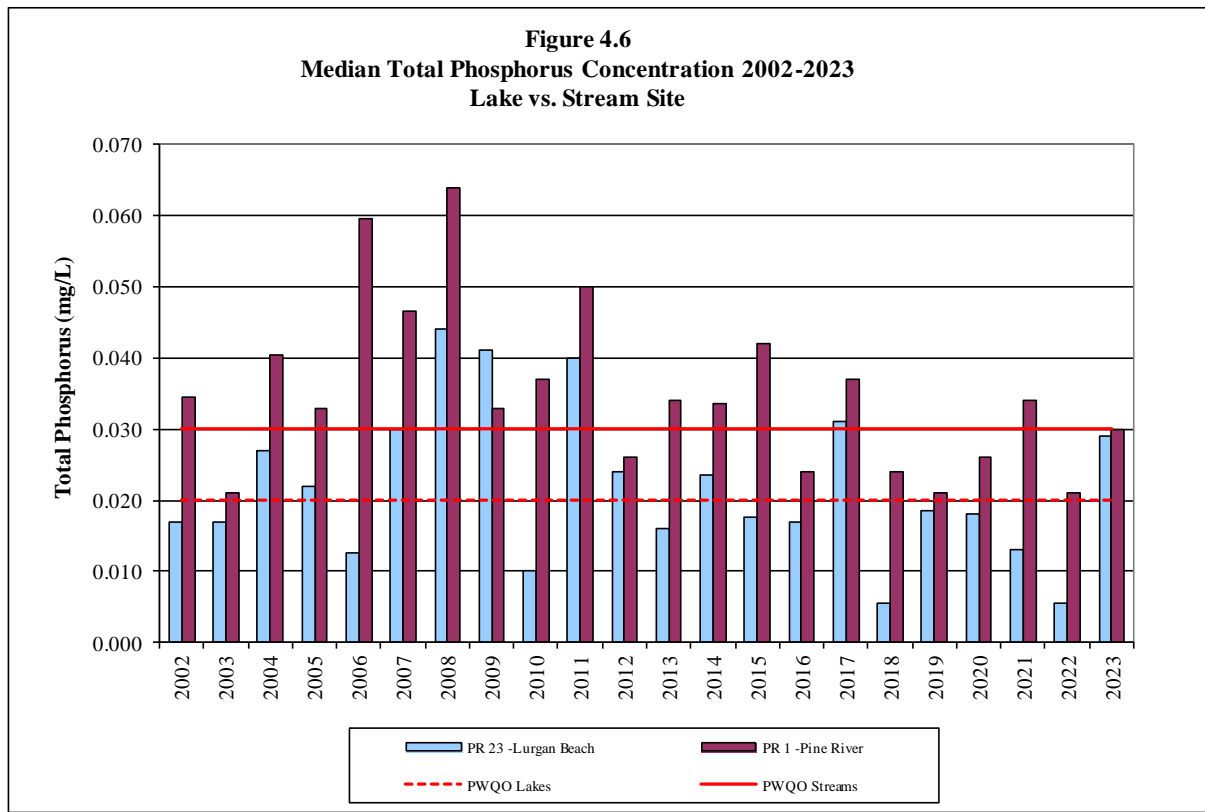


4.4 Total Phosphorus

Figure 4.5 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 4.6 compares PR23 and PR1 phosphorus results. Results have been variable from year to year, with the lake site consistently lower than the in-stream site. Lake phosphorus levels reflect landscape level inputs as well as the lakes own storage in the phosphorus cycle, where similar to nitrate, landscape level inputs can be diluted in large waterbodies. Assuming a downstream attenuation factor and PR1 to be representative of minimum baseline concentration, this relationship could be assumed for all downstream confluence sites for the watershed groups.





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, runoff, and soil and sediment transport throughout the landscape.

Lake sites displayed excellent results, with a low number of *E. Coli* exceedances in 2023. In-stream *E. coli* levels were generally good, with low variability and many site’s season geometric mean below the PWQO. All sites are subject to spikes likely related to weather conditions and ultimately the loading factors which enable transport of *E. coli*. Sites PR17 and PR11 were particularly elevated in 2022. Site 8 in Point Clark was elevated and had typical observations of sewage smell and white film in the waterway.

Nitrate results at lake sites were consistently under the CWQO in 2023. In-stream nitrate results had high variability in 2023 with all, except the Jardine Creek group watersheds displaying combined medians above the CWQG. All Clark Creek sites, Royal Oak Site PR11, Pine River Sites PR17 and PR18, Boyd Creek Sites PR27 and PR29, and Point Clark Site 5 were particularly elevated.

Phosphorus levels are improved compared to historical data, towards values just above the PWQO for streams and rivers. Phosphorus levels are lower at lake sites compared to in-stream sites, although results for any sites are variable and can show large spikes in concentration. The 2023 phosphorus results at lake sites were generally elevated, with some affect from lab detection limits increasing results slightly. The 2023 results for inland sub-watersheds show slightly elevated results generally, which is an improvement attributable to land management practices or sampling variables. Royal Oak's PR11 and PR10, Pine River's PR17, and Point Clark's Jardine Creek results were particularly elevated, and are candidates for additional investigation.

Point Clark's Jardine Creek nitrate results had much smaller variability than other inland sites and were nearly consistently excellent for 2023; however, the total phosphorus results for Jardine Creek were particularly elevated. Point Clark's site results may be mediated by different factors in the more urban setting than in the more rural Pine River sampling sites and point to the reversal of nutrient concentrations when compared to rural stream sites. Continued monitoring of the relatively new nutrient parameters throughout Point Clark will benefit future interpretation and an understanding of the areas ability to treat the phosphorus component of septic system discharge.

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 Matthew J. Pearson
Matthew J. Pearson, MCIP, RPP
Senior Planner

Per Peter Postma
Peter Postma, BSc (Env. Sci.)
Environmental Technologist

APPENDIX A
WATER QUALITY RESULTS FOR THE YEARS
2002 - 2023

2023 Results

E. coli

Nitrates

Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2023 Sampling Results**

Lakes => 0.02 mg/L

Streams => 0.03 mg/L
No Data

**Total Phosphorus (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 27	April 24	May 23	*Jun 19	Jul 17	Aug 15	Sep 11	Oct 10	Nov 6
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.114	0.032	0.013	< 0.03	0.024	0.023	0.021	0.168	0.035
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.097	0.029	0.018	< 0.03	0.024	0.019	0.022	0.153	0.028
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.084	0.027	0.012	< 0.03	0.015	0.025	0.024	0.150	0.028
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.114	0.022	0.018	< 0.03	0.012	0.029	0.036	0.188	0.062
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.067	0.029	0.008	< 0.03	0.018	0.037	0.031	0.251	0.024
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.039	0.037	0.013	0.030	0.073	0.309	0.205	0.126	0.032
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.060	0.019	0.034	< 0.03	0.013	0.027	0.018	0.250	0.019
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.039	0.013	0.085	< 0.03	0.028	0.038	0.053	0.219	0.027
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.091	0.049	0.016	0.060	0.110	0.207	0.22	0.293	0.068
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.166	0.105	0.021	0.040	0.162	0.329	0.337	0.425	0.137
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.038	0.02	0.042	< 0.03	0.038	0.059	0.048	0.185	0.018
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.084	0.032	0.005	< 0.03	0.037	0.039	0.065	0.215	0.031
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.043	0.069	0.013	0.040	0.068	0.251	0.171	0.211	0.079
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.012	0.013	0.021	< 0.03	0.011	0.028	0.046	0.373	0.018
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.026	0.044	< 0.003	< 0.03	0.020	0.045	0.044	0.139	0.028
PR20	Beach at Hwy. 86 -Amberely Road.	0.035	0.018	< 0.003	< 0.03	0.030	0.014	0.007	0.023	0.014
PR21	Beach off of Attawandron Road-Public Walkway	0.013	0.023	0.004	< 0.03	0.056	0.021	0.014	0.019	0.027
PR22	Beach-Point Clark Swimming Area	0.022	0.025	< 0.003	< 0.03	0.041	0.011	0.007	0.011	0.038
PR23	Lurgan Beach-Public Walkway	0.120	0.041	< 0.003	< 0.03	0.014	0.012	0.004	0.052	0.029
PR24	Beach at 6th Conc.	0.080	0.048	< 0.003	< 0.03	0.017	0.008	< 0.003	0.031	0.020
PR25	Beach at 8th Conc.	0.036	0.045	< 0.003	< 0.03	0.015	0.006	< 0.003	0.031	0.009
PR26	Beach at 10th Conc.	0.052	0.073	< 0.003	< 0.03	0.014	0.012	< 0.003	0.026	0.011
PR27	Boyd Creek at Hwy. 21 before Amberely	0.041	0.017	0.006	< 0.03	0.018	0.027	0.018	0.150	0.019
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.039	0.011	0.008	< 0.03	0.037	0.054	0.047	0.178	0.022
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.089	0.012	0.01	< 0.03	0.020	0.026	0.023	0.199	0.016
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.060	0.022	0.011	< 0.03	0.025	0.024	0.023	0.229	0.019
B4	Clark Creek at the Lake	0.031	0.023	0.007	< 0.03	0.017	0.023	0.021	0.136	0.021
5	Ditch at field drain outlet, Lake Range Road	0.006	0.069	0.032	0.04	0.025	0.228	0.43	0.07	0.018
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.026	0.017	< 0.003	< 0.03	0.013	0.018	0.016	0.121	0.020
8	Jardine Creek at Abenaki St.	0.064	0.059	0.073	0.130	0.087	0.186	0.121	0.061	0.090
9	Jardine Creek at Seneca	0.027	0.042	Dry	Dry	0.214	0.292	Dry	0.155	0.159
12	Halfway to lake from Road	0.030	0.032	0.032	0.060	0.085	0.126	Dry	0.069	0.041
13	CSP where creek crosses Huron Rd.	0.063	0.066	0.096	0.080	0.167	0.221	0.154	0.086	0.087
17	Outlet in Jardine Creek between sites 11 & 12	0.033	0.032	0.030	< 0.03	0.057	0.123	0.073	0.045	0.036

Note *June 19 event detection limit was 0.03, results likely lower than displayed.

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2023 Sampling Results**

Below Guideline
 => 3 mg/L
 No Data

**Nitrate as N (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 27	April 24	May 23	Jun 19	Jul 17	Aug 15	Sep 11	Oct 10	Nov 6
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	6.72	4.56	9.69	0.64	6.68	1.02	0.23	8.20	7.70
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	7.30	4.32	10.10	0.34	3.75	1.70	0.76	8.33	8.07
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	5.30	3.41	6.84	0.12	1.58	0.19	< 0.06	6.10	6.24
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	5.45	4.87	8.81	0.58	1.89	< 0.06	0.11	8.42	8.51
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	6.56	4.46	10.00	0.52	5.14	1.74	1.04	8.69	8.67
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	9.86	8.88	11.70	0.81	8.14	0.21	< 0.06	9.19	9.42
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	7.04	5.05	9.96	1.52	9.63	1.97	1.18	9.02	9.08
PR9	Pine River-Bridge on the 15th South of 10th Conc.	5.10	3.39	6.68	0.43	3.18	0.28	0.08	6.08	5.84
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	6.21	4.72	8.41	1.68	8.14	0.91	0.28	7.18	6.39
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	7.56	7.09	12.00	10.20	15.50	10.90	3.28	10.20	8.35
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.97	1.61	6.13	0.80	2.25	0.95	1.14	3.74	4.09
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	6.00	6.18	10.40	4.24	10.20	2.70	0.76	9.20	8.29
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	9.00	9.05	13.70	0.29	16.30	1.91	1.44	9.34	9.65
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	12.00	11.20	15.20	3.20	13.50	1.73	0.32	12.60	10.00
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	9.56	8.74	14.60	2.42	12.20	1.36	0.34	8.45	8.63
PR20	Beach at Hwy. 86 -Amberely Road.	1.44	1.01	0.53	0.26	0.64	0.30	0.23	0.28	1.65
PR21	Beach off of Attawandron Road-Public Walkway	1.21	1.33	0.43	0.22	0.43	0.30	0.29	0.33	1.89
PR22	Beach-Point Clark Swimming Area	0.82	2.20	0.50	0.20	0.40	0.31	0.28	0.28	1.42
PR23	Lurgan Beach-Public Walkway	2.25	1.59	0.75	0.23	0.97	0.29	0.29	2.06	4.41
PR24	Beach at 6th Conc.	1.69	2.23	0.34	0.21	1.17	0.29	0.29	1.18	2.60
PR25	Beach at 8th Conc.	0.80	1.92	0.31	0.27	0.82	0.32	0.29	0.99	0.74
PR26	Beach at 10th Conc.	1.40	1.64	0.41	0.25	0.64	0.32	0.26	0.70	0.75
PR27	Boyd Creek at Hwy. 21 before Amberely	9.95	8.28	15.50	3.00	10.90	0.20	0.45	11.80	12.20
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	10.20	9.39	16.60	6.31	10.60	0.76	0.38	15.10	13.70
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	6.16	4.46	10.40	2.31	1.82	0.13	0.35	9.57	8.44
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	5.51	3.86	9.34	0.75	1.78	0.28	0.31	8.82	7.74
B4	Clark Creek at the Lake	9.91	7.58	13.20	2.87	12.60	2.32	1.98	8.62	8.31
5	Ditch at field drain outlet, Lake Range Road	9.06	11.60	15.10	12.60	16.00	0.35	0.07	6.02	8.21
6	New outlet to Clark Creek across from 3491 2nd Conc.	10.00	8.02	13.80	2.36	13.10	1.78	1.11	8.69	8.41
8	Jardine Creek at Abenaki St.	3.17	2.53	1.98	1.01	1.32	0.32	1.49	0.84	1.91
9	Jardine Creek at Seneca	2.76	1.90	Dry	Dry	1.34	2.88	Dry	1.04	2.51
12	Halfway to lake from Road	3.27	2.54	1.83	0.84	0.73	0.51	Dry	0.77	1.82
13	CSP where creek crosses Huron Rd.	3.25	3.04	2.58	2.09	1.75	1.46	1.99	1.22	2.63
17	Outlet in Jardine Creek between sites 11 & 12	3.63	2.53	1.71	2.11	1.41	0.34	2.25	1.88	2.54

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2023 Sampling Results**

GREEN	Below Guideline
RED	=> 100 cfu/100mL
GREY	No Data

**E. Coli (cfu/100mL)
Sample Date**

SAMPLE ID	LOCATION	Mar 27	April 24	May 23	Jun 19	Jul 17	Aug 15	Sep 11	Oct 10	Nov 6
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	90	46	40	20	68	26	49	1420	76
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	84	32	130	56	100	20	36	1800	112
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	72	31	120	170	22	48	14	1440	62
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	142	128	68	30	86	76	40	1580	56
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	78	40	28	60	64	108	720	3700	53
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	114	< 2	6	144	56	48	220	760	16
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	40	58	144	172	228	108	62	1560	118
PR9	Pine River-Bridge on the 15th South of 10th Conc.	94	66	34	6	160	54	90	2380	64
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	50	156	22	66	134	78	34	6000	42
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	284	286	30	70	148	124	126	2620	23
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	6	12	68	322	1800	80	120	920	50
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	200	46	116	370	760	720	46	1760	74
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	200	98	164	170	72	82	150	1440	40
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	16	26	70	76	176	64	880	900	22
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	24	14	26	40	92	66	10	600	22
PR20	Beach at Hwy. 86 -Amberely Road.	2	2	< 2	2	200	22	6	20	2
PR21	Beach off of Attawandron Road-Public Walkway	4	< 2	4	8	122	2	30	34	52
PR22	Beach-Point Clark Swimming Area	2	4	< 2	< 2	180	8	18	12	58
PR23	Lurgan Beach-Public Walkway	220	10	2	< 2	100	8	18	Overgrown	30
PR24	Beach at 6th Conc.	38	4	< 2	2	320	4	8	Overgrown	26
PR25	Beach at 8th Conc.	2	4	< 2	< 2	70	10	< 2	Overgrown	8
PR26	Beach at 10th Conc.	4	8	< 2	< 2	34	30	2	Overgrown	2
PR27	Boyd Creek at Hwy. 21 before Amberely	34	38	34	26	158	26	24	900	58
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	102	74	104	296	132	70	58	1400	36
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	380	50	80	20	92	40	48	2300	48
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	76	30	82	54	42	98	10	5300	60
B4	Clark Creek at the Lake	28	20	46	30	134	20	32	780	36
5	Ditch at field drain outlet, Lake Range Road	16	10	22	96	106	106	20	640	238
6	New outlet to Clark Creek across from 3491 2nd Conc.	24	28	32	82	114	30	76	680	50
8	Jardine Creek at Abenaki St.	8	66	254	296	64	108	68	196	148
9	Jardine Creek at Seneca	30	4	Dry	Dry	< 2	94	Dry	118	14
12	Halfway to lake from Road	70	18	30	152	134	50	Dry	164	2
13	CSP where creek crosses Huron Rd.	14	6	146	84	90	500	1400	84	< 2
17	Outlet in Jardine Creek between sites 11 & 12	58	8	38	125	75	28	88	880	158

2022 RESULTS

E. coli

Nitrates

Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2022 Sampling Results**

Lakes => 0.02 mg/L

	Below Guideline
	Streams => 0.03 mg/L
	No Data

**Total Phosphorus (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 31	Apr 25	May 24	June 30	July 18	Aug 16	Sept 12	Oct 11	Nov 8
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.268	0.028	0.009	0.023	0.019	0.016	0.037	0.021	< 0.003
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.103	0.017	0.012	0.026	0.024	0.010	0.030	0.022	0.012
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.146	0.013	0.010	0.024	0.027	0.008	0.044	0.032	0.041
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.252	0.031	0.013	0.021	0.131	0.015	0.039	0.035	0.017
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.218	0.023	0.045	0.025	0.023	0.039	0.097	0.040	0.017
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.249	0.061	0.011	0.037	0.294	0.238	0.461	0.111	0.033
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	2.620	0.014	0.007	0.018	0.019	< 0.003	0.016	0.010	< 0.003
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.197	0.030	0.014	0.016	0.162	< 0.003	0.080	0.042	0.010
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.359	0.114	0.036	0.040	0.221	0.120	0.266	0.039	0.037
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.575	0.232	0.136	0.169	Dry	Dry	Dry	0.167	0.142
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.192	0.04	0.032	0.051	0.038	0.046	Dry	0.027	0.163
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.255	0.037	0.012	0.016	0.138	0.197	0.244	0.038	0.039
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.218	0.082	0.235	0.015	0.410	0.343	1.030	0.100	0.163
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.123	0.005	0.009	0.003	0.128	0.367	Dry	< 0.003	0.032
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.185	0.008	0.032	0.016	0.093	0.033	0.076	0.022	0.040
PR20	Beach at Hwy. 86 -Amberely Road.	Ice Cover	0.010	0.005	0.036	< 0.003	< 0.003	0.010	0.009	0.029
PR21	Beach off of Attawandron Road-Public Walkway	Ice Cover	0.020	0.009	0.065	< 0.003	0.005	0.074	0.030	0.062
PR22	Beach-Point Clark Swimming Area	Ice Cover	0.015	0.005	0.013	< 0.003	< 0.003	< 0.003	< 0.003	0.045
PR23	Lurgan Beach-Public Walkway	Ice Cover	0.008	0.008	0.008	< 0.003	< 0.003	< 0.003	< 0.003	0.017
PR24	Beach at 6th Conc.	Ice Cover	0.011	0.01	0.009	< 0.003	< 0.003	< 0.003	< 0.003	0.011
PR25	Beach at 8th Conc.	Ice Cover	0.020	0.008	0.005	< 0.003	< 0.003	< 0.003	< 0.003	0.024
PR26	Beach at 10th Conc.	Ice Cover	0.020	0.006	0.003	< 0.003	< 0.003	< 0.003	< 0.003	0.053
PR27	Boyd Creek at Hwy. 21 before Amberely	0.283	0.013	0.019	0.030	0.046	0.005	0.042	0.007	0.025
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.322	0.016	0.015	0.031	0.105	0.074	0.197	0.012	0.030
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.219	0.031	0.011	0.015	0.011	< 0.003	0.003	0.017	0.023
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.282	0.024	0.022	0.027	0.020	0.011	0.058	0.019	< 0.003
B4	Clark Creek at the Lake	0.214	0.014	0.010	0.020	0.046	0.035	0.036	0.019	< 0.003
5	Ditch at field drain outlet, Lake Range Road	0.058	0.005	0.040	0.045	Dry	Dry	Dry	Dry	Dry
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.226	0.017	0.011	0.028	0.170	0.020	0.027	0.119	< 0.003
8	Jardine Creek at Abenaki St.	0.034	0.049	0.090	0.236	0.880	0.211	0.326	0.106	0.054
9	Jardine Creek at Seneca	No Sample	0.055	No Sample	No Sample	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	0.042	0.031	0.039	0.105	0.162	0.100	0.149	0.066	0.037
13	CSP where creek crosses Huron Rd.	0.052	0.054	0.084	0.162	Dry	0.113	0.356	0.116	0.074
17	Outlet in Jardine Creek between sites 11 & 12	0.052	0.028	0.037	0.044	0.043	0.051	0.099	0.046	0.043

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2022 Sampling Results**

	Below Guideline
	=> 3 mg/L
	No Data

**Nitrate as N (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 31	Apr 25	May 24	June 30	July 18	Aug 16	Sept 12	Oct 11	Nov 8
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	4.71	4.70	3.81	8.98	0.06	< 0.06	0.08	5.35	5.98
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	4.66	4.52	3.64	8.68	< 0.06	< 0.06	< 0.06	5.98	5.79
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	4.34	4.09	2.89	6.77	< 0.06	< 0.06	< 0.06	5.82	4.79
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	4.36	4.60	3.65	9.94	< 0.06	< 0.06	< 0.06	3.87	7.43
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	4.24	4.74	4.93	9.67	< 0.06	< 0.06	< 0.06	< 0.06	6.33
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	6.06	7.62	3.72	8.84	< 0.06	< 0.06	< 0.06	8.46	8.07
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	3.83	4.91	3.85	10.50	0.52	0.25	0.37	1.12	5.80
PR9	Pine River-Bridge on the 15th South of 10th Conc.	3.45	3.99	3.33	7.12	< 0.06	0.12	< 0.06	1.31	3.84
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	3.32	4.73	4.22	9.39	2.49	0.18	0.38	3.91	7.28
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	4.13	6.96	10.50	15.30	Dry	Dry	Dry	5.05	11.60
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	2.41	2.15	4.99	7.65	< 0.06	< 0.06	Dry	< 0.06	0.17
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	3.20	4.20	4.75	13.60	0.07	< 0.06	0.12	0.56	7.21
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	5.41	6.13	2.77	9.16	< 0.06	< 0.06	0.51	0.97	4.70
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	6.46	7.13	5.24	14.00	< 0.06	< 0.06	Dry	5.31	11.30
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	6.14	7.39	4.90	10.30	< 0.06	< 0.06	< 0.06	10.10	8.10
PR20	Beach at Hwy. 86 -Amberely Road.	Ice Cover	2.47	0.67	1.50	0.24	0.22	0.24	0.26	0.51
PR21	Beach off of Attawandron Road-Public Walkway	Ice Cover	2.74	0.68	0.67	0.23	0.22	0.22	0.28	0.68
PR22	Beach-Point Clark Swimming Area	Ice Cover	2.12	0.62	0.51	0.26	0.24	0.21	0.29	0.58
PR23	Lurgan Beach-Public Walkway	Ice Cover	2.50	0.45	0.73	0.27	0.26	0.20	0.28	0.43
PR24	Beach at 6th Conc.	Ice Cover	2.38	0.36	0.67	0.26	0.26	0.16	0.26	0.43
PR25	Beach at 8th Conc.	Ice Cover	2.59	0.40	0.44	0.28	0.27	0.19	0.26	0.49
PR26	Beach at 10th Conc.	Ice Cover	2.47	0.36	0.42	0.26	0.27	0.17	0.26	0.50
PR27	Boyd Creek at Hwy. 21 before Amberely	4.92	5.76	4.69	10.60	0.08	0.09	< 0.06	8.49	9.33
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	5.12	7.04	6.12	13.10	0.11	0.21	0.48	3.15	12.50
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	4.41	4.32	3.73	9.87	1.08	0.09	< 0.06	3.68	5.09
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	3.47	3.78	3.37	9.51	0.32	0.1	0.24	4.56	3.78
B4	Clark Creek at the Lake	6.09	6.36	4.40	8.33	1.65	1.97	1.60	7.33	6.42
5	Ditch at field drain outlet, Lake Range Road	6.51	5.23	3.28	7.01	Dry	Dry	Dry	Dry	Dry
6	New outlet to Clark Creek across from 3491 2nd Conc.	6.18	6.43	4.42	8.68	1.05	0.96	0.74	9.31	6.76
8	Jardine Creek at Abenaki St.	1.61	1.61	1.80	0.41	0.97	0.37	0.44	1.19	2.22
9	Jardine Creek at Seneca	No Sample	2.67	No Sample	No Sample	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	2.21	1.93	1.64	0.63	0.26	1.23	0.92	1.72	1.75
13	CSP where creek crosses Huron Rd.	2.14	2.31	1.99	1.76	Dry	1.59	0.92	3.47	2.48
17	Outlet in Jardine Creek between sites 11 & 12	2.26	3.40	3.36	3.36	3.05	2.95	1.69	2.96	3.59

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2022 Sampling Results**

GREEN	Below Guideline
RED	=> 100 cfu/100mL
GREY	No Data

**E. Coli (cfu/100mL)
Sample Date**

SAMPLE ID	LOCATION	Mar 31	Apr 25	May 24	June 30	July 18	Aug 16	Sept 12	Oct 11	Nov 8
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	280	78	28	27	18	42	144	14	12
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	122	52	44	64	112	14	20	14	12
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	108	16	148	160	20	4	22	< 2	7
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	540	108	20	87	68	146	80	54	72
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	1080	30	2	104	58	38	168	6	18
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	209	1080	42	24	160	360	1980	20	70
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	680	136	140	180	220	6	156	26	126
PR9	Pine River-Bridge on the 15th South of 10th Conc.	340	48	138	192	4	20	71	2	132
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	2400	94	64	1600	500	200	80	64	256
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	5600	1700	126	640	Dry	Dry	Dry	26	88
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	126	58	190	2100	940	320	Dry	2	48
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	940	34	360	400	460	66	600	48	90
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	720	148	214	600	2700	1220	1780	106	28
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	62	80	350	120	320	190	Dry	440	46
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	207	54	* UAL	172	30	56	52	6	22
PR20	Beach at Hwy. 86 -Amberely Road.	Ice Cover	4	* UAL	15	4	28	Overgrown	6	28
PR21	Beach off of Attawandron Road-Public Walkway	Ice Cover	6	* UAL	51	10	62	Overgrown	340	50
PR22	Beach-Point Clark Swimming Area	Ice Cover	6	* UAL	21	98	20	50	2	116
PR23	Lurgan Beach-Public Walkway	Ice Cover	20	* UAL	36	8	34	760	2	22
PR24	Beach at 6th Conc.	Ice Cover	6	* UAL	81	4	22	118	< 2	28
PR25	Beach at 8th Conc.	Ice Cover	24	* UAL	106	10	22	44	4	26
PR26	Beach at 10th Conc.	Ice Cover	20	* UAL	84	2	72	56	4	38
PR27	Boyd Creek at Hwy. 21 before Amberely	360	14	* UAL	122	36	7	3	4	66
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	520	56	* UAL	186	240	70	1240	32	58
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	91	58	* UAL	37	146	12	4	34	18
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	1360	52	* UAL	27	18	38	Overgrown	52	18
B4	Clark Creek at the Lake	940	68	* UAL	99	10	66	116	18	76
5	Ditch at field drain outlet, Lake Range Road	19	580	* UAL	260	Dry	Dry	Dry	Dry	Dry
6	New outlet to Clark Creek across from 3491 2nd Conc.	1000	70	* UAL	110	70	98	900	24	102
8	Jardine Creek at Abenaki St.	55	20	* UAL	880	640	68	Overgrown	440	42
9	Jardine Creek at Seneca	No Sample	28	* UAL	No Sample	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	132	440	* UAL	900	540	300	Overgrown	70	28
13	CSP where creek crosses Huron Rd.	30	14	* UAL	620	Dry	13	Overgrown	64	920
17	Outlet in Jardine Creek between sites 11 & 12	148	50	* UAL	140	106	600	Overgrown	1020	1220

Note * UAL - Unreliable Age Limit (Time from sample to analysis exceeded; courier delay), No sample - Unable to obtain sample, Overgrown - with E. Coli

2021 RESULTS

E. coli

Nitrates

Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2021 Sampling Results**

GREEN	Below Guideline
RED	=> 100 cfu/100mL
GREY	No Data

**E. Coli (cfu/100mL)
Sample Date**

SAMPLE ID	LOCATION	Mar 30	Apr 26	May 25	Jun 24	Jul 19	Aug 16	Sept 13	Oct 12	Nov 8
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	96	54	40	121	56	38	174	118	72
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	74	2	28	Overgrown	58	8	182	138	94
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	76	36	44	80	62	6	120	90	72
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	114	14	46	79	36	212	224	228	58
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	82	22	140	71	428	152	50	184	72
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	1660	14	208	Overgrown	200	136	186	156	64
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	86	26	130	800	34	62	396	232	104
PR9	Pine River-Bridge on the 15th South of 10th Conc.	60	30	144	80	360	220	114	174	104
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	72	78	156	1100	82	14	84	212	188
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	113	14	48	55	264	Dry	162	56	60
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	40	76	96	29	118	500	200	36	8
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	44	70	440	Overgrown	180	50	226	22	52
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	24	24	1040	880	520	152	114	188	140
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	30	2960	98	127	320	140	228	242	22
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	1000	2	62	91	68	6	200	224	42
PR20	Beach at Hwy. 86 -Amberely Road.	54	2	4	Overgrown	16	18	24	170	34
PR21	Beach off of Attawandron Road-Public Walkway	50	< 2	30	Overgrown	10	2	6	500	38
PR22	Beach-Point Clark Swimming Area	65	< 2	2	31	22	6	42	320	40
PR23	Lurgan Beach-Public Walkway	99	2	12	24	6	< 2	20	172	54
PR24	Beach at 6th Conc.	95	2	2	46	6	2	26	172	20
PR25	Beach at 8th Conc.	50	< 2	2	12	4	< 2	42	100	34
PR26	Beach at 10th Conc.	11	2	14	29	2	2	200	104	38
PR27	Boyd Creek at Hwy. 21 before Amberely	20	< 2	48	Overgrown	52	4	304	80	48
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	38	6	108	Overgrown	146	8	230	148	74
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	68	< 2	34	Overgrown	102	40	148	182	54
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	158	4	72	62	90	300	104	94	70
B4	Clark Creek at the Lake	160	12	133	48	108	20	66	208	64
5	Ditch at field drain outlet, Lake Range Road	10	> 2000	860	Dry	Dry	Dry	920	194	146
6	New outlet to Clark Creek across from 3491 2nd Conc.	440	10	112	1000	940	60	96	184	78
8	Jardine Creek at Abenaki St.	32	1040	4900	Overgrown	200	16	1960	1360	10000
9	Jardine Creek at Seneca	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	24	26	36	74	102	202	300	306	66
13	CSP where creek crosses Huron Rd.	24	34	1280	Overgrown	120	1280	228	244	940
17	Outlet in Jardine Creek between sites 11 & 12	12	66	4	Overgrown	440	1260	250	130	40

Note * Overgrown - No Data: Overgrown with E.coli

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2021 Sampling Results**

Below Guideline
 => 3 mg/L
 No Data

**Nitrate as N (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 30	Apr 26	May 25	Jun 24	Jul 19	Aug 16	Sept 13	Oct 12	Nov 8
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	8.55	3.98	2.00	0.11	3.81	0.20	7.07	10.40	9.10
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	8.41	3.56	0.99	0.06	2.27	0.11	3.12	11.60	9.56
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	7.27	2.77	0.58	0.80	3.13	< 0.06	6.08	8.45	7.67
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	8.10	5.10	1.79	< 0.06	1.39	0.07	8.14	9.53	8.92
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	7.84	3.68	1.26	< 0.06	1.96	< 0.06	7.71	13.20	10.1
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	11.70	5.82	0.45	< 0.06	0.09	< 0.06	8.43	13.60	13.50
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	7.76	4.44	1.75	0.38	1.02	0.50	0.48	13.40	10.40
PR9	Pine River-Bridge on the 15th South of 10th Conc.	6.76	3.41	0.74	< 0.06	0.78	< 0.06	3.02	7.23	7.42
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	8.49	5.56	2.06	1.22	0.43	0.23	2.98	0.72	9.41
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	10.80	8.93	11.10	2.92	6.52	Dry	3.01	11.40	13.40
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	3.95	1.50	1.88	< 0.06	1.73	< 0.06	< 0.06	3.59	7.51
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	6.57	4.90	4.88	0.14	0.08	0.1	4.81	9.57	7.22
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	12.50	9.09	3.97	0.08	0.77	0.98	7.97	12.50	10.10
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	11.70	8.33	3.52	< 0.06	2.50	< 0.06	5.29	15.10	13.50
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	12.00	8.72	4.02	1.27	2.17	< 0.06	6.45	14.00	13.60
PR20	Beach at Hwy. 86 -Amberely Road.	2.86	0.46	0.46	0.24	0.27	0.26	0.30	4.06	4.31
PR21	Beach off of Attawandron Road-Public Walkway	2.98	0.44	0.38	0.25	0.26	0.26	0.77	4.10	3.04
PR22	Beach-Point Clark Swimming Area	3.34	0.59	0.26	0.22	0.28	0.26	0.95	3.46	2.44
PR23	Lurgan Beach-Public Walkway	7.02	0.40	0.33	0.23	0.29	0.26	0.65	4.91	7.68
PR24	Beach at 6th Conc.	6.10	0.41	0.30	0.26	0.29	0.27	0.72	4.18	3.44
PR25	Beach at 8th Conc.	1.87	0.44	0.28	0.24	0.30	0.27	0.82	3.83	2.54
PR26	Beach at 10th Conc.	0.66	0.44	0.32	0.26	0.30	0.27	0.70	1.64	3.41
PR27	Boyd Creek at Hwy. 21 before Amberely	8.34	5.33	2.04	0.07	1.65	0.20	0.11	13.20	11.9
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	7.85	5.41	2.78	< 0.06	0.20	0.12	< 0.06	13.70	13.30
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	7.13	4.69	2.15	0.07	2.44	0.77	< 0.06	10.50	7.75
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	6.85	3.74	1.04	0.14	0.30	0.55	0.07	9.52	7.22
B4	Clark Creek at the Lake	11.30	6.94	4.43	2.26	3.21	2.18	7.44	12.30	10.1
5	Ditch at field drain outlet, Lake Range Road	13.80	10.20	8.70	Dry	Dry	Dry	9.23	8.90	8.42
6	New outlet to Clark Creek across from 3491 2nd Conc.	12.10	7.42	4.41	1.79	3.11	1.81	7.90	12.70	12.10
8	Jardine Creek at Abenaki St.	3.63	3.13	2.44	0.29	1.93	2.01	2.41	2.77	2.96
9	Jardine Creek at Seneca	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	3.32	1.67	0.74	0.22	0.07	< 0.06	0.61	1.20	2.34
13	CSP where creek crosses Huron Rd.	3.94	2.90	1.88	1.38	2.11	2.45	1.74	2.83	3.26
17	Outlet in Jardine Creek between sites 11 & 12	5.51	4.61	4.80	3.57	3.64	3.15	3.40	4.38	4.30

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2021 Sampling Results**

Lakes => 0.02 mg/L

	Below Guideline
	Streams => 0.03 mg/L
	No Data

**Total Phosphorus (mg/L)
Sample Date**

SAMPLE ID	LOCATION	Mar 30	Apr 26	May 25	Jun 24	Jul 19	Aug 16	Sept 13	Oct 12	Nov 8
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.107	0.009	0.005	0.250	0.015	0.018	0.049	0.040	0.034
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.088	0.008	0.005	0.015	0.015	0.022	0.030	0.038	0.023
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.094	0.010	0.012	0.027	0.017	0.023	0.041	0.052	0.031
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.090	0.005	0.016	0.340	0.017	0.048	0.048	0.077	0.041
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.071	0.014	0.024	0.390	0.020	0.027	0.032	0.030	0.025
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.066	0.090	0.032	0.122	0.136	0.170	0.336	0.053	0.025
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.075	0.003	0.008	0.270	0.017	0.010	0.022	0.014	0.029
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.063	0.003	0.027	0.070	0.086	0.057	0.035	0.024	0.027
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.075	0.017	0.028	0.080	0.040	0.058	0.062	0.052	0.069
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.110	0.086	0.109	0.122	0.205	Dry	0.344	0.154	0.118
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.064	< 0.003	0.021	0.082	0.033	0.040	0.054	0.033	0.023
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.044	< 0.003	0.015	0.031	0.047	0.111	0.215	0.061	0.034
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.035	0.051	0.106	0.346	0.270	0.329	0.017	0.079	0.050
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.019	0.004	0.010	0.096	0.053	0.128	0.128	0.020	0.017
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.040	0.040	0.052	0.067	0.062	0.062	0.043	0.029	0.028
PR20	Beach at Hwy. 86 -Amberely Road.	0.072	0.012	0.006	0.008	0.005	< 0.003	0.010	0.037	0.039
PR21	Beach off of Attawandron Road-Public Walkway	0.101	0.015	< 0.003	0.038	0.008	< 0.003	0.037	0.079	0.041
PR22	Beach-Point Clark Swimming Area	0.093	0.013	0.009	0.007	0.005	< 0.003	0.025	0.034	0.043
PR23	Lurgan Beach-Public Walkway	0.092	0.010	< 0.003	0.004	0.013	< 0.003	0.016	0.040	0.032
PR24	Beach at 6th Conc.	0.081	0.017	< 0.003	< 0.003	0.017	< 0.003	0.032	0.025	0.034
PR25	Beach at 8th Conc.	0.033	0.024	< 0.003	< 0.003	0.004	< 0.003	0.039	0.015	0.028
PR26	Beach at 10th Conc.	0.022	0.012	0.003	< 0.003	0.005	< 0.003	0.048	0.019	0.035
PR27	Boyd Creek at Hwy. 21 before Amberely	0.036	0.010	0.005	0.027	0.016	0.017	0.032	0.046	0.018
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.040	0.014	0.006	0.092	0.046	0.038	0.043	0.046	0.027
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.081	0.013	0.012	0.025	0.019	0.010	0.036	0.056	0.022
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.070	0.095	0.010	0.021	0.018	0.011	0.023	0.059	0.049
B4	Clark Creek at the Lake	0.035	0.029	0.015	0.020	0.026	0.027	0.034	0.038	0.039
5	Ditch at field drain outlet, Lake Range Road	0.013	0.058	0.053	Dry	Dry	Dry	0.137	0.046	0.022
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.038	0.024	0.010	0.010	0.021	0.014	0.039	0.030	0.025
8	Jardine Creek at Abenaki St.	0.055	0.053	0.070	0.133	0.113	0.087	0.087	0.080	0.060
9	Jardine Creek at Seneca	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	0.023	0.026	0.040	0.100	0.140	0.118	0.102	0.076	0.047
13	CSP where creek crosses Huron Rd.	0.056	0.062	0.104	0.183	0.183	0.106	0.096	0.086	0.073
17	Outlet in Jardine Creek between sites 11 & 12	0.027	0.043	0.037	0.064	0.059	0.044	0.055	0.050	0.043

2020 RESULTS

E.coli
Nitrates
Total Phosphorus

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2020 Sampling Results**

	Below Guideline
	=> 100 cfu/100mL
	No Data

E. Coli (cfu/100mL)

SAMPLE ID	LOCATION	Sample Date								
		1-Apr	27-Apr	25-May	22-Jun	20-21-Jul	19-Aug	14-Sep	15-Oct	9-Nov
PR1	Pine River-'Bridge on Lake Range Road, south of Lurgan Road	480	87	42	41	117*	220	800	40	44
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	240	51	28	56	138	93	600	28	24
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	100	19	76	47	54	89	680	42	24
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	560	87	68	161	15	400	1460	44	82
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	50	30	180	177	136	760	840	40	42
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	254	2	89	151	1	20	1300	440	8
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	94	30	600	35	131	87	Overgrown	14	94
PR9	Pine River-Bridge on the 15th South of 10th Conc.	34	26	78	147	94	168	1280	520	98
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	1540	12	86	148	400	840	1380	440	86
PR11	Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East	1800	420	10	103	Dry	720	1000	86	2
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	25	5	153	237	240	95	174	42	16
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	131	3	120	760	740	540	1100	86	32
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	35	11	7	227	800*	420	186	700	46
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	83	19	49	95	1720*	134	154	78	36
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	72	13	460	71	23*	47	Overgrown	72	60
PR20	Beach at Hwy. 86 -Amberely Road.	64	1	0	1000	260*	87	101	12	2
PR21	Beach off of Attawandron Road-Public Walkway	400	4	21	115	150*	180	460	14	6
PR22	Beach-Point Clark Swimming Area	760	0	84	27	420*	84	98	28	4
PR23	Lurgan Beach-Public Walkway	7	2	2	6	300*	18	26	25	6
PR24	Beach at 6th Conc.	8	0	30	34	139*	9	26	22	< 2
PR25	Beach at 8th Conc.	5	0	2	85	78*	14	39	12	2
PR26	Beach at 10th Conc.	5	0	0	56	84*	40	76	4	14
PR27	Boyd Creek at Hwy. 21 before Amberely	32	7	68	86	72*	220	460	34	22
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	53	21	29	1400	81*	460	800	54	96
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	400	1	9	41	50	136	720	24	84
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	256	43	32	76	74	60	42	12	22
B4	Clark Creek at the Lake	78	6	117	122	72*	143	150	28	52
5	Ditch at field drain outlet, Lake Range Road	11	120	73	1520	Dry	Dry	Dry	Dry	36
6	New outlet to Clark Creek across from 3491 2nd Conc.	68	17	108	142	81*	154	202	46	92
8	Jardine Creek at Abenaki St.	460	440	19	143	1800	9700	2100	3700	800
9	Jardine Creek at Seneca	108	4	13	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	55	7	22	520	500	400	1040	460	18
13	CSP where creek crosses Huron Rd.	115	31	116	91	1240	480	660	124	76
17	Outlet in Jardine Creek between sites 11 & 12	34	8	6	107	520	740	500	1560	1440

* UAL - Unreliable Age Limit (Time from sample to analysis exceeded; courier delay). Overgrown - No Data: Overgrown with E.coli

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2020 Sampling Results**

	Below Guideline
	=> 3 mg/L
	No Data

Nitrate as N (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		1-Apr	27-Apr	25-May	22-Jun	20-21-Jul	19-Aug	14-Sep	15-Oct	9-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	7.02	4.10	7.49	7.96	0.21	5.53	7.12	3.08	6.60
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	6.98	3.44	5.92	5.60	< 0.06	0.48	6.64	0.30	6.69
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	5.74	3.04	4.54	2.94	< 0.06	2.85	7.58	1.91	4.76
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	7.71	4.85	7.32	6.62	< 0.06	4.89	11.10	3.39	7.40
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	7.33	3.53	5.86	5.61	< 0.06	< 0.06	1.61	0.06	6.85
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	9.70	7.61	8.43	7.89	< 0.06	2.22	5.22	3.15	11.40
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	7.36	2.91	6.52	5.08	0.39	0.23	4.55	1.55	7.12
PR9	Pine River-Bridge on the 15th South of 10th Conc.	5.34	4.05	4.22	2.09	< 0.06	0.85	5.57	1.51	4.68
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	8.21	6.03	8.40	6.36	0.19	3.60	7.52	3.57	8.31
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	11.30	9.29	13.30	< 0.06	Dry	2.66	10.80	7.90	12.90
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	3.27	1.85	3.23	17.60	< 0.06	< 0.06	1.11	0.98	2.39
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	6.02	4.49	7.98	3.72	0.07	0.85	4.24	4.62	8.40
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	10.70	10.10	14.60	13.30	0.53	6.37	8.12	5.46	8.90
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	12.70	9.15	14.10	11.50	< 0.06	4.72	9.11	2.75	8.83
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	9.78	7.39	10.60	10.60	< 0.06	1.53	3.03	0.49	7.78
PR20	Beach at Hwy. 86 -Amberely Road.	2.61	0.59	0.85	0.45	0.26	0.53	0.77	0.33	1.26
PR21	Beach off of Attawandron Road-Public Walkway	5.14	0.73	0.84	0.42	0.26	0.49	0.83	0.32	1.17
PR22	Beach-Point Clark Swimming Area	6.19	0.51	0.48	0.31	0.27	0.36	0.89	0.33	1.18
PR23	Lurgan Beach-Public Walkway	1.75	0.37	0.80	0.36	0.27	0.29	0.31	0.36	1.50
PR24	Beach at 6th Conc.	1.65	0.34	0.56	0.41	0.27	0.29	0.30	0.40	0.91
PR25	Beach at 8th Conc.	1.58	0.36	1.38	0.58	0.27	0.30	0.30	0.33	0.86
PR26	Beach at 10th Conc.	1.46	0.35	0.42	0.40	0.26	0.31	0.32	0.35	1.26
PR27	Boyd Creek at Hwy. 21 before Amberely	9.47	5.47	10.70	10.00	< 0.06	0.55	2.34	0.39	6.69
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	8.88	5.56	11.00	11.30	0.17	0.21	1.21	1.24	7.76
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	6.28	3.90	6.51	7.61	0.13	0.08	3.49	3.42	5.63
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	5.81	2.94	5.97	6.21	0.20	< 0.06	1.95	2.72	5.32
B4	Clark Creek at the Lake	9.67	6.02	10.10	8.89	1.24	1.25	1.13	1.10	6.80
5	Ditch at field drain outlet, Lake Range Road	10.80	8.65	16.10	13.90	Dry	Dry	Dry	Dry	6.71
6	New outlet to Clark Creek across from 3491 2nd Conc.	9.79	6.65	10.30	9.54	1.08	1.28	0.71	1.46	7.13
8	Jardine Creek at Abenaki St.	2.19	2.17	1.88	1.75	0.77	1.73	1.75	1.75	2.51
9	Jardine Creek at Seneca	1.74	3.24	1.85	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	2.33	1.48	1.32	1.18	0.79	1.09	1.10	1.85	0.34
13	CSP where creek crosses Huron Rd.	2.39	1.94	1.96	1.62	1.74	1.86	1.58	1.46	2.08
17	Outlet in Jardine Creek between sites 11 & 12	3.65	2.89	2.72	3.45	0.88	2.74	2.84	2.89	2.99

**Municipality of Huron-Kinloss
Pine River Water Quality Monitoring Program
2020 Sampling Results**

Lakes => 0.02 mg/L

Streams => 0.03 mg/L

No Data

Total Phosphorus (mg/L)

SAMPLE ID	LOCATION	Sample Date								
		1-Apr	27-Apr	25-May	22-Jun	20-21-Jul	19-Aug	14-Sep	15-Oct	9-Nov
PR1	Pine River-Bridge on Lake Range Road, south of Lurgan Road	0.139	0.026	0.015	0.017	0.043	0.108	0.109	0.026	0.011
PR3	South Pine River-Bridge on Hwy. 21 at 6th Conc.	0.124	0.030	0.010	0.018	0.028	0.025	0.149	0.021	0.005
PR4	Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc.	0.087	0.026	0.016	0.022	0.057	0.092	0.132	0.010	0.007
PR5	Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc.	0.106	0.019	0.011	0.024	0.076	0.096	0.145	0.015	0.016
PR6	South Pine River-Bridge on Sideroad 25 North of 6th Conc.	0.055	0.037	0.014	0.033	0.048	0.049	0.036	0.049	0.018
PR7 - Upstream	Clark Creek-Culvert on Sideroad 25 South of 4th Conc.	0.037	0.046	0.022	0.023	0.612	0.209	0.717	1.220	0.076
PR8	South Pine River-Culvert on the 15th North of 6th Conc.	0.041	0.018	0.015	0.019	0.026	0.034	0.176	0.009	0.003
PR9	Pine River-Bridge on the 15th South of 10th Conc.	0.033	0.017	0.017	0.033	0.134	0.084	0.146	0.022	0.013
PR10	Royal Oak Creek-Bridge on the 15th North of the 12th Conc.	0.056	0.020	0.022	0.026	0.086	0.141	0.103	0.025	0.030
PR11	Royal Oak Creek-Culvert on Sideroad 5 north Huron-Kincardine East	0.067	0.033	0.047	0.053	Dry	0.324	0.119	0.142	0.141
PR12	Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc.	0.032	0.016	0.023	0.027	0.068	0.102	0.037	0.006	< 0.003
PR13	South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc.	0.045	0.015	0.006	0.031	0.220	0.080	0.091	0.031	0.016
PR17 - Upstream	Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc.	0.019	0.043	0.013	0.066	0.690	0.332	0.124	0.116	0.070
PR18 - Upstream	Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc.	0.004	0.013	0.007	0.017	0.742	0.045	0.046	0.009	0.011
PR19 - Upstream	Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc.	0.035	0.025	0.013	0.027	0.168	0.158	0.127	0.065	0.016
PR20	Beach at Hwy. 86 -Amberely Road.	0.029	0.014	0.007	0.008	0.070	0.038	0.015	0.021	0.009
PR21	Beach off of Attawandron Road-Public Walkway	0.120	0.021	0.011	0.008	0.036	0.023	0.035	0.031	0.016
PR22	Beach-Point Clark Swimming Area	0.119	0.005	0.007	0.011	0.020	0.037	0.031	0.042	0.006
PR23	Lurgan Beach-Public Walkway	0.040	0.024	0.003	0.004	0.018	0.024	0.017	0.028	0.009
PR24	Beach at 6th Conc.	0.029	0.008	< 0.003	0.011	0.023	0.030	0.006	0.035	0.008
PR25	Beach at 8th Conc.	0.028	0.008	0.005	0.012	0.013	0.033	0.010	0.027	0.003
PR26	Beach at 10th Conc.	0.025	0.006	0.004	0.005	0.023	0.029	0.010	0.031	0.005
PR27	Boyd Creek at Hwy. 21 before Amberely	0.031	0.013	0.013	0.084	0.079	0.049	0.047	0.016	0.003
PR29	Boyd Creek on Sideroad 20 North of 6th Conc.	0.035	0.016	0.007	0.025	0.122	0.096	0.068	0.110	0.010
PR30	Eighteen Mile Creek at Hwy. 21 before Amberely	0.105	0.017	0.011	0.013	0.022	0.057	0.030	0.015	0.004
PR32	Eighteen Mile Creek on the 15th North of 2nd Conc.	0.046	0.220	0.016	0.022	0.052	0.055	0.023	0.008	0.004
B4	Clark Creek at the Lake	0.040	0.017	0.007	0.023	0.028	0.065	0.039	0.021	0.014
5	Ditch at field drain outlet, Lake Range Road	< 0.003	0.118	0.041	0.056	Dry	Dry	Dry	Dry	0.035
6	New outlet to Clark Creek across from 3491 2nd Conc.	0.038	0.014	0.007	0.019	0.027	0.081	0.092	0.057	0.006
8	Jardine Creek at Abenaki St.	0.021	0.050	0.040	0.084	0.274	0.056	0.079	0.078	0.056
9	Jardine Creek at Seneca	0.017	0.055	0.051	Dry	Dry	Dry	Dry	Dry	Dry
12	Halfway to lake from Road	0.017	0.021	0.027	0.131	0.053	0.142	0.071	0.083	0.145
13	CSP where creek crosses Huron Rd.	0.031	0.046	0.054	0.124	0.254	0.084	0.137	0.072	0.064
17	Outlet in Jardine Creek between sites 11 & 12	0.022	0.032	0.033	0.046	0.049	0.339	0.032	0.030	0.068

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-Culvert 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-Kincardine 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-Culvert 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	Sample Date								
		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

* = Sample not analyzed-Stagnant water

DRY= no flow at this time

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:

ND = Not detected, detection limit 0.002 mg/L

* = Sample not analyzed-Stagnant water

DRY= no flow at this time

N/A= not able to sample at this time

**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:

ND = Not detected, detection limit 0.002 mg/L

* = Sample not analyzed-Stagnant water

DRY= no flow at this time

N/A= not able to sample at this time

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

* = Sample not Analyzed-Stagnant water

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:

DRY = no flow at time of sampling

* = Sample not analyzed- Stagnant Water

N/A = Not yet part of sampling program

**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. Boundry	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 Site PR1

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

Pine River Site PR3

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



Pine River Site PR4

Pine River Tributary: Bridge on Hwy 21 North of Concession 6



Pine River Site PR5

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



Pine River Site PR6

South Pine River: Concrete Bridge over Sideroad 25 North of Concession 6 East

Pine River Site PR7

Clark Creek: Concrete culvert south of Concession 4 on Sideroad 25



Pine River Site PR8

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



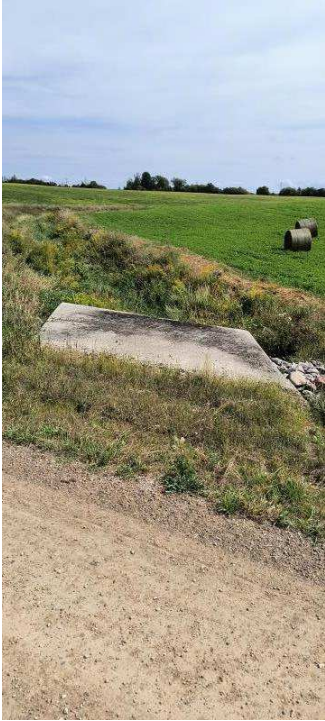
Pine River Site PR9

Pine River: Concrete bridge on County Road 7, south of Concession 10



Pine River Site PR10

Royal Oak Creek: Dual CSPs on County Road 7, north of concession 12



Pine River Site PR11

Royal Oak Creek: Box culvert on Sideroad 5, North of Huron-Kincardine East



Pine River Site PR12

Pine River: CSP crossing at Huron Twp./Kinloss Twp. Boundary, south of Concession 12



Pine River Site PR13

South Pine River: Bridge at Huron Twp./Kinloss Twp. Boundary south of Concession 8



Pine River Site PR17

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

Pine River Site PR18

Pine River Tributary: North of PR17 at South Baseline Road North of Concession 4



Pine River Site PR19

Clark Creek: Bridge at South Baseline Road North of Concession 2



Pine River Site PR20

Amberley Beach at Hwy 86 (Ashfield - Huron Boundary)



Pine River Site PR21

Amberley Beach off Attawandron Road - Public Walkway



Pine River Site PR22

Beach at Lighthouse in Point Clark - Public Swimming Area



Pine River Site PR23

Lurgan Beach off of Lake Range Road - Public Walkway



Pine River Site PR24

Beach at end of Concession 6 West



Pine River Site PR25

Beach at end of Concession 8 and Lake Range Road

Pine River Site PR26

Beach at end of Concession 10 and Lake Range Road



Pine River Site PR30

**Eighteen Mile River: Bridge over Highway 21, south of
Ashfield Huron Rd**



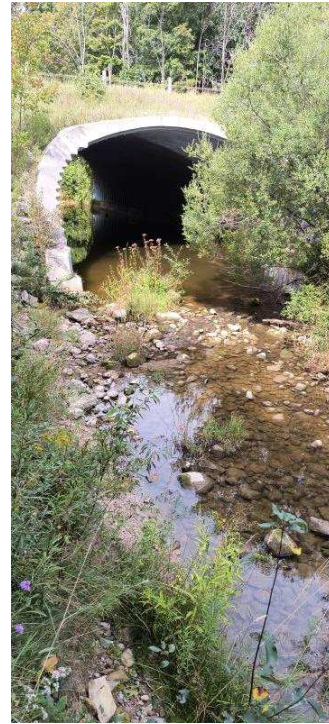
Pine River Site PR29

Boyd Creek: On Sideroad 20, south of Concession 4



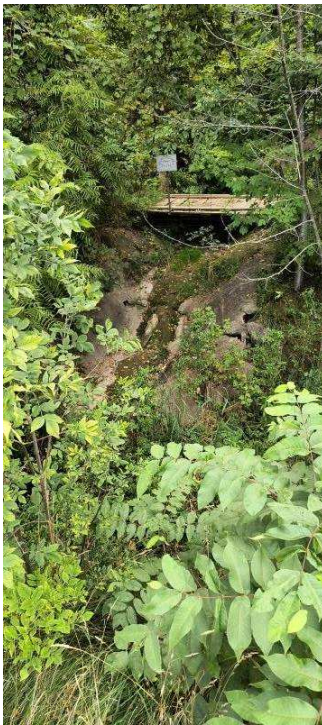
Pine River Site PR27

Boyd Creek: Concrete culvert on Highway 21 (Ashfield)



Pine River Site PR32

Eighteen Mile River: Concrete Culvert on Bruce Rd 7, north of Concession 2



Point Clark Site 5

Point Clark: Agricultural drain outlet to ditch at the end of Wilson Ave on Lake Range Dr



Point Clark Site B4

Point Clark: Bridge / storm outlet on Clark Creek, at Victoria Rd and Concession 2



Point Clark Site 6

Point Clark: Upstream of storm outlet into Clark Creek, just west of Huron Road on Concession 2



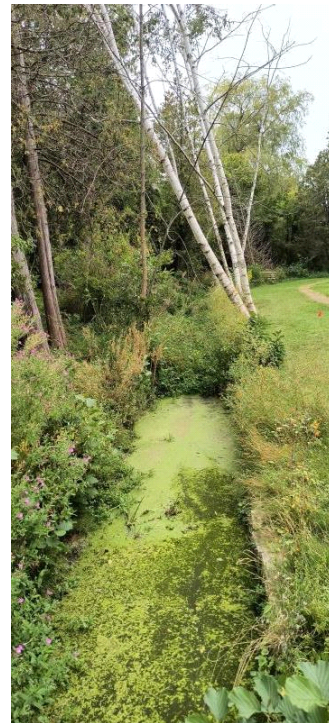
Point Clark Site 8

Point Clark: Jardine Creek storm culvert on the south side of Abenaki Dr



Point Clark Site 9

Point Clark: Ditch on Seneca Street between Huron Rd and Winnebago Rd



Point Clark Site 12

Point Clark: Jardine Creek, half way down Walpole Trail



Point Clark Site 13

Point Clark: Jardine Creek culvert at Huron Rd south of Abenaki Dr



Point Clark Site 17

Point Clark: Storm outlet in Jardine Creek south of Point Clark Site 12 on Walpole Trail