
TOWNSHIP OF HURON-KINLOSS

BASELINE SURFACE
WATER QUALITY MONITORING PROGRAM

2021 ANNUAL REPORT



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BASELINE SURFACE

WATER QUALITY MONITORING PROGRAM

2021 ANNUAL REPORT

February 1, 2022

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**TOWNSHIP OF HURON-KINLOSS
BASELINE SURFACE WATER
QUALITY MONITORING PROGRAM
2021 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, 2021, was the twenty-first year of the continuous monitoring program for Pine River and the twenty-second 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 subwatershed of the Pine River. This sampling highlighted regions that could be contributing a larger proportion of nutrients, and working with property owners the project completed additional sampling in 2014. This has resulted in further investigation by property owners.

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

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

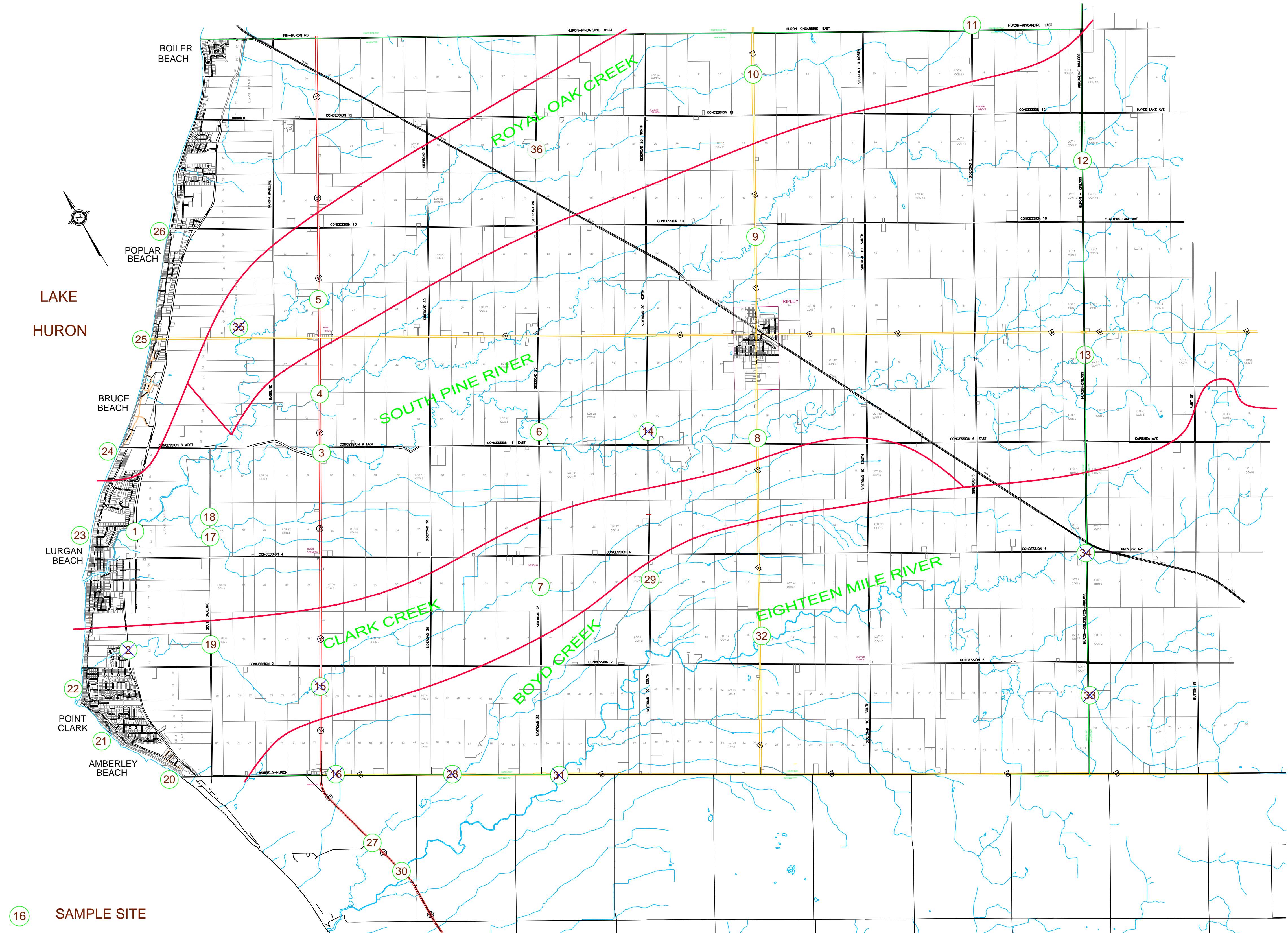
Additional sites were sampled from 2001-2004 to fill gaps in the study area. Since 2005, 16 sites have defined the program; three sites along Lake Huron beaches, three along Clark Creek, and eight along Jardine Creek. In 2017, in an effort to identify sections between Jardine Creek sites 9 and 8 that 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 capture 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.

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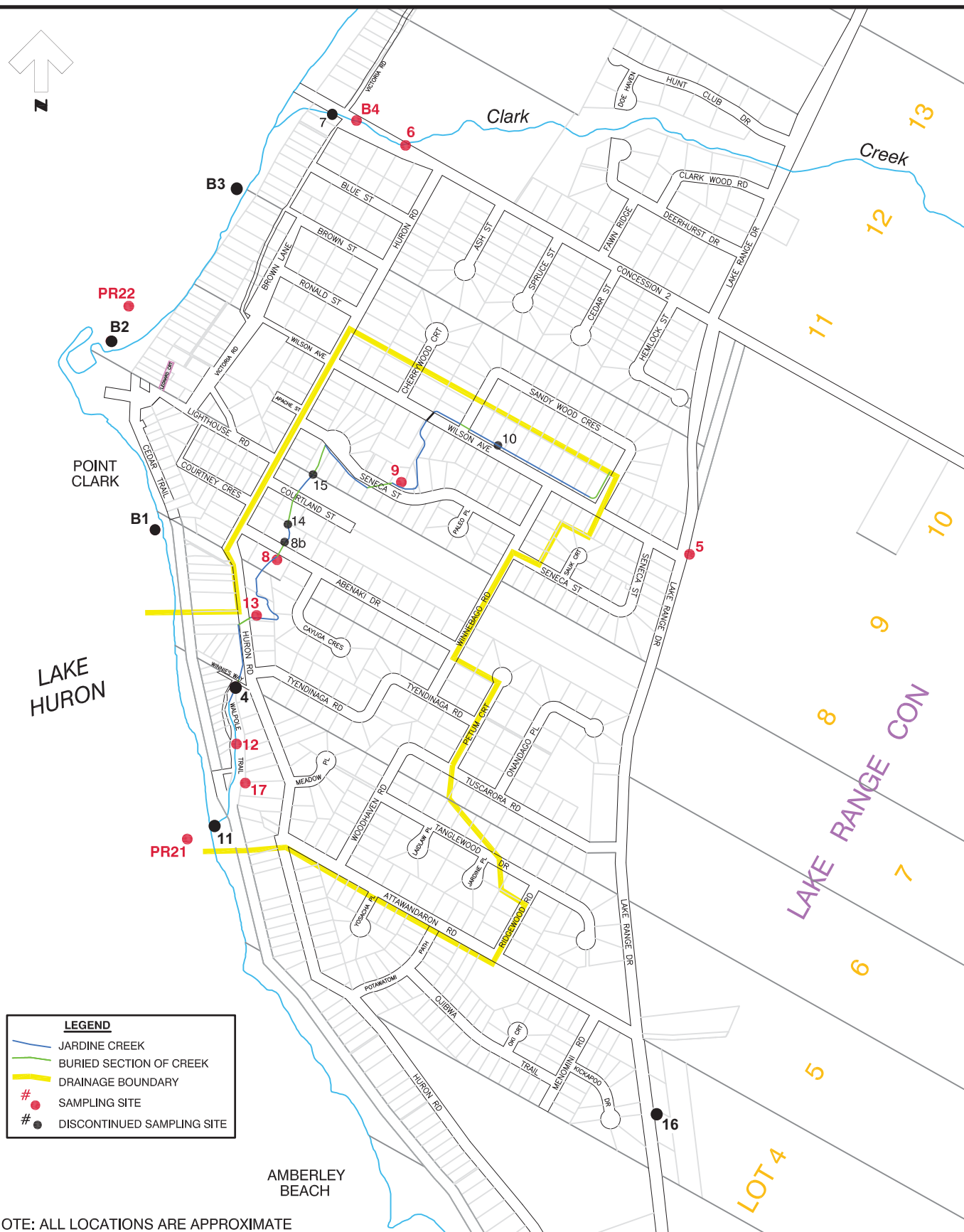
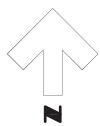


- 16 SAMPLE SITE
- 16 DISCONTINUED SAMPLING
- SUBWATERSHED BOUNDARY

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

FILE No.
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FIG. No.
2.1



BMROSS
engineering better communities

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

DATE
Nov., 2018

SCALE
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PROJECT No.
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FIGURE No.
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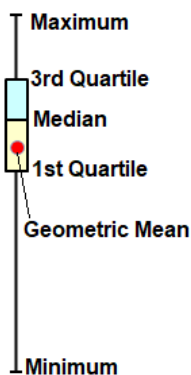
3.0 DISCUSSION AND RESULTS

Statistically confident statements regarding the specific condition of watercourses and locations of point sources of pollutants are typically not found through the Program data, but certain patterns can be described. Variables including weather, the distribution and intensity of rainfall events, the nature of the pollution sources, and the nature of the sampling protocol are constraints that should be considered when evaluating results.

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

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.



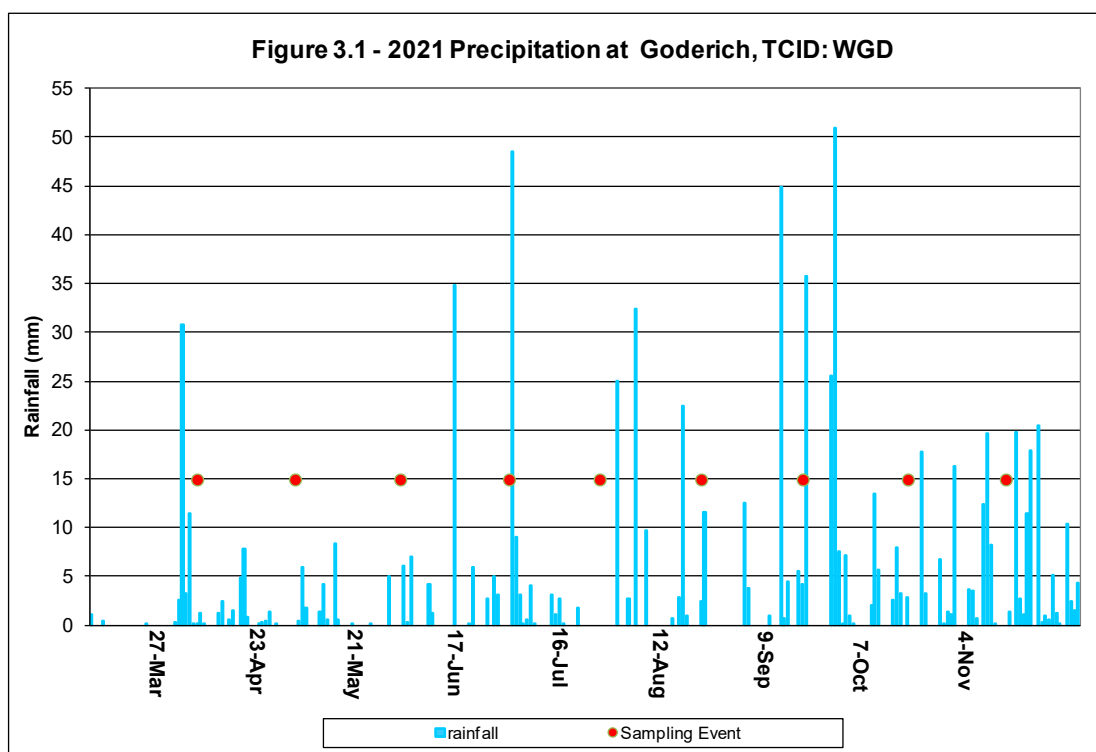
3.1 Weather, Rainfall and Water Levels

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 and adjacent land use such and the stage of crop development, and the sampling protocol. Time of day, sample depth and the sampling protocol are controlled by the field technician, and all factors should be considered when interpreting results.

Table 3.1
Summary of Sampling Season Precipitation

| Sampling Year | Seasonal Precipitation (March-November) |
|----------------------|--|
| 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, from warm-blooded animals, are shed with 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, namely through surface runoff and through waterbodies. *E. coli* typically can survive up to 48 hours outside of its native environment, 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.

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 2021. The box plot chart shows that *E. coli* levels vary within each monitoring site as well as between monitoring locations. Generally, Lake site results are well below the PWQO and lower than in-stream sites, while in-stream sites results are higher and can have a higher range of variability.

Lake sites PR20-PR26 results show geometric means below the PWQO, with the box-plot range showing nearly all individual results in 2021 below the PWQO. Only 7 of the 61 lake samples collected were at or above the PWQO, ranging from 100-500 CFU, and includes all six lake sites exceeding the PWQO on the October event. The October event was not preceded by significant rainfall and described lake sites as generally very turbid, due to sediment upturn from wave action caused by strong winds. The events which were preceded by significant rainfall did not show elevated results, highlighting the compounding nature of loading factors; Lake mixing and sediment upturn from wind works to distribute overland loading from rainfall events, as well is a separate loading factor which works to distribute the lake's own *E. coli*.

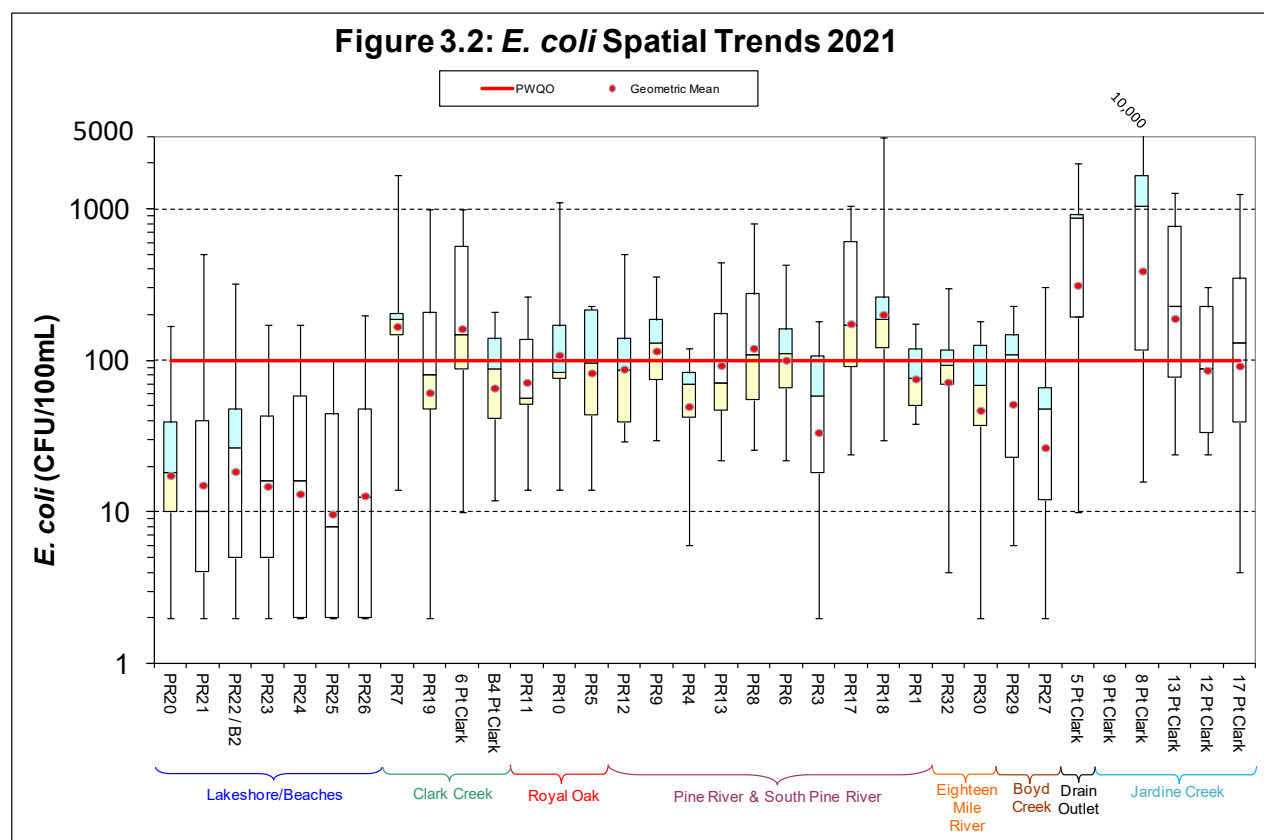


Figure 3.2 shows a typical range for inland site results of about 10-1000 CFU, with the range of geometric means for inland sites of about 30-600 CFU. 10 of the 27 sampled inland sites show geometric means above the PWQO. Of these 10 sites, PR7, PR17, PR18, 5, 8 and 13 show their box-plot ranges almost consistently above the PWQO.

PR7 is surrounded by agricultural fields, PR17 and PR18 are surrounded by agricultural fields and are in the vicinity of farming and homestead activity, with inputs likely related to those activities. 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. Site 8 is located in Point Clark, where inputs are likely related to animal and possibly septic activity. Site 8 was observed to have a white coloured streambed film and sewage like smell through much of the sampling season. Site 13 is located immediately downstream of Site 8 and may reflect attenuation from the upstream site or similar inputs.

The seasonal geometric means and percent of samples in exceeding the PWQO for each subwatershed's group of sites are presented in Table 3.2. In 2021, only the Jardine Creek subwatershed displayed an elevated combined geometric mean.

Table 3.2
Watershed Group Geometric Means and Percent over Guideline for *E. coli* in 2021

| Stream Group | Geometric Mean (cfu/100 mL) | Percent at or over PWQO |
|---|--------------------------------|----------------------------|
| Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26) | 16 | 13% |
| Pine River – (PR12, PR9 , PR4, PR13, PR8 , PR6, PR3, PR17 , PR18 , PR1) | 90 | 45% |
| Clark Creek – (PR7 , PR19, 6 , B4) | 95 | 51% |
| Royal Oak Creek – (PR11, PR10 , PR5) | 97 | 49% |
| Eighteen Mile River – (PR32, PR30) | 59 | 35% |
| Boyd Creek – (PR29, PR27) | 39 | 31% |
| Jardine Creek, Point Clark – (9, 8, 13, 12, 17) | 172 | 61% |
| Field Tile Drain at Point Clark – (5) | 276 | 83% |
| <i>Bold indicates geometric mean equals or exceeds PWQO</i> | | |

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

3.3 Nitrate

Nitrate is the most common, and one of the several forms of nitrogen that is present in surface waters. It is highly mobile in both ground and surface waters. Though it is naturally occurring in the environment at about 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 2021 is presented in Figure 3.3 and displays 16 inland site results with elevated medians. Lake sites show generally excellent results, with occasional spikes ranging from about 3-8 mg/L. Clark Creek sites are all elevated, with PR11 particularly elevated. Pine River's PR17 has a very high median and a typical range of about 1-10 mg/L. Point Clark sites have a much less variable range than other inland sites which shows the contrast between agricultural and built-up surrounding land use. Sites 5 and 17 were consistently elevated at about 9 mg/L and 4.5mg/L respectively, likely mediated by higher flows associated with the storm outlets at the sites.

Medians and percent of samples exceeding the CWQG for each group are presented in Table 3.3. Lake sites display low results in 2021, with all median concentrations well below the CWQG. Eighteen Mile River, Boyd Creek and Jardine Creek watersheds also had medians below the CWQG. Both Royal Oak and Pine River results are variable between their sites, with each group's exceedance influenced by a select number of sites, as opposed to Clark Creek where nitrate is highly elevated throughout all sites.

Nitrate in the Lake is partly sourced from overland inputs and it is apparent there is a dilution factor influencing the consistently low results. The groups with elevated medians highlight the soluble nature of nitrate in a mostly agricultural landscape, where it becomes mobilized through overland flow and can remain elevated in streams as their discharge and water levels remain high.

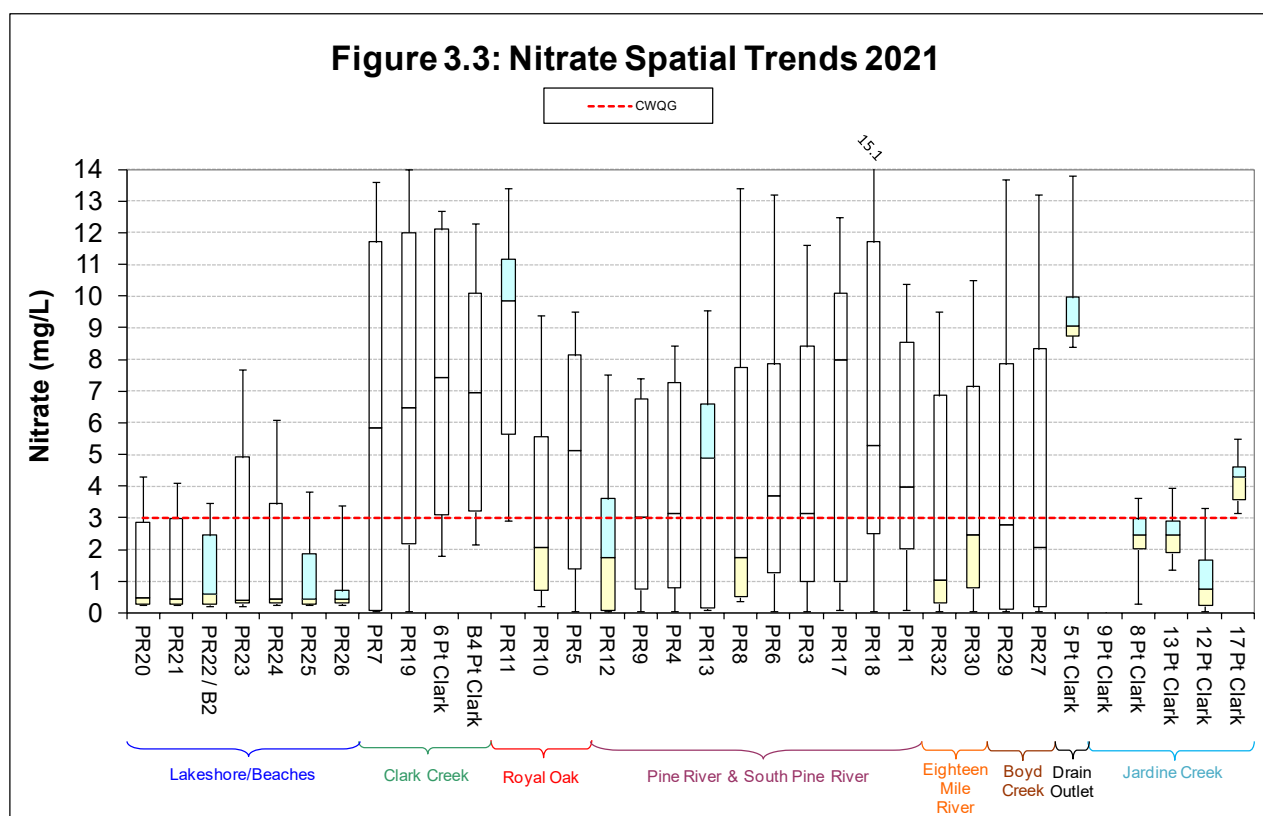


Table 3.3
Watershed Group Medians and Percent over Guideline for Nitrate in 2021

| Stream Group | Median (mg/L) | Average (mg/L) | Percent over CWQG |
|--|---------------|----------------|-------------------|
| Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26) | 0.44 | 1.49 | 22% |
| Pine River – (PR12, PR9, PR4, PR13, PR8, PR6, PR3, PR17, PR18, PR1) | 3.58 | 4.55 | 57% |
| Clark Creek – (PR7, PR19, 6, B4) | 6.70 | 6.65 | 69% |
| Royal Oak Creek – (PR11, PR10, PR5) | 7.44 | 6.38 | 68% |
| Eighteen Mile River – (PR32, PR30) | 2.30 | 3.61 | 44% |
| Boyd Creek – (PR29, PR27) | 2.41 | 4.80 | 44% |
| Jardine Creek, Point Clark – (9, 8, 13, 12, 17) | 2.61 | 2.55 | 39% |
| Field Tile Drain at Point Clark – (5) | 9.07 | 9.88 | 100% |
| <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 sediments and soils into streams which elevate phosphorus levels during those events, until it is re-bound to soil or soil 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 2021 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 0.015 mg/L and the interim PWQO was exceeded in 41% of lake samples, with PR21's seasonal median the above the PWQO, at 0.37 mg/L. 16 of the 27 sampled inland sites and all group watersheds except the Eighteen Mile Creek group had elevated seasonal medians. Many individual phosphorus results are elevated, which could reflect the agricultural landscape's soil and phosphorus transport potential from overland flow. Sites PR7, PR19, PR11, PR17, 5 and all of Jardine Creek sites are distinctly elevated, which could reflect upstream or site adjacent landscape factors or land use practices. The Jardine Creek group's 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.

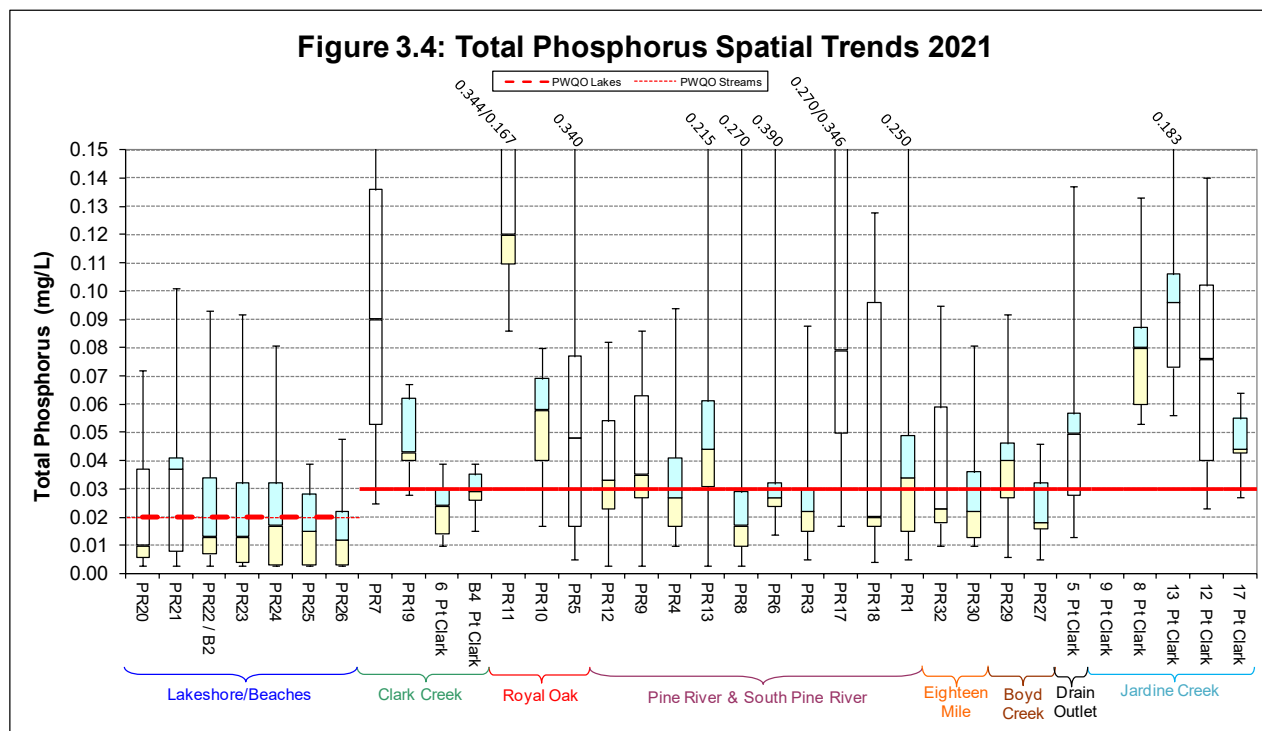


Table 3.4
Watershed Group Medians and Percent over Guidelines for Phosphorus in 2021

| Stream Group | Median (mg/L) | Average (mg/L) | Percent over PWQO |
|---|---------------|----------------|-------------------|
| Lake – (PR20, PR21, PR22, PR23, PR24, PR25, PR26) | 0.015 | 0.023 | 41% |
| Pine River – (PR12, PR9, PR4, PR13, PR8, PR6, PR3, PR17, PR18, PR1) | 0.031 | 0.058 | 53% |
| Clark Creek – (PR7, PR19, 6, B4) | 0.037 | 0.054 | 61% |
| Royal Oak Creek – (PR11, PR10, PR5) | 0.048 | 0.073 | 71% |
| Eighteen Mile River – (PR32, PR30) | 0.023 | 0.035 | 39% |
| Boyd Creek – (PR29, PR27) | 0.030 | 0.031 | 50% |
| Jardine Creek, Point Clark – (9, 8, 13, 12, 17) | 0.037 | 0.077 | 92% |
| Field Tile Drain at Point Clark – (5) | 0.050 | 0.063 | 67% |
| <i>Bold indicates median equals or exceeds PWQO</i> | | | |

4.0 COMPARISONS WITH HISTORIC RESULTS AND TWENTY YEAR REVIEW

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 2021.

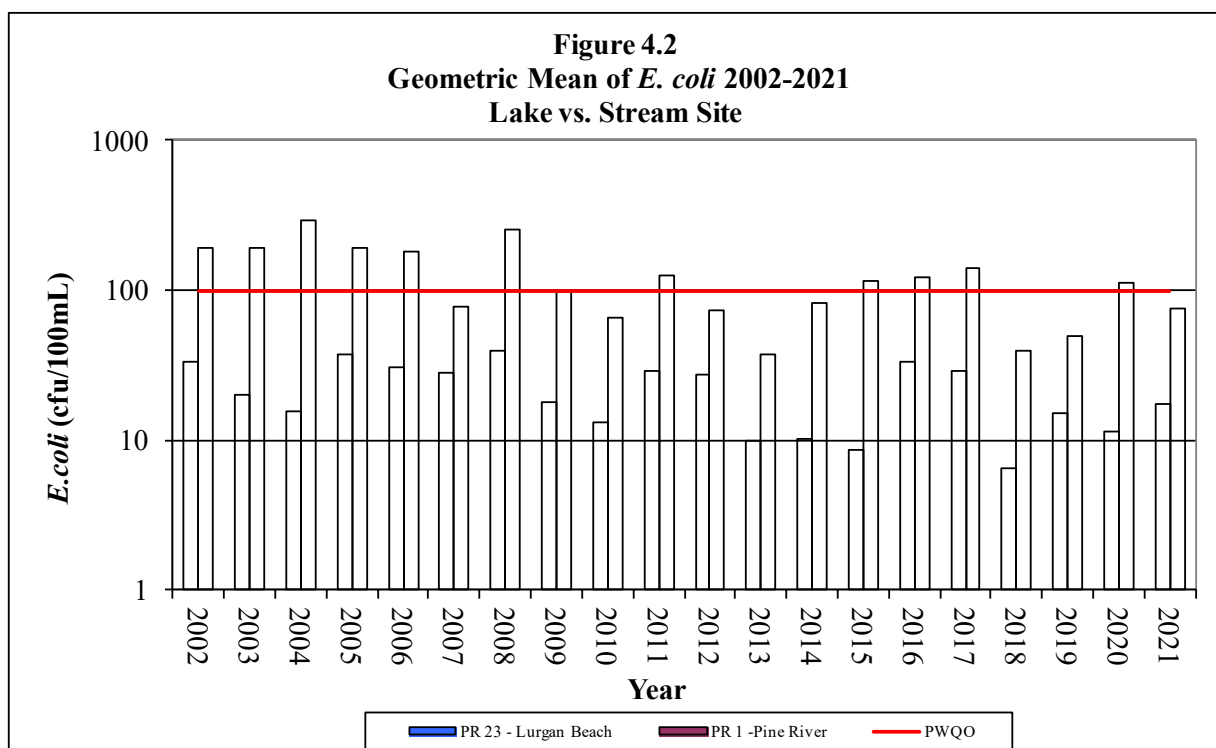
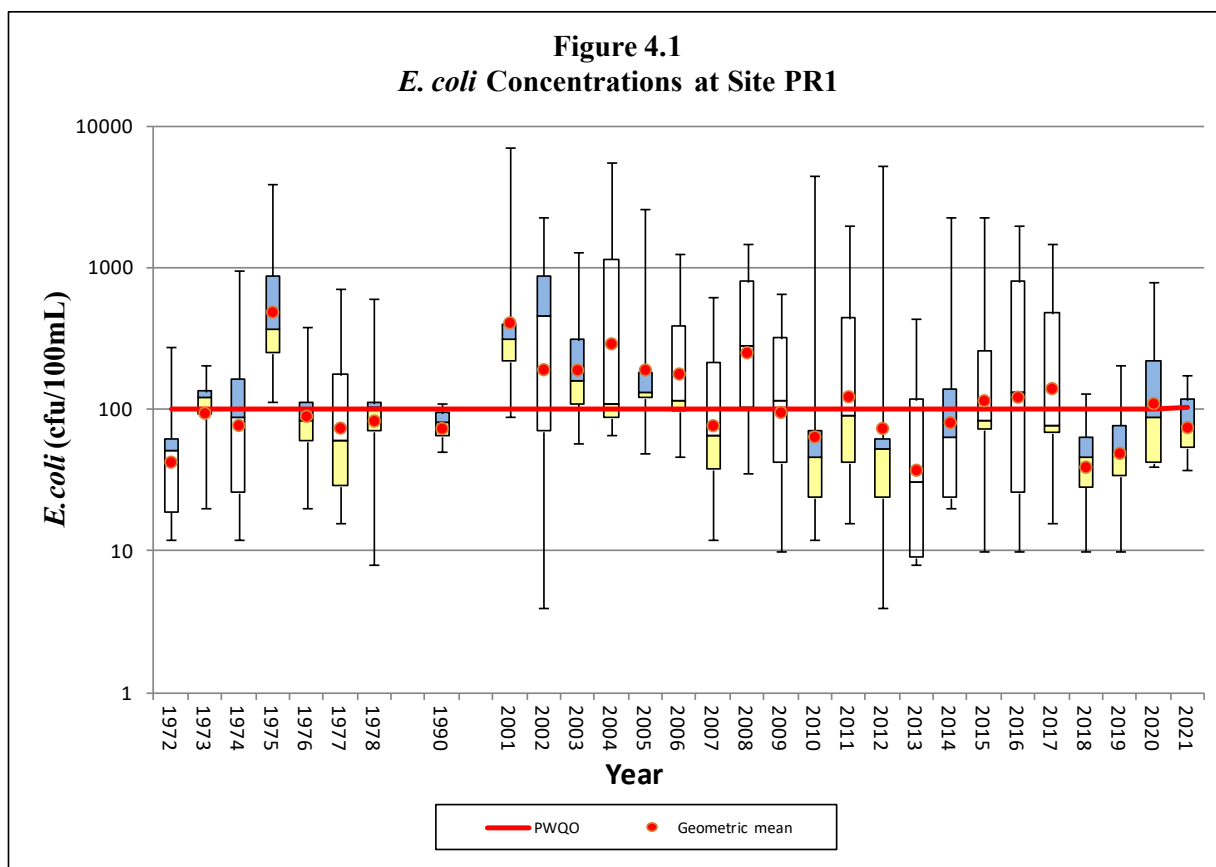
As the dataset from the Pine River continuous sampling program increases, the opportunity exists to illustrate changes in sampling results through 5-year periods. The periods allow the consolidation of a large dataset, in which it would be more difficult to interpret changes through time relative to all past years through the sampling. A five year period is intended to be small enough to capture possible changes in nutrient or bacteria loading such as land use or environmental factors and not so coarse so as to exclude possible variability in results that could represent more specific loading factor changes.

The 2021 results coincide with the fourth 5-year period. These periods are illustrated with box and whisker graphs, where observations will be made.

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 2021 sample results are similar to previous years; the stream site continues to have higher bacteria counts than the lake site. *E. coli* levels are highly variable and have many factors contributing to their origins, transport, survivability, and measured concentrations. The lake dilution factor, the isolation from direct sources of input, as well as site conditions at lake sites that are conducive to bacteria sterilization may partially account for the difference between the in-stream and lake site. Site conditions and associated sources of bacteria change depending on sampling location, however taking PR1 and PR23 as representatives of in-stream and lake sampling sites, we can assume this relationship generally exists between the program's in-stream and lake sites.



4.2.1 Fifteen Year Comparisons for *E. coli*

In place of generating comparative statistics, a general guide for interpreting box plots is if the boxes are about the same height relative to each other and the median or geometric mean from one box compared to another is well within the other box's boundaries, the results have similar variability and wouldn't be considered particularly different from each other.

Before the amalgamated sampling program, Point Clark sites were sampled for *E. Coli* and were sampled at a different frequency and time period than the Pine River sites. To compare results through the same time periods, the Point Clark figures have an additional period representing the 4 years of data collected before the Pine River monitoring program began. Some Point Clark sites were not established in the first time period and are not shown. The Point Clark sites which were discontinued after amalgamation and are represented by one year of data in the latest time period.

In the lake site group, as shown in Figure 4.3, given that the geometric means for all 5-year periods are below the PWQO and given that their upper ranges rarely exceed the PWQO, the 0-100 CFU variability observed in the box-plots should be considered against the exponential growth potential of *E. Coli*; single digit downward trends may be present in some lake sites but are unattributable due to the small magnitude. Throughout the sampling history almost any elevated result has had an acute factor observed, such as preceding weather, high winds, turbidity observations or the presence of waterfowl. Lake results have been almost consistently excellent through the history of the sampling program. The former Point Clark sampling program's lake site *E. Coli* results overlap with one Pine River lake site; PR22/B2 were sampled at the same location but with increased frequency for the Point Clark program. The sample data from Point Clark was not incorporated into the Pine River dataset in order to maintain an even basis of comparison. Using the full dataset in Figure 4.4, the ranges through most 5-year periods are slightly more variable than the respective Figure 4.3 site, and there is no significant difference between respective geometric means.

E. Coli in the Lake is mediated by external inputs which are often acute and associated with weather events; the Lake shows excellent results on calm days, and the finer sampling resolution of the former Point Clark program allowed greater chance of being affected by weather events. Given the sampling resolution of the Pine River program as well as the long history of sampling, and given the small difference in results at the overlapping sites, it is apparent that the sampling resolution of the Pine River program is sufficient to capture a snapshot of typical levels found throughout the watershed, and is confirmed given the similarity of those measurements through the 20 year sampling history.

In Figure 4.5, Point Clark's Clark Creek sites show similar variability through all 5-year periods, with results often above the PWQO. The first two 5-year periods at site 6 may be anomalous; upstream site 6 is about 200 metres away from downstream site B4 and they should be expected to have similar results, although site B4 could be receiving loadings from a large storm outlet at the site. Site 5 is isolated and is closest to the Clark Creek sites, where flow is entirely mediated by storm drainage and is shown to be consistently elevated, when there is flow.

The inland subwatersheds are grouped and displayed in Figure 4.6. The Royal Oak group's geometric means are lowest in the latest 5-year period and are significantly lower than many of the previous 5-year periods. The latest period's geometric means are slightly above the PWQO for all Royal Oak sites, but are about a 2-5 fold improvement over many of the previous 5-year periods. Clark Creek sites, PR-7 and PR-19, show results mostly below the PWQO in the latest two 5-year periods, which are distinct and possibly significantly lower than the first two 5-year periods, and are a 2-10 fold improvement over the first 5-year periods. Eighteen Mile River sites show little variability between 5-year periods but does show an improvement to almost consistent results below the PWQO in the latest 5-year period. Boyd Creek sites show a possible downward trend toward the current 5-year period, with upstream site PR-29 showing nearly evenly split results above and below the PWQO and downstream site PR-27 showing results almost consistently below the PWQO.

Almost every site in Pine River group, as shown in Figure 4.7, shows a decreasing trend through time, with the latest 5-year period showing geometric means below or similar to the lowest levels observed. From well below to slightly above the PWQO, the majority of sites show improvement through time.

Point Clark's Jardine Creek sites, as shown in Figure 4.8, show an almost consistent decrease through time periods, with the latest time period significantly lower than many previous periods. Site 17 and site 11 show an increasing trend after an initial decrease in the second period. A large storm outlet is located between site 12 and downstream sites 17 and 11, and may be contributing to the increasing trend observed downstream of site 12.

Figure 4.3: 5 Year Comparison of *E. coli* at Lake Sites

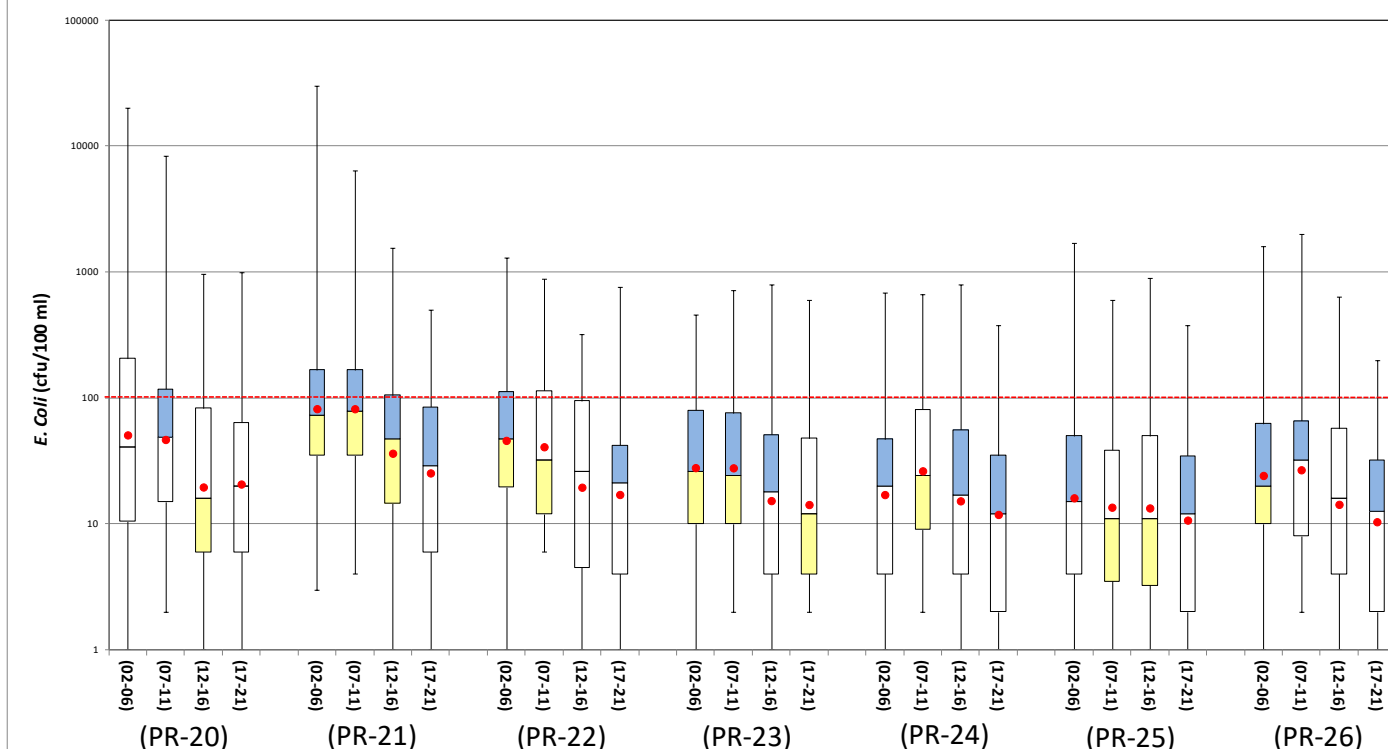
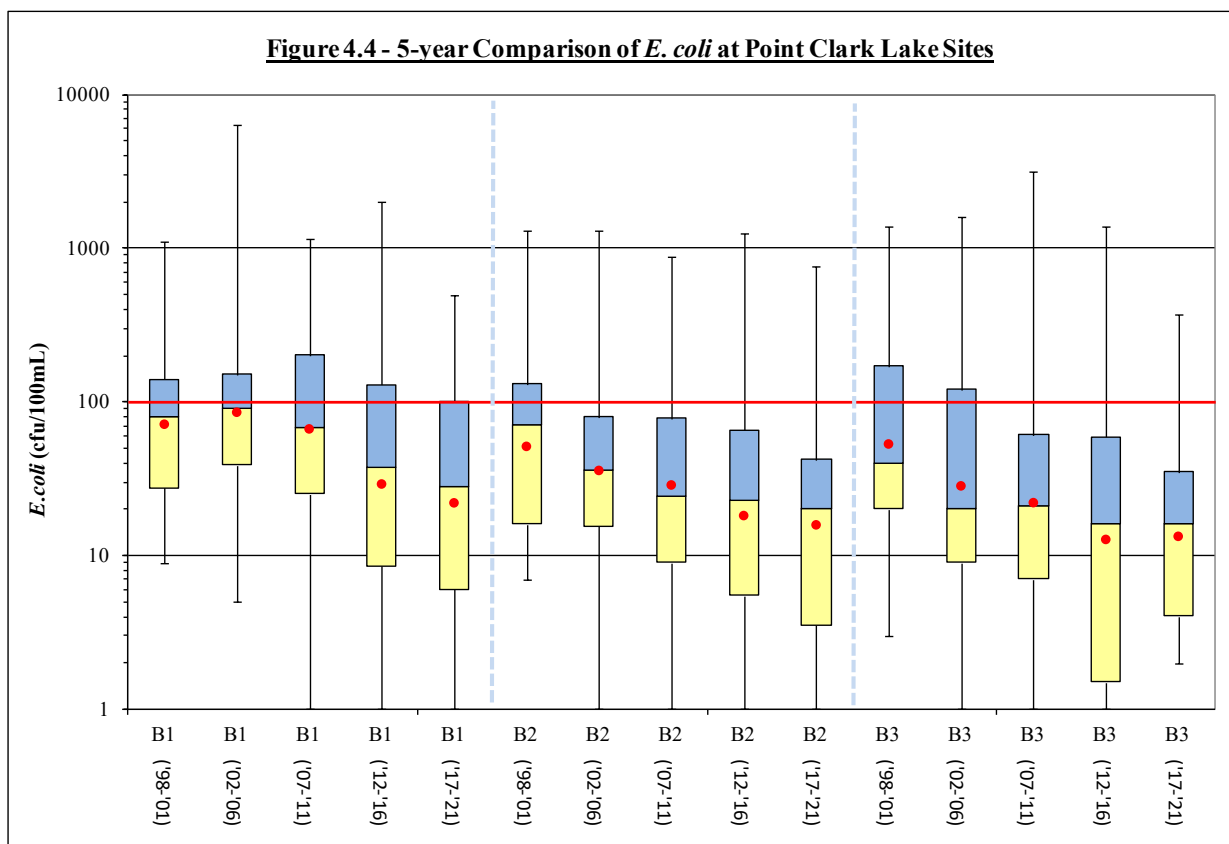
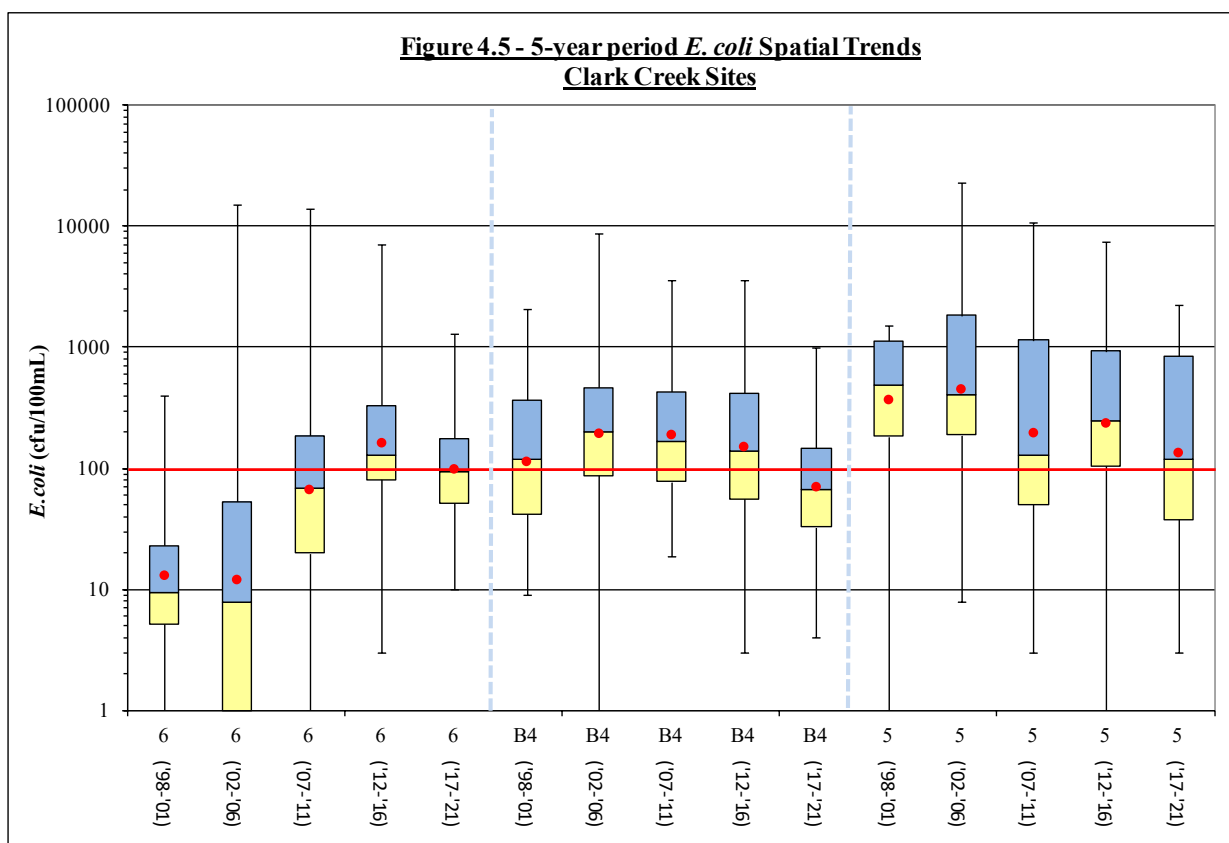
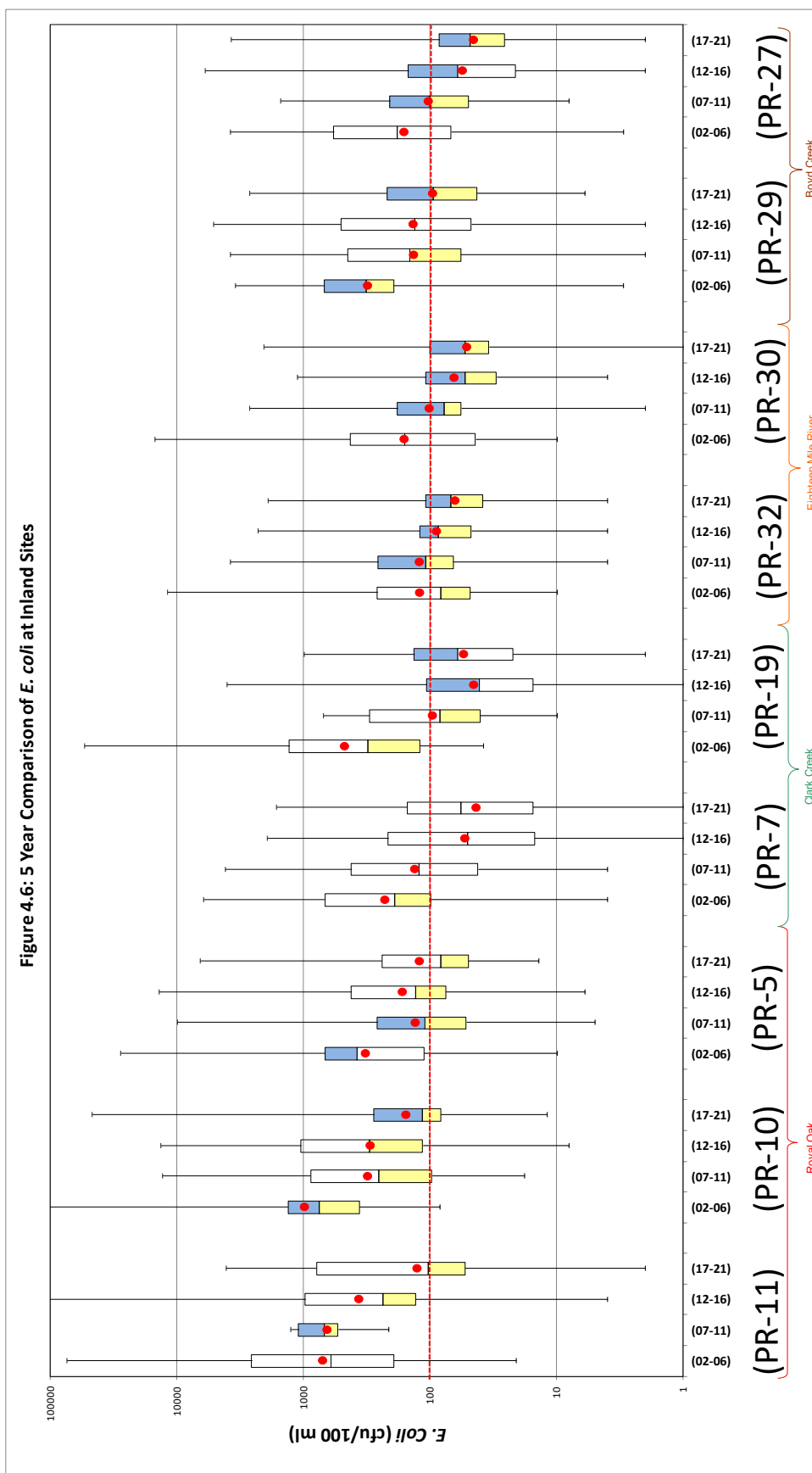


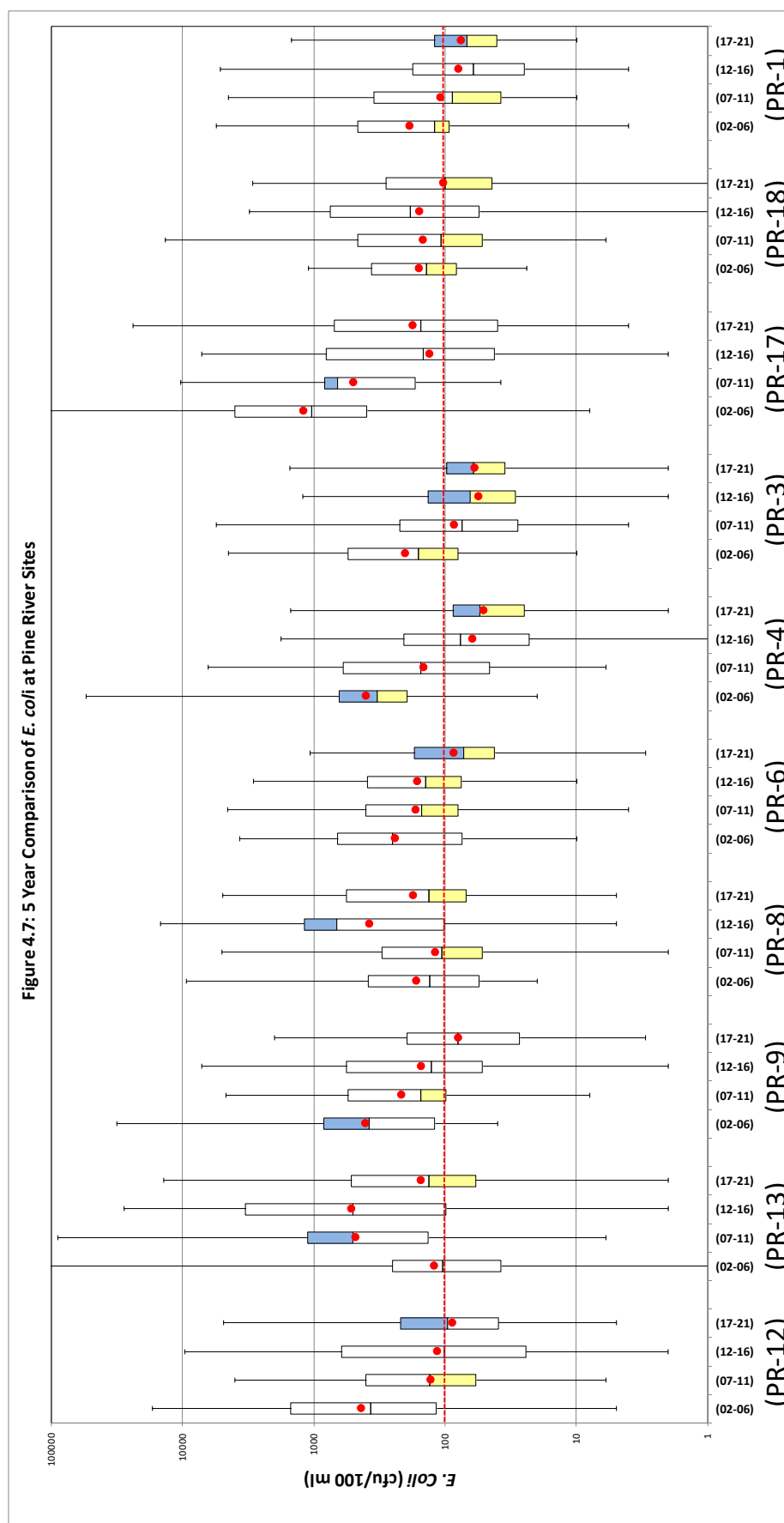
Figure 4.4 - 5-year Comparison of *E. coli* at Point Clark Lake Sites

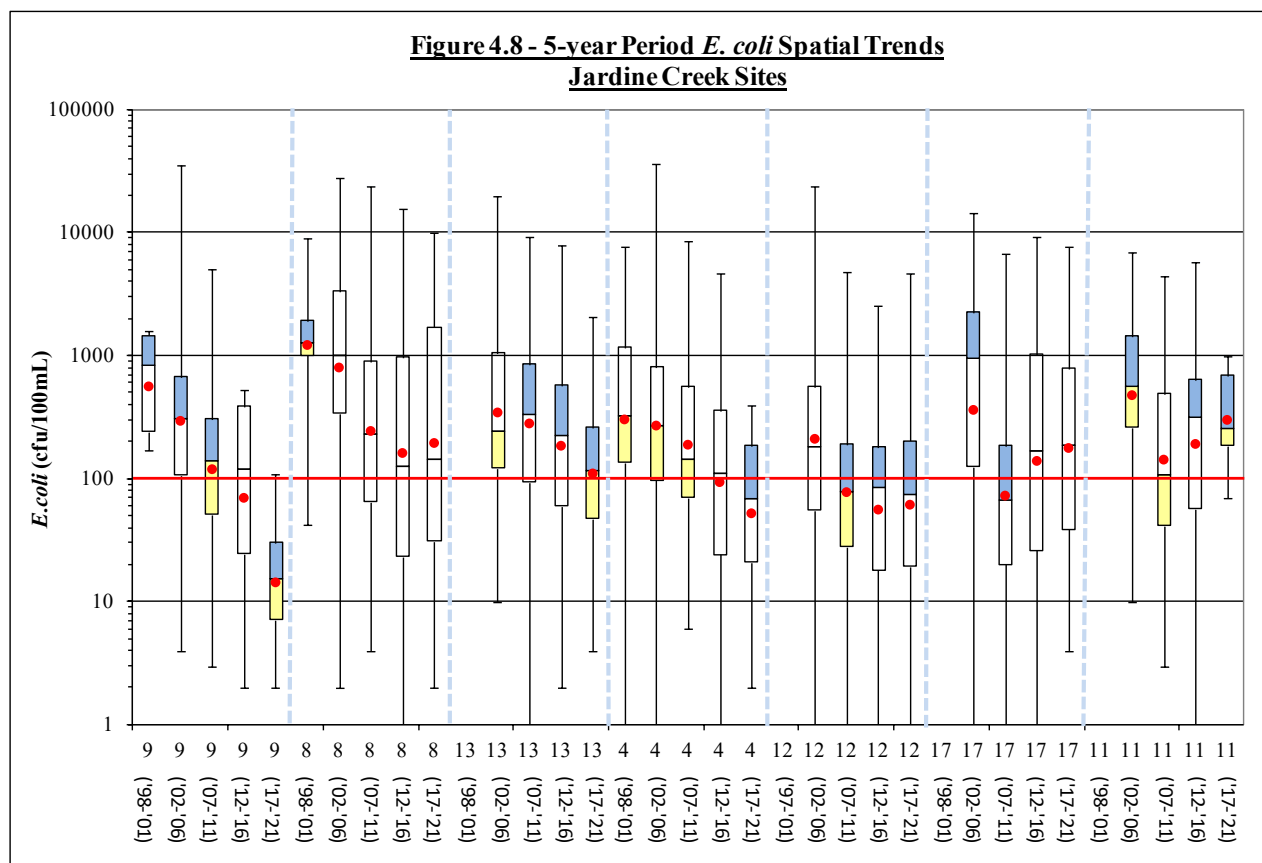


**Figure 4.5 - 5-year period *E. coli* Spatial Trends
Clark Creek Sites**





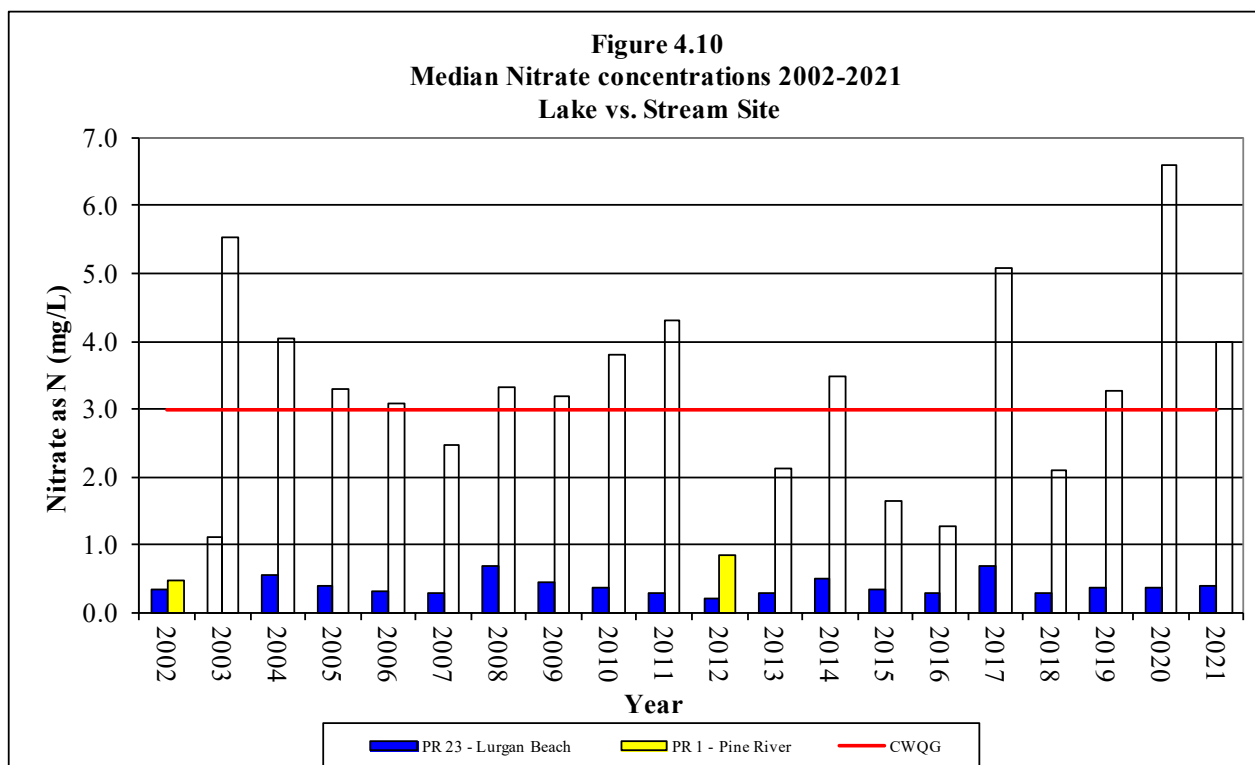
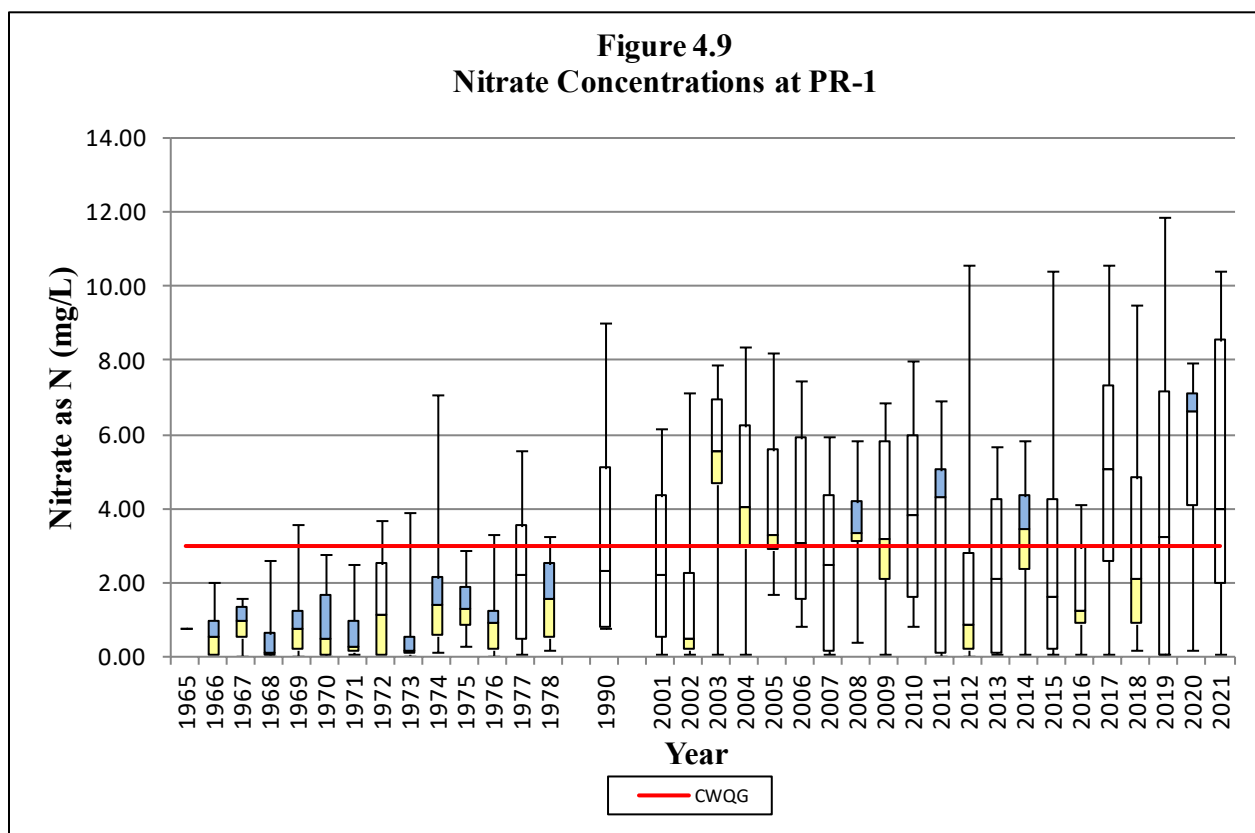




4.3 Nitrate

Figure 4.9 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 state to all inland sites, there is a wide range of stewardship opportunities to mediate improvements throughout the watershed with respect to nitrate loadings and transport.

Figure 4.10 compares the nitrate concentrations between a representative stream and lake site. It is apparent that concentrations at the lake site, most likely due to a dilution factor, almost consistently remain below the Canadian Water Quality Guideline while in-stream the stream site can have concentrations well above the lake site, though not necessarily over the CWQG. Using the two as representative sites, it can be assumed that this relationship exists between all in-stream and lake sampling sites.



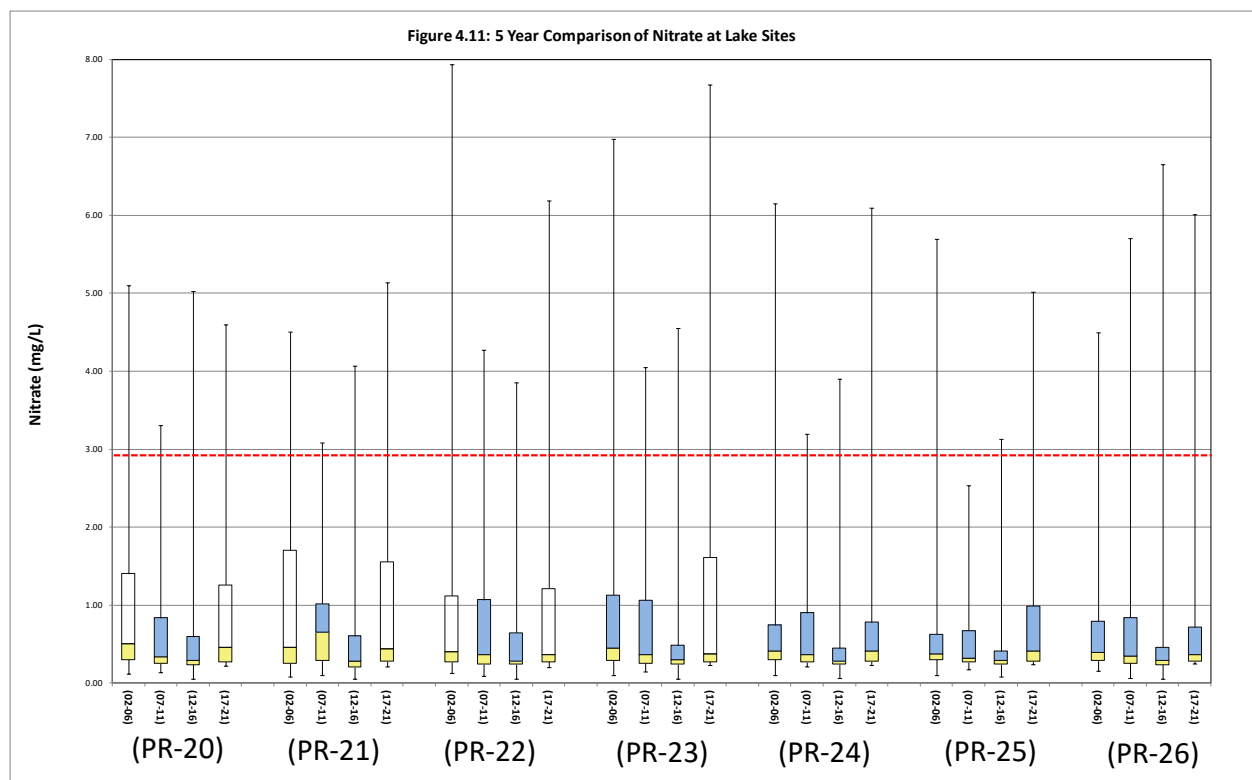
4.3.1 Fifteen Year Comparisons for Nitrate

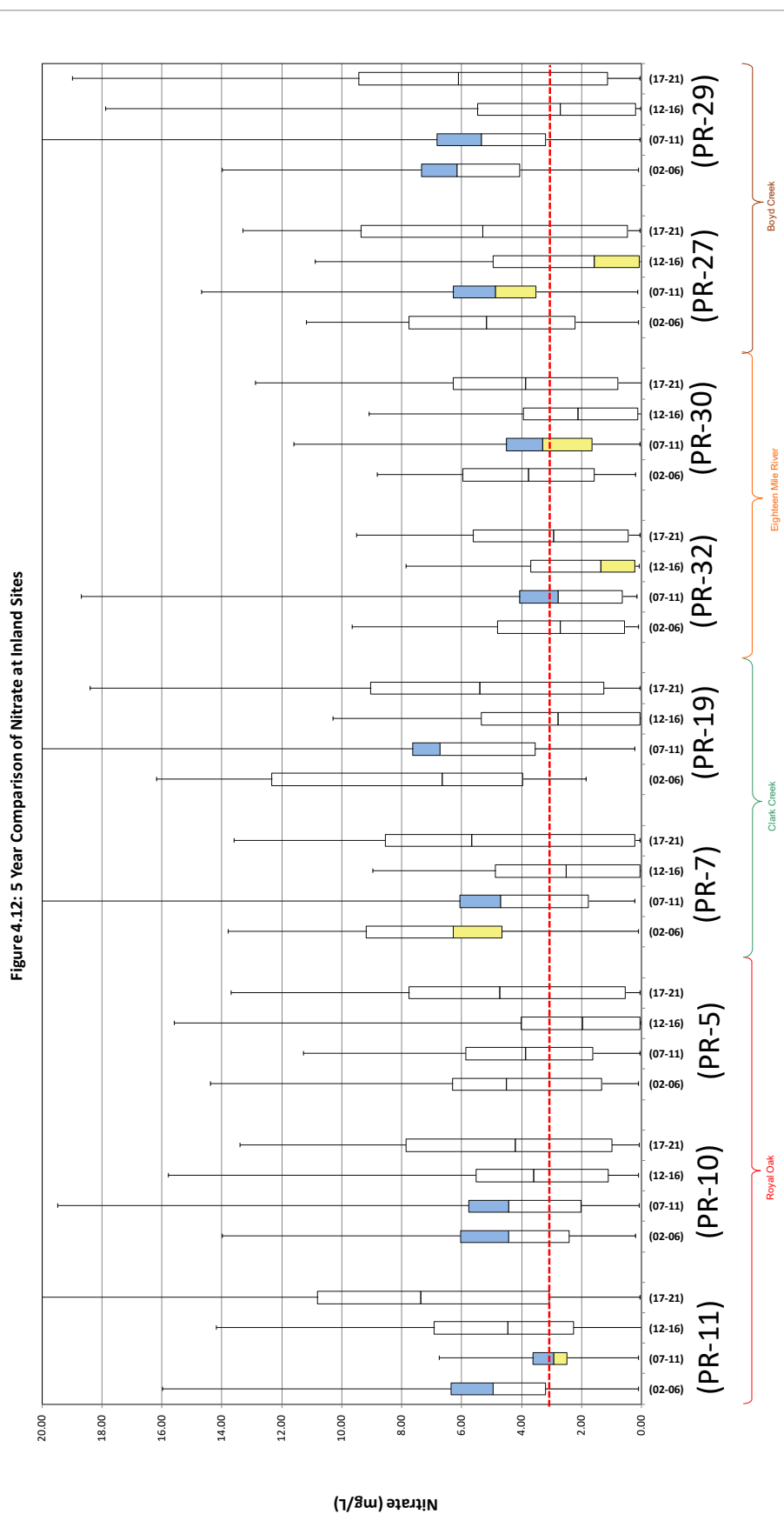
As shown in Figure 4.11, the lakeshore/beach site group displays medians well below the CWQG at typically under 0.4 mg/L, for all sites and through all 5-year periods. Figure 4.11 shows no notable change in medians through time and that except for very rare occurrences, individual results have been consistently below the CWQG which shows the Lake dilution effect has been consistent through the sampling history. The rare exceedances could contribute to over-productivity and nuisance algal growth, where nitrate is a limiting nutrient. Stewardship initiatives focused on mediating downstream nitrate loading impacts would ultimately affect Lake nitrate levels.

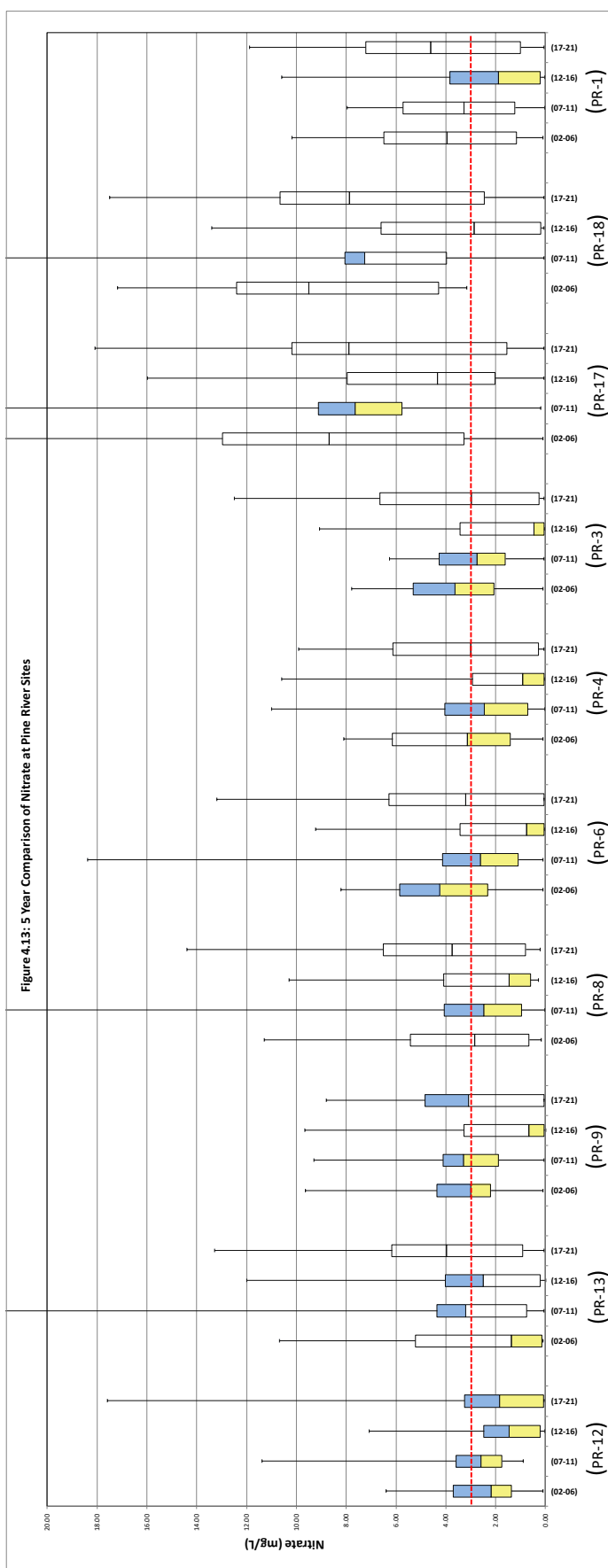
The inland subwatersheds are grouped and displayed in Figure 4.12. The Royal Oak group's medians are nearly consistently above the 3 mg/L CWQG and usually over 4 mg/L. PR-11 shows a significant increase in the latest time period, with a large range in results and a median of over 7 mg/L. Clark Creek sites show a decreasing trend through the first three 5-year periods, with the latest 5-year period showing a possible significant increase at both sites, to levels found before the downward trend began. Eighteen Mile River sites show results fairly split above and below the CWQG, with the latest 5-year period showing the highest median for both sites. Boyd Creek sites show trends similar to Clark Creek sites; a decreasing trend through time until the latest period, showing results similar to the historically highest levels.

The Pine River group is displayed in Figure 4.13 and shows many sites with similar downward trends followed with increased results through the latest 5-year period, where many of the medians are above the CWQG. PR-17 and PR-18 are once again particularly elevated.

The proportional increase in the latest period through most inland sites suggests landscape level changes affecting the entire watershed. Given that the latest 5-year period results are not notably different than those found historically, the increase could reflect a typical variability found through the large time period of the sampling history and that the chosen 5-year period was not long enough to capture typical variability in a time period, however it seems unlikely that a 20-year period is necessary. Changes in land use through periods could be correlated with nitrate loading potential, given the land use type is typically agricultural and involves many soil and fertilizer management practices. The natural decomposition, re-uptake and storage of nitrogen through the nitrogen cycle may have an effect through the latest time period, both from its natural cycle as well as from effects due to practices or change in practices of land use with regard to the primarily natural and agricultural activity of the landscape. Future monitoring, and investigation of potential sources of nitrate increases through the latest period could guide stewardship opportunities.



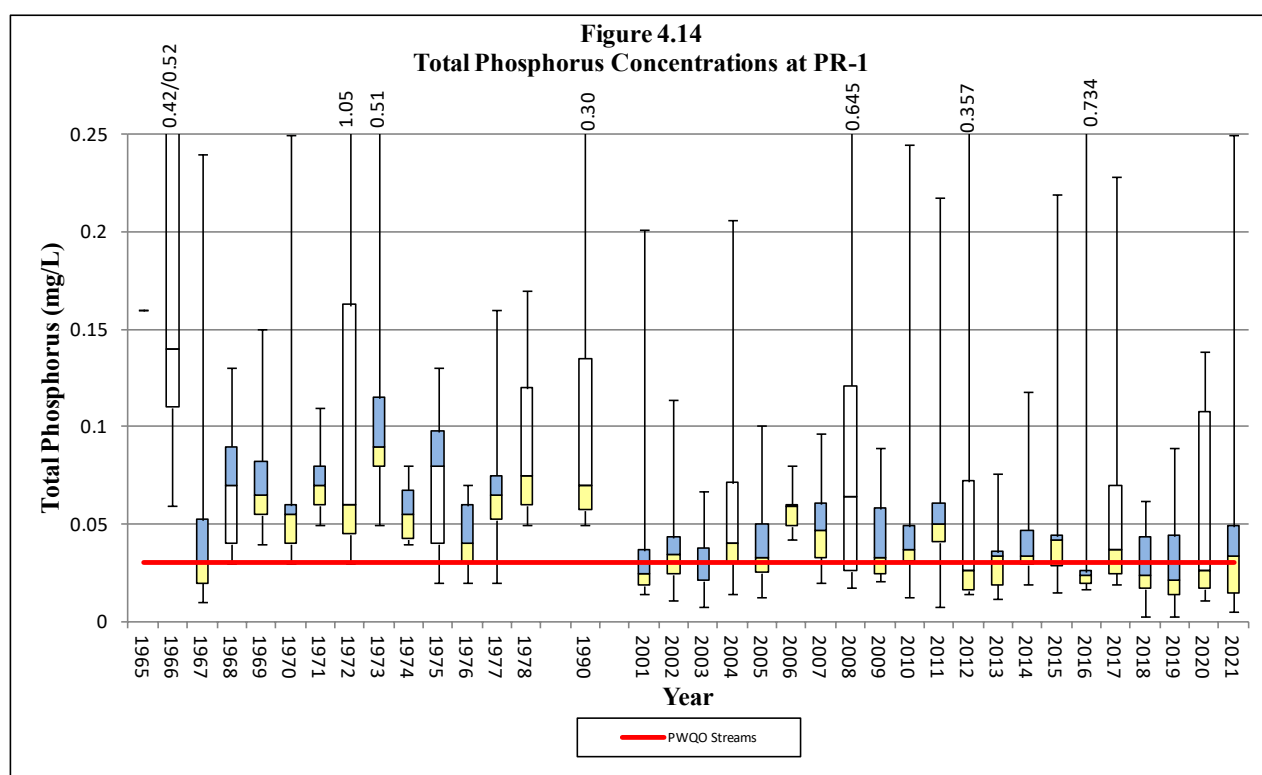


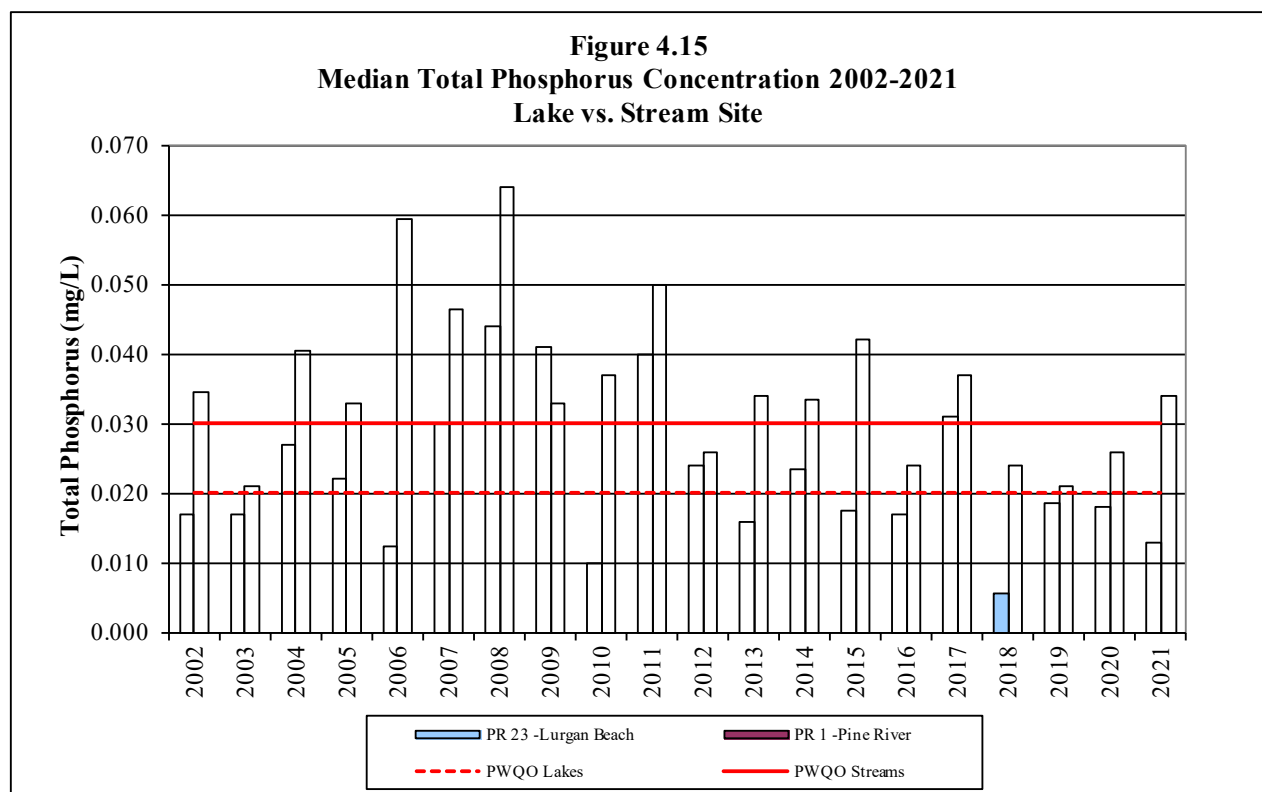


4.4 Total Phosphorus

Figure 4.14 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 4.15 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.





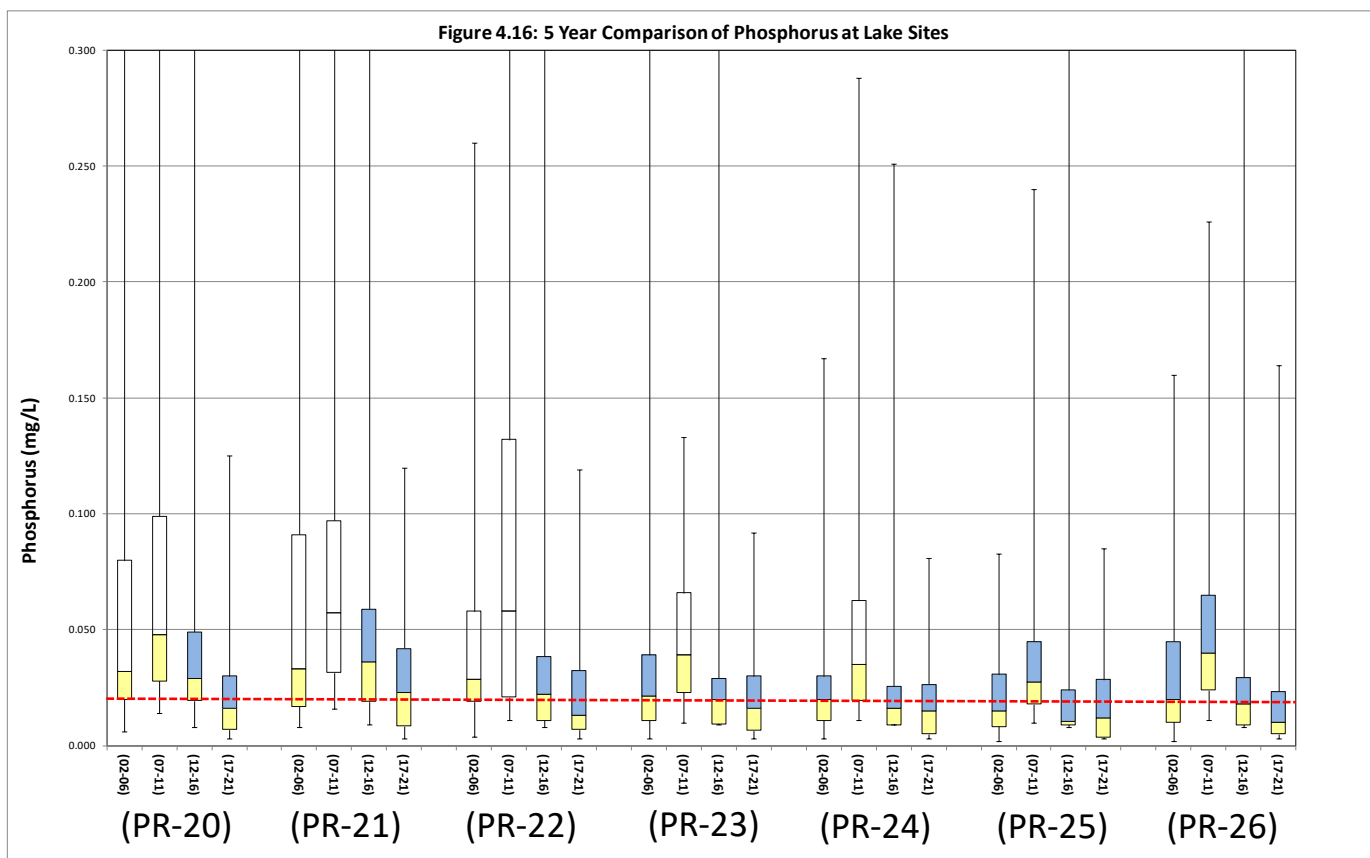
4.4.1 Fifteen Year Comparisons for Phosphorus

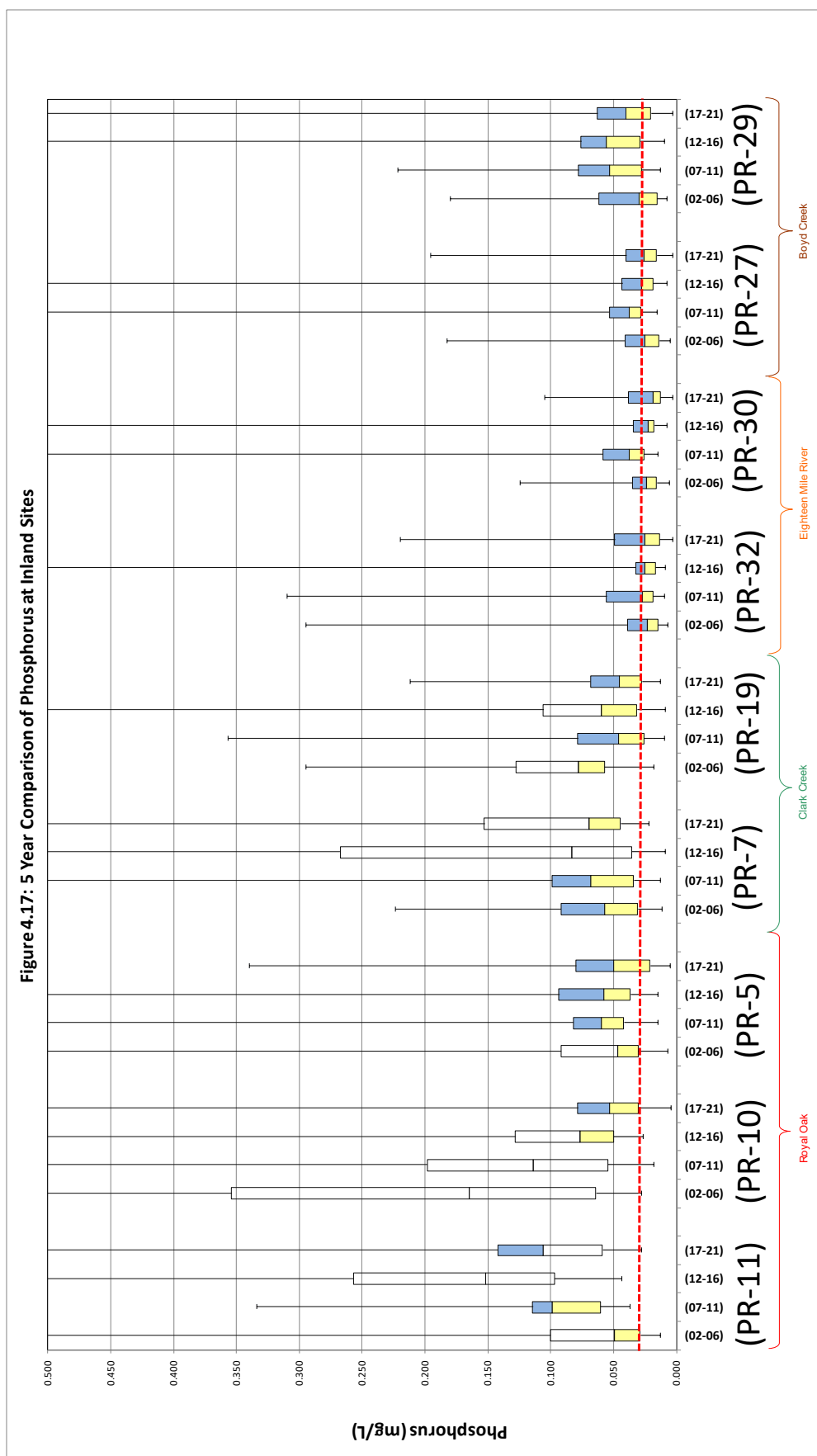
The lakeshore/beach site group results are displayed in Figure 4.16 which shows a proportional pattern for all sites through the 5-year periods. The second period shows a marked increase in variability and median, followed by the third and latest period's showing a decrease in variability and median to levels similar to or below the first 5-year period, as well as a notable reduction in extreme results marked by the standard error bars. All medians for all sites in the lake group in the latest period are either the lowest of all 5-year periods or well below the interim PWQO. Despite some historical variability, the lake site phosphorus levels have decreased almost consistently, to levels below the interim PWQO for lakes.

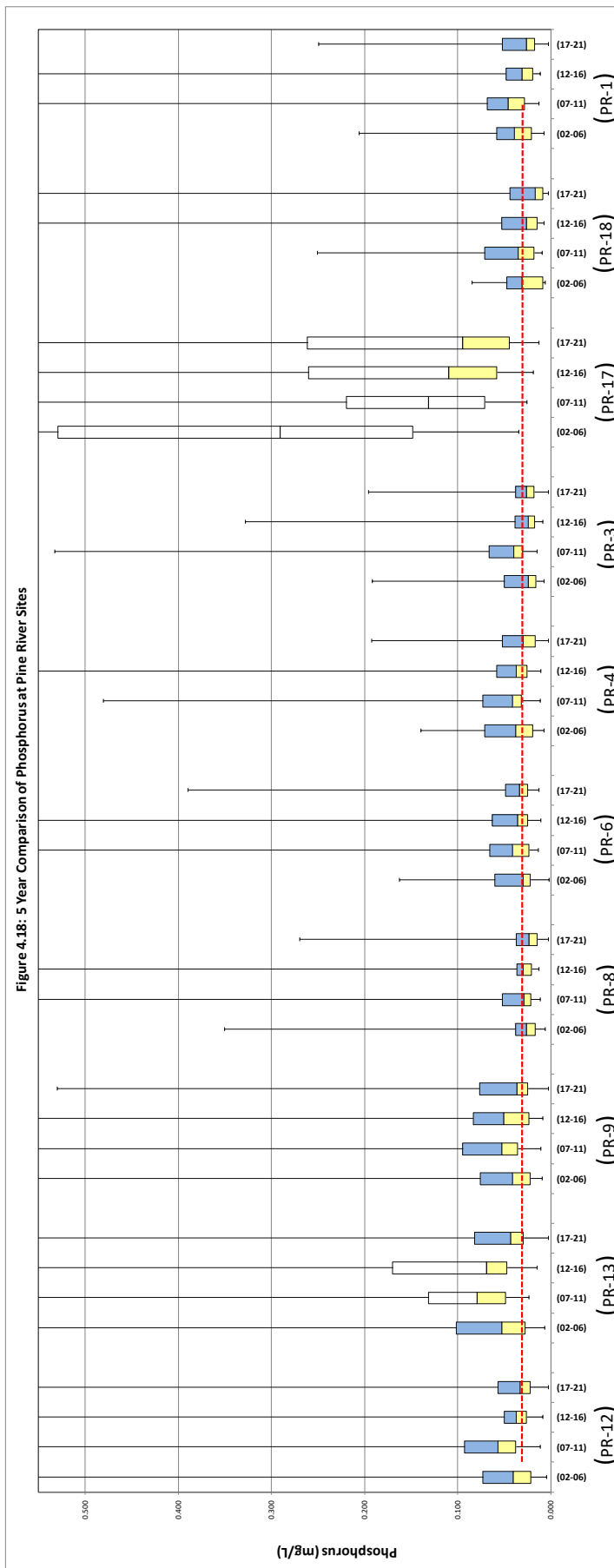
The inland subwatersheds are grouped and displayed in Figure 4.17. The Royal Oak group's medians are highly elevated and show variability between sites. PR-11 shows a marked increase in the latest three 5-year periods, with the latest 5-year period's typical range between 0.050-0.150 mg/L and a median of three times more than the 0.03 mg/L PWQO, at over 0.100 mg/L. PR-10 shows a decreasing trend with the latest 5-year period showing the lowest median of all periods, elevated at just over 0.050 mg/L. PR-5 shows more consistent levels through time, with a median of about 0.050 mg/L in the latest period. The Clark Creek group's medians are highly elevated and variable, showing no trend through time and a median in the latest 5-year period of about 0.07 and 0.04 mg/L respectively for PR-7 and PR-19. Eighteen Mile River sites show almost consistent results; low variability and medians for both PR-32 and PR-30 below the PWQO for nearly every 5-year period. At Boyd Creek sites, PR-27 shows low variability, an almost consistent median just below the PWQO, and results evenly split above and below the PWQO.

PR-29 results are consistently elevated and have medians at or well above the PWQO for all periods.

The Pine River group is displayed in Figure 4.18 and shows relatively low variability between sites as well as between 5-year periods, mostly split relatively evenly above and below the PWQO. While there are no apparent trends the latest 5-year period almost consistently shows a decrease through the watershed, with the lowest median of all periods. PR-17 shows decreased levels since the first 5-year period however it has remained particularly elevated, with a median in the current period of almost 0.100 mg/L and very high variability.







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. With 2021 marking the accumulation of the latest 5-year period of the sampling program, observations were discussed for nutrient and bacteria results through the four to five time periods and subwatershed group sites.

Lake sites displayed excellent results, with a low number of exceedances in 2021. The latest 5-year period displays the lowest geometric means of all periods. Stream *E. coli* levels regularly exceed the PWQO in 2021 and had could show extreme spikes in concentration at any time throughout the sampling season. All sites are subject to spikes likely related to weather conditions and ultimately the loading factors which enable transport of *E. coli*. Outside of Point Clark, the 5-year periods display a general decrease through time for many sites, with many of the latest 5-year period's geometric means the lowest of all periods. Point Clark's Clark Creek has maintained results and geometric means split above and below the PWQO through all 5-year periods. Jardine Creek has generally shown decreases toward the latest 5-year period, with geometric means in the latest 5-year period below or marginally above the PWQO. However Jardine Creek sites 17 and 11 results have been variable, showing a slight increase through the latest three 5-year periods.

Nitrate results at lake sites were fairly consistently under the CWQO in 2021, which has been a consistent trend through all 5-year periods. In-stream nitrate results had high variability in 2021, with the Pine River, Clark Creek, and Royal Oak Creek group watersheds displaying combined medians above the CWQG. All Clark Creek sites, Royal Oak site PR11, and Pine River site PR17 were particularly elevated. Point Clark's Jardine Creek nitrate results had much smaller variability than inland sites and were nearly consistently excellent 2021, except for site 5 and 17 which were consistently 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. Continued monitoring of the relatively new nutrient parameters throughout Point Clark will benefit future interpretation. Almost all inland sites in the Pine River Monitoring Program displayed an increase in the latest 5-year period, contrasting to a previously almost consistent downward trend for most sites through the first three 5-year periods. Investigation of this dynamic could highlight stewardship opportunities.


Phosphorus levels are improved compared to historical data, although they are still generally above the PWQO for streams and rivers. Phosphorus levels are lower at lake sites compared to in-stream sites, although results for any site are variable and can show large spikes in concentration. The 2021 phosphorus results at lake sites were variable and displayed medians below the PWQO for all sites except for PR21, which was elevated. The 5-year period result comparison at lake sites shows a general decrease through time, with the latest period's median below or almost below the PWQO and subject to notably lower extreme spikes. The 2021 results for inland subwatersheds show medians were above the PWQO for all groups except the Eighteen Mile River group. Clark Creek's PR7, Royal Oak's PR11, Pine River's PR17, and all of Point Clark's

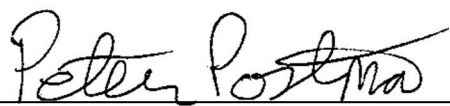
Jardine Creek results were particularly elevated. The 5-year period result comparison shows no notable trend through time for most inland sites, where inland site period medians have maintained levels slightly above or below the PWQO for their respective sites. All Boyd Creek sites, all Clark Creek sites, and Pine River site 17 have maintained particularly elevated phosphorus levels.

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

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Per 
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Environmental Technologist

PCP:es

APPENDIX A
WATER QUALITY RESULTS FOR THE YEARS
2002 - 2021

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-Cuvlert 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-Cuvlert 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 | 7.6.1 | 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-Cuvlert 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 | | |
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| | | | | | | | | | | | | |
| | | | 0.73 | 0.84 | 0.42 | 0.26 | 0.49 | 0.83 | 0.32 | 1.17 | | |
| | | | 0.51 | 0.48 | 0.31 | 0.27 | 0.36 | 0.89 | 0.33 | 1.18 | | |
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| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 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 | | |
| | | | | | | | | | | | | |
| | | | | | | | 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

Below Guideline

=> 0.03 mg/L

No Data

Total Phosphorus (mg/L)

[illegible]

2019 RESULTS

E.coli
Nitrates
Total Phosphorus

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

| SAMPLE ID | LOCATION | E. Coli (cfu/100mL) | | | | | | | | |
|-----------------|---|---------------------|--------|--------|--------|--------|--------|-------|--------|-----------|
| | | 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**

| SAMPLE ID | LOCATION | Nitrate as N (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 | 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-Cuvlert 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

| SAMPLE ID | LOCATION | E. Coli (cfu/100mL) | | | | | | | | |
|-----------------|---|---------------------|--------|--------|--------|--------|--------|--------|--------|--|
| | | 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-Cuvlert 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 | | | | | | | | | | |
|--|---|---------------------|--------|--------|--------|--------|--------|--------|--------|--|
| SAMPLE ID | LOCATION | Nitrate as N (mg/L) | | | | | | | | |
| | | 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-Cuvlert 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-Cuvlert 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 | e | | | | | | | | |
| | | 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 | | | | | | | | | | |
|--|---|-----------------------------------|-------------|-------------|--------------|-------------|------------------|-------------|------------------|--------------|
| SAMPLE ID | LOCATION | Nitrate as N (mg/L _e) | | | | | | | | |
| | | 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-Cuvlert 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 | e | | | | | | | | |
| | | 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 | | | | | | | | | | |
|--|---|-----------------------------------|---------------|---------------|---------------|-------------------|-------------------|-------------------|---------|---------|
| SAMPLE ID | LOCATION | Nitrate as N (mg/L _e) | | | | | | | | |
| | | 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-Cuvlert 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 | e | | | | | | | | |
| | | 31-Mar | 27-Apr | 25-May | 20-Jun | 18-Jul | 17-Aug | 12-Sep | 11-Oct | 7-Nov |
| | | | 28-Apr | 26-May | 21-Jun | 19-Jul | 18-Aug | 13-Sep | | |
| PR1 | Pine River-'Bridge on Lake Range Road, south of Lurgan Road | 0.734 | 0.020 | 0.018 | 0.020 | 0.026 | 0.148 | 0.025 | 0.017 | 0.024 |
| PR3 | South Pine River-Bridge on Hwy. 21 at 6th Conc. | 0.328 | 0.013 | 0.01 | < 0.009 | 0.036 | 0.060 | 0.038 | 0.023 | 0.022 |
| PR4 | Pine River Tributary-Bridge on Hwy. 21 North of 6th Conc. | 0.801 | 0.023 | 0.023 | 0.018 | 0.063 | 0.227 | 0.096 | 0.047 | 0.053 |
| PR5 | Pine River Tributary-Bridge on Hwy. 21 North of 8th Conc. | 0.931 | 0.028 | 0.025 | 0.015 | 0.139 | 0.156 | 0.129 | 0.072 | 0.025 |
| PR6 | South Pine River-Bridge on Sideroad 25 North of 6th Conc. | 0.963 | 0.011 | 0.013 | 0.031 | 0.083 | 0.096 | 0.077 | 0.087 | 0.041 |
| PR7 - Upstream | Clark Creek-Culvert on Sideroad 25 South of 4th Conc. | 0.706 | 0.025 | 0.035 | 0.090 | 0.504 | 0.779 | 0.261 | 0.148 | 0.119 |
| PR8 | South Pine River-Culvert on the 15th North of 6th Conc. | 0.958 | 0.028 | 0.02 | 0.022 | 0.035 | 0.590 | 0.026 | 0.025 | 0.017 |
| PR9 | Pine River-Bridge on the 15th South of 10th Conc. | 0.491 | 0.022 | 0.022 | 0.046 | 0.101 | 0.189 | 0.278 | Dry | 0.048 |
| PR10 | Royal Oak Creek-Bridge on the 15th North of the 12th Conc. | 0.936 | 0.037 | 0.027 | 0.042 | 0.113 | 0.311 | 0.275 | 0.095 | 0.066 |
| PR11 | Royal Oak Creek-Cuvlert on Sideroad 5 north Huron-Kincardine East | 1.390 | 0.054 | 0.047 | 0.059 | 0.201 | 1.31 | Dry | 0.138 | 0.166 |
| PR12 | Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 12th Conc. | 0.771 | 0.033 | 0.017 | 0.044 | Dry | 0.105 | 0.091 | 0.031 | 0.020 |
| PR13 | South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundary South of 8th Conc | 1.020 | 0.019 | 0.015 | 0.062 | 0.159 | 0.522 | 0.148 | 0.051 | 0.035 |
| PR17 - Upstream | Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc. | 0.531 | 0.069 | 0.022 | 0.077 | Dry | 0.999 | 0.362 | 0.337 | 0.199 |
| PR18 - Upstream | Pine River Tributary- Middle Culvert on South Baseline Road North of 4th Conc. | 0.596 | < 0.009 | 0.011 | < 0.009 | 0.206 | 0.086 | 0.054 | 0.139 | 0.026 |
| PR19 - Upstream | Clark Creek-Southern Culvert on South Baseline Road North of 2nd Conc. | 0.679 | 0.019 | 0.02 | 0.032 | 0.106 | 0.190 | 0.170 | 0.144 | 0.078 |
| PR20 | Beach at Hwy. 86 -Amberely Road. | 0.622 | 0.010 | < 0.009 | 0.036 | 0.070 | 0.029 | 0.089 | 0.044 | 0.036 |
| PR21 | Beach off of Attawandron Road-Public Walkway | 0.322 | 0.012 | 0.011 | 0.057 | 0.075 | 0.188 | 0.092 | 0.173 | 0.050 |
| PR22 | Beach-Point Clark Swimming Area | 0.249 | < 0.009 | < 0.009 | 0.016 | 0.024 | < 0.009 | 0.026 | 0.021 | 0.010 |
| PR23 | Lurgan Beach-Public Walkway | 0.529 | < 0.009 | 0.013 | < 0.009 | 0.028 | < 0.009 | 0.017 | 0.024 | 0.023 |
| PR24 | Beach at 6th Conc. | 0.251 | < 0.009 | < 0.009 | < 0.009 | 0.026 | < 0.009 | 0.018 | < 0.009 | < 0.009 |
| PR25 | Beach at 8th Conc. | 0.514 | < 0.009 | 0.009 | < 0.009 | 0.032 | < 0.009 | 0.013 | < 0.009 | < 0.009 |
| PR26 | Beach at 10th Conc. | 0.431 | < 0.009 | < 0.009 | < 0.009 | 0.031 | < 0.009 | 0.018 | < 0.009 | 0.017 |
| PR27 | Boyd Creek at Hwy. 21 before Amberely | 0.683 | 0.020 | 0.025 | 0.013 | 0.043 | 0.047 | 0.053 | 0.040 | 0.022 |
| PR29 | Boyd Creek on Sideroad 20 North of 6th Conc. | 0.625 | 0.015 | 0.01 | 0.042 | 0.134 | 0.136 | 0.063 | 0.062 | 0.060 |
| PR30 | Eighteen Mile Creek at Hwy. 21 before Amberely | 0.824 | 0.024 | 0.011 | < 0.009 | 0.028 | 0.060 | 0.018 | 0.010 | 0.018 |
| PR32 | Eighteen Mile Creek on the 15th North of 2nd Conc. | 0.772 | 0.026 | < 0.009 | 0.027 | 0.045 | 0.045 | 0.017 | < 0.009 | 0.014 |
| PR37 | Royal Oak Creek- Tile Outlet on Huron-Kinloss north of Huron-Kincardine East | 1.69 | Dry | Dry | Dry | Dry | Dry | Dry | Dry | Dry |
| PR38 | Royal Oak Creek- Tile Outlet on Huron-Kincardine East east of Sideroad 5 | 1.920 | 0.045 | Dry | Dry | Dry | Dry | Dry | Dry | Dry |

* Bold results indicate second day of sampling

2015 RESULTS

E.coli

Nitrates

Total Phosphorus

Total Suspended Solids

| Municipality of Huron-Kinlos Pine River Water Quality Monitoring Program 2015 Sampling Result | |
|---|---------------------|
| |) |
| | E. Coli (cfu/100ml) |

[illegible]

)

[illegible]

| Municipality of Huron-Kinlos Pine River Water Quality Monitoring Progar 2015 Sampling Result | | | | | | | | | | |
|--|---|--------|---------|---------|---------|---------|---------|--------|--------|--------|
| Total Phosphorus (mg/L) | | | | | | | | | | |
| SAMPLE ID | LOCATION | e | | | | | | | | |
| | | 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-Cuvlert 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

| Municipality of Huron-Kinlos Pine River Water Quality Monitoring Program 2015 Sampling Result | |
|---|-------------------------------------|
| | Total Suspended Solids - TSS (mg/L) |

| SAMPLE | LOCATION | e |
|--------|----------|---|
|--------|----------|---|

[illegible]

2014 RESULTS

E.coli

Nitrates

Total Phosphorus

Total Suspended Solids

| Municipality of Huron-Kinloss Pine River Water Quality Monitoring Program 2014 Sampling Results | |
|---|---------------------|
| | E. Coli (cfu/100mL) |

| 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 | |

[illegible]

| Municipality of Huron-Kinloss Pine River Water Quality Monitoring Program 2014 Sampling Results | | Nitrate as N (mg/L) |
|---|--|---------------------|
|---|--|---------------------|

[illegible]

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-Cuvlert 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

| Municipality of Huron-Kinloss Pine River Water Quality Monitoring Program 2014 Sampling Results | | Total Suspended Solids - TSS (mg/L) |
|--|--|--|
|--|--|--|

| SAMPLE ID | LOCATION | Sample Date | | | | | | | | |
|--------------|----------|-------------|--------|--------|--------|--------|--------|--------|--------|--|
| | | 28-Apr | 27-May | 24-Jun | 22-Jul | 19-Aug | 16-Sep | 15-Oct | 11-Nov | |
| | | | | | | | | | | |

[illegible]

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

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

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

| Nitrate as N (mg/L _e) | | | | | | | | | | |
|-----------------------------------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SAMPLE ID | LOCATION | 02-Apr | 29-Apr | 27-May | 24-Jun | 22-Jul | 19-Aug | 16-Sep | 15-Oct | 11-Nov |
| | | 30-Apr | 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 Progar
2013 Sampling Result

Total Phosphorus (mg/L)

| SAMPLE ID | LOCATION | e | | | | | | | | | |
|-----------------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| | | 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-Cuvlert 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 | e | | | | | | | | |
| | | 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_e) | | | | | | | | | | |
|--|---|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|
| 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 _e) | | | | | | | | | | |
|-------------------------------------|---|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|
| 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 Progar 2012 Sampling Result | | | | | | | | | | |
|--|---|--------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|
| Total Phosphorus (mg/L) | | | | | | | | | | |
| SAMPLE ID | LOCATION | e | | | | | | | | |
| | | 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 | 5-Apr | 26-Apr | 24-May | 20-Jun | 18-Jul | 15-Aug | 12-Sep | 11-Oct | 7-Nov |
| | | | | 25-May | 21-Jun | 19-Jul | 16-Aug | 13-Sep | 12-Oct | 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 | e | | | | | | | | |
| | | 5-Apr | 26-Apr | 24-May 25-May | 20-Jun 21-Jun Sample Date | 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 | | | | | | | | | |
| | | 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. Boundary | 0.150 | 0.013 | 0.013 | 0.059 | DRY | 0.183 | Dry | Dry | Dry |
| PR12 | Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 12th Conc. | 0.067 | 0.011 | 0.014 | 0.063 | 0.120 | Dry | Dry | Dry | Dry |
| PR13 | South Pine River-Bridge on Huron Twp./Kinloss Twp. Boundry South of 8th Conc. | 0.101 | 0.016 | 0.034 | 0.075 | 0.591 | Dry | Dry | Dry | Dry |
| PR14 | South Pine River Tributary - Bridge on Sideroad 20 North of 6th Conc. | 0.061 | 0.012 | 0.031 | 0.033 | 0.059 | Dry | Dry | Dry | Dry |
| PR15 | Clark Creek-Bridge on Hwy. 21 South of 2nd Conc. | 0.048 | 0.016 | 0.022 | 0.027 | 0.140 | Dry | Dry | 0.120 | 0.014 |
| PR16 | Culvert on Hwy. 86 East of Amberley | 0.031 | 0.031 | 0.054 | 0.170 | 0.121 | Dry | Dry | Dry | Dry |
| PR17 | Pine River Tributary-Northern Culvert on South Baseline Road North of 4th Conc. | 0.276 | 0.166 | 0.194 | 0.343 | 1.570 | Dry | Dry | 1.200 | 2.660 |
| PR18 | Pine River Tributary-Southern Culvert on South Baseline Road North of 4th Conc. | 0.052 | 0.008 | 0.018 | 0.042 | Dry | Dry | Dry | Dry | Dry |
| PR19 | Clark Creek-Bridge on 2nd Conc. East of Lake Range Road | 0.061 | 0.091 | 0.104 | 0.060 | 0.241 | 0.295 | 0.287 | 0.082 | 0.198 |
| PR20 | Beach at Hwy. 86 | 0.055 | 0.091 | 0.031 | 0.013 | 0.020 | 0.116 | 0.023 | 0.006 | 0.014 |
| PR21 | Beach off of Attawandron Road-Public Walkway | 0.091 | 0.026 | 0.018 | 0.016 | 0.042 | 0.110 | 0.142 | 0.013 | 0.013 |
| PR22 | Beach-Point Clark Swimming Area | 0.015 | 0.029 | 0.007 | 0.004 | 0.024 | 0.112 | 0.057 | 0.026 | 0.021 |
| PR23 | Lurgan Beach-Public Walkway | 0.021 | 0.009 | 0.006 | 0.014 | 0.028 | 0.036 | 0.084 | 0.009 | 0.017 |
| PR24 | Beach at 6th Conc. | 0.013 | 0.005 | 0.007 | 0.013 | 0.016 | 0.029 | 0.047 | 0.020 | 0.018 |
| PR25 | Beach at 8th Conc. | 0.012 | 0.005 | <0.002 | 0.005 | 0.009 | 0.008 | 0.071 | 0.026 | 0.007 |
| PR26 | Beach at 10th Conc. | 0.066 | 0.005 | 0.002 | 0.010 | 0.025 | 0.013 | 0.078 | 0.020 | 0.006 |
| PR27 | Boyd Creek at Hwy. 21 (Ashfield) | 0.084 | 0.006 | 0.016 | 0.016 | 0.035 | 0.183 | Dry | Dry | Dry |
| PR28 | Boyd Creek at Hwy. 86 East of Amberley | 0.120 | 0.005 | 0.028 | 0.048 | 0.060 | 0.050 | Dry | 0.017 | 0.155 |
| PR29 | Boyd Creek on Sideroad 20 North of 6th Conc. | 0.086 | 0.008 | 0.010 | 0.036 | 0.180 | Dry | Dry | Dry | Dry |
| PR30 | Eighteen Mile Creek at Hwy. 21 (Ashfield) | 0.037 | 0.013 | 0.014 | 0.020 | 0.035 | 0.030 | 0.021 | 0.024 | 0.021 |
| PR31 | Eighteen Mile Creek at Hwy. 86 East of Amberley | 0.078 | 0.007 | 0.013 | 0.026 | 0.057 | 0.048 | 0.035 | 0.027 | 0.034 |
| PR32 | Eighteen Mile Creek on the 15th North of 2nd Conc. | 0.049 | 0.007 | 0.014 | 0.028 | 0.041 | 0.031 | 0.020 | 0.014 | 0.019 |
| PR33 | Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry at 4th Concession | 0.175 | 0.008 | 0.019 | 0.023 | 0.040 | 0.026 | 0.031 | 0.014 | no flow |
| PR34 | Eighteen Mile Creek on Huron Twp./Kinloss Twp. Boundry South of 2nd Conc. | 0.154 | 0.005 | <0.002 | 0.033 | 0.630 | 0.042 | 0.033 | 0.127 | no flow |

APPENDIX B

INVENTORY OF SAMPLING LOCATIONS

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



PR 1-Facing WEST

PR 1

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



PR 3-Looking across EAST side of bridge



PR 3-Looking down over bridge on EAST side

PR 3

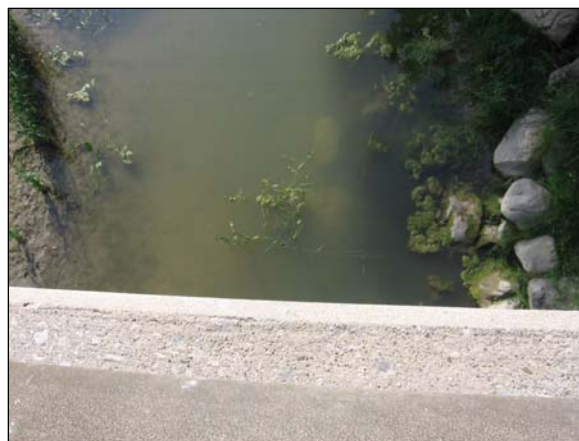
South Pine River Bridge on Highway 21, North of Concession 6



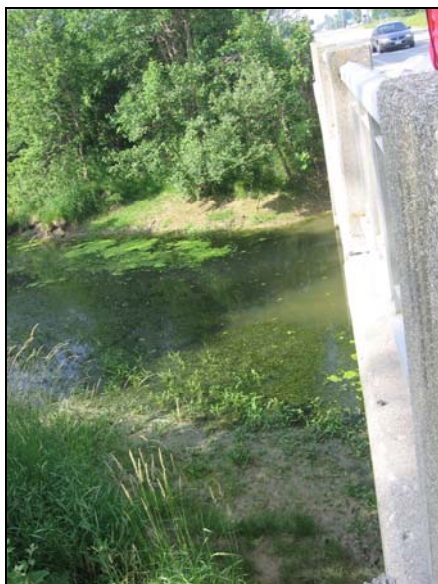
PR 4-Looking across EAST side of bridge

PR 4

Pine River tributary Bridge on Hwy
21 North of Concession 6



PR 4- Looking down over bridge on EAST side



PR 5-Looking across river on EAST side

PR 5

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

PR 6

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



PR 6-Looking over Bridge on EAST side



PR 7 – Facing WEST

PR 7

Concrete Culvert, South of Concession 4 on
Sideroad 25.

PR 8

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



PR 8 –Facing WEST over Pine River tributary



PR 9-Looking across bridge on EAST side



PR 9-Looking at River on EAST side

PR 9

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



PR 10-Looking WEST over dual CSPs



PR 10- WEST side of creek

PR 10

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



PR 12 –Facing EAST over CSP

PR 12

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

PR 13

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



PR 13 –Facing EAST



PR 17 – Facing EAST over Concrete Culvert

PR 17

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



PR 20

Amberley Beach at Hwy 86 (Ashfield/Huron Boundary)



PR 21

Amberley Beach off Attawandron Road-Public Walkway



PR 22

Beach at Lighthouse in Point Clark-Public Swimming Area





PR 23

Lurgan Beach off of Lake Range Road- Public Walkway



PR 24

Beach at end of Concession 6 West



PR 25

Beach at end of Concession 8 & Lake Range Road



PR 26

Beach at end of Concession 10/Lake Range Road



PR 27-Looking across EAST side of culvert



PR 27-Facing EAST

PR 27

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



PR29-Looking down on WEST side of creek



PR 29-Looking WEST over culvert

PR 29

Boyd Creek on Sideroad 20, just south of Concession 4



PR 30-Facing EAST across bridge



PR 30-Facing East over bridge

PR 30

Bridge over Eighteen Mile River on Highway 21



PR 32-Facing WEST

PR 32

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