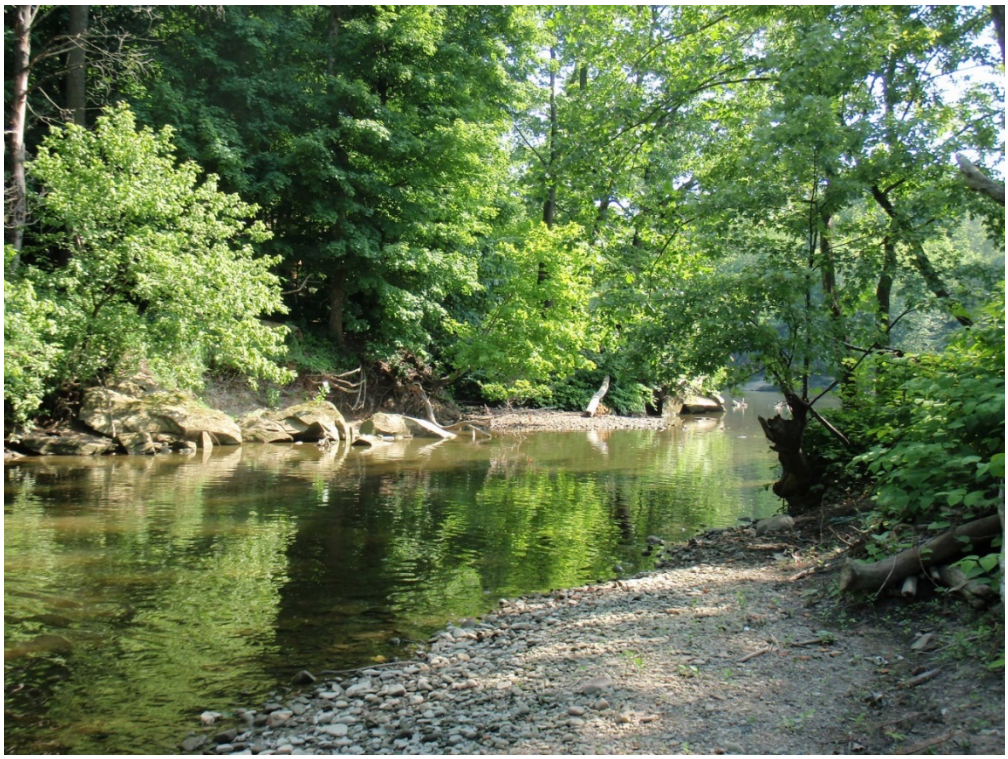
Ohio Environmental Protection Agency

Appendices to the Biological and Water Quality Study of the Black River Basin, 2012

Ashland, Cuyahoga, Huron, Lorain, and Medina Counties, Ohio



Black River at Elyria at Cascade Park (RM 14.95)

Division of Surface Water
Ecological Assessment Section
October 26, 2016

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Ashland, Cuyahoga, Huron, Lorain, and Medina Counties, Ohio

Ohio EPA Technical Report DSW/EAS 2016-08-05

October 26, 2016

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State of Ohio Environmental Protection Agency

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NOTICE TO USERS

Ohio EPA incorporated biological criteria into the Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1) regulations in February 1990 (effective May 1990). These criteria consist of numeric values for the Index of Biotic Integrity (IBI) and Modified Index of Well-Being (MIwb), both of which are based on fish assemblage data, and the Invertebrate Community Index (ICI), which is based on macroinvertebrate assemblage data. Criteria for each index are specified for each of Ohio's five ecoregions (as described by Omernik and Gallant 1988), and are further organized by organism group, index, site type, and aquatic life use designation. These criteria, along with the existing chemical and whole effluent toxicity evaluation methods and criteria, figure prominently in the monitoring and assessment of Ohio's surface water resources.

The following documents support the use of biological criteria by outlining the rationale for using biological information, the methods by which the biocriteria were derived and calculated, the field methods by which sampling must be conducted, and the process for evaluating results:

Ohio Environmental Protection Agency. 1987a. Biological criteria for the protection of aquatic life: Volume I. The role of biological data in water quality assessment. Div. Water Qual. Monit. & Assess., Surface Water Section, Columbus, Ohio.

____. 1987b. Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Monit. & Assess., Surface Water Section, Columbus, Ohio.

____. 1989a. Addendum to Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Div. Water Qual. Plan. & Assess., Ecological Assessment Section, Columbus, Ohio.

____. 1989b. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Div. Water Quality Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.

____. 1989c. The qualitative habitat evaluation index (QHEI): rationale, methods, and application. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.

____. 1990. The use of biological criteria in the Ohio EPA surface water monitoring and assessment program. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.

Since the publication of the preceding guidance documents, the following new publications by the Ohio EPA have become available. These publications should also be consulted as they represent the latest information and analyses used by the Ohio EPA to implement the biological criteria.

DeShon, J.E. 1995. Development and application of the invertebrate community index (ICI), pp. 217-243. in W.S. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Risk-based Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Ohio Environmental Protection Agency. 2006. Methods for assessing habitat in flowing waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio EPA Tech. Bull. EAS/2006-06-1. Revised by the Midwest Biodiversity Institute for Div. of Surface Water, Ecol. Assess. Sect., Groveport, Ohio.

____2015a. 2015 Updates to Biological criteria for the protection of aquatic life: Volume II and Volume II Addendum. Users manual for biological field assessment of Ohio surface waters. Division of Surface Water, Ecological Assessment Section, Columbus, Ohio. May 8, 2015.

____2015b. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Division of Surface Water, Ecological Assessment Section, Columbus, Ohio. June 26, 2015.

Rankin, E. T. 1995. The use of habitat assessments in water resource management programs, pp. 181-208. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. 1995. Policy issues and management applications for biological criteria, pp. 327-344. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. and E.T. Rankin. 1995a. Biological criteria program development and implementation in Ohio, pp. 109-144. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. and E.T. Rankin. 1995b. Biological response signatures and the area of degradation value: new tools for interpreting multimetric data, pp. 263-286. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. and E.T. Rankin. 1995c. The role of biological criteria in water quality monitoring, assessment, and regulation. Environmental Regulation in Ohio: How to Cope With the Regulatory Jungle. Inst. of Business Law, Santa Monica, CA. 54 pp.

Yoder, C.O. and M.A. Smith. 1999. Using fish assemblages in a State biological assessment and criteria program: essential concepts and considerations, pp. 17-63. in T. Simon (ed.). Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities. CRC Press, Boca Raton, FL.

These documents and this report may be obtained by contacting:

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Ecological Assessment Section
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FOREWORD

What is a Biological and Water Quality Survey?

A biological and water quality survey, or "biosurvey", is an interdisciplinary monitoring effort coordinated on a waterbody specific or watershed scale. This effort may involve a relatively simple setting focusing on one or two small streams, one or two principal stressors, and a handful of sampling sites or a much more complex effort including entire drainage basins, multiple and overlapping stressors, and tens of sites. Each year the Ohio EPA conducts biosurveys in 4-5 watersheds study areas with an aggregate total of 300-400 sampling sites.

The Ohio EPA employs biological, chemical, and physical monitoring and assessment techniques in biosurveys in order to meet three major objectives: 1) determine the extent to which use designations assigned in the Ohio Water Quality Standards (WQS) are either attained or not attained; 2) determine if use designations assigned to a given water body are appropriate and attainable; and 3) determine if any changes in key ambient biological, chemical, or physical indicators have taken place over time, particularly before and after the implementation of point source pollution controls or best management practices. The data gathered by a biosurvey is processed, evaluated, and synthesized in a biological and water quality report. Each biological and water quality study contains a summary of major findings and recommendations for revisions to WQS, future monitoring needs, or other actions which may be needed to resolve existing impairment of designated uses. While the principal focus of a biosurvey is on the status of aquatic life uses, the status of other uses such as recreation and water supply, as well as human health concerns are also addressed.

The findings and conclusions of a biological and water quality study may factor into regulatory actions taken by the Ohio EPA (*e.g.,* NPDES permits, Director's Orders, the Ohio Water Quality Standards [OAC 3745-1], Water Quality Permit Support Documents [WQPSDs]), and are eventually incorporated into State Water Quality Management Plans, the Ohio Nonpoint Source Assessment, and the biennial Integrated Water Quality Monitoring and Assessment Report (305[b] and 303[d]).

Hierarchy of Indicators

A carefully conceived ambient monitoring approach, using cost-effective indicators consisting of ecological, chemical, and toxicological measures, can ensure that all relevant pollution sources are judged objectively on the basis of environmental results. Ohio EPA relies on a tiered approach in attempting to link the results of administrative activities with true environmental measures. This integrated approach includes a hierarchical continuum from administrative to true environmental indicators (Figure 1). The six "levels" of indicators include: 1) actions taken by regulatory agencies (permitting, enforcement, grants); 2) responses by the regulated community (treatment works, pollution prevention); 3) changes in discharged quantities (pollutant loadings); 4) changes in ambient conditions (water quality, habitat); 5) changes in uptake and/or assimilation (tissue contamination, biomarkers, wasteload allocation); and, 6) changes in health, ecology, or other effects (ecological condition, pathogens). The results of administrative activities (levels 1 and 2) can be linked to efforts to improve water quality (levels 3, 4, and 5) which should translate into the environmental "results" (level 6). Thus, the aggregate effect of billions of dollars spent on water pollution control since the early 1970s can now be determined with quantifiable measures of environmental condition.

Superimposed on this hierarchy is the concept of stressor, exposure, and response indicators. *Stressor* indicators generally include activities which have the potential to degrade the aquatic environment such as pollutant discharges (permitted and unpermitted), land use effects, and habitat modifications. *Exposure* indicators are those which measure the effects of stressors and can include whole effluent toxicity tests, tissue residues, and biomarkers, each of which provides evidence of biological exposure to

a stressor or bioaccumulative agent. *Response* indicators are generally composite measures of the cumulative effects of stress and exposure and include the more direct measures of community and population response that are represented here by the biological indices which comprise Ohio's biological criteria. Other response indicators could include target assemblages, *i.e.,* rare, threatened, endangered, special status, and declining species or bacterial levels which serve as surrogates for the recreational uses. These indicators represent the essential technical elements for watershed-based management approaches. The key, however, is to use the different indicators *within* the roles which are most appropriate for each.

Describing the causes and sources associated with observed impairments revealed by the biological criteria and linking this with pollution sources involves an interpretation of multiple lines of evidence including water chemistry data, sediment data, habitat data, effluent data, biomonitoring results, land use data, and biological response signatures within the biological data itself. Thus the assignment of principal causes and sources of impairment represents the association of impairments (defined by response indicators) with stressor and exposure indicators. The principal reporting venue for this process on a watershed or subbasin scale is a biological and water quality report. These reports then provide the foundation for aggregated assessments such as the Integrated Report, the Ohio Nonpoint Source Assessment, and other technical bulletins.

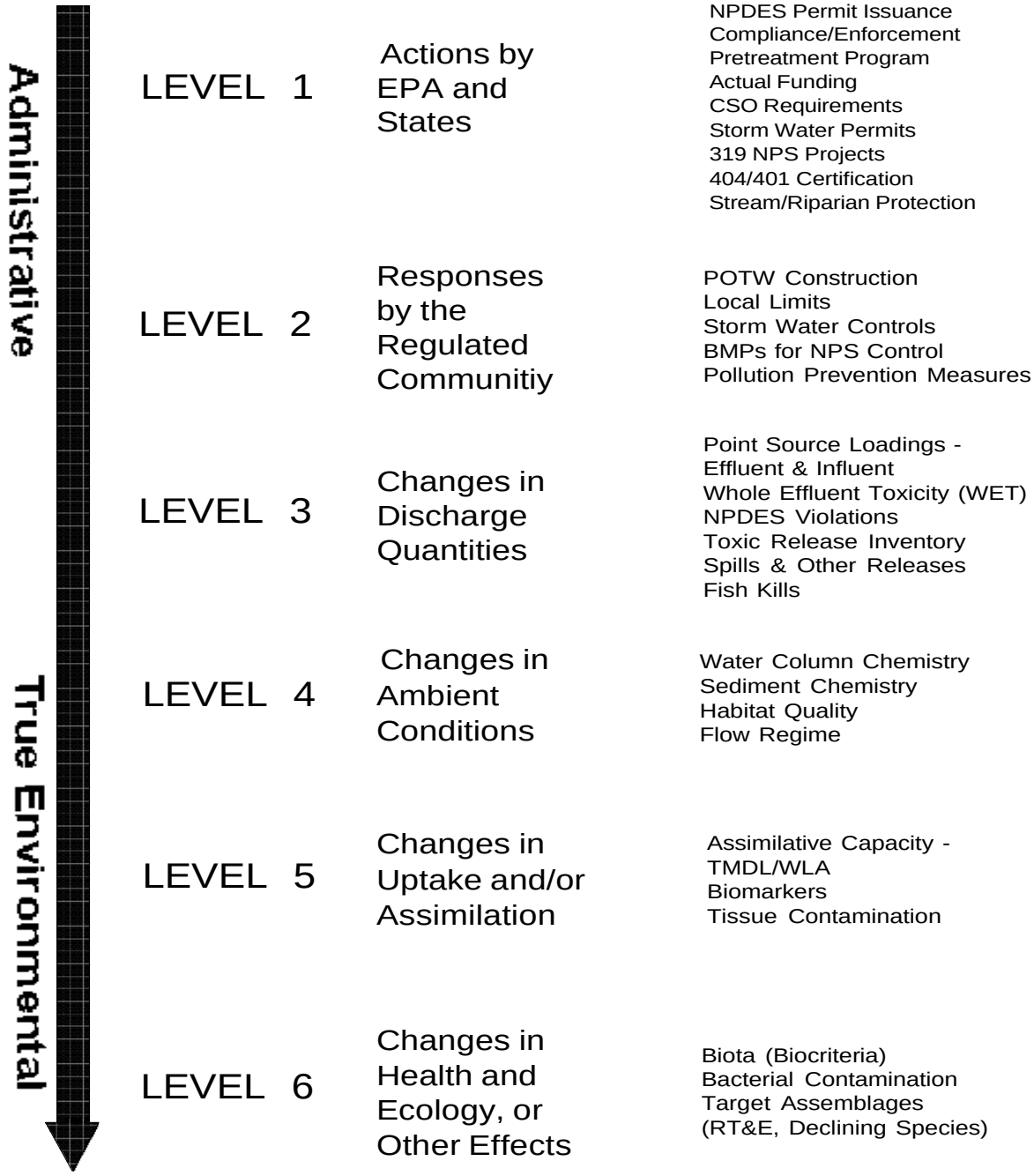

Figure 1. Hierarchy of administrative and environmental indicators which can be used for water quality management activities such as monitoring and assessment, reporting, and the evaluation of overall program effectiveness. This is patterned after a model developed by the U.S. EPA.

Ohio Water Quality Standards: Designated Aquatic Life Use

The Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1) consist of designated uses and chemical, physical, and biological criteria designed to represent measurable properties of the environment that are consistent with the goals specified by each use designation. Use designations consist of two broad groups, aquatic life and non-aquatic life uses. In applications of the Ohio WQS to the management of water resource issues in Ohio's rivers and streams, the aquatic life use criteria frequently result in the most stringent protection and restoration requirements, hence their emphasis in biological and water quality reports. Also, an emphasis on protecting for aquatic life generally results in water quality suitable for all uses. The five different aquatic life uses currently defined in the Ohio WQS are described as follows:

1) *Warmwater Habitat (WWH)* - this use designation defines the "typical" warmwater assemblage of aquatic organisms for Ohio rivers and streams; *this use represents the principal restoration target for the majority of water resource management efforts in Ohio.*

2) *Exceptional Warmwater Habitat (EWH)* - this use designation is reserved for waters which support "unusual and exceptional" assemblages of aquatic organisms which are characterized by a high diversity of species, particularly those which are highly intolerant and/or rare, threatened, endangered, or special status (*i.e.,* declining species); *this designation represents a protection goal for water resource management efforts dealing with Ohio's best water resources.*

3) *Coldwater Habitat (CWH)* - this use is intended for waters which support assemblages of coldwater organisms and/or those which are stocked with salmonids with the intent of providing a put-and-take fishery on a year round basis which is further sanctioned by the Ohio DNR, Division of Wildlife; this use should not be confused with the Seasonal Salmonid Habitat (SSH) use which applies to the Lake Erie tributaries which support periodic "runs" of salmonids during the spring, summer, and/or fall.

4) *Modified Warmwater Habitat (MWH)* - this use applies to streams and rivers which have been subjected to extensive, maintained, and essentially permanent hydromodifications such that the biocriteria for the WWH use are not attainable *and where the activities have been sanctioned by state or federal law;* the representative aquatic assemblages are generally composed of species which are tolerant to low dissolved oxygen, silt, nutrient enrichment, and poor quality habitat.

5) *Limited Resource Water (LRW)* - this use applies to small streams (usually <3 mi^2 drainage area) and other water courses which have been irretrievably altered to the extent that no appreciable assemblage of aquatic life can be supported; such waterways generally include small streams in extensively urbanized areas, those which lie in watersheds with extensive drainage modifications, those which completely lack water on a recurring annual basis (*i.e.,* true ephemeral streams), or other irretrievably altered waterways.

Chemical, physical, and/or biological criteria are generally assigned to each use designation in accordance with the broad goals defined by each. As such the system of use designations employed in the Ohio WQS constitutes a "tiered" approach in that varying and graduated levels of protection are provided by each. This hierarchy is especially apparent for parameters such as dissolved oxygen, ammonia-nitrogen, temperature, and the biological criteria. For other parameters such as heavy metals,

the technology to construct an equally graduated set of criteria has been lacking, thus the same WQS criteria may apply to two or three different use designations.

Ohio Water Quality Standards: Non-Aquatic Life Uses

In addition to assessing the appropriateness and status of aquatic life uses, each biological and water quality survey also addresses non-aquatic life uses such as recreation, water supply, and human health concerns as appropriate. The recreation uses most applicable to rivers and streams are the Primary Contact Recreation (PCR) and Secondary Contact Recreation (SCR) uses. The criterion for designating the PCR use can be having a water depth of at least one meter over an area of at least 100 square feet or, lacking this, where frequent human contact is a reasonable expectation. If a water body does not meet either criterion, the SCR use applies. The attainment status of PCR and SCR is determined using bacterial indicators (*e.g.,* fecal coliform, *E. coli)* and the criteria for each are specified in the Ohio WQS.

Attainment of recreation uses are evaluated based on monitored bacteria levels. The Ohio Water Quality Standards state that all waters should be free from any public health nuisance associated with raw or poorly treated sewage (Administrative Code 3745-1-04, Part F). Additional criteria (Administrative Code 3745-1-07) apply to waters that are designated as suitable for full body contact such as swimming (PCR) or for partial body contact such as wading (SCR). These standards were developed to protect human health, because even though fecal coliform bacteria are relatively harmless in most cases, their presence indicates that the water has been contaminated with fecal matter.

Water supply uses include Public Water Supply (PWS), Agricultural Water Supply (AWS), and Industrial Water Supply (IWS). Public Water Supplies are simply defined as segments within 500 yards of a potable water supply or food processing industry intake. The Agricultural Water Supply (AWS) and Industrial Water Supply (IWS) use designations generally apply to all waters unless it can be clearly shown that they are not applicable. An example of this would be an urban area where livestock watering or pasturing does not take place, thus the AWS use would not apply. Chemical criteria are specified in the Ohio WQS for each use and attainment status is based primarily on chemical-specific indicators. Human health concerns are additionally addressed with fish tissue data, but any consumption advisories are issued by the Ohio Department of Health.

MECHANISMS FOR WATER QUALITY IMPAIRMENT

The following paragraphs are provided to present the varied causes of impairment that affect the resource quality of lotic systems in Ohio. While the various perturbations are presented under separate headings, it is important to remember that they are often interrelated and cumulative in terms of the detrimental impact that can result.

Habitat and Flow Alterations

Habitat alteration, such as channelization, negatively impacts biological communities directly by limiting the complexity of living spaces available to aquatic organisms. Consequently, fish and macroinvertebrate communities are not as diverse. Indirect impacts include the removal of riparian trees and field tiling to facilitate drainage. Following a rain event, most of the water is quickly removed from tiled fields rather than filtering through the soil, recharging ground water, and reaching the stream at a lower volume and more sustained rate. As a result, small streams more frequently go dry or become intermittent. Urbanization impacts include removal of riparian trees, influx of storm water runoff, straightening and piping of stream channels, and riparian vegetation removal.

Tree shade is important because it limits the energy input from the sun, moderates water temperature, and limits evaporation. Removal of the tree canopy further degrades conditions because it eliminates an important source of coarse organic matter essential for a balanced ecosystem. Riparian vegetation aids in nutrient uptake, may decrease runoff rate into streams, and helps keep soil in place. Erosion impacts channelized streams more severely due to the lack of a riparian buffer zone to slow runoff, trap sediment and stabilize banks. Additionally, deep trapezoidal channels lack a functioning flood plain and therefore cannot expel sediment as would occur during flood events along natural watercourses. The confinement of flow within an artificially deep channel accelerates the movement of water downstream, exacerbating flooding of neighboring properties.

The lack of water movement under low flow conditions can exacerbate impacts from organic loading and nutrient enrichment by limiting re-aeration of the stream. The amount of oxygen soluble in water decreases as temperature increases. This is one reason why tree shade is so important. The two main sources of oxygen in water are diffusion from the atmosphere and plant photosynthesis. Turbulence at the water surface is critical because it increases surface area and promotes diffusion, but channelization eliminates turbulence produced by riffles, meanders, and debris snags. Plant photosynthesis produces oxygen, but at night, respiration reverses the process and consumes oxygen. Conversely, oxygen concentrations can become supersaturated during the day, due to abnormally high amounts of photosynthesis, causing gas bubble stress to both fish and invertebrate communities. Oxygen is also used by bacteria that decay dead organic matter. Nutrient enrichment can promote the growth of nuisance algae that subsequently dies and serves as food for bacteria. Under these conditions, oxygen can be depleted unless it is replenished from the air.

Siltation and Sedimentation

Whenever the natural flow regime is altered to facilitate drainage, increased amounts of sediment are likely to enter streams either by overland transport or increased bank erosion. The removal of wooded riparian areas furthers the erosion process. Channelization keeps all but the highest flow events confined within the artificially high banks. As a result, areas that were formerly flood plains and allowed for the removal of sediment from the primary stream channel no longer serve this function. As water

levels fall following a rain event, interstitial spaces between larger rocks fill with sand and silt and the diversity of available habitat to support fish and macroinvertebrates is reduced. Silt also can clog the gills of both fish and macroinvertebrates, reduce visibility thereby excluding site feeding fish species, and smother the nests of lithophilic fishes. Lithophilic spawning fish require clean substrates with interstitial voids in which to deposit eggs. Conversely, pioneering species benefit. They are generalists and best suited for exploiting disturbed and less heterogeneous habitats. The net result is a lower diversity of aquatic species compared with a typical warmwater stream with natural habitats.

Sediment also impacts water quality, recreation, and drinking water. Nutrients absorbed to soil particles remain trapped in the watercourse. Likewise, bacteria, pathogens, and pesticides which also attach to suspended or bedload sediments become concentrated in waterways where the channel is functionally isolated from the landscape. Community drinking water systems address these issues with more costly advanced treatment technologies.

Nutrient Enrichment

The element of greatest concern is phosphorus because it is critical for plant growth and is often the limiting nutrient. The form that can be readily used by plants and therefore can stimulate nuisance algae blooms is orthophosphate (PO_4^{3-}). The amount of phosphorus tied up in the nucleic acids of food and waste is actually quite low. This organic material is eventually converted to orthophosphate by bacteria. The amount of orthophosphate contained in synthetic detergents is a great concern however. It was for this reason that the General Assembly of the State of Ohio enacted a law in 1990 to limit phosphorus content in household laundry detergents sold in the Lake Erie drainage basin to 0.5% by weight. Inputs of phosphorus originate from both point and nonpoint sources. Most of the phosphorus discharged by point sources is soluble. Another characteristic of point sources is they have a continuous impact and are human in origin, for instance, effluents from municipal sewage treatment plants. The contribution from failed on-lot septic systems can also be significant, especially if they are concentrated in a small area. The phosphorus concentration in raw waste water is generally 8-10 mg/l and after secondary treatment is generally 4-6 mg/l. Further removal requires the added cost of chemical addition. The most common methods use the addition of lime or alum to form a precipitate, so most phosphorus (80%) ends up in the sludge.

A characteristic of phosphorus discharged by nonpoint sources is that the impact is intermittent and associated with storm water runoff. Most of this phosphorus is bound tightly to soil particles and enters streams from erosion, although some comes from tile drainage. Urban storm water is more of a concern if combined sewer overflows are involved. The impact from rural storm water varies depending on land use and management practices and includes contributions from livestock feedlots and pastures and row crop agriculture. Crop fertilizer includes granular inorganic types and organic types such as manure or sewage sludge. Pasture land is especially a concern if the livestock have access to the stream. Large feedlots with manure storage lagoons create the potential for overflows and accidental spills. Land management is an issue because erosion is worse on streams without any riparian buffer zone to trap runoff. The impact is worse in streams that are channelized because they no longer have a functioning flood plain and cannot expel sediment during flooding. Oxygen levels must also be considered, because phosphorus is released from sediment at higher rates under anoxic conditions.

There is no numerical phosphorus criterion established in the Ohio Water Quality Standards, but there is a narrative criterion that states phosphorus should be limited to the extent necessary to prevent nuisance growths of algae and weeds (Administrative Code, 3745-1-04, Part E). Phosphorus loadings from large volume point source dischargers in the Lake Erie drainage basin are regulated by NPDES permit limits. The permit limit is a concentration of 1.0 mg/l in final effluent. Research conducted by the Ohio EPA indicates that a significant correlation exists between phosphorus and the health of aquatic communities (Miltner and Rankin, 1998). It was concluded that biological community performance in

headwater and wadeable streams was highest where phosphorus concentrations were lowest. It was also determined that the lowest phosphorus concentrations were associated with the highest quality habitats, supporting the notion that habitat is a critical component of stream function. The report recommends WWH total phosphorus targets of 0.08 mg/l in headwater streams (<20 mi^2 watershed size), 0.10 mg/l in wadeable streams (>20-200 mi^2) and 0.17 mg/l in small rivers (>200-1000 mi^2).

Organic Enrichment and Low Dissolved Oxygen

The amount of oxygen soluble in water is low and it decreases as temperature increases. This is one reason why tree shade is so important. The two main sources of oxygen in water are diffusion from the atmosphere and plant photosynthesis. Turbulence at the water surface is critical because it increases surface area and promotes diffusion. Drainage practices such as channelization eliminate turbulence produced by riffles, meanders, and debris snags. Although plant photosynthesis produces oxygen by day, it is consumed by the reverse process of respiration at night. Oxygen is also consumed by bacteria that decay organic matter, so it can be easily depleted unless it is replenished from the air. Sources of organic matter include poorly treated waste water, sewage bypasses, and dead plants and algae. Dissolved oxygen criteria are established in the Ohio Water Quality Standards to protect aquatic life. The minimum and average limits are tiered values and linked to use designations (Administrative Code 3745 -1-07, Table 7-1).

Ammonia

Ammonia enters streams as a component of fertilizer and manure run-off and wastewater effluent. Ammonia gas (NH_3) readily dissolves in water to form the compound ammonium hydroxide (NH_4OH). In aquatic ecosystems, equilibrium is established as ammonia shifts from a gas to undissociated ammonium hydroxide to the dissociated ammonium ion (NH_4+). Under normal conditions (neutral pH 7.0 and temperature 25°C), almost none of the total ammonia is present as gas, only 0.55% is present as ammonium hydroxide, and the rest is ammonium ion. Alkaline pH shifts the equation toward gaseous ammonia production, so the amount of ammonium hydroxide increases. This is important because while the ammonium ion is almost harmless to aquatic life, ammonium hydroxide is very toxic and can reduce growth and reproduction or cause mortality.

The concentration of ammonia in raw sewage is high, sometimes as much as 20-30 mg/l. Treatment to remove ammonia involves gaseous stripping to the atmosphere, biological nitrification and de-nitrification, and assimilation into plant and animal biomass. The nitrification process requires a long detention time and aerobic conditions like that provided in extended aeration treatment plants. Under these conditions, bacteria first convert ammonia to nitrite (*Nitrosomonas*) and then to nitrate (*Nitrobacter*). Nitrate can then be reduced by the de-nitrification process (*Pseudomonas*) and nitrogen gas and carbon dioxide are produced as by-products.

Ammonia criteria are established in the Ohio Water Quality Standards to protect aquatic life. The maximum and average limits are tiered values based on sample pH and temperature and linked to use designations (Administrative Code 3745-1-07, Tables 7-2 through 7-8).

Metals

Metals can be toxic to aquatic life and hazardous to human health. Although they are naturally occurring elements many are extensively used in manufacturing and are byproducts of human activity. Certain metals like copper and zinc are essential in the human diet, but excessive levels are usually detrimental. Lead and mercury are of particular concern because they often trigger fish consumption advisories. Mercury is used in the production of chlorine gas and caustic soda and in the manufacture of batteries and fluorescent light bulbs. In the environment it forms inorganic salts, but bacteria convert these to methyl-mercury and this organic form builds up in the tissues of fish. Extended exposure can damage

the brain, kidneys, and developing fetus. The Ohio Department of Health (ODH) issued a statewide fish consumption advisory in 1997 advising women of child bearing age and children six and under not to eat more than one meal per week of any species of fish from waters of the state because of mercury. Lead is used in batteries, pipes, and paints and is emitted from burning fossil fuels. It affects the central nervous system and damages the kidneys and reproductive system. Copper is mined extensively and used to manufacture wire, sheet metal, and pipes. Ingesting large amounts can cause liver and kidney damage. Zinc is a by-product of mining, steel production, and coal burning and used in alloys such as brass and bronze. Ingesting large amounts can cause stomach cramps, nausea, and vomiting.

Metals criteria are established in the Ohio Water Quality Standards to protect human health, wildlife, and aquatic life. Three levels of aquatic life standards are established (Administrative Code 3745-1-07, Table 7-1) and limits for some elements are based on water hardness (Administrative Code 3745-1-07, Table 7-9). Human health and wildlife standards are linked to either the Lake Erie (Administrative Code 3745-1-33, Table 33- 2) or Ohio River (Administrative Code 3745-1-34, Table 34-1) drainage basins. The drainage basins also have limits for additional elements not established elsewhere that are identified as Tier I and Tier II values.

Bacteria

High concentrations of either fecal coliform bacteria or *Escherichia coli* (*E. coli*) in a lake or stream may indicate contamination with human pathogens. People can be exposed to contaminated water while wading, swimming, and fishing. Fecal coliform bacteria are relatively harmless in most cases, but their presence indicates that the water has been contaminated with feces from a warm-blooded animal. Although intestinal organisms eventually die off outside the body, some will remain virulent for a period of time and may be dangerous sources of infection. This is especially a problem if the feces contained pathogens or disease producing bacteria and viruses. Reactions to exposure can range from an isolated illness such as skin rash, sore throat, or ear infection to a more serious wide spread epidemic. Some types of bacteria that are a concern include *Escherichia*, which cause diarrhea and urinary tract infections, *Salmonella*, which cause typhoid fever and gastroenteritis (food poisoning), and *Shigella*, which cause severe gastroenteritis or bacterial dysentery. Some types of viruses that are a concern include polio, hepatitis A, and encephalitis. Disease causing microorganisms such as cryptosporidium and giardia are also a concern.

Since fecal coliform bacteria are associated with warm-blooded animals, there are both human and animal sources. Human sources, including effluent from sewage treatment plants or discharges by on-lot septic systems, are a more continuous problem. Bacterial contamination from combined sewer overflows are associated with wet weather events. Animal sources are usually more intermittent and are also associated with rainfall, except when domestic livestock have access to the water. Large livestock farms store manure in holding lagoons and this creates the potential for an accidental spill. Liquid manure applied as fertilizer is a runoff problem if not managed properly and it sometimes seeps into field tiles.

Bacteria criteria for the recreational use are established in the Ohio Water Quality Standards to protect human health. The maximum and average limits are tiered *E. coli* values and linked to use designation, but only apply during the May 1-October 15 recreation season (Administrative Code 3745-1-07, Table 7-13). The standards also state that streams must be free of any public health nuisance associated with raw or poorly treated sewage during dry weather conditions (Administrative Code 3745-1-04, Part F).

Sediment Contamination

Chemical quality of sediment is a concern because many pollutants bind strongly to soil particles and are persistent in the environment. Some of these compounds accumulate in the aquatic food chain and trigger fish consumption advisories, but others are simply a contact hazard because they cause skin cancer and tumors. The physical and chemical nature of sediment is determined by local geology, land use, and contribution from manmade sources. As some materials enter the water column they are attracted to the surface electrical charges associated with suspended silt and clay particles. Others simply sink to the bottom due to their high specific gravity. Sediment layers form as suspended particles settle, accumulate, and combine with other organic and inorganic materials. Sediment is the most physically, chemically, and biologically reactive at the water interface because this is where it is affected by sunlight, current, wave action, and benthic organisms. Assessment of the chemical nature of this layer can be used to predict ecological impact.

Sediment data are evaluated using Ohio Sediment Reference Values (SRVs; Ohio EPA 2008), along with guidelines established in *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems* (MacDonald *et.al*. 2000), and *Ecological Screening Levels (ESLs)* (U.S. EPA 2003). The Ohio EPA system was derived from samples collected at ecoregional reference sites. Specific SRVs are site specific ecoregional based metals concentrations and are used to identify contaminated stream reaches. The MacDonald guidelines are consensus based using previously developed values. The system predicts that sediments below the threshold effect concentration (TEC) are absent of toxicity and those greater than the probable effect concentration (PEC) are toxic. ESL values, considered protective benchmarks, were derived by US EPA Region 5 using a variety of sources and methods.

Sediment samples collected by the Ohio EPA are measured for a number of physical and chemical properties. Physical attributes included percent particle size distribution (sand ≥60µ, silt 5-59µ, clay ≤4µ), percent solids, and percent organic carbon. Most locations sampled had an abundance of sediment, and no difficulties were experienced in locating ample volumes of sediment for analysis. Fine grained sediments are deposited in flood plains of natural streams during periods of high flow. This scenario changes if the stream is impounded by a dam or channelized. Chemical attributes included metals, volatile and semi-volatile organic compounds, pesticides, and polychlorinated biphenyls (PCBs).

MATERIALS and METHODS

All biological, chemical, and physical habitat data collection, processing, and analysis methods and procedures adhere to those specified in the Surface Water Field Sampling Manual for water column chemisty, bacteria and flows (Ohio EPA 2013), Biological Criteria for the Protection of Aquatic Life, Volumes II - III (Ohio EPA 1987b, 1989a, 1989b, 2015a, 2015b), and The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application (Ohio EPA 1989c).

Determining Use Attainment Status

Use attainment status is a term describing the degree to which environmental indicators are either above or below criteria specified by the Ohio Water Quality Standards (WQS; Ohio Administrative Code 3745-1). Assessing aquatic use attainment status involves a primary reliance on the Ohio EPA biological criteria (OAC 3745-1-07; Table 7-15). These are confined to ambient assessments and apply to rivers and streams outside of mixing zones. Numerical biological criteria are based on multimetric biological indices including the IBI and MIwb, indices measuring the response of the fish community, and the ICI, which indicates the response of the macroinvertebrate community. Three attainment status results are possible at each sampling location - full, partial, or non-attainment. Full attainment means that all of the applicable indices meet the biocriteria. Partial attainment means that one or more of the applicable indices fails to meet the biocriteria. Non-attainment means that none of the applicable indices meet the

biocriteria or one of the organism groups reflects poor or very poor performance. An aquatic life use attainment table is constructed based on the sampling results and is arranged from upstream to downstream and includes the sampling locations indicated by river mile, the applicable biological indices, the use attainment status (*i.e.,* full, partial, or non), the Qualitative Habitat Evaluation Index (QHEI), and a sampling location description.

Habitat Assessment

Physical habitat was evaluated using the QHEI developed by the Ohio EPA for streams and rivers in Ohio (Rankin 1995, Ohio EPA 1989c and 2006). Various attributes of the habitat are scored based on the overall importance of each to the maintenance of viable, diverse, and functional aquatic faunas. The type(s) and quality of substrates, amount and quality of instream cover, channel morphology, extent and quality of riparian vegetation, pool, run, and riffle development and quality, and gradient are some of the habitat characteristics used to determine the QHEI score which generally ranges from 20 to less than 100. The QHEI is used to evaluate the characteristics of a stream segment, as opposed to the characteristics of a single sampling site. As such, individual sites may have poorer physical habitat due to a localized disturbance yet still support aquatic communities closely resembling those sampled at adjacent sites with better habitat, provided water quality conditions are similar. QHEI scores from hundreds of segments around the state have indicated that values greater than 60 are *generally* conducive to the existence of warmwater faunas whereas scores less than 45 generally cannot support a warmwater assemblage consistent with the WWH biological criteria. Scores greater than 75 frequently reflect habitat conditions which have the ability to support exceptional warmwater faunas.

Sediment and Surface Water Assessment

Fine grain sediment samples were collected in the upper 4 inches of bottom material at each location using decontaminated stainless steel scoops and excavated using nitrile gloves. Decontamination of sediment sampling equipment followed the procedures outlined in the Ohio EPA sediment sampling guidance manual (Ohio EPA 2012). Sediment grab samples were homogenized in stainless steel pans (material for VOC analysis was not homogenized), transferred into glass jars with teflon® lined lids, placed on ice (to maintain 4°C) in a cooler, and shipped to Ohio EPA Division of Environmental Services. Sediment data is reported on a dry weight basis. Surface water samples were collected, preserved and delivered in appropriate containers to Ohio EPA Division of Environmental Services. Surface water samples were evaluated using comparisons to Ohio Water Quality Standards criteria, reference conditions, or published literature. Sediment evaluations were conducted using guidelines established in MacDonald et al. (2000), U.S. EPA (2003) and Ohio EPA (2008).

Recreation Use Assessment

Recreation use attainment was determined using the criteria established in OAC 3745-1-41. New revisions to the recreation use rules in Ohio became effective on January 4, 2016. However, as sampling to assess the recreation use for study areas prior to 2016 was designed and carried out when the previous rules were in effect, the assessment of data and determination of recreation use attainment status provided in this section were based on the previous rules:

1) *E. coli* is the only indicator organism used to evaluate recreation.
2) The recreation season extends from May 1 – Oct. 31.
3) Geometric mean content is computed on a seasonal basis.
4) Geometric mean content is the sole basis of use attainment status when 2 or more samples are taken.
5) Primary Contact Recreation (PCR) includes three separate categories each with specific numerical criteria: Class A – high use paddling streams, Class B – most typical streams and Class C – historically channelized streams that drain < 3.1 mi^2.

Macroinvertebrate Community Assessment

Macroinvertebrates were collected from artificial substrates and from the natural habitats. The artificial substrate collection provided quantitative data and consisted of a composite sample of five modified Hester-Dendy multiple-plate samplers colonized for six weeks. At the time of the artificial substrate collection, a qualitative multihabitat composite sample was also collected. This sampling effort consisted of an inventory of all observed macroinvertebrate taxa from the natural habitats at each site with no attempt to quantify populations other than notations on the predominance of specific taxa or taxa groups within major macrohabitat types (e.g., riffle, run, pool, margin). Detailed discussion of macroinvertebrate field and laboratory procedures is contained in Biological Criteria for the Protection of Aquatic Life: Volume III, Standardized Biological Field Sampling and Laboratory Methods for Assessing Fish and Macroinvertebrate Communities (Ohio EPA 1989b, 2015b).

Fish Community Assessment

Fish were sampled using pulsed DC electrofishing methods. Fish were processed in the field, and included identifying each individual to species, counting, weighing, and recording any external abnormalities. Discussion of the fish community assessment methodology used in this report is contained in Biological Criteria for the Protection of Aquatic Life: Volume III, Standardized Biological Field Sampling and Laboratory Methods for Assessing Fish and Macroinvertebrate Communities (Ohio EPA 1989b, 2015b).

Causal Associations

Using the results, conclusions, and recommendations of this report requires an understanding of the methodology used to determine the use attainment status and assigning probable causes and sources of impairment. The identification of impairment in rivers and streams is straightforward - the numerical biological criteria are used to judge aquatic life use attainment and impairment (partial and non-attainment). The rationale for using the biological criteria, within a weight of evidence framework, has been extensively discussed elsewhere (Karr *et al.* 1986; Karr 1991; Ohio EPA 1987a, Ohio EPA 1987b; Yoder 1989; Miner and Borton 1991; Yoder 1991; Yoder 1995). Describing the causes and sources associated with observed impairments relies on an interpretation of multiple lines of evidence including water chemistry data, sediment data, habitat data, effluent data, land use data, and biological results (Yoder and Rankin 1995a, 1995b, and 1995c). Thus the assignment of principal causes and sources of impairment in this report represent the association of impairments (based on response indicators) with stressor and exposure indicators. The reliability of the identification of probable causes and sources is increased where many such prior associations have been identified, or have been experimentally or statistically linked together. The ultimate measure of success in water resource management is the restoration of lost or damaged ecosystem attributes including aquatic community structure and function. While there have been criticisms of misapplying the metaphor of ecosystem "health" compared to human patient "health" (Suter 1993), in this document we are referring to the process for evaluating biological integrity and causes or sources associated with observed impairments, not whether human health and ecosystem health are analogous concepts.

References

Karr, J. R. 1991**.** Biological integrity: A long-neglected aspect of water resource management. Ecological Applications 1(1): 66-84.

Karr, J.R., K.D. Fausch, P.L. Angermier, P.R. Yant, and I.J. Schlosser. 1986. Assessing biological integrity in running waters: a method and its rationale. Ill. Nat. Hist. Surv. Spec. Publ. 5. 28 pp.

MacDonald, D., C. Ingersoll, T. Berger. 2000. Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Arch. Environ. Contam. Toxicol.: Vol.39, 20-31.

Miltner, R.J. and E.T. Rankin. 1998. Primary nutrients and the biotic integrity of rivers and streams. Freshwater Biology 40:145-158.

Miner R. and D. Borton. 1991. Considerations in the development and implementation of biocriteria, Water Quality Standards for the 21st Century, U.S. EPA, Offc. Science and Technology, Washington, D.C., 115.

Ohio Environmental Protection Agency. 2015a. 2015 Updates to Biological criteria for the protection of aquatic life: Volume II and Volume II Addendum. Users manual for biological field assessment of Ohio surface waters. Division of Surface Water, Ecological Assessment Section, Columbus, Ohio. May 8, 2015.

_____2015b. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Division of Surface Water, Ecological Assessment Section, Columbus, Ohio. June 26, 2015.

_____2015c. Surface water field sampling manual for water column chemistry, bacteria and flows. Version 5.0, July 31, 2015. Division of Surface Water, Columbus, Ohio. 41pp. http://epa.ohio.gov/dsw/document_index/docindx.aspx

_____2012. Sediment sample guide and methodologies. Third Edition. Division of Surface Water, Columbus, Ohio. 39 pp.

_____2008. Sediment Reference Values. Division of Emergency and Remedial Response. Columbus, Ohio.

_____2006. Methods for assessing habitat in flowing waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio Technical Bulletin, EAS/2006-06-1. Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.

_____1989a. Addendum to biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Division of Water Quality Planning and Assessment, Surface Water Section, Columbus, Ohio.

_____1989b. Biological criteria for the protection of aquatic life: Volume III. Standardized biological field sampling and laboratory methods for assessing fish and macroinvertebrate communities. Division of Water Quality Planning and Assessment, Columbus, Ohio.

_____1989c. The qualitative habitat evaluation index (QHEI): rationale, methods, and application. Div. Water Qual. Plan. & Assess., Ecol. Assess. Sect., Columbus, Ohio.

_____1987a. Biological criteria for the protection of aquatic life: Volume I. The role of biological data in water quality assessment. Division of Water Quality Monitoring and Assessment, Surface Water Section, Columbus, Ohio.

_____1987b. Biological criteria for the protection of aquatic life: Volume II. Users manual for biological field assessment of Ohio surface waters. Division of Water Quality Monitoring and Assessment, Surface Water Section, Columbus, Ohio.

Omernik, J.M. and A.L. Gallant. 1988. Ecoregions of the upper midwest states. EPA/600/3-88/037. U. S. Environmental Protection Agency, Environmental Research Laboratory, Corvallis, Oregon. 56 pp.

Rankin, E.T. 1995. Habitat Indices in Water Resource Quality Assessments, in W.S. Davis and T. Simon (eds.). Biological assessment and criteria: tools for risk-based planning and decision making. CRC Press/Lewis Publisher, Ann Arbor.

Suter, GW II. 1993. A Critique of Ecosystem Health Concepts and Indexes. Environmental Toxicology and Chemistry, 12: 1533-1539.

U.S. EPA. 2003. Final technical approach for developing ecological screening levels for RCRA Appendix IX constituents and other significant contaminants of ecological concern. United States Environmental Protection Agency Region 5, Chicago, IL. August, 2003.

Yoder, C.O. 1995. Policy issues and management applications of biological criteria, *in* W.S. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Risk-based Planning and Decision Making. CRC Press/Lewis Publishers, Ann Arbor.

Yoder, C.O. 1991. Answering some concerns about biological criteria based on experiences in Ohio, *in* G. H Flock (ed.) Water quality standards for the 21st century. Proceedings of a National Conference, U. S. EPA, Office of Water, Washington, D.C.

Yoder, C.O. 1989. The development and use of biological criteria for Ohio surface waters. U.S. EPA, Criteria and Standards Div., Water Quality Stds. 21st Century, 1989: 139-146.

Yoder, C.O. and E.T. Rankin. 1995a. Biological criteria program development and implementation in Ohio, pp. 109-144. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. and E.T. Rankin. 1995b. Biological response signatures and the area of degradation value: new tools for interpreting multimetric data, pp. 263-286. in W. Davis and T. Simon (eds.). Biological Assessment and Criteria: Tools for Water Resource Planning and Decision Making. Lewis Publishers, Boca Raton, FL.

Yoder, C.O. and E.T. Rankin. 1995c. The role of biological criteria in water quality monitoring, assessment and regulation. Environmental Regulation in Ohio: How to Cope With the Regulatory Jungle. Inst. of Business Law, Santa Monica, CA. 54 pp.

Yoder, C.O. and M.A. Smith. 1999. Using fish assemblages in a State biological assessment and criteria program: essential concepts and considerations, pp. 17-63. in T. Simon (ed.). Assessing the Sustainability and Biological Integrity of Water Resources Using Fish Communities. CRC Press, Boca Raton, FL.

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201589 E. BR. BLACK R. SE OF LAGRANGE @ FOSTER RD. (CO. RD. 63)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	24.60	136	41.18946	-82.09776	041100010402

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	171	209	167
Aluminum ug/L	451	300	819
Ammonia mg/L	.052	.127	<.05
Arsenic ug/L	3	4	2.7
Barium ug/L	50	68	61
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	61	83	73
Chloride mg/L	44.5	71.1	70
Chromium ug/L	<2	<2	<2
COD mg/L	<20	25	22
Copper ug/L	2.7	2	2.8
Hardness mg/L	231	314	277
Iron ug/L	811	531	1620
Lead ug/L	<2	<2	<2
Magnesium mg/L	19	26	23
Manganese ug/L	147	300	109
Nickel ug/L	3.9	4.5	4.6
Nitrate+Nitrite mg/L	.67	.29	1.49
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.047	.049	.086
Potassium mg/L	5	5	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	29	45	48
Strontium ug/L	262	370	327
Sulfate mg/L	74.3	105	117
TDS mg/L	368	514	470
TKN mg/L	.6	.85	1.04
TSS mg/L	15	9	33
Zinc ug/L	<10	<10	<10

Field Parameters		10:04 2012-07-10	10:56 2012-07-25	10:59 2012-09-24
Cond. Corrected umhos/cm			732	
D.O. %sat.			51.5	
D.O. mg/l		4.68	4.34	10.71
pH		7.96	7.8	8.02
Temp. C°		24.44	23.75	12.57

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201591 E. BR. BLACK R. W OF SPENCER LAKE @ RIVER CORNERS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	36.80	96	41.10856	-82.09430	041100010401

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	175	197	187
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.3	3.4	2.3
Barium ug/L	57	58	66
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	79	85	91
Chloride mg/L	93.3	93.7	95.3
Chromium ug/L	<2	<2	<2
COD mg/L	<20	20	<20
Copper ug/L	2.9	2.1	2.2
Hardness mg/L	292	319	334
Iron ug/L	202	180	351
Lead ug/L	<2	<2	<2
Magnesium mg/L	23	26	26
Manganese ug/L	105	119	58
Nickel ug/L	4.2	4	3.9
Nitrate+Nitrite mg/L	.59	.25	2.8
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.038	.039	.052
Potassium mg/L	5	5	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	53	62	64
Strontium ug/L	354	392	382
Sulfate mg/L	108	121	138
TDS mg/L	580	566	576
TKN mg/L	.72	.53	.89
TSS mg/L	<5	<5	<5
Zinc ug/L	16	<10	<10

Field Parameters	12:32 2012-07-10	12:13 2012-07-25	09:30 2012-09-24
Cond. Corrected umhos/cm		801	
D.O. %sat.		89.6	
D.O. mg/l	8.5	7.57	10.61
pH	8.14	7.99	8.25
Temp. C°	25.79	23.68	11.67

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201599 TRIB. TO E. BR. BLACK R. (RM 28.65) @ FOSTER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-008	1.50	5	41.15706	-82.08950	041100010401

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	148	200	142
Aluminum ug/L	<200	232	<200
Ammonia mg/L	.127	.156	<.05
Arsenic ug/L	3.1	4	2.1
Barium ug/L	43	50	37
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	73	94	71
Chloride mg/L	77.4	150	78.7
Chromium ug/L	<2	<2	<2
COD mg/L	<20	23	<20
Copper ug/L	2.1	2.6	3.7
Hardness mg/L	310	379	305
Iron ug/L	362	496	308
Lead ug/L	<2	<2	<2
Magnesium mg/L	31	35	31
Manganese ug/L	324	407	17
Nickel ug/L	4.5	5.2	3.3
Nitrate+Nitrite mg/L	.63	.36	1.83
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.042	.057	.067
Potassium mg/L	6	7	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	55	102	59
Strontium ug/L	341	414	334
Sulfate mg/L	178	173	174
TDS mg/L	582	780	540
TKN mg/L	.73	.96	.89
TSS mg/L	6	16	<5
Zinc ug/L	<10	<10	<10

Field Parameters	11:45 2012-07-10	11:26 2012-07-25	10:18 2012-09-24
Cond. Corrected umhos/cm		1105	
D.O. %sat.		36.1	
D.O. mg/l	3.28	3.24	13.15
pH	7.51	7.54	8.2
Temp. C°	21.79	20.49	9.92

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201602 CROW CREEK NE OF PENFIELD @ VERMONT RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-012-000	0.80	4	41.18640	-82.08180	041100010402

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	151	129	131
Aluminum ug/L	<200	<200	292
Ammonia mg/L	1.11	1.79	<.05
Arsenic ug/L	2.8	4.1	<2
Barium ug/L	32	39	36
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	48	50	53
Chloride mg/L	93.6	116	71.7
Chromium ug/L	<2	<2	<2
COD mg/L	23	32	24
Copper ug/L	2.2	3	3.2
Hardness mg/L	198	199	219
Iron ug/L	319	374	556
Lead ug/L	<2	<2	<2
Magnesium mg/L	19	18	21
Manganese ug/L	407	866	27
Nickel ug/L	4.5	6.2	3.4
Nitrate+Nitrite mg/L	1.64	.89	1.84
Nitrite mg/L	.132	.107	<.02
Phosphorus mg/L	.196	.199	.084
Potassium mg/L	7	7	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	60	85	53
Strontium ug/L	247	236	292
Sulfate mg/L	70.4	75.8	104
TDS mg/L	448	476	416
TKN mg/L	1.97	2.75	1.16
TSS mg/L	<5	5	<5
Zinc ug/L	<10	<10	20

Field Parameters	10:51 2012-07-10	11:11 2012-07-25	10:39 2012-09-24
Cond. Corrected umhos/cm		755	
D.O. %sat.		37.6	
D.O. mg/l	4.07	3.39	11.95
pH	7.61	7.53	8.12
Temp. C°	21.31	20.28	10.27

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201607 W. FK. E. BR. BLACK R. W OF LODI, DST. ST. RT. 421 AND RR

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-015-000	2.30	41	41.02750	-82.04120	041100010302

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	237	240	200
Aluminum ug/L	269	<200	<200
Ammonia mg/L	<.05	<.05	.337
Arsenic ug/L	3.9	3.8	<2
Barium ug/L	113	105	72
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	120	115	104
Chloride mg/L	48.6	48.7	61.8
Chromium ug/L	<2	<2	<2
COD mg/L	28	26	27
Copper ug/L	<2	<2	<2
Hardness mg/L	411	402	367
Iron ug/L	1440	1230	480
Lead ug/L	<2	<2	<2
Magnesium mg/L	27	28	26
Manganese ug/L	196	191	98
Nickel ug/L	5.3	4.8	4.3
Nitrate+Nitrite mg/L	2.49	.94	1.36
Nitrite mg/L	.031	<.02	.053
Phosphorus mg/L	.053	.052	.031
Potassium mg/L	3	3	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	31	31	39
Strontium ug/L	397	392	375
Sulfate mg/L	128	130	179
TDS mg/L	620	556	596
TKN mg/L	1.2	.92	1.18
TSS mg/L	11	7	<5
Zinc ug/L	<10	<10	<10

Field Parameters		10:36 2012-07-10	10:14 2012-07-25	11:34 2012-09-24
Cond. Corrected umhos/cm		716	760	766
D.O. %sat.				74.3
D.O. mg/l		5.45	7.54	7.98
pH		7.85	7.96	7.97
Temp. C°		21.65	20.58	12.03

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201609 W. FK. E. BR. BLACK R. AT HOMER @ ST. RT. 301

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-015-000	8.90	25	41.03861	-82.12602	041100010302

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	162	152	115
Aluminum ug/L	642	284	330
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	4.8	4.5	2.1
Barium ug/L	55	68	36
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	70	94	59
Chloride mg/L	113	204	55.3
Chromium ug/L	<2	<2	<2
COD mg/L	24	23	25
Copper ug/L	3.4	3.2	2
Hardness mg/L	286	375	213
Iron ug/L	1140	540	660
Lead ug/L	<2	<2	<2
Magnesium mg/L	27	34	16
Manganese ug/L	262	466	35
Nickel ug/L	4.9	4.8	3
Nitrate+Nitrite mg/L	2.31	.76	1.6
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.072	.083	.057
Potassium mg/L	7	7	8
Selenium ug/L	<2	<2	<2
Sodium mg/L	73	116	38
Strontium ug/L	393	472	301
Sulfate mg/L	92.3	161	115
TDS mg/L	542	770	400
TKN mg/L	1.18	1.11	.8
TSS mg/L	16	32	<5
Zinc ug/L	<10	<10	<10

Field Parameters	09:56 2012-07-10	09:37 2012-07-25	10:44 2012-09-24
Cond. Corrected umhos/cm	918	1068	531
D.O. %sat.			90.1
D.O. mg/l	5.61	6.61	10.02
pH	7.89	7.74	8.18
Temp. C°	22.57	21.21	10.56

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201615 CLEAR CREEK SW OF LODI @ PAWNEE RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-016-000	1.80	6	41.01438	-82.07790	041100010302

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	222	204	196
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	.07	<.05
Arsenic ug/L	<2	2.2	<2
Barium ug/L	58	62	49
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	111	121	112
Chloride mg/L	30	29.9	24.7
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	<2	<2	<2
Hardness mg/L	413	450	428
Iron ug/L	173	306	269
Lead ug/L	<2	<2	<2
Magnesium mg/L	33	36	36
Manganese ug/L	196	277	74
Nickel ug/L	4.2	3.6	3
Nitrate+Nitrite mg/L	2.36	.64	1.13
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.05	.064	.036
Potassium mg/L	5	6	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	31	33	26
Strontium ug/L	621	689	757
Sulfate mg/L	207	209	248
TDS mg/L	600	602	606
TKN mg/L	.42	.59	.24
TSS mg/L	<5	6	6
Zinc ug/L	<10	<10	<10

Field Parameters	10:18 2012-07-10	10:00 2012-07-25	10:07 2012-09-24
Cond. Corrected umhos/cm	754	816	753
D.O. %sat.			91.6
D.O. mg/l	4.22	5.48	10.1
pH	7.81	7.58	8.22
Temp. C°	20.77	20.04	10.88

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201619 W. BR. BLACK R. @ METROPARKS EQUESTRIAN AREA

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	10.60	132	41.29502	-82.14860	041100010506

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	146	186	126
Aluminum ug/L	395	537	291
Ammonia mg/L	.055	<.05	<.05
Arsenic ug/L	3.9	4.6	2.3
Barium ug/L	45	44	35
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	66	61	53
Chloride mg/L	55	54	56.9
Chromium ug/L	<2	<2	<2
COD mg/L	22	22	<20
Copper ug/L	2.6	2.3	2.8
Hardness mg/L	247	235	194
Iron ug/L	862	1120	667
Lead ug/L	<2	<2	<2
Magnesium mg/L	20	20	15
Manganese ug/L	217	317	49
Nickel ug/L	5.9	5.1	4.1
Nitrate+Nitrite mg/L	.49¡	.5	3.04
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.081	.113	.095
Potassium mg/L	8	8	8
Selenium ug/L	<2	<2	<2
Sodium mg/L	36	38	41
Strontium ug/L	332	326	241
Sulfate mg/L	81.9	69.7	76.5
TDS mg/L	398	366	374
TKN mg/L	.8	1.08	.8
TSS mg/L	19	24	9
Zinc ug/L	<10	<10	<10

Field Parameters	11:55 2012-07-23	12:16 2012-08-06	11:14 2012-09-25
Cond. Corrected umhos/cm			515
D.O. %sat.			78.1
D.O. mg/l	5.13	4.66	8.35
pH	7.72	7.85	8.09
Temp. C°	24.24	22.57	12.26

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201620 W. BR. BLACK R. E OF PITTSFIELD @ ST. RT. 303

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	19.60	80	41.23720	-82.19850	041100010504

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	145	151	115
Aluminum ug/L	569	537	439
Ammonia mg/L	.119	<.05	<.05
Arsenic ug/L	3.7	2.8	2.2
Barium ug/L	57	49	28
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	74	64	53
Chloride mg/L	77.3	70.9	53.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	23
Copper ug/L	3.3	3.6	3.3
Hardness mg/L	284	250	194
Iron ug/L	1040	1010	815
Lead ug/L	<2	<2	<2
Magnesium mg/L	24	22	15
Manganese ug/L	195	123	35
Nickel ug/L	8.3	7.3	4.1
Nitrate+Nitrite mg/L	1.73	2.04	2.91
Nitrite mg/L	.03	.023	<.02
Phosphorus mg/L	.089	.059	.179
Potassium mg/L	10	10	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	54	53	35
Strontium ug/L	408	335	258
Sulfate mg/L	120	129	79.6
TDS mg/L	504	456	368
TKN mg/L	.8	.61	.73
TSS mg/L	25	36	14
Zinc ug/L	<10	<10	<10

Field Parameters	11:27 2012-07-23	12:57 2012-08-06	12:18 2012-09-25
Cond. Corrected umhos/cm	713	652	
D.O. %sat.			114.7
D.O. mg/l	3.84	6.03	12.43
pH	7.77	7.84	7.84
Temp. C°	24.66	23.07	11.72

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201624 W. BR. BLACK R. @ ST. RT. 511 (LOWER CROSSING)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	37.30	28	41.15451	-82.31020	041100010502

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	165	177	146
Aluminum ug/L	291	392	<200
Ammonia mg/L	.067	.064	<.05
Arsenic ug/L	2.2	2.6	<2
Barium ug/L	53	55	81
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	72	73	128
Chloride mg/L	56.7	64.4	72.5
Chromium ug/L	<2	<2	<2
COD mg/L	26	22	<20
Copper ug/L	3	2.9	<2
Hardness mg/L	291	306	534
Iron ug/L	517	642	183
Lead ug/L	<2	<2	<2
Magnesium mg/L	27	30	52
Manganese ug/L	138	235	36
Nickel ug/L	5.1	5	4.2
Nitrate+Nitrite mg/L	1.52	.67	.95
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.039	.027	.021
Potassium mg/L	7	8	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	45	56	82
Strontium ug/L	811	903	2190
Sulfate mg/L	140	151	457
TDS mg/L	472	518	914
TKN mg/L	.84	.73	.55
TSS mg/L	18	21	<5
Zinc ug/L	<10	<10	<10

Field Parameters	12:16 2012-07-23	11:38 2012-08-06	12:38 2012-09-25
Cond. Corrected umhos/cm	654	707	1183
D.O. %sat.			92.3
D.O. mg/l	6.11	5.86	9.98
pH	7.91	7.78	7.73
Temp. C°	24.01	22.02	11.66

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201627 W. BR. BLACK R. @ STEWART RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	48.10	4	41.08612	-82.31990	041100010502

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	213	240	195
Aluminum ug/L	<200	264	981
Ammonia mg/L	.342	.246	.198
Arsenic ug/L	5.4	4.7	3.2
Barium ug/L	48	52	74
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	99	101	119
Chloride mg/L	38.4	42.3	59
Chromium ug/L	<2	<2	<2
COD mg/L	23	25	20
Copper ug/L	<2	<2	2.5
Hardness mg/L	350	359	404
Iron ug/L	529	694	2210
Lead ug/L	<2	<2	<2
Magnesium mg/L	25	26	26
Manganese ug/L	1030	834	961
Nickel ug/L	5	4.6	6.9
Nitrate+Nitrite mg/L	2.15	.69	1.09
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.04	.031	.038
Potassium mg/L	7	8	8
Selenium ug/L	<2	<2	<2
Sodium mg/L	25	29	34
Strontium ug/L	513	545	567
Sulfate mg/L	127	128	194
TDS mg/L	488	530	644
TKN mg/L	1.21	.95	1.03
TSS mg/L	10	17	47
Zinc ug/L	<10	<10	<10

Field Parameters	10:31 2012-07-23	10:58 2012-08-06	09:53 2012-09-25
Cond. Corrected umhos/cm	658	683	843
D.O. %sat.			51.6
D.O. mg/l	1.79	1.46	5.65
pH	7.54	7.54	7.56
Temp. C°	22.9	21.48	11.16

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201629 KELNER DITCH E OF OBERLIN @ PARSONS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-001	3.00	4	41.27468	-82.13218	041100010506

Inorganic Parameters	2012-07-23	2012-07-25	2012-08-06	2012-09-25
Alkalinity mg/L	132		117	155
Aluminum ug/L	<200		214	<200
Ammonia mg/L	.134		.358	.161
Arsenic ug/L	4.4		2.9	2
Barium ug/L	35		35	28
Cadmium ug/L	<.2		<.2	<.2
Calcium mg/L	61		57	62
Chloride mg/L	85.9		78.2	66.2
Chlorophyll ug/L		.8		
Chromium ug/L	<2		<2	<2
COD mg/L	<20		20	<20
Copper ug/L	3.1		3.5	2.7
Hardness mg/L	218		208	217
Iron ug/L	395		409	350
Lead ug/L	<2		<2	<2
Magnesium mg/L	16		16	15
Manganese ug/L	130		95	41
Nickel ug/L	4.7		3.8	2.9
Nitrate+Nitrite mg/L	1.11¡		2.58	1.94
Nitrite mg/L	.021		.037	<.02
Pheophytin ug/L		1.3		
Phosphorus mg/L	.26		.208	.14
Potassium mg/L	8		12	6
Selenium ug/L	<2		<2	<2
Sodium mg/L	60		64	49
Strontium ug/L	234		227	244
Sulfate mg/L	100		114	74.2
TDS mg/L	454		438	406
TKN mg/L	.87		1.05	.83
TSS mg/L	8		7	<5
Zinc ug/L	<10		19	<10

Field Parameters		11:33 2012-07-23	12:29 2012-08-06	11:39 2012-09-25
Cond. Corrected umhos/cm				583
D.O. %sat.				83.3
D.O. mg/l		5.03	7.12	8.98
pH		7.62	7.94	8.03
Temp. C°		23.27	22.46	11.91

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201630 WELLINGTON CREEK NEAR MOUTH @ NICKEL PLATE RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	0.60	30	41.26524	-82.16830	041100010503

Inorganic Parameters	2012-05-15	2012-06-12	2012-06-27	2012-07-23	2012-07-25	2012-07-26	2012-08-06	2012-09-05
Alkalinity mg/L								171
Aluminum ug/L	<200		241	<200		<200	<200	<200
Ammonia mg/L	<.05		<.05	.067		.178	.077	<.05
Arsenic ug/L	<2		<2	4.2		3.7	4.2	4.2
Barium ug/L	31		31	25		28	23	21
Cadmium ug/L	<.2		<.2	<.2		<.2	<.2	<.2
Calcium mg/L	60		57	57		58	55	50
CBOD20 mg/L	3.5	<3	<3	<3		<3	3.3	
Chloride mg/L	35.3		31.9	56.7		52.3	47.2	40
Chlorophyll ug/L					3.9			
Chromium ug/L	<2		<2	15.2		<2	<2	<2
COD mg/L								35
Copper ug/L	2		3.2	9.6		2.9	2.6	2.4
Hardness mg/L	224		204	204		211	203	183
Iron ug/L	344		295	170		196	152	214
Lead ug/L	<2		<2	<2		<2	<2	<2
Magnesium mg/L	18		15	15		16	16	14
Manganese ug/L	56		29	105		104	143	148
Nickel ug/L	2.9		3.4	4.6		4.1	3.3	3.9
Nitrate+Nitrite mg/L	.39		7.51	1.52		1.24	1.25	.14
Nitrite mg/L	.037		.028	<.02		.059	.027	<.02
ortho-P mg/L	.017		.04			.161		
Pheophytin ug/L					3.3			
Phosphorus mg/L	61.5		.055	.246		.196	.212	.1
Potassium mg/L	4		5	6		6	6	7
Selenium ug/L	<2		<2	<2		<2	<2	<2
Sodium mg/L	24		18	34		29	35	29
Strontium ug/L	244		208	204		210	213	196
Sulfate mg/L	94		<5	56.3		55.9	46.3	39.9
TDS mg/L	350	358	326	364		336	326	282
TKN mg/L	.82		.86	.83		.85	.77	.51
TSS mg/L	<5		7	<5		<5	<5	<5
Zinc ug/L	<10		<10	<10		<10	<10	<10

Field Parameters		11:22 2012-06-27	10:46 2012-07-23	12:17 2012-07-26	13:34 2012-08-06	13:36 2012-09-05	12:40 2012-09-25	13:15 2013-01-29
Cond. Corrected umhos/cm			497	504	475	452		587
D.O. %sat.						78.7	120.9	77.5
D.O. mg/l		8.23	4.89	5.12	5.8	6.84	13.03	11.14
pH		7.77	7.94	7.79	7.93	8	7.91	7.94
Temp. C°		18.19	22.32	24.35	21.56	22.25	11.93	.53

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

201630		WELLINGTON CREEK NEAR MOUTH @ NICKEL PLATE RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	0.60	30	41.26524	-82.16830	041100010503

Inorganic Parameters	2012-09-25	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-05-02
Alkalinity mg/L						131	
Aluminum ug/L	203	4790	923	2780	2900		447
Ammonia mg/L	<.05	<.05	.099	.112	.087	.122	<.05
Arsenic ug/L	2.6	3.2	<2	2.5	<2		<2
Barium ug/L	28	53	30	48	36		30
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2		<.2
Calcium mg/L	52	38	44	52	37		56
CBOD20 mg/L	4.4	12	3.8	15	8.8	5.9	6
Chloride mg/L	41.4	32.3	20.9	43.1	33.1	63	32.6
Chlorophyll ug/L							
Chromium ug/L	<2	4.5	<2	2.7	2.7		<2
COD mg/L							
Copper ug/L	<2	6.4	2.8	4.8	4.3		2.4
Hardness mg/L	187	144	163	192	138		210
Iron ug/L	486	6960	1260	4030	4020		801
Lead ug/L	<2	4.7	<2	2.7	2.4		<2
Magnesium mg/L	14	12	13	15	11		17
Manganese ug/L	28	157	50	95	68		51
Nickel ug/L	2.7	7	3	4.9	4.4		3
Nitrate+Nitrite mg/L	1.06	7.15	2.3	4.24	4.21	2.5	.71
Nitrite mg/L	<.02	<.02	.031	.021	<.02	<.02	.056
ortho-P mg/L	.078	.173	.092	.359	.082		.011
Pheophytin ug/L							
Phosphorus mg/L	.116	.464	.118	.538	.234	.074	.045
Potassium mg/L	5	7	5	7	4		3
Selenium ug/L	<2	<2	<2	<2	<2		<2
Sodium mg/L	31	11	12	17	14		19
Strontium ug/L	243	119	149	187	107		195
Sulfate mg/L	67.4	32.5	61.4	67.6	39.8	87.9	63
TDS mg/L	322	284	258	364	210	384	302
TKN mg/L	.6	.88	.91	1	1	.94	.95
TSS mg/L	<5	118	7	81	64	18	6
Zinc ug/L	<10	26	<10	15	15		<10

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201632 WELLINGTON CREEK NE OF WELLINGTON @ WEBSTER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	8.40	20	41.19984	-82.17680	041100010503

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	168	181	120
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	.09	.102	<.05
Arsenic ug/L	3.8	4.7	2.1
Barium ug/L	40	32	22
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	87	64	45
Chloride mg/L	46.2	37.8	44.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	25	<20
Copper ug/L	<2	<2	2
Hardness mg/L	345	250	162
Iron ug/L	256	366	371
Lead ug/L	<2	<2	<2
Magnesium mg/L	31	22	12
Manganese ug/L	306	673	40
Nickel ug/L	3.8	3.1	2.3
Nitrate+Nitrite mg/L	.39	.44	.35
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.07	.087	.055
Potassium mg/L	6	6	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	51	36	33
Strontium ug/L	709	431	236
Sulfate mg/L	193	109	60.1
TDS mg/L	574	384	280
TKN mg/L	.71	.66	.49
TSS mg/L	<5	9	<5
Zinc ug/L	<10	<10	<10

Field Parameters	12:01 2012-07-23	12:22 2012-08-06	11:42 2012-09-25
Cond. Corrected umhos/cm	767	555	
D.O. %sat.			104.8
D.O. mg/l	3.83	3.63	11.39
pH	7.71	7.71	7.97
Temp. C°	22.54	21.55	11.6

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201633 WELLINGTON CREEK @ BURSLEY RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	17.10	5	41.11618	-82.20950	041100010503

Inorganic Parameters	2012-05-15	2012-06-27	2012-07-23	2012-08-06	2012-09-25	2012-12-05	2013-01-10	2013-01-29
Alkalinity mg/L						91.2	94.1	75.4
Aluminum ug/L	235	561	<200	265	311			
Ammonia mg/L	<.05	.13	.162	.09	<.05	.058	.06	.1
Arsenic ug/L	<2	2	3.6	4.2	3.2			
Barium ug/L	30	37	37	38	43			
Bicarbonate mg/L						91.2	94.1	
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2			
Calcium mg/L	55	53	57	57	61			
Carbonate mg/L						<5	<5	
CBOD20 mg/L	3	4.2	3	5.7	4.7	8.6	5.9	7.8
Chloride mg/L	27.3	43.9	74.2	82	113	29	19.8	32.1
Chromium ug/L	<2	<2	<2	<2	<2			
Copper ug/L	<2	3.1	<2	2.1	<2			
Hardness mg/L	224	202	216	216	231			
Iron ug/L	488	891	325	538	557			
Lead ug/L	<2	<2	<2	<2	<2			
Magnesium mg/L	21	17	18	18	19			
Manganese ug/L	76	151	240	232	215			
Nickel ug/L	2.8	3.9	3.7	3.6	3.2			
Nitrate+Nitrite mg/L	<.1	2.83	1.34	1.83	.87	2.73	3.34	1.66
Nitrite mg/L	.024	.084	<.02	<.02	<.02	<.02	<.02	<.02
ortho-P mg/L	<.01	<.01			.012	.072	.036	
Phosphorus mg/L	35.1	.025	.041	.036	.032	.357	.108	.077
Potassium mg/L	4	7	6	6	6			
Selenium ug/L	<2	<2	<2	<2	<2			
Sodium mg/L	25	30	54	64	92			
Strontium ug/L	259	232	255	261	271			
Sulfate mg/L	<50	6.7	61.8	60.8	46.5	82.5	52.4	67.9
TDS mg/L	336	420	406	436	480	334	266	242
TKN mg/L	.34	.79	.96	.83	.63	.88	.78	.88
TOC mg/L						9.9	6.3	
TSS mg/L	5	28	7	19	13	14	8	9
Turbidity NTU						61	30.8	
Volatile Suspended Solids mg/L						6	<5	
Zinc ug/L	<10	<10	<10	<10	<10			

Field Parameters		09:35 2012-06-27	11:23 2012-07-23	09:54 2012-08-06	10:56 2012-09-25	11:20 2013-01-29	11:26 2013-05-02
Cond. Corrected umhos/cm			580	636	834	399	
D.O. %sat.					1.7	85.5	103.1
D.O. mg/l		4.45	2.8	4.25	.02	12.05	9.98
pH		7.5	7.61	7.62	7.46	8.07	7.83
Temp. C°		17.92	22.61	21.54	11.99	1.26	16.9

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

201633		WELLINGTON CREEK @ BURSLEY RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	17.10	5	41.11618	-82.20950	041100010503

Inorganic Parameters	2013-04-11	2013-05-02	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	58.8	129	136	133	77.1	161
Aluminum ug/L						
Ammonia mg/L	.228	<.05	.066	<.05	<.05	<.05
Arsenic ug/L						
Barium ug/L						
Bicarbonate mg/L	58.8	129	136	133	77.1	161
Cadmium ug/L						
Calcium mg/L						
Carbonate mg/L	<5	<5	<5	<5	<5	<5
CBOD20 mg/L	11	5.1	5.5	<3	11	5.5
Chloride mg/L	20.2	22	36.9	26.3	16.1	31
Chromium ug/L						
Copper ug/L						
Hardness mg/L						
Iron ug/L						
Lead ug/L						
Magnesium mg/L						
Manganese ug/L						
Nickel ug/L						
Nitrate+Nitrite mg/L	2.41	.27	2.35	3.12	.78	<.1
Nitrite mg/L	.023	.02	.028	.022	<.02	<.02
ortho-P mg/L	.089	<.01	.022	.042	.067	.013
Phosphorus mg/L	.17	.019	.058	.07	.147	.026
Potassium mg/L						
Selenium ug/L						
Sodium mg/L						
Strontium ug/L						
Sulfate mg/L	36.1	79.9	81.3	62.9	11.3	77.1
TDS mg/L	230	292	314	318	180	332
TKN mg/L	1.31	.58	.77	.87	.81	.35
TOC mg/L	11	5.9	7.6	8.34	11.1	5.25
TSS mg/L	86	<5	14	13	264	10
Turbidity NTU	104	3.01	27.7	16.8	149	7.42
Volatile Suspended Solids mg/L	<20	<5	<5	<5	30	<5
Zinc ug/L						

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 201634 CHARLEMONT CREEK W OF WELLINGTON @ PITTS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	2.20	23	41.17492	-82.24260	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	165	187	154
Aluminum ug/L	289	303	503
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	2.5	2.5	<2
Barium ug/L	54	47	47
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	87	87	76
Chloride mg/L	72.5	74.2	72.5
Chromium ug/L	<2	<2	<2
COD mg/L	21	<20	<20
Copper ug/L	2.7	2.2	2.1
Hardness mg/L	337	337	284
Iron ug/L	514	521	805
Lead ug/L	<2	<2	<2
Magnesium mg/L	29	29	23
Manganese ug/L	660	131	79
Nickel ug/L	5.1	3.8	3.7
Nitrate+Nitrite mg/L	.79	.69	1.01
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.037	.024	.031
Potassium mg/L	7	6	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	46	50	44
Strontium ug/L	509	524	416
Sulfate mg/L	143	145	126
TDS mg/L	536	584	498
TKN mg/L	.71	.47	.58
TSS mg/L	18	11	10
Zinc ug/L	<10	<10	<10

Field Parameters	14:18 2012-07-23	12:54 2012-08-06	12:13 2012-09-25
Cond. Corrected umhos/cm	721	730	698
D.O. %sat.			97.7
D.O. mg/l	6.03	6.98	10.66
pH	7.83	7.8	7.87
Temp. C°	23.23	21.4	11.37

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301931 W. FK. E. BR. BLACK R. @ TWP. RD. 391

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-015-000	13.97	14	41.05104	-82.20172	041100010302

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	122	171	99.1
Aluminum ug/L	<200	<200	582
Ammonia mg/L	.077	<.05	<.05
Arsenic ug/L	2.1	6	2.3
Barium ug/L	33	23	35
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	62	67	53
Chloride mg/L	33.6	34.3	63.2
Chromium ug/L	2.8	<2	<2
COD mg/L	28	31	29
Copper ug/L	3	2	3.5
Hardness mg/L	225	250	190
Iron ug/L	350	157	955
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	20	14
Manganese ug/L	43	286	27
Nickel ug/L	4.9	3.9	3.2
Nitrate+Nitrite mg/L	6.21	1.49	4.67
Nitrite mg/L	.118	<.02	.041
Phosphorus mg/L	.095	.145	.147
Potassium mg/L	8	8	9
Selenium ug/L	<2	<2	<2
Sodium mg/L	21	24	43
Strontium ug/L	283	325	225
Sulfate mg/L	77.4	86.8	99.7
TDS mg/L	388	366	400
TKN mg/L	1.5	1.36	1.05
TSS mg/L	11	<5	5
Zinc ug/L	<10	<10	<10

Field Parameters	09:30 2012-07-10	09:12 2012-07-25	11:06 2012-09-24
Cond. Corrected umhos/cm	451	526	533
D.O. %sat.			71.5
D.O. mg/l	3.71	4.93	8
pH	8.22	7.9	7.89
Temp. C°	20.68	18.54	10.29

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301933 COON CREEK @ RIVER CORNERS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-013-000	0.88	10	41.09605	-82.09456	041100010303

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	133	135	120
Aluminum ug/L	213	243	<200
Ammonia mg/L	<.05	.085	<.05
Arsenic ug/L	3.2	3.2	<2
Barium ug/L	38	32	40
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	54	52	74
Chloride mg/L	44.5	46.8	64.8
Chromium ug/L	<2	<2	<2
COD mg/L	24	27	<20
Copper ug/L	2.2	2.6	2.1
Hardness mg/L	213	204	279
Iron ug/L	372	424	310
Lead ug/L	<2	<2	<2
Magnesium mg/L	19	18	23
Manganese ug/L	97	81	40
Nickel ug/L	3.9	3.7	4.6
Nitrate+Nitrite mg/L	.44	.3	1.02
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.036	.055	.02
Potassium mg/L	9	8	6
Selenium ug/L	<2	<2	2.4
Sodium mg/L	28	27	40
Strontium ug/L	284	282	346
Sulfate mg/L	65.7	74.2	153
TDS mg/L	330	360	472
TKN mg/L	.91	1.41	.59
TSS mg/L	6	6	<5
Zinc ug/L	<10	24	<10

Field Parameters	13:17 2012-07-10	12:51 2012-07-25	13:26 2012-09-24
Cond. Corrected umhos/cm		500	
D.O. %sat.		50.5	
D.O. mg/l	3.41	4.33	11.25
pH	7.65	7.75	7.78
Temp. C°	24.76	23.01	10.96

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301934 SALT CREEK @ CHAMBERLAIN RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-011-000	0.53	7	41.23024	-82.06224	041100010402

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	62.1	105	108
Aluminum ug/L	243	498	626
Ammonia mg/L	<.05	.074	<.05
Arsenic ug/L	<2	2.1	<2
Barium ug/L	30	33	26
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	48	56	47
Chloride mg/L	81	105	78.2
Chromium ug/L	<2	<2	<2
COD mg/L	<20	27	21
Copper ug/L	3.2	3.8	3.9
Hardness mg/L	194	218	179
Iron ug/L	652	1310	1170
Lead ug/L	<2	<2	<2
Magnesium mg/L	18	19	15
Manganese ug/L	203	327	55
Nickel ug/L	7.1	7	7.2
Nitrate+Nitrite mg/L	.62	.71	2.4
Nitrite mg/L	.025	<.02	<.02
Phosphorus mg/L	.025	.049	.075
Potassium mg/L	8	8	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	56	77	58
Strontium ug/L	214	236	160
Sulfate mg/L	120	144	84.4
TDS mg/L	442	522	392
TKN mg/L	.78	1.48	1
TSS mg/L	7	37	6
Zinc ug/L	<10	<10	<10

Field Parameters	09:43 2012-07-10	10:00 2012-07-25	12:05 2012-09-24
Cond. Corrected umhos/cm		784	
D.O. %sat.		37.4	
D.O. mg/l	5.17	3.41	13.47
pH	7.79	7.54	7.98
Temp. C°	20.86	19.81	10.05

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301935 WILLOW CREEK UPST. EATON ESTATES @ ISLAND RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-001	6.59	3	41.31461	-82.00133	041100010403

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24	2013-08-20
Alkalinity mg/L	121	277	110	
Aluminum ug/L	<200	<200	439	<200
Ammonia mg/L	.57	.746	.099	.136
Arsenic ug/L	11.3	4.7	2.7	3.8
Barium ug/L	32	60	35	38
Cadmium ug/L	<.2	<.2	<.2	<.2
Calcium mg/L	46	163	54	68
CBOD20 mg/L				5.1
Chloride mg/L	66.9	333	70.2	125
Chromium ug/L	<2	<2	<2	<2
COD mg/L	31	22	34	
Copper ug/L	<2	2.2	5	<2
Hardness mg/L	173	621	180	252
Iron ug/L	1220	818	839	1050
Lead ug/L	<2	<2	<2	<2
Magnesium mg/L	14	52	11	20
Manganese ug/L	779	853	71	370
Nickel ug/L	2.7	4.5	3.1	2.9
Nitrate+Nitrite mg/L	.15¡	.17	.22	.11
Nitrite mg/L	.033	<.02	.029	<.02
ortho-P mg/L				.085
Phosphorus mg/L	.454	.069	.117	.169
Potassium mg/L	6	5	7	5
Selenium ug/L	<2	<2	<2	<2
Sodium mg/L	41	152	46	75
Strontium ug/L	175	569	203	246
Sulfate mg/L	30.7	176	78	48.8
TDS mg/L	338	1120	376	520
TKN mg/L	1.39	2.28	1.06	1
TSS mg/L	8	<5	13	5
Zinc ug/L	<10	<10	<10	<10

Field Parameters		10:55 2012-07-10	11:02 2012-07-25	09:31 2012-09-24
Cond. Corrected umhos/cm		788	1740	504
D.O. %sat.				61.1
D.O. mg/l		.89	2.86	6.41
pH		7.32	7.36	8.54
Temp. C°		21.08	19.77	13.12

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301936 TRIB TO E BR BLACK R (5.89) (BRENTWOOD TRIB) @ WATERFALL DR.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-012	1.00	5	41.31855	-82.07265	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	140	145	146
Aluminum ug/L	501	254	235
Ammonia mg/L	.205	.627	.089
Arsenic ug/L	7	6.2	2
Barium ug/L	39	35	37
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	55	53	70
Chloride mg/L	75.6	64.9	64.3
Chromium ug/L	<2	<2	<2
COD mg/L	20	23	21
Copper ug/L	3.1	2.2	3.1
Hardness mg/L	207	190	237
Iron ug/L	1420	1160	796
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	14	15
Manganese ug/L	227	497	90
Nickel ug/L	3.4	3	4.6
Nitrate+Nitrite mg/L	.28¡	.26	1.31
Nitrite mg/L	.028	<.02	.025
Phosphorus mg/L	.158	.187	.121
Potassium mg/L	4	5	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	50	38	44
Strontium ug/L	212	184	231
Sulfate mg/L	53	43	104
TDS mg/L	402	364	432
TKN mg/L	.83	1.24	.98
TSS mg/L	12	9	5
Zinc ug/L	<10	<10	20

Field Parameters	10:32 2012-07-10	12:13 2012-07-26	12:22 2012-09-24
Cond. Corrected umhos/cm	541	554	578
D.O. %sat.			90.9
D.O. mg/l	4.48	3.53	9.37
pH	7.94	7.75	7.93
Temp. C°	22.78	20.73	13.96

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301937 TRIB TO E. BR. BLACK R. (5.89) (BRENTWOOD TRIB) @ ROBSON RD

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-012	0.10	7	41.32533	-82.07559	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	153	127	136
Aluminum ug/L	<200	<200	234
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.4	3.3	<2
Barium ug/L	27	29	31
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	64	67	64
Chloride mg/L	64	60.3	57.9
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	3.6	4	3.4
Hardness mg/L	234	241	217
Iron ug/L	174	329	563
Lead ug/L	<2	<2	<2
Magnesium mg/L	18	18	14
Manganese ug/L	35	69	29
Nickel ug/L	3.5	3.6	3.9
Nitrate+Nitrite mg/L	1.81¡	2.19	1.86
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.368	.424	.155
Potassium mg/L	6	5	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	46	38	41
Strontium ug/L	205	203	197
Sulfate mg/L	80	104	93.3
TDS mg/L	426	440	392
TKN mg/L	.71	.74	.85
TSS mg/L	<5	6	<5
Zinc ug/L	<10	<10	<10

Field Parameters	12:04 2012-07-10	10:31 2012-07-26	11:50 2012-09-24
Cond. Corrected umhos/cm	510	620	522
D.O. %sat.			94.9
D.O. mg/l	8.1	7.83	10.31
pH	8.03	8.09	8.08
Temp. C°	21.25	19.6	11.58

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301938 CHARLEMONT CREEK @ BAKER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	8.55	11	41.11935	-82.25751	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	132	171	153
Aluminum ug/L	259	204	1430
Ammonia mg/L	.067	.068	<.05
Arsenic ug/L	2.4	2.5	7.1
Barium ug/L	34	28	46
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	53	54	44
Chloride mg/L	12.5	14	8.7
Chromium ug/L	<2	<2	<2
COD mg/L	23	24	45
Copper ug/L	<2	2.1	3.4
Hardness mg/L	198	205	159
Iron ug/L	630	388	3830
Lead ug/L	<2	<2	2.7
Magnesium mg/L	16	17	12
Manganese ug/L	417	140	1710
Nickel ug/L	4.1	3.7	5.8
Nitrate+Nitrite mg/L	1.94	.82	.77
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.043	.041	.115
Potassium mg/L	5	6	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	15	17	8
Strontium ug/L	287	284	186
Sulfate mg/L	63.9	61.3	10.3
TDS mg/L	290	284	224
TKN mg/L	.71	.69	.63
TSS mg/L	11	5	66
Zinc ug/L	<10	<10	15

Field Parameters	11:05 2012-07-23	10:21 2012-08-06	10:32 2012-09-25
Cond. Corrected umhos/cm	391	399	313
D.O. %sat.			24.9
D.O. mg/l	4.14	4.66	2.75
pH	7.64	7.63	7.58
Temp. C°	22.79	19.95	10.9

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301939 CHARLEMONT CREEK @ WELLINGTON WTP INTAKE

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	3.00	22	41.16493	-82.24760	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-05	2012-09-25	2013-01-29	2013-04-24	2013-05-15	2013-05-23
Alkalinity mg/L	144	152	163	132	119			
Aluminum ug/L	<200	518	409	1260				
Ammonia mg/L	.058	.05	<.05	.092	.133			
Arsenic ug/L	2.8	2.6	2.4	2.2				
Barium ug/L	49	49	51	50				
Cadmium ug/L	<.2	<.2	<.2	<.2				
Calcium mg/L	76	68	69	64				
CBOD20 mg/L					6.6			
Chloride mg/L	73.7	69.9	64.8	50.5	42.8			
Chromium ug/L	<2	<2	<2	<2				
COD mg/L	<20	<20	26	<20				
Copper ug/L	2.3	2.4	2.1	2.5				
Hardness mg/L	301	273	271	259				
Iron ug/L	309	916	724	2140				
Lead ug/L	<2	<2	<2	<2				
Magnesium mg/L	27	25	24	24				
Manganese ug/L	236	280	367	179				
Nickel ug/L	4.7	3.7	3.7	4.7				
Nitrate+Nitrite mg/L	.25	.32	<.1	<.1	1.87	.2	.27	.17
Nitrite mg/L	<.02	<.02	<.02	<.02	<.02			
Phosphorus mg/L	.031	.019	.011	.026	.069			
Potassium mg/L	6	6	5	5				
Selenium ug/L	<2	<2	<2	<2				
Sodium mg/L	47	49	42	34				
Strontium ug/L	540	518	482	413				
Sulfate mg/L	124	123	116	124	93.5			
TDS mg/L	500	468	416	416	338			
TKN mg/L	.7	.41	.21	.42	.88			
TSS mg/L	12	19	13	25	36			
Zinc ug/L	<10	<10	<10	<10				

Field Parameters		12:50 2012-07-23	11:07 2012-08-06	14:58 2012-09-05	09:54 2012-09-25	12:14 2013-01-29
Cond. Corrected umhos/cm		705	649	669		547
D.O. %sat.				5.8	84.8	82.7
D.O. mg/l		4.89	1.81	.53	9.33	11.59
pH		7.78	7.47	7.49	8.07	8.02
Temp. C°		23.75	21.76	20.09	11.02	1.48

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

301939		CHARLEMONT CREEK @ WELLINGTON WTP INTAKE			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	3.00	22	41.16493	-82.24760	041100010501

Inorganic Parameters	2013-05-28	2013-06-06	2013-06-10
Alkalinity mg/L			
Aluminum ug/L			
Ammonia mg/L			
Arsenic ug/L			
Barium ug/L			
Cadmium ug/L			
Calcium mg/L			
CBOD20 mg/L			
Chloride mg/L			
Chromium ug/L			
COD mg/L			
Copper ug/L			
Hardness mg/L			
Iron ug/L			
Lead ug/L			
Magnesium mg/L			
Manganese ug/L			
Nickel ug/L			
Nitrate+Nitrite mg/L	.28	5.57	3.93
Nitrite mg/L			
Phosphorus mg/L			
Potassium mg/L			
Selenium ug/L			
Sodium mg/L			
Strontium ug/L			
Sulfate mg/L			
TDS mg/L			
TKN mg/L			
TSS mg/L			
Zinc ug/L			

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301940 TRIB. TO CHARLEMONT CREEK (0.51) UPST. WELLINGTON WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-001	1.00	2	41.17570	-82.22850	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	156	148	210
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	.091	.082	<.05
Arsenic ug/L	3.2	2.7	<2
Barium ug/L	43	34	45
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	75	62	88
Chloride mg/L	49.5	52.3	68
Chromium ug/L	<2	<2	<2
COD mg/L	<20	22	<20
Copper ug/L	<2	2.4	2.3
Hardness mg/L	307	237	306
Iron ug/L	724	709	327
Lead ug/L	<2	<2	<2
Magnesium mg/L	29	20	21
Manganese ug/L	312	226	65
Nickel ug/L	3.6	2.9	4
Nitrate+Nitrite mg/L	.37	.44	.85
Nitrite mg/L	<.02	<.02	.021
Phosphorus mg/L	.083	.076	.045
Potassium mg/L	5	4	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	39	38	49
Strontium ug/L	503	387	574
Sulfate mg/L	135	100	109
TDS mg/L	476	394	490
TKN mg/L	.53	.49	.38
TSS mg/L	6	7	<5
Zinc ug/L	<10	<10	<10

Field Parameters	14:06 2012-07-23	11:37 2012-08-06	11:11 2012-09-25
Cond. Corrected umhos/cm	611	548	
D.O. %sat.			107.3
D.O. mg/l	5.17	5.39	11.72
pH	7.64	7.65	7.86
Temp. C°	22.96	20.33	11.3

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301941 WELLINGTON WWTP 001 OUTFALL TO TRIB. TO CHARLEMONT CREEK

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-001	0.92	2	41.17923	-82.22689	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	48.9	55.6	93.1
Aluminum ug/L	317	424	761
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	<2	<2	<2
Barium ug/L	<15	<15	<15
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	58	53	53
Chloride mg/L	91.9	81.7	76.6
Chromium ug/L	<2	<2	<2
COD mg/L	23	26	23
Copper ug/L	8.3	7	7.4
Hardness mg/L	235	211	202
Iron ug/L	59	77	160
Lead ug/L	<2	<2	<2
Magnesium mg/L	22	19	17
Manganese ug/L	<10	<10	<10
Nickel ug/L	4.7	3.8	3.9
Nitrate+Nitrite mg/L	19.1	16.3	12.8
Nitrite mg/L	.045	.039	<.02
Phosphorus mg/L	1.21	.93	1
Potassium mg/L	14	12	10
Selenium ug/L	<2	<2	<2
Sodium mg/L	70	72	60
Strontium ug/L	234	222	227
Sulfate mg/L	138	131	103
TDS mg/L	568	502	468
TKN mg/L	.66	1.16	.51
TSS mg/L	<5	5	8
Zinc ug/L	29	24	31

Field Parameters	

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301943 TRIB. TO CHARLEMONT CREEK (0.51) DST. WELLINGTON WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-001	0.76	2	41.17923	-82.22689	041100010501

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	52.4	77.2	103
Aluminum ug/L	237	271	394
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	<2	<2	<2
Barium ug/L	<15	<15	<15
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	59	55	57
Chloride mg/L	90	79.7	79.2
Chromium ug/L	<2	<2	<2
COD mg/L	23	22	<20
Copper ug/L	6.6	5.7	5.6
Hardness mg/L	238	216	212
Iron ug/L	149	189	173
Lead ug/L	<2	<2	<2
Magnesium mg/L	22	19	17
Manganese ug/L	16	24	16
Nickel ug/L	4.8	3.8	4
Nitrate+Nitrite mg/L	18.6	14.6	11.9
Nitrite mg/L	.038	.046	.02
Phosphorus mg/L	1.04	.757	.694
Potassium mg/L	13	11	10
Selenium ug/L	<2	<2	<2
Sodium mg/L	68	67	60
Strontium ug/L	247	243	267
Sulfate mg/L	139	127	107
TDS mg/L	564	488	478
TKN mg/L	1.51	.73	.74
TSS mg/L	<5	5	<5
Zinc ug/L	26	24	26

Field Parameters	14:20 2012-07-23	11:52 2012-08-06	11:23 2012-09-25
Cond. Corrected umhos/cm	767	656	
D.O. %sat.			116.7
D.O. mg/l	8.61	7.57	11.4
pH	7.7	7.66	7.77
Temp. C°	23.88	21.29	16.42

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301944 PLUM CREEK AT OBERLIN @ MORGAN ST.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	5.57	5	41.28860	-82.20890	041100010505

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	123	159	174
Aluminum ug/L	<200	273	<200
Ammonia mg/L	.096	.078	<.05
Arsenic ug/L	5.5	4.1	2.1
Barium ug/L	26	28	28
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	49	53	62
Chloride mg/L	77.4	73.7	58.4
Chromium ug/L	<2	<2	<2
COD mg/L	27	21	25
Copper ug/L	2.9	5.8	4
Hardness mg/L	180	202	225
Iron ug/L	410	593	330
Lead ug/L	<2	<2	<2
Magnesium mg/L	14	17	17
Manganese ug/L	186	126	43
Nickel ug/L	2.9	2.3	2.9
Nitrate+Nitrite mg/L	.55¡	.96	.68
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.263	.159	.104
Potassium mg/L	4	5	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	53	59	46
Strontium ug/L	197	226	223
Sulfate mg/L	50.9	69.8	72.3
TDS mg/L	374	394	398
TKN mg/L	.88	.66	.93
TSS mg/L	<5	11	<5
Zinc ug/L	<10	<10	<10

Field Parameters	09:38 2012-07-23	10:35 2012-08-06	09:49 2012-09-25
Cond. Corrected umhos/cm			553
D.O. %sat.			67.8
D.O. mg/l	2.75	4.64	7.49
pH	7.47	7.73	8.59
Temp. C°	22.05	20.79	10.85

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301945 ELK CREEK @ METROPARK PROPERTY OFF PARSONS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-022-000	0.15	8	41.27456	-82.16343	041100010506

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	145	180	153
Aluminum ug/L	<200	<200	225
Ammonia mg/L	.12	.066	<.05
Arsenic ug/L	5.2	5.1	2.6
Barium ug/L	25	22	30
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	48	48	47
Chloride mg/L	33.8	28.1	72.8
Chromium ug/L	<2	<2	<2
COD mg/L	23	20	23
Copper ug/L	<2	<2	3.1
Hardness mg/L	186	190	171
Iron ug/L	538	497	573
Lead ug/L	<2	<2	<2
Magnesium mg/L	16	17	13
Manganese ug/L	200	143	29
Nickel ug/L	2.4	<2	2.8
Nitrate+Nitrite mg/L	.59	.47	1.38
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.276	.248	.165
Potassium mg/L	6	5	10
Selenium ug/L	<2	<2	<2
Sodium mg/L	24	23	60
Strontium ug/L	168	165	165
Sulfate mg/L	31.3	27.3	60.7
TDS mg/L	300	276	392
TKN mg/L	.83	.6	.87
TSS mg/L	5	<5	<5
Zinc ug/L	<10	<10	<10

Field Parameters	09:49 2012-07-23	13:59 2012-08-06	13:14 2012-09-25
Cond. Corrected umhos/cm	394	401	
D.O. %sat.			131.5
D.O. mg/l	4.13	4.47	14.2
pH	8.06	7.76	7.95
Temp. C°	22.15	22.07	11.86

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301953 FRENCH CREEK @ BRIDGE POINTE TRAIL

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	5.50	25	41.45708	-82.04079	041100010601

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	163	119	156[a]
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	.062
Arsenic ug/L	4.2	4.3	<2
Barium ug/L	32	39	33
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	66	69	70
Chloride mg/L	148	108	76.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	22	22
Copper ug/L	6.2	5.7	4.7
Hardness mg/L	235	246	241
Iron ug/L	219	132	278
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	18	16
Manganese ug/L	35	13	18
Nickel ug/L	4.5	4.6	3.6
Nitrate+Nitrite mg/L	5.79	12	2.51
Nitrite mg/L	<.02	.032	<.02
Phosphorus mg/L	.362	.406	.101
Potassium mg/L	7	12	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	82	75	57
Strontium ug/L	244	273	220
Sulfate mg/L	48.9	94.2	83.5
TDS mg/L	610	562	448[a]
TKN mg/L	.85	1.11	1.02
TSS mg/L	6	<5	<5[a]
Zinc ug/L	10	<10	<10

Field Parameters	12:47 2012-06-28	10:51 2012-07-16	09:49 2012-10-10
Cond. Corrected umhos/cm		795	622
D.O. %sat.		118.2	124.4
D.O. mg/l	10.85	9.89	13.56
pH	8.18	8.41	8.22
Temp. C°	24.54	24.25	11.43

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301954 TRIB. TO BLACK R. (10.18) AT ELYRIA @ GULF RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-001	0.68	10	41.40547	-82.08607	041100010602

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	147	134	144[a]
Aluminum ug/L	<200	<200	378
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	4	4.1	2.3
Barium ug/L	41	39	32
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	74	70	68
Chloride mg/L	228	160	78.8
Chromium ug/L	3.9	<2	<2
COD mg/L	<20	<20	25
Copper ug/L	5.1	3.8	5.1
Hardness mg/L	259	241	232
Iron ug/L	365	563	884
Lead ug/L	<2	<2	<2
Magnesium mg/L	18	16	15
Manganese ug/L	111	119	51
Nickel ug/L	5.8	4.4	4.1
Nitrate+Nitrite mg/L	1.93	2.38	1.23
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.05	.055	.197
Potassium mg/L	6	6	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	132	107	61
Strontium ug/L	288	272	222
Sulfate mg/L	100	99.5	96.7
TDS mg/L	672	650	448[a]
TKN mg/L	.96	.63	.87
TSS mg/L	9	<5	18[a]
Zinc ug/L	24	<10	10

Field Parameters	11:47 2012-06-28	12:04 2012-07-16	12:40 2012-10-10
Cond. Corrected umhos/cm	733	951	
D.O. %sat.		127.7	103.2
D.O. mg/l	10.98	9.92	11.47
pH	7.99	7.96	8.17
Temp. C°	25.27	28.31	10.59

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301955 HEIDER DITCH @ ELECTRIC AVE.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
13-006-000	0.25	8	41.50995	-82.01940	041100010603

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	138	111	119[a]	132	96.7	128	143
Aluminum ug/L	385	240	626				
Ammonia mg/L	.051	<.05	.077	.083	<.05	.067	<.05
Arsenic ug/L	3.9	3.4	2				
Barium ug/L	33	27	24				
Cadmium ug/L	<.2	<.2	<.2				
Calcium mg/L	66	54	51				
CBOD20 mg/L				5.4	5.6	7.7	5.6
Chloride mg/L	258	150	65.5	224	84.8	123	157
Chromium ug/L	<2	<2	<2				
COD mg/L	<20	165	26				
Copper ug/L	6.3	6.4	4.7				
Hardness mg/L	239	192	177				
Iron ug/L	921	619	930				
Lead ug/L	<2	<2	<2				
Magnesium mg/L	18	14	12				
Manganese ug/L	284	233	35				
Nickel ug/L	10.2	8.6	8.1				
Nitrate+Nitrite mg/L	.88	1.14	1.89	.45	.58	.24	.24
Nitrite mg/L	.023	<.02	<.02	.032	.043	.023	<.02
ortho-P mg/L				.039	.067	.065	.022
Phosphorus mg/L	.124	.077	.05	.052	.114	.105	.042
Potassium mg/L	5	5	5				
Selenium ug/L	<2	<2	<2				
Sodium mg/L	124	103	50				
Strontium ug/L	259	205	161				
Sulfate mg/L	47.9	73.9	80.9	99.5	69.3	97.8	86.2
TDS mg/L	712	546	376[a]	664	362	452	578
TKN mg/L	1.37	.75	1.18	1.14	1.04	1.28	.78
TSS mg/L	33	25	10[a]	<5	9	19	<5
Zinc ug/L	16	<10	<10				

Field Parameters		11:48 2012-06-28	09:12 2012-07-16	10:59 2012-10-10
Cond. Corrected umhos/cm			824	1289
D.O. %sat.			66.5	81.4
D.O. mg/l		9.9	5.63	5.42
pH		8.01	7.75	8.56
Temp. C°		22.47	23.61	9.99

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301956 GABLE DITCH @ ELECTRIC AVE.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
13-010-000	0.30	1	41.51065	-82.00636	041100010603

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	189	123	119[a]	189	171	153	193
Aluminum ug/L	<200	<200	<200				
Ammonia mg/L	<.05	<.05	.099	.109	.056	<.05	<.05
Arsenic ug/L	3.5	3.1	<2				
Barium ug/L	29	22	17				
Cadmium ug/L	<.2	<.2	<.2				
Calcium mg/L	92	65	53				
CBOD20 mg/L				5.3	4.7	5.1	5.1
Chloride mg/L	239	136	55.3	230	147	88.7	187
Chromium ug/L	<2	<2	<2				
COD mg/L	<20	26	25				
Copper ug/L	5.7	6.9	7.9				
Hardness mg/L	324	232	182				
Iron ug/L	202	109	193				
Lead ug/L	<2	<2	<2				
Magnesium mg/L	23	17	12				
Manganese ug/L	84	25	19				
Nickel ug/L	9.1	7	5.5				
Nitrate+Nitrite mg/L	.98	.9	1.92	.49	.78	.54	.35
Nitrite mg/L	<.02	<.02	.123	.04	<.02	<.02	<.02
ortho-P mg/L				.029	.027	.393¥	.028
Phosphorus mg/L	.072	.043	.667	.035	.042	.048¥	.039
Potassium mg/L	5	4	4				
Selenium ug/L	6.1	3.6	2				
Sodium mg/L	125	99	46				
Strontium ug/L	327	240	164				
Sulfate mg/L	62.1	89.5	82.3	169	124	104	130
TDS mg/L	822	560	358[a]	802	640	418	764
TKN mg/L	1.1	.58	1.18	1.12	1.09	1.13	.8
TSS mg/L	6	<5	<5[a]	<5	8	<5	7
Zinc ug/L	<10	<10	<10				

Field Parameters		12:08 2012-06-28	08:54 2012-07-16	11:10 2012-10-10
Cond. Corrected umhos/cm			840	1311
D.O. %sat.			78.4	166.5
D.O. mg/l		8.59	6.67	
pH		7.91	7.96	8.38
Temp. C°		21.67	23.26	9.99

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 301958 POWDERMAKER DITCH @ ELECTRIC AVE.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
13-011-000	0.15	4	41.50301	-82.05202	041100010603

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	117	119	143[a]	132	122	125	129
Aluminum ug/L	<200	<200					
Ammonia mg/L	<.05	<.05		.054	<.05	<.05	<.05
Arsenic ug/L	3.3	3.6					
Barium ug/L	30	34					
Cadmium ug/L	<.2	<.2					
Calcium mg/L	61	63					
CBOD20 mg/L				5.6	5.5	6.7	5.5
Chloride mg/L	375	272	116	315	137	125	289
Chromium ug/L	<2	<2					
COD mg/L	<20	26					
Copper ug/L	6	4.2					
Hardness mg/L	231	227					
Iron ug/L	92	171					
Lead ug/L	<2	<2					
Magnesium mg/L	19	17					
Manganese ug/L	22	58					
Nickel ug/L	7.9	7.7					
Nitrate+Nitrite mg/L	.44	.43		.1	.34	.25	<.1
Nitrite mg/L	<.02	<.02	<.02	<.02	<.02	.023	<.02
ortho-P mg/L				<.01	.025	.043	<.01
Phosphorus mg/L	<.01	.018		.015	.061	.091	.01
Potassium mg/L	5	5					
Selenium ug/L	<2	<2					
Sodium mg/L	182	163					
Strontium ug/L	252	258					
Sulfate mg/L	87.7	87.2	127	107	99.7	89.4	109
TDS mg/L	856	756	580[a]	806	532	442	792
TKN mg/L	.69	.67		1.02	1.12	1.13	.92
TSS mg/L	<5	<5	<5[a]	7	<5	6	<5
Zinc ug/L	<10	<10					

Field Parameters		11:25 2012-06-28	10:45 2012-10-10
D.O. mg/l		8.28	
pH		8.01	8.4
Temp. C°		22.42	9.99

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 302006 TRIB. TO E. BR. BLACK R. (RM 41.41) @ SHAW RD. (LOWER)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-011	0.35	2	41.07533	-82.05637	041100010303

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	219	212	211
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	<2	<2	<2
Barium ug/L	91	93	111
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	115	117	136
Chloride mg/L	57.9	56.1	123
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	<2	<2	<2
Hardness mg/L	435	445	525
Iron ug/L	261	331	209
Lead ug/L	<2	<2	<2
Magnesium mg/L	36	37	45
Manganese ug/L	77	110	43
Nickel ug/L	4.5	3.6	3.6
Nitrate+Nitrite mg/L	2.44	.63	1.23
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.012	.017	<.01
Potassium mg/L	4	4	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	36	37	75
Strontium ug/L	532	553	761
Sulfate mg/L	171	171	267
TDS mg/L	682	612	828
TKN mg/L	.66	.41	.73
TSS mg/L	5	<5	<5
Zinc ug/L	<10	<10	<10

Field Parameters	12:30 2012-07-10	11:52 2012-07-25	14:12 2012-09-24
Cond. Corrected umhos/cm	787	837	1089
D.O. %sat.		97.3	70.6
D.O. mg/l	8.14	8.65	7.63
pH	8.12	7.97	8.28
Temp. C°	22.55	21.03	11.71

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 302112 TRIB. TO WELLINGTON CREEK (16.28) @ STATE PARK RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-002	0.20	0	41.12250	-82.21648	041100010503

Inorganic Parameters	2013-01-10	2013-04-11	2013-05-02	2013-07-01	2013-07-09
Alkalinity mg/L	74.2	58.3	141	202	57.9
Ammonia mg/L	<.05	.061	<.05	.078	.07
Bicarbonate mg/L	74.2	58.3	141	202	57.9
Carbonate mg/L	<5	<5	<5	<5	<5
CBOD20 mg/L	<3	8.3	4.4	6.2	17
Chloride mg/L	41.5	23.4	33.7	82.3	15.3
Nitrate+Nitrite mg/L	.39	.31	<.1	.15	.37
Nitrite mg/L	<.02	<.02	<.02	<.02	.02
ortho-P mg/L	.026	.051	<.01	.033	.299
Phosphorus mg/L	.059	.11	.026	.063	.506
Sulfate mg/L	66.5	37.4	120	121	17.1
TDS mg/L	234	234	376	522	182
TKN mg/L	.26	.33	.64	1.02	1.16
TOC mg/L	7.7	11	7.3	10.8	19.1
TSS mg/L	<5	26	5	55	756
Turbidity NTU	22.8	70.6	6.01	17.7	337
Volatile Suspended Solids mg/L	<5	<20	<5	8	88

Field Parameters	

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 501510 BLACK R. DST. ELYRIA @ FORD RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	9.80	412	41.41148	-82.09520	041100010602

Inorganic Parameters	2012-06-27	2012-06-28	2012-07-16	2012-07-25	2012-07-26	2012-09-05	2012-10-10	2012-10-25
Alkalinity mg/L						117		
Aluminum ug/L	<200	<200	<200		<200	607	634	<200
Ammonia mg/L	.055	.08	.156		.05	<.05	.066	<.05
Arsenic ug/L	2.1	2.5	2.8		3	2.3	2.1	<2
Barium ug/L	33	31	28		30	28	34	32
Cadmium ug/L	.23	.24	.27		.26	<.2	<.2	<.2
Calcium mg/L	64	62	56		57	46	55	67
CBOD20 mg/L	6.5	9.1	5.8		5.1		6.2	6.2
Chloride mg/L	131	136	162		152	87	72.5	127
Chlorophyll ug/L				10.7				
Chromium ug/L	<2	<2	<2		<2	2.9	<2	<2
COD mg/L						22		
Copper ug/L	8	8.1	7.5		6.5	6.9	5.8	6.2
Hardness mg/L	238	229	226		216	160	203	258
Iron ug/L	472	440	297		399	1370	1190	358
Lead ug/L	<2	<2	<2		<2	<2	<2	<2
Magnesium mg/L	19	18	21		18	11	16	22
Manganese ug/L	48	51	62		56	54	39	30
Nickel ug/L	5.1	5	4.8		5	5	4.3	4.7
Nitrate+Nitrite mg/L	35.6	33.2	27.4		23.5¡	5.41	11.4	16.6
Nitrite mg/L	.201	.219	.081		.048	.021	<.02	<.02
ortho-P mg/L	.107	.12	.225		.175			
Pheophytin ug/L				6.5				
Phosphorus mg/L	.231	.224	.338		.25	.102	.153	.161
Potassium mg/L	16	16	19		20	8	9	15
Selenium ug/L	<2	2	<2		<2	<2	<2	<2
Sodium mg/L	226	227	273		256	103	104	212
Strontium ug/L	293	288	247		275	188	204	259
Sulfate mg/L	298	319	371		366	143	158	316
TDS mg/L	990	986	1160		1040	490	580	956
TKN mg/L	<.2	.59	1.21		1.34	.93	1.36	1.27
TSS mg/L	10	7	8		6	33	10	5
Zinc ug/L	14	12	<10		<10	14	19	14

Field Parameters		10:54 2012-06-27	09:56 2012-06-28	10:45 2012-07-16	10:35 2012-07-26	11:10 2012-09-05	12:02 2012-10-10	13:35 2012-10-25
Cond. Corrected umhos/cm		1028	1434	1646	1513	765		1305
D.O. %sat.				69.7		83	97.4	101.5
D.O. mg/l		7.11	5.97	5.66	5.28	7.16	10.52	9.69
pH		7.76	7.75	7.54	7.77	7.83	7.95	7.99
Temp. C°		22.21	23	25.7	25.84	22.59	11.83	17.37

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

501510		BLACK R. DST. ELYRIA @ FORD RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	9.80	412	41.41148	-82.09520	041100010602

Inorganic Parameters	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L				
Aluminum ug/L	10000	6260	3210	<200
Ammonia mg/L	.156	.113	<.05	<.05
Arsenic ug/L	3.9	3.6	3.8	<2
Barium ug/L	93	70	48	27
Cadmium ug/L	.37	.23	.4	<.2
Calcium mg/L	48	34	42	55
CBOD20 mg/L	8.7	7.4	7.1	9.7
Chloride mg/L	43.3	31.5	42.8	133
Chlorophyll ug/L				
Chromium ug/L	9	5.7	3.9	<2
COD mg/L				
Copper ug/L	11.4	8.4	8.9	5.9
Hardness mg/L	182	122	150	199
Iron ug/L	16000	10300	5990	355
Lead ug/L	9.9	6.8	6.4	<2
Magnesium mg/L	15	9	11	15
Manganese ug/L	310	230	190	38
Nickel ug/L	13.3	9.4	7.1	3.7
Nitrate+Nitrite mg/L	7.7	3.41	1.41	34.5
Nitrite mg/L	.039	.041	.036	.05
ortho-P mg/L	.083	.068	.086	.176
Pheophytin ug/L				
Phosphorus mg/L	.284	.212	.208	.257
Potassium mg/L	8	6	5	18
Selenium ug/L	<2	<2	<2	<2
Sodium mg/L	24	18	28	263
Strontium ug/L	172	121	144	217
Sulfate mg/L	68.4	44.4	54.9	352
TDS mg/L	292	224	244	1070
TKN mg/L	1.29	1.06	.8	1.48
TSS mg/L	450	340	178	9
Zinc ug/L	56	36	31	13

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: 501520 BLACK R. AT ELYRIA @ CASCADE PARK

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	14.95	396	41.37932	-82.10772	041100010602

Inorganic Parameters	2012-05-16	2012-06-11	2012-06-27	2012-06-28	2012-07-16	2012-07-26	2012-09-05	2012-10-10
Alkalinity mg/L							114	
Aluminum ug/L	<200		356	468	<200	223	<200	813
Ammonia mg/L	<.05		.059	<.05	<.05	<.05	<.05	.064
Arsenic ug/L	<2		2.4	2.8	3.3	3.5	<2	2.1
Barium ug/L	39		46	46	41	40	31	37
Cadmium ug/L	<.2		.23	.25	<.2	<.2	<.2	<.2
Calcium mg/L	66		65	63	54	58	45	54
CBOD20 mg/L	5.1	13	4.1	4.7	6.3	11		6.4
Chloride mg/L	60		64.2	67.8	77.1	79.5	61.7	50.9
Chromium ug/L	<2		<2	<2	<2	<2	<2	<2
COD mg/L							24	
Copper ug/L	3.3		4.4	5.4	3.4	4.3	4.6	4.9
Hardness mg/L	247		241	236	205	219	158	201
Iron ug/L	427		635	971	424	481	388	1360
Lead ug/L	<2		<2	2.2	<2	<2	<2	<2
Magnesium mg/L	20		19	19	17	18	11	16
Manganese ug/L	72		97	110	110	85	67	60
Nickel ug/L	3.7		4.4	4.7	4.5	4.2	3.3	4.3
Nitrate+Nitrite mg/L	1.67		4.54	4.6	2.88	.7¡	.69	3.11
Nitrite mg/L	.051		.042	.033	<.02	<.02	.027	<.02
ortho-P mg/L	.02		.033	.026	.015	<.01		
Phosphorus mg/L	.046		.082	.054	.062	.05	.059	.137
Potassium mg/L	5		6	6	6	6	5	6
Selenium ug/L	<2		<2	<2	<2	<2	<2	<2
Sodium mg/L	40		41	41	47	49	42	34
Strontium ug/L	286		263	258	243	248	185	206
Sulfate mg/L	113		19.8	20.2	66.6	77.2	61.7	75.5
TDS mg/L	428	434	426	432	428	414	304	382
TKN mg/L	1.06		1.13	.86	.69	.68	.4	.93
TSS mg/L	10		22	13	51	55	7	19
Zinc ug/L	<10		<10	<10	<10	<10	<10	<10

Field Parameters		16:10 2012-06-11	10:19 2012-06-27	09:24 2012-06-28	10:12 2012-07-16	11:15 2012-07-26	11:32 2012-09-05	14:20 2012-10-10
Cond. Corrected umhos/cm		629	570	609	592	613	486	
D.O. %sat.		132.7			66.1		83.7	101.7
D.O. mg/l		11.04	5.64	6.1	5.38	7.25	7.17	11.22
pH		8.8	7.8	8.07	7.97	8.18	8	8.01
Temp. C°		24.53	22.1	22.71	25.73	25.6	23.01	10.9

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

501520		BLACK R. AT ELYRIA @ CASCADE PARK			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	14.95	396	41.37932	-82.10772	041100010602

Inorganic Parameters	2012-10-29	2012-11-06	2012-12-06	2013-01-29	2013-05-02
Alkalinity mg/L				170	
Aluminum ug/L	5080	922	2120		758
Ammonia mg/L	<.05	.074	.056	.148	.064
Arsenic ug/L	3.9	<2	<2		<2
Barium ug/L	58	32	41		37
Cadmium ug/L	.36	<.2	<.2		<.2
Calcium mg/L	38	49	51		61
CBOD20 mg/L	13	<3	11	5	6
Chloride mg/L	26.9	30.1	37.5	139	53.8
Chromium ug/L	5.9	<2	2		<2
COD mg/L					
Copper ug/L	12.3	3.2	4.6		3
Hardness mg/L	140	180	193		222
Iron ug/L	8490	1270	3130		1110
Lead ug/L	8.8	<2	2.4		<2
Magnesium mg/L	11	14	16		17
Manganese ug/L	266	41	71		65
Nickel ug/L	9.4	3.5	4.7		3.3
Nitrate+Nitrite mg/L	3.19	2.54	1.29	4.15	.67
Nitrite mg/L	<.02	<.02	<.02	<.02	.051
ortho-P mg/L	.095	.087	.026		.014
Phosphorus mg/L	.403	.125	.102	.074	.08
Potassium mg/L	7	4	6		3
Selenium ug/L	<2	<2	<2		<2
Sodium mg/L	15	19	22		33
Strontium ug/L	131	172	198		228
Sulfate mg/L	38.2	65.9	74.4	80.4	64.1
TDS mg/L	242	290	320	530	362
TKN mg/L	.55	1.12	.64	1.31	.83
TSS mg/L	200	7	47	11	15
Zinc ug/L	44	27	14		31

Field Parameters	13:30 2013-01-29
Cond. Corrected umhos/cm	847
D.O. %sat.	116.8
D.O. mg/l	17
pH	7.97
Temp. C°	.14

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01E01 ELYRIA WWTP 001 OUTFALL TO BLACK R.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	10.65	401	41.40825	-82.09243	041100010602

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	142	176	140[a]
Aluminum ug/L	<200	<200	598
Ammonia mg/L	.197	.126	.077
Arsenic ug/L	2.5	2.4	2.2
Barium ug/L	15	<15	31
Cadmium ug/L	.32	<.2	<.2
Calcium mg/L	64	55	55
Chloride mg/L	301	292	89.4
Chromium ug/L	6.1	3.4	<2
COD mg/L	29	27	32
Copper ug/L	19.8	14.2	6.9
Hardness mg/L	234	236	203
Iron ug/L	1960	1130	1190
Lead ug/L	<2	<2	<2
Magnesium mg/L	18	24	16
Manganese ug/L	50	27	39
Nickel ug/L	6.6	4.8	4.4
Nitrate+Nitrite mg/L	95	49.6	18.9
Nitrite mg/L	.204	<.02	<.02
Phosphorus mg/L	.809	.765	.178
Potassium mg/L	35	39	12
Selenium ug/L	5.1	2.2	<2
Sodium mg/L	558	579	169
Strontium ug/L	361	237	209
Sulfate mg/L	857	834	260
TDS mg/L	2290	2260	792[a]
TKN mg/L	<.2[a]	.44	1.58
TSS mg/L	20	15	13[a]
Zinc ug/L	46	23	16

Field Parameters	

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01K07 E. BR. BLACK R. NW OF LODI @ OLD MILL RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	40.47	72	41.10858	-82.09430	041100010303

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	196	204	163
Aluminum ug/L	<200	<200	335
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.5	4.3	2.9
Barium ug/L	75	75	53
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	95	98	70
Chloride mg/L	129	118	91.8
Chromium ug/L	<2	<2	<2
COD mg/L	<20	25	<20
Copper ug/L	3.1	2.3	2.9
Hardness mg/L	348	364	253
Iron ug/L	328	348	661
Lead ug/L	<2	<2	<2
Magnesium mg/L	27	29	19
Manganese ug/L	103	202	71
Nickel ug/L	4.7	4.5	3.3
Nitrate+Nitrite mg/L	.58	.26	1.77
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.035	.054	.137
Potassium mg/L	6	5	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	85	73	62
Strontium ug/L	420	461	285
Sulfate mg/L	117	119	96.3
TDS mg/L	666	658	462
TKN mg/L	.76	.87	.93
TSS mg/L	5	<5	11
Zinc ug/L	<10	<10	<10

Field Parameters	13:59 2012-07-10	13:07 2012-07-25	13:40 2012-09-24
Cond. Corrected umhos/cm		946	
D.O. %sat.		45.5	
D.O. mg/l	6.85	3.91	12.28
pH	8.05	7.72	8.13
Temp. C°	26.88	22.72	14.28

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01K09 TRIB. TO E. BR. BLACK R. (RM 22.65) @ VERMONT RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-006	0.60	6	41.20376	-82.07730	041100010402

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	208	171	80
Aluminum ug/L	<200	2500	599
Ammonia mg/L	.934	9.53	<.05
Arsenic ug/L	12.8	4.5	2.2
Barium ug/L	34	49	23
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	50	59	28
Chloride mg/L	152	68.9	44.6
Chromium ug/L	<2	2.7	<2
COD mg/L	42	27	28
Copper ug/L	2.9	7.5	3.6
Hardness mg/L	170	205	115
Iron ug/L	1210	4530	1230
Lead ug/L	<2	2.6	<2
Magnesium mg/L	11	14	11
Manganese ug/L	848	228	56
Nickel ug/L	2.8	9.7	4.7
Nitrate+Nitrite mg/L	.51	4.41	1.7
Nitrite mg/L	.052	.282	<.02
Phosphorus mg/L	.561	1.87	.078
Potassium mg/L	6	10	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	140	46	30
Strontium ug/L	149	200	105
Sulfate mg/L	22.3	47.3	43.9
TDS mg/L	554	386	254
TKN mg/L	1.9	10.3	1.12
TSS mg/L	6	97	6
Zinc ug/L	<10	26	<10

Field Parameters	10:30 2012-07-10	10:45 2012-07-25	11:24 2012-09-24
Cond. Corrected umhos/cm	823	629	
D.O. %sat.	20	31.1	
D.O. mg/l	1.75	2.88	13.22
pH	7.71	7.56	8.02
Temp. C°	22.01	19.06	10.82

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01K18 W. BR. BLACK R. AT ELYRIA, UPST. THIRD ST.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	1.20	172	41.36520	-82.11220	041100010506

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	125	118	111
Aluminum ug/L	313	397	338
Ammonia mg/L	<.05	.082	.08
Arsenic ug/L	3.6	3.5	2.2
Barium ug/L	37	40	26
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	56	61	47
Chloride mg/L	58.9	64.8	62.5
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	2.8	2.8	2.9
Hardness mg/L	202	218	163
Iron ug/L	657	822	671
Lead ug/L	<2	<2	<2
Magnesium mg/L	15	16	11
Manganese ug/L	156	189	49
Nickel ug/L	4.8	4.5	3.4
Nitrate+Nitrite mg/L	.48¡	.68	2.15
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.081	.058	.059
Potassium mg/L	6	7	6
Selenium ug/L	<2	<2	2.4
Sodium mg/L	38	45	43
Strontium ug/L	251	275	193
Sulfate mg/L	73.3	97.8	71.8
TDS mg/L	366	412	336
TKN mg/L	.72	.59	.64
TSS mg/L	30	24	11
Zinc ug/L	17	<10	<10

Field Parameters	10:39 2012-07-23	09:22 2012-08-06	14:02 2012-09-25
Cond. Corrected umhos/cm			487
D.O. %sat.			111
D.O. mg/l	9.1	5.78	11.21
pH	8.18	8.07	8.18
Temp. C°	28.37	23.74	14.84

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01K21 W. BR. BLACK R. NW OF WELLINGTON @ PITTS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	28.50	37	41.18572	-82.24240	041100010502

Inorganic Parameters	2012-05-15	2012-06-12	2012-06-27	2012-07-23	2012-07-25	2012-07-26	2012-08-06	2012-09-05
Alkalinity mg/L								197
Aluminum ug/L	361		383	<200		<200	<200	295
Ammonia mg/L	.067		.055	.096		.138	.079	<.05
Arsenic ug/L	<2		<2	4		3.7	3.8	3.9
Barium ug/L	41		47	61		107	38	41
Cadmium ug/L	<.2		<.2	<.2		<.2	<.2	<.2
Calcium mg/L	80		69	73		71	64	59
CBOD20 mg/L	3.1	9.8	<3	<3		3	6.9	
Chloride mg/L	39.1		47.1	116		408	40.1	51.1
Chlorophyll ug/L					21.4			
Chromium ug/L	<2		<2	<2		<2	<2	<2
COD mg/L								32
Copper ug/L	2.4		3.1	2.4		2.5	<2	2.4
Hardness mg/L	307		255	293		276	255	250
Iron ug/L	744		591	253		238	383	649
Lead ug/L	<2		<2	<2		<2	<2	<2
Magnesium mg/L	26		20	27		24	23	25
Manganese ug/L	74		45	235		216	615	449
Nickel ug/L	4		4.1	4.6		3.9	3.7	3.7
Nitrate+Nitrite mg/L	1.3		10.2	1.06		.15	.69	<.1
Nitrite mg/L	.058		.204	<.02		<.02	<.02	<.02
ortho-P mg/L	<.01		.012			.02		
Pheophytin ug/L					10			
Phosphorus mg/L	35.1		.032	.054		.041	.038	.114
Potassium mg/L	4		7	6		6	6	6
Selenium ug/L	<2		<2	2.7		<2	<2	<2
Sodium mg/L	29		24	74		213	28	45
Strontium ug/L	545		509	945		2070	502	556
Sulfate mg/L	90.3		62.5	114		106	94.4	104
TDS mg/L	448	584	434	552		1020	384	408
TKN mg/L	.7		.96	.8		.57	.81	1.19
TSS mg/L	14		11	<5		<5	25	12
Zinc ug/L	<10		<10	<10		<10	<10	<10

Field Parameters		14:00 2012-06-12	10:29 2012-06-27	12:58 2012-07-23	10:40 2012-07-26	13:25 2012-08-06	14:28 2012-09-05	12:02 2012-09-25
Cond. Corrected umhos/cm		817		789	1823	375	635	744
D.O. %sat.		69.2					40.2	83.3
D.O. mg/l		6.1	6.77	6.58	.81	4.96	3.48	8.99
pH		8	7.58	7.85	7.47	7.69	7.8	7.98
Temp. C°		21.47	19.41	23.52	21.79	22.45	22.38	11.88

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01K21		W. BR. BLACK R. NW OF WELLINGTON @ PITTS RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	28.50	37	41.18572	-82.24240	041100010502

Inorganic Parameters	2012-09-25	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-04-11	2013-05-02
Alkalinity mg/L						177		
Aluminum ug/L	282	5810	721	1140	4440		16500	887
Ammonia mg/L	<.05	<.05	.068	.075	.086	.102	.203	.056
Arsenic ug/L	2.1	4.2	<2	<2	2.3		4.6	<2
Barium ug/L	46	66	37	43	44		130	37
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2		.5	<.2
Calcium mg/L	75	53	65	81	34		38	62
CBOD20 mg/L	9.3	12	<3	7.5	8.7	5.7	14	5.9
Chloride mg/L	46.7	30.7	24.4	35.4	28.5	51.9	26.8	29.9
Chlorophyll ug/L								
Chromium ug/L	<2	5.9	<2	<2	4.3		14.1	<2
COD mg/L								
Copper ug/L	<2	9.1	2.6	2.6	6		16.8	2.8
Hardness mg/L	340	194	241	305	126		148	229
Iron ug/L	522	10000	1070	1790	7230		28500	1250
Lead ug/L	<2	6.6	<2	<2	3.8		16.8	<2
Magnesium mg/L	37	15	19	25	10		13	18
Manganese ug/L	47	350	62	60	128		530	63
Nickel ug/L	3.3	11.2	3.6	3.8	7.4		23.2	3.5
Nitrate+Nitrite mg/L	2.1	9.29	3.01	1.51	3.34	1.24	2.99	.88
Nitrite mg/L	<.02	.043	<.02	<.02	<.02	<.02	<.02	.051
ortho-P mg/L	.013	.077	.075	.045	.058		.092	<.01
Pheophytin ug/L								
Phosphorus mg/L	.041	.342	.099	.106	.21	.064	.545	.041
Potassium mg/L	6	7	4	4	4		7	3
Selenium ug/L	<2	<2	<2	<2	<2		<2	<2
Sodium mg/L	46	14	17	25	11		9	18
Strontium ug/L	1040	215	338	505	117		117	292
Sulfate mg/L	153	58.5	113	150	38.6	152	30.3	70.7
TDS mg/L	512	332	366	468	234	462	252	326
TKN mg/L	.47	1.07	1.07	.32	.65	.83	.99	.7
TSS mg/L	10	346	<5	21	215	23	952	15
Zinc ug/L	<10	35	<10	<10	26		102	<10

Field Parameters	12:30 2013-01-29
Cond. Corrected umhos/cm	702
D.O. %sat.	77.8
D.O. mg/l	11.21
pH	8.01
Temp. C°	.44

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01K53 BLACK R. DST. ELYRIA, 0.25 MI. DST. I-90

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	9.30	413	41.41196	-82.10387	041100010602

Inorganic Parameters	2012-06-11	2012-10-29	2012-11-06	2012-12-06	2013-04-30
Aluminum ug/L		4950	874	1260	888
Ammonia mg/L		<.05	.07	.056	.061
Arsenic ug/L		3.8	<2	<2	<2
Barium ug/L		57	32	38	35
Cadmium ug/L		.55	<.2	<.2	<.2
Calcium mg/L		39	50	54	57
CBOD20 mg/L	8.6	14	4.2	11	7.5
Chloride mg/L		30.4	42	45.6	64.7
Chromium ug/L		6	<2	<2	<2
Copper ug/L		12.5	3.6	4.5	4
Hardness mg/L		143	183	201	208
Iron ug/L		8490	1220	2070	1670
Lead ug/L		9.1	<2	2	<2
Magnesium mg/L		11	14	16	16
Manganese ug/L		271	36	65	60
Nickel ug/L		10.2	3.7	4.2	4.2
Nitrate+Nitrite mg/L		3.16	4.45	3	1.31
Nitrite mg/L		<.02	<.02	<.02	.068
ortho-P mg/L		.092	.088	.03	.036
Phosphorus mg/L		.5	.107	.113	.105
Potassium mg/L		7	6	6	4
Selenium ug/L		<2	<2	<2	<2
Sodium mg/L		19	39	36	46
Strontium ug/L		132	172	202	208
Sulfate mg/L		43.8	86.7	88.9	72.2
TDS mg/L	770	264	352	366	360
TKN mg/L		.93	1.13	.88	1.08
TSS mg/L		123	7	45	23
Zinc ug/L		50	<10	10	<10

Field Parameters		12:18 2012-06-11
Cond. Corrected umhos/cm		1148
D.O. %sat.		116.4
D.O. mg/l		9.77
pH		8.39
Temp. C°		24

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P01 W. BR .BLACK R. @ BUTTERNUT RIDGE RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	7.68	161	41.31384	-82.13141	041100010506

Inorganic Parameters	2012-07-23	2012-07-25	2012-08-06	2012-09-25
Alkalinity mg/L	130		156	130
Aluminum ug/L	452		522	298
Ammonia mg/L	<.05		<.05	.071
Arsenic ug/L	3.1		2.9	2.1
Barium ug/L	38		48	31
Cadmium ug/L	<.2		<.2	<.2
Calcium mg/L	64		76	55
Chloride mg/L	52.6		82.9	55
Chlorophyll ug/L		31.5		
Chromium ug/L	<2		<2	<2
COD mg/L	24		<20	<20
Copper ug/L	3.2		3.7	2.8
Hardness mg/L	230		272	195
Iron ug/L	897		958	596
Lead ug/L	<2		<2	<2
Magnesium mg/L	17		20	14
Manganese ug/L	133		155	44
Nickel ug/L	5.2		7.1	3.8
Nitrate+Nitrite mg/L	.97¡		6.25	3.03
Nitrite mg/L	<.02		.028	<.02
Pheophytin ug/L		14.5		
Phosphorus mg/L	.103		.074	.097
Potassium mg/L	7		12	7
Selenium ug/L	<2		<2	<2
Sodium mg/L	38		62	38
Strontium ug/L	314		398	258
Sulfate mg/L	85.1		122	84.6
TDS mg/L	392		542	378
TKN mg/L	.92		.47	.75
TSS mg/L	16		22	10
Zinc ug/L	<10		36	<10

Field Parameters		13:00 2012-07-23	10:10 2012-08-06	13:13 2012-09-25
Cond. Corrected umhos/cm				517
D.O. %sat.				85.3
D.O. mg/l		6.07	6.21	8.98
pH		7.73	7.88	7.98
Temp. C°		24.25	22.7	13

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P02 PLUM CREEK E OF OBERLIN @ OBERLIN - ELYRIA RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	0.83	9	41.30077	-82.15970	041100010505

Inorganic Parameters	2012-05-15	2012-06-12	2012-06-27	2012-07-23	2012-07-25	2012-07-26	2012-08-06	2012-09-05
Alkalinity mg/L								118
Aluminum ug/L	<200		423	214		<200	258	330
Ammonia mg/L	.052		<.05	<.05		<.05	<.05	<.05
Arsenic ug/L	2.4		2.8	2.8		3.5	2.4	2.9
Barium ug/L	35		37	31		35	23	24
Cadmium ug/L	<.2		<.2	<.2		<.2	<.2	<.2
Calcium mg/L	95		91	82		86	59	64
CBOD20 mg/L	4.1	<3	<3	<3		<3	4.8	
Chloride mg/L	108		113	115		150	89	94.9
Chlorophyll ug/L					.8			
Chromium ug/L	<2		<2	<2		<2	<2	<2
COD mg/L								21
Copper ug/L	3.9		5.3	4.1		5.5	4.5	5.1
Hardness mg/L	344		314	267		281	193	205
Iron ug/L	251		630	381		343	444	557
Lead ug/L	<2		<2	<2		<2	<2	<2
Magnesium mg/L	26		21	15		16	11	11
Manganese ug/L	43		49	35		31	25	33
Nickel ug/L	6.9		19.2	11.4		12.4	7.9	5
Nitrate+Nitrite mg/L	6.78		17.9	9.72¡		16.1¡	8.74	7.31
Nitrite mg/L	.045		.026	<.02		<.02	<.02	.022
ortho-P mg/L	.165		.162			.232		
Pheophytin ug/L					1.7			
Phosphorus mg/L	10.9		.199	.273		.266	.173	.388
Potassium mg/L	14		16	15		20	11	13
Selenium ug/L	<2		<2	<2		2.5	<2	<2
Sodium mg/L	79		77	90		100	66	73
Strontium ug/L	483		530	329		347	241	296
Sulfate mg/L	230		224	134		152	110	111
TDS mg/L	676	718	722	584		696	440	488
TKN mg/L	1.17		1.12	.88		1.16	.51	1.04
TSS mg/L	<5		23	8		7	9	11
Zinc ug/L	15		15	15		16	19	17

Field Parameters		16:05 2012-06-12	08:38 2012-06-27	12:46 2012-07-23	12:18 2012-07-26	11:46 2012-08-06	12:41 2012-09-05	12:53 2012-09-25
Cond. Corrected umhos/cm		962	938		1017		726	715
D.O. %sat.		78.4					73.9	83.5
D.O. mg/l		6.69	7.03	6.32	7.18	6.89	6.48	8.84
pH		7.89	7.35	7.63	7.89	7.81	7.84	7.87
Temp. C°		23.14	18.11	23.44	24.14	21.83	21.74	12.7

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01P02 PLUM CREEK E OF OBERLIN @ OBERLIN - ELYRIA RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	0.83	9	41.30077	-82.15970	041100010505

Inorganic Parameters	2012-09-25	2012-10-29	2012-11-06	2012-12-06	2013-01-29	2013-05-02
Alkalinity mg/L					124	
Aluminum ug/L	<200	4400	427	309		284
Ammonia mg/L	.167	<.05	.605	.187	.65	.098
Arsenic ug/L	2.1	3.3	<2	<2		2.1
Barium ug/L	27	43	28	29		33
Cadmium ug/L	<.2	<.2	<.2	<.2		<.2
Calcium mg/L	86	35	67	72		87
CBOD20 mg/L	<3	13	3.6	6	7.8	6.9
Chloride mg/L	71.6	18.5	43.5	52.6	184	91.9
Chlorophyll ug/L						
Chromium ug/L	<2	5.3	<2	<2		<2
COD mg/L						
Copper ug/L	3.2	10.6	2.8	2.6		3.4
Hardness mg/L	289	124	237	258		316
Iron ug/L	359	7200	493	527		454
Lead ug/L	<2	12.8	<2	<2		<2
Magnesium mg/L	18	9	17	19		24
Manganese ug/L	32	206	37	33		66
Nickel ug/L	4.2	7.6	3.8	3		4
Nitrate+Nitrite mg/L	3.95	2.45	3.72	3.48	4.65	5.21
Nitrite mg/L	.028	<.02	.124	.052	.061	.15
ortho-P mg/L	.172	.108	.118	.056		.056
Pheophytin ug/L						
Phosphorus mg/L	.187	.423	.119	.104	.098	.997
Potassium mg/L	9	6	7	7		8
Selenium ug/L	<2	<2	<2	<2		<2
Sodium mg/L	53	11	33	37		59
Strontium ug/L	554	114	325	336		384
Sulfate mg/L	176	30.7	119	115	79.4	129
TDS mg/L	566	210	400	432	554	572
TKN mg/L	.76	.55	1.72	1.29	2.46	1.42
TSS mg/L	6	202	<5	<5	15	7
Zinc ug/L	<10	48	<10	<10		<10

Field Parameters	14:01 2013-01-29
Cond. Corrected umhos/cm	910
D.O. %sat.	109.9
D.O. mg/l	14.86
pH	7.8
Temp. C°	2.75

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P03 PLUM CREEK UPST. OBERLIN WWTP @ ST. RT. 511

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	3.19	8	41.29387	-82.18640	041100010505

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	106	58.6	148
Aluminum ug/L	<200	205	241
Ammonia mg/L	.052	<.05	.053
Arsenic ug/L	3.5	2.8	2.3
Barium ug/L	32	21	31
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	57	41	59
Chloride mg/L	91.6	48.3	91.7
Chromium ug/L	<2	<2	<2
COD mg/L	20	24	22
Copper ug/L	3.4	6.2	5
Hardness mg/L	196	135	197
Iron ug/L	316	413	476
Lead ug/L	<2	2	<2
Magnesium mg/L	13	8	12
Manganese ug/L	111	38	22
Nickel ug/L	3.3	2.8	3
Nitrate+Nitrite mg/L	.55¡	.83	.63
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.112	.09	.06
Potassium mg/L	5	3	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	62	37	64
Strontium ug/L	216	147	200
Sulfate mg/L	61.8	61.5	63.3
TDS mg/L	424	286	426
TKN mg/L	.63	.5	.61
TSS mg/L	15	13	<5
Zinc ug/L	<10	<10	<10

Field Parameters	10:20 2012-07-23	10:54 2012-08-06	10:13 2012-09-25
Cond. Corrected umhos/cm			614
D.O. %sat.			81.2
D.O. mg/l	5.21	6.03	8.94
pH	7.64	7.77	8.14
Temp. C°	22.34	20.8	11.01

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P05 CHARLEMONT CREEK DST. WELLINGTON @ PECK-WADSWORTH RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	0.39	26	41.18975	-82.22740	041100010501

Inorganic Parameters	2012-05-15	2012-06-12	2012-06-27	2012-07-23	2012-07-25	2012-07-26	2012-08-06	2012-09-05
Alkalinity mg/L								117
Aluminum ug/L	622		766	<200		225	<200	204
Ammonia mg/L	.152		<.05	<.05		<.05	<.05	<.05
Arsenic ug/L	2.2		2.4	2.6		2.9	2.3	2.3
Barium ug/L	37		29	23		20	21	18
Cadmium ug/L	<.2		.22	<.2		<.2	<.2	<.2
Calcium mg/L	86		72	69		67	61	64
CBOD20 mg/L	4.3	4.2	4.9	<3		<3	4.1	
Chloride mg/L	69.1		90.5	81.2		88.3	68.2	90.2
Chlorophyll ug/L					3.4			
Chromium ug/L	<2		<2	<2		<2	<2	<2
COD mg/L								29
Copper ug/L	3.5		7.7	5.6		7.8	4.1	5.9
Hardness mg/L	338		291	275		274	243	259
Iron ug/L	1160		1330	270		385	270	344
Lead ug/L	<2		2.1	<2		<2	<2	<2
Magnesium mg/L	30		27	25		26	22	24
Manganese ug/L	123		59	46		39	43	45
Nickel ug/L	5.2		7.1	5.3		5.6	4	5.4
Nitrate+Nitrite mg/L	6.33		14.2	12.4		16.4	9.71	11.6
Nitrite mg/L	.102		.044	.023		.026	.029	.038
ortho-P mg/L	.15		.521			.787		
Pheophytin ug/L					4			
Phosphorus mg/L	1.84		.762	.702		.89	.574	.804
Potassium mg/L	9		13	12		15	9	13
Selenium ug/L	<2		<2	<2		<2	<2	<2
Sodium mg/L	49		68	61		70	53	68
Strontium ug/L	409		347	340		337	315	317
Sulfate mg/L	156		126	145		168	122	134
TDS mg/L	560	590	592	554		578	484	552
TKN mg/L	1.16		1.25	1.11		.33	1	1.25
TSS mg/L	28		31	7		6	8	5
Zinc ug/L	12		93	23		46	13	34

Field Parameters		10:01 2012-06-27	13:21 2012-07-23	11:35 2012-07-26	13:46 2012-08-06	14:16 2012-09-05	11:47 2012-09-25	12:43 2013-01-29
Cond. Corrected umhos/cm			775	820	641	799	715	589
D.O. %sat.						79.5	124.6	80.8
D.O. mg/l		7.03	7.49	6.08	2.9	6.88	13.09	11.33
pH		7.51	7.85	7.63	7.84	7.83	7.84	8.01
Temp. C°		17.42	24.12	23.69	23.02	22.44	13.05	1.41

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01P05		CHARLEMONT CREEK DST. WELLINGTON @ PECK-WADSWORTH RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-024-000	0.39	26	41.18975	-82.22740	041100010501

Inorganic Parameters	2012-09-25	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-08-20
Alkalinity mg/L						116	
Aluminum ug/L	316	6410	549	1970	3540		<200
Ammonia mg/L	<.05	<.05	.053	.319	.133	.136	.134
Arsenic ug/L	2.2	4.4	<2	2.2	2.1		<2
Barium ug/L	21	66	32	43	38		39
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2		<.2
Calcium mg/L	66	55	65	67	38		82
CBOD20 mg/L	4.1	9.7	4.1	9	8.1	8	4.7
Chloride mg/L	77.3	32.5	32.7	31.3	27.5	66.8	58.2
Chlorophyll ug/L							
Chromium ug/L	<2	6.8	2.3	2.4	3.3		<2
COD mg/L							
Copper ug/L	3.9	10.1	3.9	6.5	4.9		2.7
Hardness mg/L	247	211	245	258	144		312
Iron ug/L	445	11200	944	3600	5710		404
Lead ug/L	<2	6.9	<2	2	2.8		<2
Magnesium mg/L	20	18	20	22	12		26
Manganese ug/L	28	278	52	96	100		38
Nickel ug/L	4.2	12.7	4	5.9	6.1		4
Nitrate+Nitrite mg/L	10.5	9.87	3.38	2.13	4.5	1.74	7.09
Nitrite mg/L	<.02	.02	<.02	<.02	<.02	<.02	.105
ortho-P mg/L	.362	.078	.075	.073	.066		.223
Pheophytin ug/L							
Phosphorus mg/L	.476	.278	.084	.194	.189	.103	.255
Potassium mg/L	8	8	4	6	4		7
Selenium ug/L	<2	<2	<2	<2	<2		<2
Sodium mg/L	56	15	23	22	13		42
Strontium ug/L	327	202	270	307	131		376
Sulfate mg/L	117	71.2	107	116	49.3	88.3	114
TDS mg/L	494	348	382	416	250	372	534
TKN mg/L	.87	.9	1.11	.66	.78	1.18	.95
TSS mg/L	8	364	11	96	137	59	7
Zinc ug/L	40	37	<10	13	23		13

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P07 E. BR. BLACK R. AT ELYRIA @ WASHINGTON ST.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	0.36	222	41.36875	-82.10640	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	137	154	111
Aluminum ug/L	<200	<200	873
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.3	3.9	2.1
Barium ug/L	39	40	34
Cadmium ug/L	.23	.33	<.2
Calcium mg/L	56	58	45
Chloride mg/L	75.3	82.6	55.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	21	26
Copper ug/L	3.2	2.9	4.8
Hardness mg/L	210	223	158
Iron ug/L	207	205	1380
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	19	11
Manganese ug/L	64	120	66
Nickel ug/L	3.9	3.8	3.9
Nitrate+Nitrite mg/L	.17¡	.24	2
Nitrite mg/L	.021	<.02	<.02
Phosphorus mg/L	.043	.054	.119
Potassium mg/L	6	5	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	48	49	37
Strontium ug/L	240	240	158
Sulfate mg/L	65.7	78.3	53.7
TDS mg/L	406	446	312
TKN mg/L	.79	1.09	.99
TSS mg/L	10	7	20
Zinc ug/L	<10	<10	12

Field Parameters	13:40 2012-07-10	09:30 2012-07-26	10:43 2012-09-24
Cond. Corrected umhos/cm	553	662	420
D.O. %sat.			94.3
D.O. mg/l	12.55	5.89	9.68
pH	8.98	8.02	8.14
Temp. C°	26.09	24.89	14.1

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P10 E. BR. BLACK R. AT ELYRIA @ E. BRIDGE ST.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	1.14	222	41.36976	-82.09870	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	131	151	109
Aluminum ug/L	<200	<200	803
Ammonia mg/L	<.05	.06	<.05
Arsenic ug/L	3.3	3.5	<2
Barium ug/L	38	38	35
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	54	56	45
Chloride mg/L	70.7	71	52.6
Chromium ug/L	<2	<2	<2
COD mg/L	<20	21	23
Copper ug/L	2.9	2.4	4.1
Hardness mg/L	209	218	162
Iron ug/L	296	276	1290
Lead ug/L	<2	<2	<2
Magnesium mg/L	18	19	12
Manganese ug/L	84	93	67
Nickel ug/L	3.8	3.8	3.8
Nitrate+Nitrite mg/L	.15¡	.29	1.99
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.048	.085	.647
Potassium mg/L	6	5	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	47	45	36
Strontium ug/L	243	239	162
Sulfate mg/L	64	78.4	55.4
TDS mg/L	388	418	318
TKN mg/L	.55	1.2	.98
TSS mg/L	12	9	22
Zinc ug/L	<10	<10	<10

Field Parameters	13:15 2012-07-10	09:12 2012-07-26	10:20 2012-09-24
Cond. Corrected umhos/cm	531	621	421
D.O. %sat.			94.7
D.O. mg/l	8.51	6.74	9.86
pH	8.82	8.14	8.16
Temp. C°	27.14	24.75	13.49

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P18 FRENCH CREEK SE OF AVON @ RIEGELSBERGER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	9.02	17	41.43496	-82.00290	041100010601

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10	2013-06-18	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	111	94.5	172[a]	159	164	136	140
Aluminum ug/L	424	<200	<200				
Ammonia mg/L	<.05	<.05	.104	.265	.182	.077	.077
Arsenic ug/L	7.2	5.2	2.1				
Barium ug/L	43	30	35				
Cadmium ug/L	.21	<.2	<.2				
Calcium mg/L	84	62	71				
CBOD20 mg/L				5.2	5.1	7	5.8
Chloride mg/L	131	100	85.2	188	107	79.4	123
Chromium ug/L	<2	<2	<2				
COD mg/L	<20	21	30				
Copper ug/L	9.7	5.2	3.1				
Hardness mg/L	317	225	243				
Iron ug/L	864	124	175				
Lead ug/L	<2	<2	<2				
Magnesium mg/L	26	17	16				
Manganese ug/L	124	11	16				
Nickel ug/L	6.6	3.9	3.5				
Nitrate+Nitrite mg/L	29.7	18.2	3.89	8.97	2.38	1.03	2.63
Nitrite mg/L	.289	.275	.022	.197	.069	.043	.02
ortho-P mg/L				.393	.211	.113	.243
Phosphorus mg/L	1.3	1.3	.156	.42	.242	.193	.258
Potassium mg/L	24	17	6				
Selenium ug/L	<2	<2	<2				
Sodium mg/L	87	65	64				
Strontium ug/L	348	252	224				
Sulfate mg/L	<50	88.4	82.6	80.6	68.1	70	78.7
TDS mg/L	742	544	470[a]	638	486	336	516
TKN mg/L	.39	.94	1.12	1.65	1.24	1.13	.98
TSS mg/L	35	<5	<5[a]	<5	7	40	<5
Zinc ug/L	44	<10	<10				

Field Parameters		09:58 2012-06-28	11:07 2012-07-16	09:31 2012-10-10
Cond. Corrected umhos/cm			763	666
D.O. %sat.			78.7	109.9
D.O. mg/l		10.09	6.37	12.18
pH		8.22	7.69	7.97
Temp. C°		23.31	26.03	10.66

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P19 FRENCH CREEK E OF ELYRIA @ MILLS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	10.41	12	41.41879	-82.01340	041100010601

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10	2013-08-20
Alkalinity mg/L	161	123	170[a]	179
Aluminum ug/L	<200	<200	<200	
Ammonia mg/L	<.05	<.05	.106	.093
Arsenic ug/L	3.6	4.1	2	
Barium ug/L	36	30	38	
Cadmium ug/L	<.2	<.2	<.2	
Calcium mg/L	65	54	68	
CBOD20 mg/L				5.8
Chloride mg/L	152	125	110	249
Chromium ug/L	<2	<2	<2	
COD mg/L	<20	<20	23	
Copper ug/L	3.3	2.9	5.8	
Hardness mg/L	236	197	227	
Iron ug/L	159	126	435	
Lead ug/L	<2	<2	<2	
Magnesium mg/L	18	15	14	
Manganese ug/L	56	34	36	
Nickel ug/L	3.1	2.7	3.5	
Nitrate+Nitrite mg/L	1.07	.47	2.38	.27
Nitrite mg/L	<.02	<.02	<.02	<.02
ortho-P mg/L				.044
Phosphorus mg/L	.087	.115	.086	.078
Potassium mg/L	5	4	4	
Selenium ug/L	<2	<2	<2	
Sodium mg/L	103	83	82	
Strontium ug/L	272	231	218	
Sulfate mg/L	56	55.6	72.5	68
TDS mg/L	548	474	502[a]	682
TKN mg/L	.53	.48	1.17	.82
TSS mg/L	<5	<5	<5[a]	5
Zinc ug/L	<10	<10	<10	

Field Parameters		09:38 2012-06-28	11:21 2012-07-16	09:17 2012-10-10
Cond. Corrected umhos/cm			724	692
D.O. %sat.			211.9	105.6
D.O. mg/l		11.84	16.11	11.63
pH		8.2	8.94	7.99
Temp. C°		22.13	29.56	10.95

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01P32 FRENCH CREEK NE OF LORAIN @ ABBE RD. (ST. RT. 301)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	3.20	32	41.46407	-82.07618	041100010601

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	165	120	163[a]
Aluminum ug/L	335	<200	<200
Ammonia mg/L	<.05	<.05	.05
Arsenic ug/L	4.4	3.6	2
Barium ug/L	40	34	33
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	80	62	73
Chloride mg/L	139	101	78.7
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	25
Copper ug/L	5.6	4.7	3.7
Hardness mg/L	282	221	248
Iron ug/L	664	305	283
Lead ug/L	<2	<2	<2
Magnesium mg/L	20	16	16
Manganese ug/L	144	41	20
Nickel ug/L	5	4.5	3.9
Nitrate+Nitrite mg/L	1.72	5.97	2.73
Nitrite mg/L	.024	.029	<.02
Phosphorus mg/L	.222	.218	.109
Potassium mg/L	8	8	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	94	68	58
Strontium ug/L	305	239	232
Sulfate mg/L	102	84.3	94.8
TDS mg/L	592	526	470[a]
TKN mg/L	.77	1	1.13
TSS mg/L	17	11	<5[a]
Zinc ug/L	10	<10	<10

Field Parameters	10:36 2012-06-28	10:06 2012-07-16	10:04 2012-10-10
Cond. Corrected umhos/cm		730	646
D.O. %sat.		67.8	111.1
D.O. mg/l	8.89	5.67	12.38
pH	7.92	7.85	8.19
Temp. C°	20.44	24.27	10.46

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S06 BLACK R. AT LORAIN @ E. 31ST ST.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	6.20	424	41.44294	-82.10620	041100010602

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	152	136	124[a]
Aluminum ug/L	910	<200	749
Ammonia mg/L	<.05	<.05	.062
Arsenic ug/L	3	3.2	2.1
Barium ug/L	4080	36	35
Cadmium ug/L	.58	.51	<.2
Calcium mg/L	62	60	54
Chloride mg/L	145	183	64.6
Chromium ug/L	4.5	<2	<2
COD mg/L	23	30	27
Copper ug/L	11.8	9.7	6
Hardness mg/L	233	240	197
Iron ug/L	941	243	1310
Lead ug/L	<2	<2	<2
Magnesium mg/L	19	22	15
Manganese ug/L	74	44	48
Nickel ug/L	7.3	6.2	4.5
Nitrate+Nitrite mg/L	34.8	22.3	8.59
Nitrite mg/L	.374	.079	.038
Phosphorus mg/L	.195	.24	.139
Potassium mg/L	21	20	8
Selenium ug/L	2.4	<2	<2
Sodium mg/L	238	289	80
Strontium ug/L	316	270	197
Sulfate mg/L	340	424	124
TDS mg/L	1050	1250	484[a]
TKN mg/L	<.2	1.05	1.39
TSS mg/L	17	13	15[a]
Zinc ug/L	2060	<10	32

Field Parameters	12:56 2012-06-28	13:13 2012-07-16	10:13 2012-10-10
Cond. Corrected umhos/cm	1053	1727	
D.O. %sat.		153	92.5
D.O. mg/l	10.65	11.9	10.16
pH	8.3	8.32	7.75
Temp. C°	26.6	28.08	11.09

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S09 BLACK R. DST. ELYRIA, NEAR SPRING VALLEY GOLF CLUB

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	11.50	398	41.39690	-82.09780	041100010602

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	152	126	123[a]
Aluminum ug/L	268	<200	1060
Ammonia mg/L	<.05	<.05	.062
Arsenic ug/L	2.3	3.1	2.2
Barium ug/L	43	40	38
Cadmium ug/L	<.2	<.2	.27
Calcium mg/L	63	54	54
Chloride mg/L	72.7	83.8	48.8
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	31
Copper ug/L	4.6	5	5.9
Hardness mg/L	236	205	197
Iron ug/L	385	354	1790
Lead ug/L	<2	<2	2
Magnesium mg/L	19	17	15
Manganese ug/L	73	108	78
Nickel ug/L	4.5	5	4.7
Nitrate+Nitrite mg/L	3.84	2.23	3.08
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.039	.046	.132
Potassium mg/L	6	6	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	44	51	33
Strontium ug/L	264	246	198
Sulfate mg/L	52.5	71.3	73.1
TDS mg/L	440	440	366[a]
TKN mg/L	1.04	.63	1.22
TSS mg/L	10	12	29[a]
Zinc ug/L	<10	<10	12

Field Parameters	10:58 2012-06-28	11:33 2012-07-16	13:53 2012-10-10
Cond. Corrected umhos/cm	473	619	
D.O. %sat.		81.1	101.3
D.O. mg/l	7.08	6.42	11.13
pH	8	7.91	8.09
Temp. C°	24.41	27.31	11.07

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S10 PLUM CREEK JUST DST. OBERLIN WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	2.80	8	41.29580	-82.18250	041100010505

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	63	65.2	110
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	.075
Arsenic ug/L	2.1	<2	<2
Barium ug/L	17	<15	15
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	83	73	69
Chloride mg/L	140	99.5	109
Chromium ug/L	<2	<2	<2
COD mg/L	22	<20	<20
Copper ug/L	3.5	3.4	2.8
Hardness mg/L	277	232	222
Iron ug/L	161	125	85
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	12	12
Manganese ug/L	28	12	14
Nickel ug/L	16.3	10.3	4.1
Nitrate+Nitrite mg/L	21.5¡	13	9.37
Nitrite mg/L	.022	<.02	.041
Phosphorus mg/L	.412	.298	.371
Potassium mg/L	25	13	14
Selenium ug/L	2.1	<2	<2
Sodium mg/L	106	79	81
Strontium ug/L	343	280	253
Sulfate mg/L	149	132	121
TDS mg/L	742	562	562
TKN mg/L	.92	.52	1.05
TSS mg/L	<5	<5	<5
Zinc ug/L	24	11	11

Field Parameters	11:01 2012-07-23	11:21 2012-08-06	10:33 2012-09-25
Cond. Corrected umhos/cm			780
D.O. %sat.			80.2
D.O. mg/l	7.74	8.14	7.75
pH	7.59	7.81	7.92
Temp. C°	22.11	21.52	16.9

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S11 E. BR. BLACK R. UPST. ELYRIA @ FULLER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	3.07	217	41.34711	-82.09480	041100010404

Inorganic Parameters	2012-05-16	2012-06-27	2012-07-10	2012-07-26	2012-09-05	2012-09-24	2012-10-29	2012-11-06
Alkalinity mg/L					109			
Aluminum ug/L	<200	213	<200	1470	679	586	4010	670
Ammonia mg/L	<.05	<.05	<.05	<.05	.105	<.05	<.05	.074
Arsenic ug/L	<2	2	3.4	3.4	2.6	<2	3.1	<2
Barium ug/L	39	43	40	44	32	38	48	32
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
Calcium mg/L	63	62	59	58	40	54	31	47
CBOD20 mg/L	3.8	<3	13	5.7		5.9	13	3.3
Chloride mg/L	53.1	66.1	68.2	65.3	56.8	63.8	25.4	30.7
Chromium ug/L	<2	<2	<2	<2	<2	<2	4.3	<2
COD mg/L					21			
Copper ug/L	2.6	3.2	3.1	2.6	4.4	3.6	7.3	2.7
Hardness mg/L	236	237	230	227	141	197	119	175
Iron ug/L	263	347	369	2770	1250	1030	6370	975
Lead ug/L	<2	<2	<2	<2	<2	<2	5.4	<2
Magnesium mg/L	19	20	20	20	10	15	10	14
Manganese ug/L	46	88	141	144	110	62	204	34
Nickel ug/L	3.4	4.1	4.2	4.5	3.4	4.2	7.6	3.3
Nitrate+Nitrite mg/L	1.82	3.29	.12¡	.14	.84	1.2	1.85	1.84
Nitrite mg/L	.061	.024	<.02	<.02	.028	<.02	<.02	<.02
ortho-P mg/L	.025	<.01	.018	.03		.044	.093	.029¯
Phosphorus mg/L	.071	.035	.065	.071	.145	.096	.302	.085
Potassium mg/L	4	6	6	6	5	6	7	4
Selenium ug/L	<2	<2	<2	<2	<2	<2	<2	<2
Sodium mg/L	36	39	46	44	38	43	13	19
Strontium ug/L	261	261	264	258	153	214	103	175
Sulfate mg/L	97.5	63.4	68.4	80.3	48.3	72.1	34.5	72.3
TDS mg/L	398	432	390	390	282	360	228	290
TKN mg/L	.89	.92	.66	.57	.73	.91	.64	1.04
TSS mg/L	<5	17	21	14	25	22	144	<5
Zinc ug/L	<10	<10	<10	<10	10	<10	31	<10

Field Parameters		09:37 2012-06-27	12:41 2012-07-10	09:59 2012-07-26	11:40 2012-07-26	11:58 2012-09-05	11:11 2012-09-24	12:11 2013-01-29
Cond. Corrected umhos/cm		576	454	609	590	440	501	610
D.O. %sat.						98	96.7	115.6
D.O. mg/l		8.41	12.34	6.53	9.26	8.26	10.1	16.93
pH		8.04	9.11	8.09	8.52	8.09	8.15	7.81
Temp. C°		21.62	29.06	22.53	27.58	23.85	13.34	.14

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S11		E. BR. BLACK R. UPST. ELYRIA @ FULLER RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	3.07	217	41.34711	-82.09480	041100010404

Inorganic Parameters	2012-12-06	2013-01-29	2013-04-11	2013-04-30
Alkalinity mg/L		119		
Aluminum ug/L	2120		11800	382
Ammonia mg/L	.072	.215	.158	<.05
Arsenic ug/L	<2		3.4	<2
Barium ug/L	41		100	35
Cadmium ug/L	<.2		.32	<.2
Calcium mg/L	45		21	55
CBOD20 mg/L	12	7.5	14	7
Chloride mg/L	35.4	95.4	31.9	50.4
Chromium ug/L	<2		10.8	<2
COD mg/L				
Copper ug/L	3.9		12.5	2.7
Hardness mg/L	170		85	203
Iron ug/L	3020		18000	994
Lead ug/L	2.2		15.8	<2
Magnesium mg/L	14		8	16
Manganese ug/L	66		368	54
Nickel ug/L	4.2		15.2	3.7
Nitrate+Nitrite mg/L	1.67	3.86	1.05	.33
Nitrite mg/L	<.02	<.02	<.02	.054
ortho-P mg/L	.031		.055	.013
Phosphorus mg/L	.122	.111	.253	.063
Potassium mg/L	6		5	3
Selenium ug/L	<2		<2	<2
Sodium mg/L	20		13	33
Strontium ug/L	170		72	210
Sulfate mg/L	68.4	62.2	26.3	60
TDS mg/L	304	378	194	314
TKN mg/L	1.11	1.76	.81	.85
TSS mg/L	37	11	624	13
Zinc ug/L	11		76	<10

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S13 W. BR. BLACK R. UPST. ELYRIA @ OBERLIN-ELYRIA RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	4.18	169	41.33680	-82.12090	041100010506

Inorganic Parameters	2012-05-16	2012-06-12	2012-06-27	2012-07-23	2012-07-26	2012-08-06	2012-09-05	2012-09-25
Alkalinity mg/L							117	
Aluminum ug/L	240		245	<200	412	223	<200	434
Ammonia mg/L	<.05		.169	<.05	<.05	.074	.05	.133
Arsenic ug/L	<2		2.5	4.9	4.4	2.7	2.1	2
Barium ug/L	40		39	38	46	32	32	27
Cadmium ug/L	<.2		<.2	<.2	<.2	<.2	<.2	<.2
Calcium mg/L	78		63	61	70	55	52	45
CBOD20 mg/L	6.2	7.6	4.6	10	6.9	4.6		4.6
Chloride mg/L	53.1		55.7	64	67.6	58.8	65	50.1
Chromium ug/L	<2		<2	<2	<2	<2	<2	<2
COD mg/L							25	
Copper ug/L	2.5		3	2.2	3.1	2.1	2.8	2.9
Hardness mg/L	294		236	222	249	191	179	158
Iron ug/L	523		368	386	895	310	261	824
Lead ug/L	<2		<2	<2	<2	<2	<2	<2
Magnesium mg/L	24		19	17	18	13	12	11
Manganese ug/L	105		67	175	230	54	51	46
Nickel ug/L	4		4.6	4.8	5.8	4.1	3.8	3.6
Nitrate+Nitrite mg/L	1.68		4.82	.38i	1.09i	2	1.55	1.41
Nitrite mg/L	.047		.07	.02	.023	.037	.04	<.02
ortho-P mg/L	<.01		.041		.014			.061
Phosphorus mg/L	.045		.072	.081	.057	.043	.053	.09
Potassium mg/L	5		7	7	8	8	7	6
Selenium ug/L	<2		<2	<2	<2	<2	<2	<2
Sodium mg/L	37		37	44	45	43	46	35
Strontium ug/L	393		294	300	325	241	236	195
Sulfate mg/L	134		59.2	89.6	115	90.6	88.7	65
TDS mg/L	470	442	438	410	442	362	366	318
TKN mg/L	.68		1.28	.9	.71	.85	.62	.51
TSS mg/L	12		6	27	26	7	<5	11
Zinc ug/L	<10		<10	<10	<10	<10	<10	<10

Field Parameters		09:07 2012-06-27	13:16 2012-07-23	12:03 2012-07-26	09:46 2012-08-06	12:21 2012-09-05	13:35 2012-09-25	12:42 2013-01-29
Cond. Corrected umhos/cm		563		626		554	439	902
D.O. %sat.						86.6	84.9	108.5
D.O. mg/l		6.12	9.53	9.26	8.59	7.38	8.73	15.88
pH		7.6	8.4	8.54	8.33	7.98	7.96	7.7
Temp. C°		21.5	26.9	26.77	24.28	23.33	14.05	.14

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S13		W. BR. BLACK R. UPST. ELYRIA @ OBERLIN-ELYRIA RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	4.18	169	41.33680	-82.12090	041100010506

Inorganic Parameters	2012-10-29	2012-11-06	2012-12-06	2013-01-29	2013-04-11	2013-04-30
Alkalinity mg/L				158		
Aluminum ug/L	4480	1010	1370		17300	1830
Ammonia mg/L	<.05	.8	.072	.218	.261	.066
Arsenic ug/L	3.3	<2	<2		4.9[a]	<2
Barium ug/L	51	34	40		128	37
Cadmium ug/L	<.2	<.2	<.2		.44	<.2
Calcium mg/L	39	51	64		32	53
CBOD20 mg/L	13	4.4	12	6	14	7.6
Chloride mg/L	25.7	27.2	41.8	148	33.6	40.3
Chromium ug/L	4.7	<2	<2		14.8	<2
COD mg/L						
Copper ug/L	8.3	3.2	4.2		16.6	4.1
Hardness mg/L	143	189	238		129	198
Iron ug/L	7300	1400	2150		28100	2560
Lead ug/L	6	<2	<2		17.7	<2
Magnesium mg/L	11	15	19		12	16
Manganese ug/L	195	56	55		477	71
Nickel ug/L	7.7	3.6	3.7		21.5	4.4
Nitrate+Nitrite mg/L	5.01	2.61	2.97	6.04	2.08	1.24
Nitrite mg/L	.02	.023	<.02	.026	<.02	.072
ortho-P mg/L	.125	.074	.085		.058	.024
Phosphorus mg/L	.352	.193	.249	.175	.797	.079
Potassium mg/L	7	6	6		7	4
Selenium ug/L	<2	<2	<2		<2[a]	<2
Sodium mg/L	13	17	25		11	24
Strontium ug/L	139	187	267		102	204
Sulfate mg/L	38.1	71.8	96.3	91.1	34.8	59.3
TDS mg/L	258	316	386	568	266	320
TKN mg/L	.8	1.88	1.12	1.58	2.69	.89
TSS mg/L	200	7	27	13	784	34
Zinc ug/L	36	<10	<10		106	<10

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S14 FRENCH CREEK NEAR LORAIN @ EAST RIVER RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	0.54	39	41.45829	-82.10570	041100010601

Inorganic Parameters	2012-05-16	2012-06-11	2012-06-27	2012-06-28	2012-07-16	2012-07-25	2012-07-26	2012-09-05
Alkalinity mg/L								98.1
Aluminum ug/L	<200		<200	<200	<200		<200	697
Ammonia mg/L	.144		<.05	<.05	<.05		<.05	<.05
Arsenic ug/L	2.1		<2	2.5	2.8		2.7	2.3
Barium ug/L	20		18	19	19		21	22
Cadmium ug/L	<.2		<.2	<.2	<.2		<.2	<.2
Calcium mg/L	74		67	68	67		74	42
CBOD20 mg/L	3.9	4.3	<3	6.3	4.2		<3	
Chloride mg/L	159		136	140	125		131	65.5
Chlorophyll ug/L						8.7		
Chromium ug/L	<2		<2	<2	<2		<2	<2
COD mg/L								20
Copper ug/L	4.1		5.1	5.7	5.5		6.6	4.9
Hardness mg/L	263		237	244	241		267	142
Iron ug/L	102		102	403	114		217	1240
Lead ug/L	<2		<2	<2	<2		<2	<2
Magnesium mg/L	19		17	18	18		20	9
Manganese ug/L	17		<10	34	<10		18	42
Nickel ug/L	6.6		8.3	9	6.9		10.8	4.2
Nitrate+Nitrite mg/L	10.7		20.2	22.5	11.4		34.9¡	3.74
Nitrite mg/L	.167		.04	.033	<.02		.055	.034
ortho-P mg/L	.153		.318	.33	.404		.531	
Pheophytin ug/L						5.3		
Phosphorus mg/L	.196		.385	.383	.46		.603	.214
Potassium mg/L	11		13	16	11		17	6
Selenium ug/L	<2		<2	<2	<2		<2	<2
Sodium mg/L	105		90	97	88		94	43
Strontium ug/L	285		262	276	264		292	146
Sulfate mg/L	87.6		110	114	95.6		113	54.4
TDS mg/L	658	622	648	646	558		718	318
TKN mg/L	1.4		.91	.86	1.09		.23	.96
TSS mg/L	<5		<5	20	<5		<5	21
Zinc ug/L	20		27	33	17		49	18

Field Parameters		15:00 2012-06-11	12:27 2012-06-27	10:55 2012-06-28	10:25 2012-07-16	10:06 2012-07-26	10:33 2012-09-05	10:20 2012-10-10
Cond. Corrected umhos/cm		929	859		832	950	479	650
D.O. %sat.		93.5			97.3		83.9	112.2
D.O. mg/l		8.14	11.15	4.52	8.25	7.14	7.37	12.23
pH		8.38	8.05	7.89	8.08	7.64	7.87	8.2
Temp. C°		22.09	19.93	22.16	23.54	23.65	21.66	11.4

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S14		FRENCH CREEK NEAR LORAIN @ EAST RIVER RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	0.54	39	41.45829	-82.10570	041100010601

Inorganic Parameters	2012-10-01	2012-10-10	2012-10-25	2012-10-29	2012-11-06	2012-12-06	2013-01-29	2013-06-18
Alkalinity mg/L							113	116
Aluminum ug/L	1940	<200	<200	2010	<200	317		
Ammonia mg/L	<.05	.056	<.05	<.05	.081[a]	.07	.2	.06
Arsenic ug/L	2.6	<2	<2	2.7	<2	<2		
Barium ug/L	31	26	25	31	29	26		
Cadmium ug/L	<.2	<.2	<.2	<.2	<.2	<.2		
Calcium mg/L	41	73	68	41	71	67		
CBOD20 mg/L	8.6	5.1	4.5	10	<3	5.9	7.8	5.4
Chloride mg/L	28.9	87.9	86.7	29	81.1	70.9	455	168
Chlorophyll ug/L								
Chromium ug/L	2.5	<2	<2	2.7	<2	<2		
COD mg/L								
Copper ug/L	6.2	3.8	3.8	6.5	3.3	3.4		
Hardness mg/L	139	252	236	139	239	229		
Iron ug/L	3390	229	206	3480	391	632		
Lead ug/L	3.4	<2	<2	3.5	<2	<2		
Magnesium mg/L	9	17	16	9	15	15		
Manganese ug/L	138	13	16	138	33	28		
Nickel ug/L	5.4	4.9	5.5	5.8	4.2	3.9		
Nitrate+Nitrite mg/L	1.13	6.1	7.01	1.15	5.76[a]	5.16	3.96	12.6
Nitrite mg/L	<.02	.028	<.02	<.02	<.02	<.02	.022	.037
ortho-P mg/L	.121			.121	.152	.092		.155
Pheophytin ug/L								
Phosphorus mg/L	.283	.156	.159	.249	.131[a]	.328	.133	.195
Potassium mg/L	5	7	8	5	6	6		
Selenium ug/L	<2	<2	<2	<2	<2	<2		
Sodium mg/L	21	65	59	21	58	50		
Strontium ug/L	117	238	225	116	211	210		
Sulfate mg/L	43.6	96.3	88.6	43.5	88.3	82.9	72.9	94.4
TDS mg/L	240	514	488	238	462	426	942	632
TKN mg/L	.29[—]	1.19	1.17	.41	1.27[a]	.86	1.71	1.5
TSS mg/L	92	<5	<5	86	<5	<5	42	<5
Zinc ug/L	24	11	15	24	13	11		

Field Parameters	12:40 2012-10-25	11:18 2013-01-29
Cond. Corrected umhos/cm	679	1568
D.O. %sat.	99.5	109.4
D.O. mg/l	9.67	14.99
pH	8.06	7.75
Temp. C°	16.66	2.15

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S14		FRENCH CREEK NEAR LORAIN @ EAST RIVER RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-002-000	0.54	39	41.45829	-82.10570	041100010601

Inorganic Parameters	2013-07-01	2013-07-09	2013-08-20
Alkalinity mg/L	134	102	
Aluminum ug/L			<200
Ammonia mg/L	.069	.079	<.05
Arsenic ug/L			<2
Barium ug/L			19
Cadmium ug/L			<.2
Calcium mg/L			68
CBOD20 mg/L	5.3	8.3	5.5
Chloride mg/L	104	69.7	139
Chlorophyll ug/L			
Chromium ug/L			<2
COD mg/L			
Copper ug/L			5.7
Hardness mg/L			240
Iron ug/L			88
Lead ug/L			<2
Magnesium mg/L			17
Manganese ug/L			10
Nickel ug/L			7.8
Nitrate+Nitrite mg/L	4.86	2.52	19.1
Nitrite mg/L	.033	.037	.031
ortho-P mg/L	.126	.139	.317
Pheophytin ug/L			
Phosphorus mg/L	.162	.26	.38
Potassium mg/L			12
Selenium ug/L			<2
Sodium mg/L			93
Strontium ug/L			261
Sulfate mg/L	80.1	71.4	87.4
TDS mg/L	472	294	610
TKN mg/L	1.14	1.11	1.32
TSS mg/L	8	143	<5
Zinc ug/L			20

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S29 E. BR. BLACK R. S OF ELYRIA, UPST. BRENTWOOD TRIB.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	6.00	185	41.32537	-82.07629	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	147	137	150
Aluminum ug/L	336	354	473
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.1	2.5	<2
Barium ug/L	46	44	44
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	67	54	60
Chloride mg/L	64.8	54.1	74.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	2.8	2.6	2.5
Hardness mg/L	254	205	224
Iron ug/L	596	639	798
Lead ug/L	<2	<2	<2
Magnesium mg/L	21	17	18
Manganese ug/L	100	126	50
Nickel ug/L	4.3	5	3.9
Nitrate+Nitrite mg/L	.21¡	.64	.63
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.047	.051	.048
Potassium mg/L	6	6	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	44	37	49
Strontium ug/L	291	231	264
Sulfate mg/L	76.4	75.6	85.5
TDS mg/L	438	364	416
TKN mg/L	.32	.68	.74
TSS mg/L	15	23	17
Zinc ug/L	<10	<10	<10

Field Parameters	12:09 2012-07-10	10:41 2012-07-26	12:07 2012-09-24
Cond. Corrected umhos/cm	577	551	572
D.O. %sat.			95.7
D.O. mg/l	10.36	7.82	9.99
pH	8.73	8.14	8.16
Temp. C°	26.69	23.64	13.32

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S30 E. BR. BLACK R. DST. GRAFTON WWTP @ INDIAN HOLLOW PARK

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	10.50	180	41.27855	-82.07540	041100010404

Inorganic Parameters	2012-05-16	2012-06-12	2012-06-27	2012-07-10	2012-07-25	2012-07-26	2012-09-24	2012-10-25
Alkalinity mg/L								
Aluminum ug/L	<200		299	306		249	879	<200
Ammonia mg/L	<.05		<.05	<.05		<.05	<.05	<.05
Arsenic ug/L	<2		<2	2.5		2.6	2.1	<2
Barium ug/L	40		41	50		37	47	38
Cadmium ug/L	<.2		<.2	<.2		<.2	<.2	<.2
Calcium mg/L	65		61	73		59	55	65
CBOD20 mg/L	3.9	6.1	6.3	4.8		5.3	5.2	5.4
Chloride mg/L	54.9		58.1	57.6		52.2	68.8	65.1
Chlorophyll ug/L					15.4			
Chromium ug/L	<2		<2	<2		<2	<2	<2
Copper ug/L	2.7		3.3	2.8		2.7	3	2.5
Hardness mg/L	245		226	273		230	207	245
Iron ug/L	350		429	492		406	1530	158
Lead ug/L	<2		<2	<2		<2	<2	<2
Magnesium mg/L	20		18	22		20	17	20
Manganese ug/L	51		38	93		70	73	26
Nickel ug/L	3.9		4.2	4.4		4.5	4.7	4.3
Nitrate+Nitrite mg/L	2.84		2.2	.45i		.63	.87	2.19
Nitrite mg/L	.058		.024	<.02		<.02	<.02	<.02
ortho-P mg/L	.12		.017	.019		.054		
Pheophytin ug/L					12			
Phosphorus mg/L	.155		.051	.041		.073	.056	.036
Potassium mg/L	5		6	6		6	7	8
Selenium ug/L	<2		<2	<2		<2	<2	<2
Sodium mg/L	38		34	41		38	48	45
Strontium ug/L	279		256	313		273	235	267
Sulfate mg/L	119		7.2	82		77.3	78.2	91.4
TDS mg/L	434	412	400	444		378	374	416
TKN mg/L	2.35		.81	.56		.7	.75	1.06
TSS mg/L	5		15	11		10	27	<5
Zinc ug/L	<10		<10	<10		<10	<10	<10

Field Parameters		12:28 2012-06-27	10:04 2012-07-10	12:48 2012-07-26	13:02 2012-07-26	13:04 2012-09-24	14:39 2012-10-25	13:50 2013-01-29
Cond. Corrected umhos/cm		.53	583	563	562	529	593	628
D.O. %sat.		160.1				105.4	157.5	78.9
D.O. mg/l		13.14	8.42	10.23	13.17	10.78	15.06	11.2
pH		8.54	8.23	8.47	8.72	8.21	8.62	7.85
Temp. C°		25.27	24.53	27.98	27.79	14.26	17.44	.99

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S30		E. BR. BLACK R. DST. GRAFTON WWTP @ INDIAN HOLLOW PARK			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	10.50	180	41.27855	-82.07540	041100010404

Inorganic Parameters	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-04-11	2013-04-30
Alkalinity mg/L					143		
Aluminum ug/L	3860	582	3150	2640		11500	618
Ammonia mg/L	<.05	.072	.05	.099	.172	.168	<.05
Arsenic ug/L	3	<2	2.1	<2		3.5	<2
Barium ug/L	52	36	49	40		95	36
Cadmium ug/L	<.2	<.2	<.2	<.2		.28	<.2
Calcium mg/L	39	52	48	41		25	53
CBOD20 mg/L	11	<3	15	7.5	6.2	14	6.4
Chloride mg/L	35.9	32.4	37.7	43	73.8	34.9	47.9
Chlorophyll ug/L							
Chromium ug/L	8.1	<2	2.9	2.6		10.3	<2
Copper ug/L	6.6	2.6	4.8	4.3		11.8	2.7
Hardness mg/L	151	192	186	156		104	202
Iron ug/L	6390	1020	4760	4300		17500	1150
Lead ug/L	4.8	<2	3.1	2.5		13	<2
Magnesium mg/L	13	15	16	13		10	17
Manganese ug/L	202	46	121	111		338	55
Nickel ug/L	9.2	3.4	6.3	4.9		14.9	3.5
Nitrate+Nitrite mg/L	3.01	2.05	.88	2.48	1.71	1.27	.36
Nitrite mg/L	<.02	<.02	<.02	<.02	.02	<.02	.051
ortho-P mg/L	.07	.063	.02	.037		.144	.01
Pheophytin ug/L							
Phosphorus mg/L	.276	.079	.12	.16	.056	.358	.071
Potassium mg/L	8	4	6	4		6	4
Selenium ug/L	<2	<2	<2	<2		<2	<2
Sodium mg/L	18	20	22	21		14	31
Strontium ug/L	144	192	186	155		95	276
Sulfate mg/L	52.5	78.1	75.3	56.2	84.3	34.2	65.3
TDS mg/L	292	312	364	290	392	270	322
TKN mg/L	.88	.84	.39	.75	1.13	.94	.66
TSS mg/L	186	<5	79	107	8	520	17
Zinc ug/L	26	<10	17	16		69	<10

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S31 E. BR. BLACK R. AT GRAFTON @ PARSONS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	11.34	179	41.27152	-82.06680	041100010404

Inorganic Parameters	2012-07-10	2012-07-26	2012-09-24
Alkalinity mg/L	172	175	135
Aluminum ug/L	600	330	1000
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.2	3	2.1
Barium ug/L	56	47	46
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	72	61	52
Chloride mg/L	58.1	51.3	67.4
Chromium ug/L	<2	<2	<2
COD mg/L	<20	20	30
Copper ug/L	3.6	2.3	3.1
Hardness mg/L	270	235	196
Iron ug/L	1040	577	1720
Lead ug/L	<2	<2	<2
Magnesium mg/L	22	20	16
Manganese ug/L	153	106	77
Nickel ug/L	4.7	3.8	4.6
Nitrate+Nitrite mg/L	.46¡	.13	.62
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.039	.055	.372
Potassium mg/L	5	5	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	39	34	45
Strontium ug/L	311	276	224
Sulfate mg/L	81.6	73.3	76.7
TDS mg/L	446	382	382
TKN mg/L	.48	.95	.51
TSS mg/L	20	14	28
Zinc ug/L	<10	<10	<10

Field Parameters	09:40 2012-07-10	12:31 2012-07-26	13:17 2012-09-24
Cond. Corrected umhos/cm	597	579	516
D.O. %sat.			94
D.O. mg/l	6.07	8.77	9.79
pH	8.03	8.2	8.1
Temp. C°	25	26.59	13.47

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S32 E. BR. BLACK R. E OF LAGRANGE @ VERMONT ST. (CO. RD. 62)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	18.94	158	41.23435	-82.08160	041100010402

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	183	188	139[a]
Aluminum ug/L	437	717	874
Ammonia mg/L	.083	.148	<.05
Arsenic ug/L	4.1	3.5	2.1
Barium ug/L	61	62	48
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	74	73	57
Chloride mg/L	52.2	60.7	58.3[a]
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	21
Copper ug/L	2.4	2.8	3.2
Hardness mg/L	275	277	221
Iron ug/L	825	1280	1730
Lead ug/L	<2	<2	<2
Magnesium mg/L	22	23	19
Manganese ug/L	246	232	91
Nickel ug/L	4.3	4.8	4.4
Nitrate+Nitrite mg/L	.54	.34	1.27
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.053	.061	.065
Potassium mg/L	6	5	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	37	37	44
Strontium ug/L	324	317	264
Sulfate mg/L	72.1	82.7	95.1[a]
TDS mg/L	420	460	400
TKN mg/L	.82	.71	.82
TSS mg/L	10	26	30
Zinc ug/L	<10	<10	<10

Field Parameters	11:06 2012-07-10	10:15 2012-07-25	11:50 2012-09-24
Cond. Corrected umhos/cm		649	
D.O. %sat.		50.7	
D.O. mg/l	3.96	4.37	11.19
pH	7.84	7.86	7.95
Temp. C°	24.5	22.63	12.24

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S33 E. BR. BLACK R. @ LORAIN/MEDINA COUNTY LINE (SMITH RD.)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	32.42	104	41.13665	-82.11660	041100010401

Inorganic Parameters	2012-05-15	2012-06-12	2012-06-27	2012-07-10	2012-07-25	2012-07-26	2012-09-05	2012-09-24
Alkalinity mg/L							210	
Aluminum ug/L	520		872	694	757	414	454	502
Ammonia mg/L	.135		<.05	<.05	.118	<.05	.344	<.05
Arsenic ug/L	2.4		3.4	4.5	5.6	4.6	3.3	2.6
Barium ug/L	56		67	74	72	68	79	69
Cadmium ug/L	<.2		<.2	<.2	<.2	<.2	<.2	<.2
Calcium mg/L	74		84	90	81	84	83	91
CBOD20 mg/L	3.6	7.1	4.3	7.6	5.5	4.5		4.5
Chloride mg/L	52.2		59.2	72.8	98.8	99.3	157	95.5
Chromium ug/L	<2		<2	<2	<2	<2	<2	<2
COD mg/L							<20	
Copper ug/L	2.4		3.5	3.1	3.2	2.5	3.6	3.4
Hardness mg/L	271		309	336	305	313	323	334
Iron ug/L	1340		1720	1380	1560	839	944	1010
Lead ug/L	<2		<2	<2	<2	<2	<2	<2
Magnesium mg/L	21		24	27	25	25	28	26
Manganese ug/L	164		189	230	295	209	151	88
Nickel ug/L	3.9		5.2	5	5.4	4.6	5.2	4.8
Nitrate+Nitrite mg/L	.9		1.18	.44	.28	.14	.15	1.35
Nitrite mg/L	.059		.033	<.02	<.02	<.02	<.02	<.02
ortho-P mg/L	.016		.027	.022		.026		.024
Phosphorus mg/L	12.2		.074	.066	.087	.059	.071	.063
Potassium mg/L	4		5	6	5	5	6	5
Selenium ug/L	<2		<2	<2	<2	<2	<2	<2
Sodium mg/L	35		39	50	61	61	98	64
Strontium ug/L	310		343	400	377	376	438	390
Sulfate mg/L	127		36.8	108	103	103	126	128
TDS mg/L	448	452	470	546	584	534	698	574
TKN mg/L	1.06		.86	.69	.77	.43	1.18	.99
TSS mg/L	25		39	30	44	12	17	21
Zinc ug/L	<10		<10	<10	10	<10	<10	29

Field Parameters		11:00 2012-06-12	09:04 2012-06-27	12:09 2012-07-10	12:33 2012-07-25	09:37 2012-07-26	15:43 2012-09-05	10:00 2012-09-24
Cond. Corrected umhos/cm		659			793	806	1025	.79
D.O. %sat.		70.4			48.1		55.2	104.8
D.O. mg/l		6.05	5.76	.57	4.07	1.8	4.69	11.25
pH		8.17	8.14	7.5	7.74	7.51	7.74	8.04
Temp. C°		22.82	20.44	24.08	23.62	23.91	23.41	12.06

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S33 E. BR. BLACK R. @ LORAIN/MEDINA COUNTY LINE (SMITH RD.)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	32.42	104	41.13665	-82.11660	041100010401

Inorganic Parameters	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-04-11	2013-04-30
Alkalinity mg/L					153		
Aluminum ug/L	2730	324	791	1610		8210	811
Ammonia mg/L	<.05	.112	.059	.113	.156	.19	.056
Arsenic ug/L	3.1	<2	<2	<2		3.9	<2
Barium ug/L	56	43	52	39		92	39
Cadmium ug/L	<.2	<.2	<.2	<.2		.24	<.2
Calcium mg/L	50	63	76	49		40	51
CBOD20 mg/L	9.9	<3	7.6	6.9	6.7	15	6.1
Chloride mg/L	45.4	41	49.8	52.9	69.5	49.6	53.1
Chromium ug/L	2.9	<2	<2	<2		8	<2
COD mg/L							
Copper ug/L	5.9	2.1	2.6	3.6		11.4	2.8
Hardness mg/L	187	227	289	184		153	185
Iron ug/L	4940	751	1410	2810		14700	1280
Lead ug/L	3.5	<2	<2	<2		10.2	<2
Magnesium mg/L	15	17	24	15		13	14
Manganese ug/L	183	81	67	76		357	58
Nickel ug/L	6.2	3.2	2.9	3.6		13.2	2.8
Nitrate+Nitrite mg/L	4.47	2.57	1.5	2.5	2.7	1.45	.52
Nitrite mg/L	<.02	<.02	<.02	<.02	<.02	.02	.045
ortho-P mg/L	.115	.063	.03	.043		.051	.013
Phosphorus mg/L	.274	.061	.107	.139	.088	.209	.053
Potassium mg/L	8	4	5	4		5	3
Selenium ug/L	<2	<2	<2	<2		<2	<2
Sodium mg/L	25	25	33	28		27	32
Strontium ug/L	200	238	325	188		159	212
Sulfate mg/L	73.9	98.5	112	68.3	94.7	44.2	63.2
TDS mg/L	342	372	482	180	420	300	322
TKN mg/L	.99	.81	.26	.72	1.24	1.02	.61
TSS mg/L	138	6	22	58	16	466	19
Zinc ug/L	18	<10	<10	10		59	<10

Field Parameters	11:00 2013-01-29
Cond. Corrected umhos/cm	665
D.O. %sat.	76
D.O. mg/l	11.02
pH	7.95
Temp. C°	.22

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S34 E. BR. BLACK R. NW OF LODI @ SHAW RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-000	41.45	68	41.08639	-82.06910	041100010303

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	215	196	202
Aluminum ug/L	342	224	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.8	3.4	2.6
Barium ug/L	72	83	58
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	96	102	88
Chloride mg/L	100	189	87.7
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	23
Copper ug/L	4.3	3.6	2
Hardness mg/L	355	382	314
Iron ug/L	632	430	374
Lead ug/L	<2	<2	<2
Magnesium mg/L	28	31	23
Manganese ug/L	187	104	69
Nickel ug/L	5.2	5.3	3.2
Nitrate+Nitrite mg/L	2.32	3.37	1.58
Nitrite mg/L	<.02	.055	<.02
Phosphorus mg/L	.05	.036	.089
Potassium mg/L	5	6	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	71	116	61
Strontium ug/L	433	481	343
Sulfate mg/L	129	131	127
TDS mg/L	654	748	570
TKN mg/L	.9	.95	.75
TSS mg/L	14	10	6
Zinc ug/L	<10	<10	<10

Field Parameters	12:17 2012-07-10	11:43 2012-07-25	13:45 2012-09-24
Cond. Corrected umhos/cm	958	1102	816
D.O. %sat.			73.4
D.O. mg/l	6.84	4.53	7.92
pH	7.98	7.25	8.28
Temp. C°	16.44	13.39	11.82

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S35 E. FK. E. BR. BLACK R. DST. LODI WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-014-000	1.60	14	41.03827	-82.02037	041100010301

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24	2013-08-20
Alkalinity mg/L	193	129	196	
Aluminum ug/L	<200	412	<200	<200
Ammonia mg/L	<.05	.112	<.05	<.05
Arsenic ug/L	8.9	6.2	2.6	2.9
Barium ug/L	60	66	51	61
Cadmium ug/L	<.2	<.2	<.2	<.2
Calcium mg/L	116	122	87	105
CBOD20 mg/L				<3
Chloride mg/L	459	486	148	275
Chromium ug/L	<2	<2	<2	<2
COD mg/L	<20	<20	<20	
Copper ug/L	7.5	10.8	3	8
Hardness mg/L	417	436	320	382
Iron ug/L	308	952	424	250
Lead ug/L	<2	<2	<2	<2
Magnesium mg/L	31	32	25	29
Manganese ug/L	80	131	62	63
Nickel ug/L	5.2	5.7	3.1	3.1
Nitrate+Nitrite mg/L	9.84	22.7	3.11	9.97
Nitrite mg/L	.054	.079	<.02	.027
ortho-P mg/L				.356
Phosphorus mg/L	1.49	.443	.107	.37
Potassium mg/L	10	12	5	8
Selenium ug/L	<2	<2	<2	<2
Sodium mg/L	262	266	103	161
Strontium ug/L	479	513	343	409
Sulfate mg/L	109	134	125	111
TDS mg/L	1220	1360	686	866
TKN mg/L	.9	.93	.84	.99
TSS mg/L	8	19	9	6
Zinc ug/L	26	35	<10	13

Field Parameters		11:04 2012-07-10	10:31 2012-07-25	11:57 2012-09-24
Cond. Corrected umhos/cm		1738	2004	987
D.O. %sat.				73.8
D.O. mg/l		5.76	5.95	7.8
pH		7.83	7.57	8.08
Temp. C°		22.95	21.76	12.78

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S36 E. FK. E. BR. BLACK R. AT LODI @ LODI CITY PARK

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-014-000	2.67	13	41.03654	-82.01210	041100010301

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24	2013-08-20
Alkalinity mg/L	191	177	207	206
Aluminum ug/L	<200	<200	<200	
Ammonia mg/L	<.05	<.05	<.05	<.05
Arsenic ug/L	2.5	2.2	<2	
Barium ug/L	63	71	49	
Cadmium ug/L	<.2	<.2	<.2	
Calcium mg/L	100	106	91	
CBOD20 mg/L				<3
Chloride mg/L	110	129	91	98.5
Chromium ug/L	<2	<2	<2	
COD mg/L	<20	<20	<20	
Copper ug/L	2.2	2.3	<2	
Hardness mg/L	398	421	351	
Iron ug/L	123	175	86	
Lead ug/L	<2	<2	<2	
Magnesium mg/L	36	38	30	
Manganese ug/L	39	48	15	
Nickel ug/L	3.8	3.3	2.6	
Nitrate+Nitrite mg/L	2.46	.64	.93	.13
Nitrite mg/L	<.02	<.02	<.02	<.02
ortho-P mg/L				.013
Phosphorus mg/L	.013	.029	.013	.016
Potassium mg/L	5	5	4	
Selenium ug/L	<2	<2	<2	
Sodium mg/L	78	83	70	
Strontium ug/L	433	452	415	
Sulfate mg/L	185	204	160	129
TDS mg/L	746	756	618	604
TKN mg/L	.39	.33	.46	.33
TSS mg/L	<5	<5	<5	<5
Zinc ug/L	<10	<10	<10	

Field Parameters		11:33 2012-07-10	10:56 2012-07-25	13:02 2012-09-24
Cond. Corrected umhos/cm		905	1058	832
D.O. %sat.				77
D.O. mg/l		7.54	7.43	7.99
pH		8.07	7.86	8.6
Temp. C°		21.18	18.95	13.61

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S38 WILLOW CREEK SE OF ELYRIA @ DURKEE RD. (UPST. CROSSING)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-001	2.85	13	41.32649	-82.05070	041100010403

Inorganic Parameters	2012-07-10	2012-07-25	2012-07-26	2012-09-24	2013-08-20
Alkalinity mg/L	158		153	126	199
Aluminum ug/L	202		<200	527	
Ammonia mg/L	<.05		.06	<.05	<.05
Arsenic ug/L	7.4		5.5	2.7	
Barium ug/L	38		34	33	
Cadmium ug/L	<.2		.21	<.2	
Calcium mg/L	66		60	54	
CBOD20 mg/L					5.8
Chloride mg/L	120		108	82.7	136
Chlorophyll ug/L		4.4			
Chromium ug/L	<2		<2	<2	
COD mg/L	21		<20	29	
Copper ug/L	3.7		3.2	4.4	
Hardness mg/L	243		224	184	
Iron ug/L	485		360	1000	
Lead ug/L	<2		<2	<2	
Magnesium mg/L	19		18	12	
Manganese ug/L	221		140	69	
Nickel ug/L	4.4		4.1	3.2	
Nitrate+Nitrite mg/L	.62¡		1.17	.97	2.82
Nitrite mg/L	<.02		<.02	<.02	<.02
ortho-P mg/L					.201
Pheophytin ug/L		3.8			
Phosphorus mg/L	.497		.345	.193	.226
Potassium mg/L	7		7	6	
Selenium ug/L	<2		<2	<2	
Sodium mg/L	85		70	55	
Strontium ug/L	412		368	210	
Sulfate mg/L	60.9		69.9	77.6	59.7
TDS mg/L	514		494	410	596
TKN mg/L	.76		.73	1.05	1.02
TSS mg/L	9		6	11	6
Zinc ug/L	<10		<10	<10	

Field Parameters		11:40 2012-07-10	11:48 2012-07-26	09:53 2012-09-24
Cond. Corrected umhos/cm		741	23	565
D.O. %sat.				81.7
D.O. mg/l		5.09	5.53	8.76
pH		7.8	7.9	8.1
Temp. C°		22.01	21.78	12.15

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S39 W. BR. BLACK R. E OF OBERLIN @ PARSONS RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	14.39	130	41.27940	-82.16230	041100010506

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-05	2012-09-25	2013-01-29	2013-04-24	2013-05-15	2013-05-23
Alkalinity mg/L	144	173	168	131	151			
Aluminum ug/L	315	353	<200	341				
Ammonia mg/L	.051	<.05	<.05	<.05	.208			
Arsenic ug/L	5	5.2	2.5	2.7				
Barium ug/L	42	47	47	31				
Cadmium ug/L	<.2	<.2	<.2	<.2				
Calcium mg/L	60	66	60	50				
CBOD20 mg/L					7.7			
Chloride mg/L	59.1	58.9	65.5	61.8	93.1			
Chromium ug/L	<2	<2	<2	<2				
COD mg/L	25	20	21	31				
Copper ug/L	2.5	<2	2.5	2.9				
Hardness mg/L	224	251	224	183				
Iron ug/L	706	800	418	721				
Lead ug/L	<2	<2	<2	<2				
Magnesium mg/L	18	21	18	14				
Manganese ug/L	256	332	213	44				
Nickel ug/L	6.2	5.3	6	3.8				
Nitrate+Nitrite mg/L	.48	.23	.89	3.05	2.9	.46	1.68	.89
Nitrite mg/L	<.02	<.02	.037	<.02	.022			
Phosphorus mg/L	.103	.082	.036	.151	.125			
Potassium mg/L	8	9	9	8				
Selenium ug/L	<2	<2	<2	<2				
Sodium mg/L	39	44	45	42				
Strontium ug/L	304	334	286	225				
Sulfate mg/L	77.4	89.1	91.9	72.2	89.8			
TDS mg/L	386	404	412	366	452			
TKN mg/L	.95	.61	.68	.53	1.59			
TSS mg/L	14	20	8	12	21			
Zinc ug/L	<10	<10	<10	<10				

Field Parameters		10:09 2012-07-23	14:27 2012-08-06	13:08 2012-09-05	13:26 2012-09-25	13:29 2013-01-29
Cond. Corrected umhos/cm		559	580	625		718
D.O. %sat.				58.1	117.5	78.2
D.O. mg/l		5.3	4.45	5.01	12.62	11.26
pH		7.76	7.79	7.76	7.88	7.88
Temp. C°		23.86	23.3	22.67	12.1	.47

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01S39		W. BR. BLACK R. E OF OBERLIN @ PARSONS RD.			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	14.39	130	41.27940	-82.16230	041100010506

Inorganic Parameters	2013-05-28	2013-06-06	2013-06-10
Alkalinity mg/L			
Aluminum ug/L			
Ammonia mg/L			
Arsenic ug/L			
Barium ug/L			
Cadmium ug/L			
Calcium mg/L			
CBOD20 mg/L			
Chloride mg/L			
Chromium ug/L			
COD mg/L			
Copper ug/L			
Hardness mg/L			
Iron ug/L			
Lead ug/L			
Magnesium mg/L			
Manganese ug/L			
Nickel ug/L			
Nitrate+Nitrite mg/L	.92	8.28	6.73
Nitrite mg/L			
Phosphorus mg/L			
Potassium mg/L			
Selenium ug/L			
Sodium mg/L			
Strontium ug/L			
Sulfate mg/L			
TDS mg/L			
TKN mg/L			
TSS mg/L			
Zinc ug/L			

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S40 W. BR. BLACK R. N OF WELLINGTON @ ST. RT. 58

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	25.30	67	41.20572	-82.21712	041100010504

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	126	110	144
Aluminum ug/L	289	<200	291
Ammonia mg/L	.064	.075	<.05
Arsenic ug/L	3.3	3.1	2.1
Barium ug/L	33	31	29
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	69	66	61
Chloride mg/L	71.7	82.1	63
Chromium ug/L	<2	<2	<2
COD mg/L	<20	22	<20
Copper ug/L	4.5	6.3	2.9
Hardness mg/L	267	272	239
Iron ug/L	536	334	535
Lead ug/L	<2	<2	<2
Magnesium mg/L	23	26	21
Manganese ug/L	98	68	35
Nickel ug/L	6	6.1	3.6
Nitrate+Nitrite mg/L	5.68	11.8	3.9
Nitrite mg/L	.035	.05	<.02
Phosphorus mg/L	.403	.566	.197
Potassium mg/L	9	13	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	54	69	45
Strontium ug/L	334	340	438
Sulfate mg/L	123	154	109
TDS mg/L	478	588	454
TKN mg/L	1.29	.87	.55
TSS mg/L	13	13	8
Zinc ug/L	14	43	<10

Field Parameters	11:45 2012-07-23	12:39 2012-08-06	12:00 2012-09-25
Cond. Corrected umhos/cm	667	767	
D.O. %sat.			107.7
D.O. mg/l	5.1	4.56	11.62
pH	7.85	7.64	7.91
Temp. C°	23.65	22.41	11.86

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S41 W. BR. BLACK R. @ ST. RT. 511 (UPPER CROSSING)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	41.67	16	41.13342	-82.30670	041100010502

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	180	210	225
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	.062	.065	<.05
Arsenic ug/L	2.5	3.5	<2
Barium ug/L	60	56	52
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	111	118	115
Chloride mg/L	28.8	28.3	49.5
Chromium ug/L	<2	<2	<2
COD mg/L	20	<20	<20
Copper ug/L	2.2	<2	<2
Hardness mg/L	438	472	481
Iron ug/L	326	234	254
Lead ug/L	<2	<2	<2
Magnesium mg/L	39	43	47
Manganese ug/L	292	347	41
Nickel ug/L	5.6	4.9	3.9
Nitrate+Nitrite mg/L	1.37	.72	.31
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.03	.022	.026
Potassium mg/L	7	8	5
Selenium ug/L	<2	<2	<10
Sodium mg/L	32	36	55
Strontium ug/L	709	764	1160
Sulfate mg/L	253	295	297
TDS mg/L	634	680	722
TKN mg/L	.8	.7	.61
TSS mg/L	7	5	<5
Zinc ug/L	11	<10	15

Field Parameters	12:03 2012-07-23	11:21 2012-08-06	12:47 2012-09-25
Cond. Corrected umhos/cm	798	846	988
D.O. %sat.			104.3
D.O. mg/l	6.09	5.54	11.31
pH	7.9	7.88	7.91
Temp. C°	23.18	21.4	11.63

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S43 WELLINGTON CREEK AT WELLINGTON @ CEMETERY RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-023-000	13.09	11	41.15799	-82.20950	041100010503

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	134	160	89.5
Aluminum ug/L	<200	<200	323
Ammonia mg/L	.421	.398	<.05
Arsenic ug/L	6.8	8.9	2.3
Barium ug/L	27	27	28
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	49	49	43
Chloride mg/L	52.8	34.9	44.2
Chromium ug/L	<2	<2	<2
COD mg/L	23	25	<20
Copper ug/L	<2	<2	<2
Hardness mg/L	176	176	144
Iron ug/L	416	587	713
Lead ug/L	<2	<2	<2
Magnesium mg/L	13	13	9
Manganese ug/L	531	591	111
Nickel ug/L	2.9	2.5	2.3
Nitrate+Nitrite mg/L	.78	.73	1.26
Nitrite mg/L	.029	.026	<.02
Phosphorus mg/L	.09	.115	.054
Potassium mg/L	5	6	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	36	24	23
Strontium ug/L	188	186	130
Sulfate mg/L	38.8	36.3	46.7
TDS mg/L	310	276	250
TKN mg/L	1.25	.94	.58
TSS mg/L	<5	6	7
Zinc ug/L	<10	<10	<10

Field Parameters		13:44 2012-07-23	12:36 2012-08-06	11:22 2012-09-25
Cond. Corrected umhos/cm		451	407	389
D.O. %sat.				78.7
D.O. mg/l		1.51	2.89	8.22
pH		7.45	7.41	7.74
Temp. C°		22.43	21.71	11.64

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01S46 BUCK CREEK SE OF ROCHESTER @ BURSLEY RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-025-000	0.95	5	41.11547	-82.28320	041100010502

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	233	238	206
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	.211	.144
Arsenic ug/L	5.9	7	3.3
Barium ug/L	76	69	42
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	268	269	201
Chloride mg/L	47.5	48.8	50.7
Chromium ug/L	<2	<2	<2
COD mg/L	34	<20	<20
Copper ug/L	2	<2	<2
Hardness mg/L	1190	1240	889
Iron ug/L	555	1040	876
Lead ug/L	<2	<2	<2
Magnesium mg/L	126	137	94
Manganese ug/L	505	722	261
Nickel ug/L	7.3	5.8	5.4
Nitrate+Nitrite mg/L	3.03	.93	1.89
Nitrite mg/L	<.02	.029	.036
Phosphorus mg/L	.159	.063	.099
Potassium mg/L	9	9	7
Selenium ug/L	<2	<2	<2
Sodium mg/L	131	145	103
Strontium ug/L	3910	4210	2860
Sulfate mg/L	1030	1120	806
TDS mg/L	1930	1960	1420
TKN mg/L	1.88	1.08	.82
TSS mg/L	50	18	13
Zinc ug/L	<10	<10	<10

Field Parameters	10:52 2012-07-23	10:38 2012-08-06	10:19 2012-09-25
Cond. Corrected umhos/cm	1933	1972	1657
D.O. %sat.			94.6
D.O. mg/l	6.24	2.78	10.08
pH	7.56	7.37	7.74
Temp. C°	22.51	21.41	12.27

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W03 OBERLIN WWTP 001 OUTFALL TO PLUM CREEK

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-021-000	2.85	8	41.29568	-82.18396	041100010505

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	56.4	71.5	110
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	.069
Arsenic ug/L	2	<2	<2
Barium ug/L	16	<15	<15
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	83	76	71
Chloride mg/L	141	106	116
Chromium ug/L	<2	<2	<2
COD mg/L	20	<20	24
Copper ug/L	3.5	3	2.4
Hardness mg/L	277	239	227
Iron ug/L	100	<50	<50
Lead ug/L	<2	<2	<2
Magnesium mg/L	17	12	12
Manganese ug/L	21	<10	<10
Nickel ug/L	16.7	10.6	4.5
Nitrate+Nitrite mg/L	21.7¡	15.3	11
Nitrite mg/L	<.02	<.02	.04
Phosphorus mg/L	.456	.308	.448
Potassium mg/L	25	14	17
Selenium ug/L	2.4	<2	<2
Sodium mg/L	106	84	85
Strontium ug/L	341	298	263
Sulfate mg/L	152	146	123
TDS mg/L	754	598	606
TKN mg/L	.98	.62	1.06
TSS mg/L	<5	<5	<5
Zinc ug/L	29	13	13

Field Parameters	

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W07 BLACK R. 250 FT. UPST ELYRIA WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-001-000	10.70	401	41.40625	-82.09530	041100010602

Inorganic Parameters	2012-06-28	2012-07-16	2012-10-10
Alkalinity mg/L	151	129	120[a]
Aluminum ug/L	347	<200	771
Ammonia mg/L	<.05	<.05	.071
Arsenic ug/L	2.4	3.1	2.1
Barium ug/L	43	41	35
Cadmium ug/L	.46	.5	.42
Calcium mg/L	63	55	52
Chloride mg/L	76	95	46.4
Chromium ug/L	4.2	<2	<2
COD mg/L	<20	<20	29
Copper ug/L	5.7	5.8	5.5
Hardness mg/L	236	207	192
Iron ug/L	476	340	1280
Lead ug/L	<2	<2	<2
Magnesium mg/L	19	17	15
Manganese ug/L	76	103	53
Nickel ug/L	6.4	5.4	4.6
Nitrate+Nitrite mg/L	5.46	4.75	2.98
Nitrite mg/L	.031	<.02	<.02
Phosphorus mg/L	.05	.126	.138
Potassium mg/L	6	7	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	57	71	32
Strontium ug/L	266	249	191
Sulfate mg/L	45.8	102	68.4
TDS mg/L	454	482	348[a]
TKN mg/L	1.16	1.01	1.41
TSS mg/L	11	16	9[a]
Zinc ug/L	11	<10	11

Field Parameters	12:09 2012-06-28	12:37 2012-07-16	13:23 2012-10-10
Cond. Corrected umhos/cm	1196	1872	
D.O. %sat.		30.7	70.5
D.O. mg/l	8.16	2.49	7.66
pH	7.7	7.27	7.73
Temp. C°	24.69	25.8	11.58

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W10 E. FK. E. BR. BLACK R. AT MOUTH @ RICHMAN RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-014-000	0.06	15	41.05004	-82.03440	041100010301

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	200	199	194
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	5.5	4.6	3.1
Barium ug/L	78	82	48
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	110	112	82
Chloride mg/L	331	356	138
Chlorophyll ug/L		12.6	
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	5.2	6.2	2.9
Hardness mg/L	398	403	299
Iron ug/L	239	201	222
Lead ug/L	<2	<2	<2
Magnesium mg/L	30	30	23
Manganese ug/L	90	54	31
Nickel ug/L	5.8	6	3.1
Nitrate+Nitrite mg/L	3.86	9.68	2.96
Nitrite mg/L	.021	.062	<.02
Pheophytin ug/L		4.3	
Phosphorus mg/L	.173	.18	.147
Potassium mg/L	8	9	6
Selenium ug/L	<2	<2	<2
Sodium mg/L	186	200	101
Strontium ug/L	442	452	320
Sulfate mg/L	113	131	121
TDS mg/L	964	1060	644
TKN mg/L	.84	.61	.77
TSS mg/L	5	6	<5
Zinc ug/L	<10	<10	<10

Field Parameters		11:47 2012-07-10	11:11 2012-07-25	13:16 2012-09-24
Cond. Corrected umhos/cm		1367	1586	929
D.O. %sat.				95.9
D.O. mg/l		12.06	11.92	10.03
pH		8.23	8.33	8.39
Temp. C°		26.1	23.86	13.22

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W11 E. FK. E. BR. BLACK R. 75 FT. UPST. LODI WWTP

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-014-000	1.73	14	41.03794	-82.02030	041100010301

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	198	248	210
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.1	3	2.1
Barium ug/L	72	73	56
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	99	102	92
Chloride mg/L	108	122	101
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	24
Copper ug/L	2.3	2	<2
Hardness mg/L	371	378	341
Iron ug/L	193	148	222
Lead ug/L	<2	<2	<2
Magnesium mg/L	30	30	27
Manganese ug/L	199	203	71
Nickel ug/L	4	3.4	2.8
Nitrate+Nitrite mg/L	2.35	.62	1.01
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.028	.038	.033
Potassium mg/L	5	5	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	74	82	75
Strontium ug/L	372	380	352
Sulfate mg/L	133	138	131
TDS mg/L	672	664	602
TKN mg/L	.39	.4	.62
TSS mg/L	<5	<5	<5
Zinc ug/L	<10	<10	<10

Field Parameters	11:22 2012-07-10	10:44 2012-07-25	12:10 2012-09-24
Cond. Corrected umhos/cm	838	965	806
D.O. %sat.			95.9
D.O. mg/l	5.81	5.68	10.44
pH	7.92	7.61	8.22
Temp. C°	23.34	22.29	11.44

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W12 E. FK. E. BR. BLACK R. N OF LODI @ CHIPPEWA LAKE RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-014-000	5.84	8	41.07709	-82.02211	041100010301

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	236	225	201
Aluminum ug/L	<200	<200	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3.4	2.9	2
Barium ug/L	71	68	53
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	99	101	73
Chloride mg/L	84.9	81.9	83.6
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	<2	<2	<2
Hardness mg/L	391	409	273
Iron ug/L	314	266	502
Lead ug/L	<2	<2	<2
Magnesium mg/L	35	38	22
Manganese ug/L	113	79	31
Nickel ug/L	3.6	3.1	2.6
Nitrate+Nitrite mg/L	2.16	.63	.94
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.02	.022	.174
Potassium mg/L	5	5	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	81	82	70
Strontium ug/L	738	795	456
Sulfate mg/L	163	185	104
TDS mg/L	662	688	498
TKN mg/L	.42	.35	.76
TSS mg/L	<5	<5	<5
Zinc ug/L	<10	<10	<10

Field Parameters	12:46 2012-07-10	12:08 2012-07-25	14:15 2012-09-24
Cond. Corrected umhos/cm	893	992	722
D.O. %sat.			88.1
D.O. mg/l	8.12	5.63	9.34
pH	8.16	8.06	8.25
Temp. C°	22.88	20.33	12.66

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W13 W. FK. E. BR. BLACK R. @ SANFORD RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-015-000	0.34	42	41.04573	-82.03566	041100010302

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L	222	232	238
Aluminum ug/L	231	231	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	3	3.5	2.1
Barium ug/L	70	71	78
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	108	112	112
Chloride mg/L	41.6	45.9	57.9
Chromium ug/L	<2	<2	<2
COD mg/L	<20	28	25
Copper ug/L	2	<2	<2
Hardness mg/L	385	399	383
Iron ug/L	407	393	430
Lead ug/L	<2	<2	<2
Magnesium mg/L	28	29	25
Manganese ug/L	143	266	72
Nickel ug/L	5	4.8	4.3
Nitrate+Nitrite mg/L	2.29	.63	1.3
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.024	.033	.026
Potassium mg/L	4	4	4
Selenium ug/L	<2	<2	<2
Sodium mg/L	29	29	36
Strontium ug/L	429	434	361
Sulfate mg/L	136	144	133
TDS mg/L	568	588	574
TKN mg/L	.62	.8	.91
TSS mg/L	7	9	5
Zinc ug/L	<10	<10	<10

Field Parameters	11:59 2012-07-10	11:25 2012-07-25	13:26 2012-09-24
Cond. Corrected umhos/cm	688	776	744
D.O. %sat.			76.3
D.O. mg/l	4.87	6.35	7.99
pH	8	8.06	8.21
Temp. C°	23.21	22.42	13.14

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W15 KELNER DITCH E OF OBERLIN @ NICKEL PLATE DIAGONAL RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-001	1.00	9	41.29237	-82.13978	041100010506

Inorganic Parameters	2012-07-23	2012-08-06	2012-09-25
Alkalinity mg/L	94.1	130	121
Aluminum ug/L	333	216	200
Ammonia mg/L	.062	<.05	.062
Arsenic ug/L	4.3	5.1	2.2
Barium ug/L	25	27	26
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	40	50	53
Chloride mg/L	42	54.9	55.4
Chromium ug/L	<2	<2	<2
COD mg/L	24	<20	<20
Copper ug/L	2.9	2.4	3
Hardness mg/L	141	174	186
Iron ug/L	640	451	396
Lead ug/L	<2	<2	<2
Magnesium mg/L	10	12	13
Manganese ug/L	121	92	36
Nickel ug/L	3.4	4.1	2.9
Nitrate+Nitrite mg/L	.98¡	.73	1.48
Nitrite mg/L	<.02	<.02	<.02
Phosphorus mg/L	.211	.196	.111
Potassium mg/L	6	7	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	33	43	41
Strontium ug/L	147	182	182
Sulfate mg/L	44.3	63.2	64.9
TDS mg/L	268	336	350
TKN mg/L	.65	.61	.37
TSS mg/L	7	5	5
Zinc ug/L	<10	<10	<10

Field Parameters	12:23 2012-07-23	12:07 2012-08-06	11:58 2012-09-25
Cond. Corrected umhos/cm			493
D.O. %sat.			83.3
D.O. mg/l	5.02	7.07	9.04
pH	7.63	7.9	8.06
Temp. C°	22.83	21.68	11.6

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W19 W. BR. BLACK R. @ WEST RD. (KIPTON NICKEL PLATE RD.)

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	16.56	83	41.26517	-82.17967	041100010504

Inorganic Parameters	2012-05-16	2012-06-27	2012-07-23	2012-07-25	2012-07-26	2012-08-06	2012-09-05	2012-09-25
Alkalinity mg/L							154	
Aluminum ug/L	428	883	561		432	549	230	654
Ammonia mg/L	.061	.063	.081		<.05	.059	.06	<.05
Arsenic ug/L	2.2	2.3	5		5.7	4.7	2.7	2.6
Barium ug/L	44	48	48		54	50	45	28
Cadmium ug/L	<.2	<.2	<.2		<.2	<.2	<.2	<.2
Calcium mg/L	82	71	65		72	65	59	45
CBOD20 mg/L	3.9	3.9	4		5.3	5.6		3.8
Chloride mg/L	42.7	42	59		67.6	64	63.9	48.7
Chlorophyll ug/L				27.8				
Chromium ug/L	<2	<2	<2		<2	<2	<2	<2
COD mg/L							20	
Copper ug/L	2.5	4	2.9		2.9	2.8	3	3.6
Hardness mg/L	312	260	245		270	249	221	166
Iron ug/L	941	1560	1110		917	1040	443	1240
Lead ug/L	<2	<2	<2		<2	<2	<2	<2
Magnesium mg/L	26	20	20		22	21	18	13
Manganese ug/L	140	94	238		473	241	106	48
Nickel ug/L	4.8	5.9	7.3		7	7.2	6.4	4.3
Nitrate+Nitrite mg/L	.81	6.52	.35		.2	.3	2.6	3.18
Nitrite mg/L	.051	.069	<.02		<.02	<.02	.056	<.02
ortho-P mg/L	.019	.028			.048			.132
Pheophytin ug/L				13.2				
Phosphorus mg/L	.057	.073	.108		.093	.081	.056	.193
Potassium mg/L	5	7	8		9	10	11	8
Selenium ug/L	<2	<2	<2		<2	<2	<2	<2
Sodium mg/L	32	24	38		44	48	43	33
Strontium ug/L	448	394	340		383	350	283	207
Sulfate mg/L	94.5	66.8	87.8		94.4	107	98.9	66.7
TDS mg/L	462	404	408		430	426	420	326
TKN mg/L	.81	1.02	.78		.83	.6	.72	.73
TSS mg/L	20	38	27		21	27	8	19
Zinc ug/L	<10	11	<10		<10	<10	<10	<10

Field Parameters		11:05 2012-06-27	11:05 2012-07-23	11:59 2012-07-26	13:17 2012-08-06	13:45 2012-09-05	12:56 2012-09-25	13:03 2013-01-29
Cond. Corrected umhos/cm			594	653	628	628		850
D.O. %sat.						53.2	110	76.6
D.O. mg/l		5.82	3.77	3.32	3.92	4.65	11.72	11
pH		7.59	7.75	7.58	7.79	7.84	7.86	7.86
Temp. C°		19.49	24.08	24.5	22.4	21.96	12.45	.54

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

B01W19		W. BR. BLACK R. @ WEST RD. (KIPTON NICKEL PLATE RD.)			
River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-000	16.56	83	41.26517	-82.17967	041100010504

Inorganic Parameters	2012-10-29	2012-11-06	2012-12-05	2013-01-10	2013-01-29	2013-04-11	2013-04-30
Alkalinity mg/L					155		
Aluminum ug/L	4780	729	1430	5600		19000	1890
Ammonia mg/L	.064	.194	.109	.124	.256	.264	.067
Arsenic ug/L	3.8	<2	<2	3		5.2	<2
Barium ug/L	59	37	43	52		148	39
Cadmium ug/L	<.2	<.2	<.2	<.2		.51	<.2
Calcium mg/L	58	65	72	43		38	56
CBOD20 mg/L	10	<3	9.9	8.5	6.8	14	7.5
Chloride mg/L	33.6	27.5	40.6	31	127	30.3	30.9
Chlorophyll ug/L							
Chromium ug/L	4.9	<2	<2	5.3		22.4	<2
COD mg/L							
Copper ug/L	8.2	3	4.5	7.2		25.9	3.7
Hardness mg/L	215	236	270	161		153	206
Iron ug/L	8150	1290	2460	9700		32200	2550
Lead ug/L	5.3	<2	<2	4.9		20.9	<2
Magnesium mg/L	17	18	22	13		14	16
Manganese ug/L	218	71	73	175		588	59
Nickel ug/L	9.5	4.1	4.4	9.3		35.4	4.4
Nitrate+Nitrite mg/L	10.4	3.75	3.08	3.97	2.66	2.47	1.58
Nitrite mg/L	.033	<.02	<.02	<.02	.032	<.02	.062
ortho-P mg/L	.145	.09	.132	.055		.121	.02
Pheophytin ug/L							
Phosphorus mg/L	.385	.116	.25	.26	.115	.508	.112
Potassium mg/L	8	4	6	4		7	3
Selenium ug/L	<2	<2	<2	<2		<2	<2
Sodium mg/L	16	17	26	13		9	17
Strontium ug/L	225	265	358	148		119	222
Sulfate mg/L	65.4	97.9	109	50.8	102	37.3	65
TDS mg/L	356	372	460	228	534	270	322
TKN mg/L	1.05	1.2	.43	.98	1.51	1.13	1.07
TSS mg/L	270	11	53	299	14	1060	37
Zinc ug/L	30	<10	10	31		120	<10

Field Parameters

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: B01W23 EAST CREEK @ STOCKING RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-020-003	0.48	5	41.13792	-82.33210	041100010502

Inorganic Parameters	2012-09-25
Alkalinity mg/L	233
Aluminum ug/L	219
Ammonia mg/L	<.05
Arsenic ug/L	<2
Barium ug/L	43
Cadmium ug/L	<.2
Calcium mg/L	92
Chloride mg/L	59.2
Chromium ug/L	<2
COD mg/L	40
Copper ug/L	3.1
Hardness mg/L	316
Iron ug/L	311
Lead ug/L	<2
Magnesium mg/L	21
Manganese ug/L	20
Nickel ug/L	3.6
Nitrate+Nitrite mg/L	.83
Nitrite mg/L	<.02
Phosphorus mg/L	.026
Potassium mg/L	3
Selenium ug/L	<2
Sodium mg/L	68
Strontium ug/L	368
Sulfate mg/L	141
TDS mg/L	552
TKN mg/L	.63
TSS mg/L	6
Zinc ug/L	<10

Field Parameters	13:02 2012-09-25
Cond. Corrected umhos/cm	785
D.O. %sat.	133.3
D.O. mg/l	13.92
pH	8.27
Temp. C°	13.32

Appendix Table 1. Inorganic chemistry results for samples collected during the 2012 Black River survey.

Station: Q01K04 TRIB. TO E. BR. BLACK R. (39.06) @ SPENCER LAKE RD.

River Code	River Mile	Drainage Area	Lat	Long	Hydro Unit
20-010-010	2.16	5	41.11305	-82.05757	041100010303

Inorganic Parameters	2012-07-10	2012-07-25	2012-09-24
Alkalinity mg/L		226	171
Aluminum ug/L	301	277	<200
Ammonia mg/L	<.05	<.05	<.05
Arsenic ug/L	2.6	2.3	<2
Barium ug/L	59	57	52
Cadmium ug/L	<.2	<.2	<.2
Calcium mg/L	142	158	146
Chloride mg/L		43.2	60.1
Chromium ug/L	<2	<2	<2
COD mg/L	<20	<20	<20
Copper ug/L	2	2	<2
Hardness mg/L	622	699	682
Iron ug/L	588	548	213
Lead ug/L	<2	<2	<2
Magnesium mg/L	65	74	77
Manganese ug/L	75	109	47
Nickel ug/L	4.6	4.7	3.9
Nitrate+Nitrite mg/L	1.4	.45	1.11
Nitrite mg/L		<.02	<.02
Phosphorus mg/L	.044	.037	.029
Potassium mg/L	6	6	5
Selenium ug/L	<2	<2	<2
Sodium mg/L	49	44	60
Strontium ug/L	889	929	1040
Sulfate mg/L		484	497
TDS mg/L		1010	1020
TKN mg/L	.29	.32	.7
TSS mg/L		21	<5
Zinc ug/L	<10	<10	<10

Field Parameters	13:43 2012-07-10	13:24 2012-07-25	12:40 2012-09-24
Cond. Corrected umhos/cm		1214	
D.O. %sat.		109.3	
D.O. mg/l	8.2	9.05	14.16
pH	8.07	7.88	8.31
Temp. C°	22.47	24.72	12.34

¡ Deteced in Blank; º Exceeds Calibration; ¿ QC Criteria Not Met; ± Invalid Colony Count; ¥ CoAnalyeCorrelation; £ Matrix Interference; ªEstimatedValue; ¯Holding/Shipping Time Exceeded; ¤ PesticideGCDiff

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.

All units are ug/L.

301939 CHARLEMONT CREEK @ WELLINGTON WTP INTAKE

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-024-000	3.00	22.0	04110001-05-01	41.16493	-82.24760

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
4-Chloro-3-methylphenol	<11.2	<10.6	<11.1	<10.5[a]				
Acenaphthene	<5.6	<5.3	<5.6[a]	<5.3[a]				
Acenaphthylene	<5.6	<5.3	<5.6[a]	<5.3[a]				
Acetochlor	<.21	<.21	<.22	<.2[a]	<.21	<.21	<.21	<.21
Alachlor	<.21	<.21	<.22	<.2[a]	<.21	<.21	<.21	<.21
Aldicarb	<.5	<.5	<.5	<.5				
Aldicarb sulfone	<.5	<.5	<.5	<.5				
Aldicarb sulfoxide	<.5	<.5	<.5	<.5				
Aldrin		<.002	<.0021	<.0021				
Anthracene	<2.3	<2.1	<2.2	<2.1[a]				
Atrazine	.8	.57	.34	<.2[a]	<.2	.59	.34	.22
Benzo[a]anthracene	<2.3	<2.1	<2.2	<2.1[a]				
Benzo[a]pyrene	<.53[a]	<.53	<.56	<.51[a]	<.51	<.52	<.53[a]	<.53
Benzo[b]fluoranthene	<2.3	<2.1	<2.2	<2.1[a]				
Benzo[g,h,i]perylene	<2.3	<2.1	<2.2	<2.1[a]				
Benzo[k]fluoranthene	<2.3	<2.1	<2.2	<2.1[a]				
BHC-alpha		<.002	<.0021	.0024				
BHC-beta		<.002	<.0021	<.0021				
BHC-delta		<.002	<.0021	<.0021				
BHC-gamma (Lindane)		<.002	<.0021	<.0021				
bis(2-chloroethoxy) methane	<5.6	<5.3	<5.6[a]	<5.3[a]				
bis(2-chloroethyl) ether	<2.3	<2.1	<2.2	<2.1[a]				
bis(2-Chloroisopropyl) ether	<2.3	<2.1	<2.2	<2.1[a]				
bis(2-ethylhexyl) phthalate (DEHP)	<11.2	<.53	<.56	<.51[a]	3.21	.74	<.53	.57
bis(n-octyl) phthalate	<2.3	<2.1	<2.2	<2.1[a]				
Bromophenyl-4 phenyl ether	<5.6	<5.3	<5.6	<5.3[a]				
Butachlor	<.21	<.21	<.22	<.2[a]	<.21	<.21	<.21	<.21
Butyl benzyl phthalate	<2.3	<2.1	<2.2	<2.1[a]				
Carbofuran	<.5	<.5	<.5	<.5				
Chloronaphthalene-2	<5.6	<5.3	<5.6	<5.3[a]				
Chlorophenol-2	<2.3	<2.1	<2.2	<2.1[a]				
Chlorophenyl-4 phenyl ether	<2.3	<2.1	<2.2	<2.1[a]				
Chrysene	<2.3	<2.1	<2.2	<2.1[a]				
Cyanazine	<.21	<.21	<.22	<.2				
DDD		<.0061	<.0062	<.0062				
DDE		<.002	<.0021	<.0021				
DDT		<.0061	<.0062	<.0062				
Di(2-ethylhexyl) adipate	<.53	<.53	<.56	<.51[a]	<.51	.55	.53	<.53
Dibenzo[a,h]anthracene	<2.3	<2.1	<2.2	<2.1[a]				
Dibutyl phthalate	<5.6	<5.3	<5.6	<5.3[a]				
Dichlorobenzene, 1,2-	<2.3	<2.1	<2.2	<2.1[a]				
Dichlorobenzene, 1,3-	<2.3	<2.1	<2.2	<2.1[a]				
Dichlorobenzene, 1,4-	<2.3	<2.1	<2.2	<2.1[a]				
Dichlorophenol, 2,4-	<2.3	<2.1	<2.2	<2.1[a]				
Dieldrin		<.002	<.0021	<.0021				
Diethyl phthalate	<5.6	<5.3	<5.6	<5.3[a]				

Drainage Area

2013/6/6	2013/6/10
<.22	1.1
<.22	<.21
14.7	4.3
<.54[a]	<.53[a]
.59	.64
<.22	<.21
<.54	<.53

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

301939 CHARLEMONT CREEK @ WELLINGTON WTP INTAKE

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-024-000	3.00	22.0	04110001-05-01	41.16493	-82.24760

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
Dimethyl phthalate	<5.6	<5.3	<5.6	<5.3[a]				
Dimethylphenol, 2,4-	<11.2	<10.6	<11.1	<10.5[a]				
Dinitro-o-cresol	<5.6	<5.3	<5.6	<5.3[a]				
Dinitrophenol, 2,4-	<22.5	<21.3	<22.2	<21.1[a]				
Dinitrotoluene, 2,4-	<2.3	<2.1	<2.2	<2.1[a]				
Dinitrotoluene, 2,6-	<2.3	<2.1	<2.2	<2.1[a]				
Endosulfan sulfate		<.02	<.021	<.021				
Endosulfan, alpha-		<.002	<.0021	<.0021				
Endosulfan, beta-		<.002	<.0021	<.0021				
Endrin		<.002	<.0021	<.0021				
Endrin aldehyde		<.0061	<.0062	<.0062				
Fluoranthene	<2.3	<2.1	<2.2	<2.1[a]				
Fluorene	<2.3	<2.1	<2.2	<2.1[a]				
Glyphosate (Roundup)	<5	<5	<5	<5				
Heptachlor		<.002	<.0021	<.0021				
Heptachlor epoxide		<.002	<.0021	<.0021				
Hexachlorobenzene	<2.3	<.002	<.0021	<.0021				
Hexachlorobutadiene	<2.3	<2.1	<2.2	<2.1[a]				
Hexachlorocyclopentadiene	<2.3	<2.1	<2.2	<2.1[a]				
Hexachloroethane	<5.6	<5.3	<5.6	<5.3[a]				
Hydroxycarbofuran, 3-	<.5	<.5	<.5	<.5				
Indeno[1,2,3-cd]pyrene	<2.3	<2.1	<2.2	<2.1[a]				
Isophorone	<2.3	<2.1	<2.2	<2.1[a]				
Mercaptodimethur	<.5	<.5	<.5	<.5				
Methomyl	<.5	<.5	<.5	<.5				
Methoxychlor		<.01	<.01	<.01				
Metolachlor	.53	.34	.23	<.2[a]	<.21	<.21	.29	<.21
Metribuzin	<.21	<.21	<.22	<.2[a]	<.21	<.21	<.21	<.21
Mirex		<.01	<.01	<.01				
Naphthalene	<2.3	<2.1	<2.2	<2.1[a]				
Nitro-benzene	<2.3	<2.1	<2.2	<2.1[a]				
Nitrophenol, 2-	<2.3	<2.1	<2.2	<2.1[a]				
Nitrophenol, 4-	<22.5	<21.3	<22.2	<21.1[a]				
Nitrosodiphenylamine, n-	<5.6	<5.3	<5.6	<5.3[a]				
Nitrosodipropylamine, n-	<2.3	<2.1	<2.2	<2.1[a]				
Oxamyl	<.5	<.5	<.5	<.5				
PCB-Aroclor 1016		<.1	<.1	<.1				
PCB-Aroclor 1221		<.1	<.1	<.1				
PCB-Aroclor 1232		<.1	<.1	<.1				
PCB-Aroclor 1242		<.1	<.1	<.1				
PCB-Aroclor 1248		<.1	<.1	<.1				
PCB-Aroclor 1254		<.1	<.1	<.1				
PCB-Aroclor 1260		<.1	<.1	<.1				
Pentachlorophenol (PCP)	<11.2	<10.6	<11.1	<10.5[a]	<5.13	<5.21	<5.32	<5.26
Phenanthrene	<2.3	<2.1	<2.2	<2.1[a]				
Phenol	<2.3	<2.1	<2.2	<2.1[a]				

Drainage Area

2013/6/6	2013/6/10
5.27	.35
2.03	<.21
<5.43	<5.32

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.

All units are ug/L.

301939 CHARLEMONT CREEK @ WELLINGTON WTP INTAKE

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-024-000	3.00	22.0	04110001-05-01	41.16493	-82.24760

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
Propachlor	<.21	<.21	<.22	<.2[a]	<.21	<.21	<.21	<.21
Propoxur	<.5	<.5	<.5	<.5				
Pyrene	<2.3	<2.1	<2.2	<2.1[a]				
Sevin	<.5	<.5	<.5	<.5				
Simazine	.21[a]	<.21	<.22	<.2[a]	<.21	<.21[a]	<.21	<.21
Trichlorobenzene, 1,2,4-	<2.3	<2.1	<2.2	<2.1[a]				
Trichlorophenol, 2,4,6- (TCPh)	<5.6	<5.3	<5.6	<5.3[a]				

Drainage Area

2013/6/6	2013/6/10
<.22	<.21
.9[a]	<.21

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

501510 BLACK R. DST. ELYRIA @ FORD RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	9.80	412.0	04110001-06-02	41.41148	-82.09520

	2012/6/28	2012/7/16	2012/10/10
4-Chloro-3-methylphenol	<10.4	<11.1	<10.5
Acenaphthene	<5.2	<5.6[a]	<5.3
Acenaphthylene	<5.2	<5.6[a]	<5.3
Aldrin	<.002	<.0021	<.0022
Anthracene	<2.1	<2.2[a]	<2.1
Benzo[a]anthracene	<2.1	<2.2[a]	<2.1
Benzo[a]pyrene	<2.1	<2.2	<2.1
Benzo[b]fluoranthene	<2.1	<2.2[a]	<2.1
Benzo[g,h,i]perylene	<2.1	<2.2	<2.1
Benzo[k]fluoranthene	<2.1	<2.2[a]	<2.1
BHC-alpha	<.002	<.0021	<.0022
BHC-beta	<.002	<.0021	<.0022
BHC-delta	<.002	<.0021	.0048
BHC-gamma (Lindane)	<.002	<.0021	<.0022
bis(2-chloroethoxy) methane	<5.2	<5.6[a]	<5.3
bis(2-chloroethyl) ether	<2.1	<2.2[a]	<2.1
bis(2-Chloroisopropyl) ether	<2.1	<2.2[a]	<2.1
bis(2-ethylhexyl) phthalate (DEHP)	<10.4	<11.1	<10.5
bis(n-octyl) phthalate	<2.1	<2.2	<2.1
Bromophenyl-4 phenyl ether	<5.2	<5.6[a]	<5.3
Butyl benzyl phthalate	<2.1	<2.2[a]	<2.1
Chloronaphthalene-2	<5.2	<5.6[a]	<5.3
Chlorophenol-2	<2.1	<2.2	<2.1
Chlorophenyl-4 phenyl ether	<2.1	<2.2[a]	<2.1
Chrysene	<2.1	<2.2	<2.1
DDD	<.0061	<.0062	<.0065
DDE	<.002	<.0021	<.0022
DDT	<.0061	<.0062	<.0065
Dibenzo[a,h]anthracene	<2.1	<2.2	<2.1
Dibutyl phthalate	<5.2	<5.6[a]	<5.3
Dichlorobenzene, 1,2-	<2.1	<2.2	<2.1
Dichlorobenzene, 1,3-	<2.1	<2.2[a]	<2.1
Dichlorobenzene, 1,4-	<2.1	<2.2	<2.1
Dichlorophenol, 2,4-	<2.1	<2.2	<2.1
Dieldrin	<.002	<.0021	<.0022
Diethyl phthalate	<5.2	<5.6	<5.3
Dimethyl phthalate	<5.2	<5.6[a]	<5.3
Dimethylphenol, 2,4-	<10.4[a]	<11.1	<10.5
Dinitro-o-cresol	<5.2	<5.6	<5.3
Dinitrophenol, 2,4-	<20.8	<22.2	<21.1
Dinitrotoluene, 2,4-	<2.1	<2.2[a]	<2.1
Dinitrotoluene, 2,6-	<2.1	<2.2[a]	<2.1
Endosulfan sulfate	<.02	<.021	<.022
Endosulfan, alpha-	<.002	<.0021	<.0022
Endosulfan, beta-	<.002	<.0021	<.0022
Endrin	<.002	<.0021	<.0022

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

501510 BLACK R. DST. ELYRIA @ FORD RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	9.80	412.0	04110001-06-02	41.41148	-82.09520

	2012/6/28	2012/7/16	2012/10/10
Endrin aldehyde	<.0061	<.0062	<.0065
Fluoranthene	<2.1	<2.2[a]	<2.1
Fluorene	<2.1	<2.2[a]	<2.1
Heptachlor	<.002	<.0021	<.0022
Heptachlor epoxide	<.002	<.0021	<.0022
Hexachlorobenzene	<.002	<.0021	<.0022
Hexachlorobutadiene	<2.1	<2.2	<2.1
Hexachlorocyclopentadiene	<2.1	<2.2	<2.1
Hexachloroethane	<5.2	<5.6	<5.3
Indeno[1,2,3-cd]pyrene	<2.1	<2.2	<2.1
Isophorone	<2.1	<2.2	<2.1
Methoxychlor	<.01	<.01	<.011
Mirex	<.01	<.01	<.011
Naphthalene	<2.1	<2.2[a]	<2.1
Nitro-benzene	<2.1	<2.2[a]	<2.1
Nitrophenol, 2-	<2.1	<2.2	<2.1
Nitrophenol, 4-	<20.8	<22.2	<21.1
Nitrosodiphenylamine, n-	<5.2	<5.6[a]	<5.3
Nitrosodipropylamine, n-	<2.1	<2.2[a]	<2.1
PCB-Aroclor 1016	<.1	<.1	<.11
PCB-Aroclor 1221	<.1	<.1	<.11
PCB-Aroclor 1232	<.1	<.1	<.11
PCB-Aroclor 1242	<.1	<.1	<.11
PCB-Aroclor 1248	<.1	<.1	<.11
PCB-Aroclor 1254	<.1	<.1	<.11
PCB-Aroclor 1260	<.1	<.1	<.11
Pentachlorophenol (PCP)	<10.4	<11.1	<10.5
Phenanthrene	<2.1	<2.2[a]	<2.1
Phenol	<2.1	<2.2	<2.1
Pyrene	<2.1	<2.2[a]	<2.1
Trichlorobenzene, 1,2,4-	<2.1	<2.2	<2.1
Trichlorophenol, 2,4,6- (TCPh)	<5.2	<5.6	<5.3

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

501520 BLACK R. AT ELYRIA @ CASCADE PARK

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	14.95	396.0	04110001-06-02	41.37932	-82.10772

	2012/7/16	2012/10/10
4-Chloro-3-methylphenol	<11	<10.6
Acenaphthene	<5.5[a]	<5.3
Acenaphthylene	<5.5[a]	<5.3
Aldrin	<.0021	<.0021
Anthracene	<2.2[a]	<2.1
Benzo[a]anthracene	<2.2[a]	<2.1
Benzo[a]pyrene	<2.2	<2.1
Benzo[b]fluoranthene	<2.2[a]	<2.1
Benzo[g,h,i]perylene	<2.2	<2.1
Benzo[k]fluoranthene	<2.2[a]	<2.1
BHC-alpha	<.0021	<.0021
BHC-beta	<.0021	<.0021
BHC-delta	<.0021	.0028
BHC-gamma (Lindane)	<.0021	<.0021
bis(2-chloroethoxy) methane	<5.5[a]	<5.3
bis(2-chloroethyl) ether	<2.2[a]	<2.1
bis(2-Chloroisopropyl) ether	<2.2[a]	<2.1
bis(2-ethylhexyl) phthalate (DEHP)	<11	<10.6
bis(n-octyl) phthalate	<2.2	<2.1
Bromophenyl-4 phenyl ether	<5.5[a]	<5.3
Butyl benzyl phthalate	<2.2[a]	<2.1
Chloronaphthalene-2	<5.5[a]	<5.3
Chlorophenol-2	<2.2	<2.1
Chlorophenyl-4 phenyl ether	<2.2[a]	<2.1
Chrysene	<2.2	<2.1
DDD	<.0063	<.0062
DDE	<.0021	<.0021
DDT	<.0063	<.0062
Dibenzo[a,h]anthracene	<2.2	<2.1
Dibutyl phthalate	<5.5[a]	<5.3
Dichlorobenzene, 1,2-	<2.2	<2.1
Dichlorobenzene, 1,3-	<2.2[a]	<2.1
Dichlorobenzene, 1,4-	<2.2	<2.1
Dichlorophenol, 2,4-	<2.2	<2.1
Dieldrin	<.0021	<.0021
Diethyl phthalate	<5.5	<5.3
Dimethyl phthalate	<5.5[a]	<5.3
Dimethylphenol, 2,4-	<11	<10.6
Dinitro-o-cresol	<5.5	<5.3
Dinitrophenol, 2,4-	<22	<21.3
Dinitrotoluene, 2,4-	<2.2[a]	<2.1
Dinitrotoluene, 2,6-	<2.2[a]	<2.1
Endosulfan sulfate	<.021	<.021
Endosulfan, alpha-	<.0021	<.0021
Endosulfan, beta-	<.0021	<.0021
Endrin	<.0021	<.0021

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

501520 BLACK R. AT ELYRIA @ CASCADE PARK

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	14.95	396.0	04110001-06-02	41.37932	-82.10772

	2012/7/16	2012/10/10
Endrin aldehyde	<.0063	<.0062
Fluoranthene	<2.2[a]	<2.1
Fluorene	<2.2[a]	<2.1
Heptachlor	<.0021	<.0021
Heptachlor epoxide	<.0021	<.0021
Hexachlorobenzene	<.0021	<.0021
Hexachlorobutadiene	<2.2	<2.1
Hexachlorocyclopentadiene	<2.2	<2.1
Hexachloroethane	<5.5	<5.3
Indeno[1,2,3-cd]pyrene	<2.2	<2.1
Isophorone	<2.2	<2.1
Methoxychlor	<.011	<.01
Mirex	<.011	<.01
Naphthalene	<2.2[a]	<2.1
Nitro-benzene	<2.2[a]	<2.1
Nitrophenol, 2-	<2.2	<2.1
Nitrophenol, 4-	<22	<21.3
Nitrosodiphenylamine, n-	<5.5[a]	<5.3
Nitrosodipropylamine, n-	<2.2[a]	<2.1
PCB-Aroclor 1016	<.11	<.1
PCB-Aroclor 1221	<.11	<.1
PCB-Aroclor 1232	<.11	<.1
PCB-Aroclor 1242	<.11	<.1
PCB-Aroclor 1248	<.11	<.1
PCB-Aroclor 1254	<.11	<.1
PCB-Aroclor 1260	<.11	<.1
Pentachlorophenol (PCP)	<11	<10.6
Phenanthrene	<2.2[a]	<2.1
Phenol	<2.2	<2.1
Pyrene	<2.2[a]	<2.1
Trichlorobenzene, 1,2,4-	<2.2	<2.1
Trichlorophenol, 2,4,6- (TCPh)	<5.5	<5.3

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.

All units are ug/L.

B01P07 E. BR. BLACK R. AT ELYRIA @ WASHINGTON ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	0.36	222.0	04110001-04-04	41.36875	-82.10640

	2012/7/10	2012/7/26	2012/9/24
4-Chloro-3-methylphenol	<10.5	<10.6	<10.6
Acenaphthene	<5.3	<5.3	<5.3
Acenaphthylene	<5.3	<5.3	<5.3
Aldrin	<.0021	<.002	<.002
Anthracene	<2.1	<2.1	<2.1
Benzo[a]anthracene	<2.1	<2.1	<2.1
Benzo[a]pyrene	<2.1	<2.1	<2.1
Benzo[b]fluoranthene	<2.1	<2.1	<2.1
Benzo[g,h,i]perylene	<2.1	<2.1	<2.1
Benzo[k]fluoranthene	<2.1	<2.1	<2.1
BHC-alpha	<.0021	<.002	<.002
BHC-beta	<.0021	<.002	<.002
BHC-delta	<.0021	<.002	.0043
BHC-gamma (Lindane)	<.0021	<.002	<.002
bis(2-chloroethoxy) methane	<5.3	<5.3	<5.3
bis(2-chloroethyl) ether	<2.1	<2.1	<2.1
bis(2-Chloroisopropyl) ether	<2.1	<2.1	<2.1
bis(2-ethylhexyl) phthalate (DEHP)	<10.5	<10.6	<10.6
bis(n-octyl) phthalate	<2.1	<2.1	<2.1
Bromophenyl-4 phenyl ether	<5.3	<5.3	<5.3
Butyl benzyl phthalate	<2.1	<2.1	<2.1
Chloronaphthalene-2	<5.3	<5.3	<5.3
Chlorophenol-2	<2.1	<2.1	<2.1
Chlorophenyl-4 phenyl ether	<2.1	<2.1	<2.1
Chrysene	<2.1	<2.1	<2.1
DDD	<.0064	<.0061	<.0061
DDE	<.0021	<.002	<.002
DDT	<.0064	<.0061	<.0061
Dibenzo[a,h]anthracene	<2.1	<2.1	<2.1
Dibutyl phthalate	<5.3	<5.3	<5.3
Dichlorobenzene, 1,2-	<2.1	<2.1	<2.1
Dichlorobenzene, 1,3-	<2.1	<2.1	<2.1
Dichlorobenzene, 1,4-	<2.1	<2.1	<2.1
Dichlorophenol, 2,4-	<2.1	<2.1	<2.1
Dieldrin	<.0021	<.002	<.002
Diethyl phthalate	<5.3	<5.3	<5.3
Dimethyl phthalate	<5.3	<5.3	<5.3
Dimethylphenol, 2,4-	<10.5	<10.6	<10.6
Dinitro-o-cresol	<5.3	<5.3	<5.3[a]
Dinitrophenol, 2,4-	<21.1	<21.3	<21.3[a]
Dinitrotoluene, 2,4-	<2.1	<2.1	<2.1
Dinitrotoluene, 2,6-	<2.1	<2.1	<2.1
Endosulfan sulfate	<.021	<.02	<.02
Endosulfan, alpha-	<.0021	<.002	<.002
Endosulfan, beta-	<.0021	<.002	<.002
Endrin	<.0021	<.002	<.002

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01P07 E. BR. BLACK R. AT ELYRIA @ WASHINGTON ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	0.36	222.0	04110001-04-04	41.36875	-82.10640

	2012/7/10	2012/7/26	2012/9/24
Endrin aldehyde	<.0064	<.0061	<.0061
Fluoranthene	<2.1	<2.1	<2.1
Fluorene	<2.1	<2.1	<2.1
Heptachlor	<.0021	<.002	<.002
Heptachlor epoxide	<.0021	<.002	<.002
Hexachlorobenzene	<.0021	<.002	<.002
Hexachlorobutadiene	<2.1	<2.1	<2.1
Hexachlorocyclopentadiene	<2.1	<2.1	<2.1
Hexachloroethane	<5.3	<5.3	<5.3
Indeno[1,2,3-cd]pyrene	<2.1	<2.1	<2.1
Isophorone	<2.1	<2.1	<2.1
Methoxychlor	<.011	<.01	<.01
Mirex	<.011	<.01	<.01
Naphthalene	<2.1	<2.1	<2.1
Nitro-benzene	<2.1	<2.1	<2.1
Nitrophenol, 2-	<2.1	<2.1	<2.1
Nitrophenol, 4-	<21.1	<21.3	<21.3
Nitrosodiphenylamine, n-	<5.3	<5.3	<5.3
Nitrosodipropylamine, n-	<2.1	<2.1	<2.1
PCB-Aroclor 1016	<.11	<.1	<.1
PCB-Aroclor 1221	<.11	<.1	<.1
PCB-Aroclor 1232	<.11	<.1	<.1
PCB-Aroclor 1242	<.11	<.1	<.1
PCB-Aroclor 1248	<.11	<.1	<.1
PCB-Aroclor 1254	<.11	<.1	<.1
PCB-Aroclor 1260	<.11	<.1	<.1
Pentachlorophenol (PCP)	<10.5	<10.6	<10.6[a]
Phenanthrene	<2.1	<2.1	<2.1
Phenol	<2.1	<2.1	<2.1
Pyrene	<2.1[a]	<2.1	<2.1
Trichlorobenzene, 1,2,4-	<2.1	<2.1	<2.1
Trichlorophenol, 2,4,6- (TCPh)	<5.3	<5.3	<5.3

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01P10 E. BR. BLACK R. AT ELYRIA @ E. BRIDGE ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	1.14	222.0	04110001-04-04	41.36976	-82.09870

	2012/7/10	2012/7/26	2012/9/24
4-Chloro-3-methylphenol	<10.6	<11.1	<10.4
Acenaphthene	<5.3	<5.6	<5.2
Acenaphthylene	<5.3	<5.6	<5.2
Aldrin	<.0022	<.002	<.0021
Anthracene	<2.1	<2.2	<2.1
Benzo[a]anthracene	<2.1	<2.2	<2.1
Benzo[a]pyrene	<2.1	<2.2	<2.1
Benzo[b]fluoranthene	<2.1	<2.2	<2.1
Benzo[g,h,i]perylene	<2.1	<2.2	<2.1
Benzo[k]fluoranthene	<2.1	<2.2	<2.1
BHC-alpha	<.0022	<.002	<.0021
BHC-beta	<.0022	<.002	<.0021
BHC-delta	<.0022	<.002	.0031
BHC-gamma (Lindane)	<.0022	<.002	<.0021
bis(2-chloroethoxy) methane	<5.3	<5.6	<5.2
bis(2-chloroethyl) ether	<2.1	<2.2	<2.1
bis(2-Chloroisopropyl) ether	<2.1	<2.2	<2.1
bis(2-ethylhexyl) phthalate (DEHP)	<10.6	<11.1	<10.4
bis(n-octyl) phthalate	<2.1	<2.2	<2.1
Bromophenyl-4 phenyl ether	<5.3	<5.6	<5.2
Butyl benzyl phthalate	<2.1	<2.2	<2.1
Chloronaphthalene-2	<5.3	<5.6	<5.2
Chlorophenol-2	<2.1	<2.2	<2.1
Chlorophenyl-4 phenyl ether	<2.1	<2.2	<2.1
Chrysene	<2.1	<2.2	<2.1
DDD	<.0067	<.006	<.0062
DDE	<.0022	<.002	<.0021
DDT	<.0067	<.006	<.0062
Dibenzo[a,h]anthracene	<2.1	<2.2	<2.1
Dibutyl phthalate	<5.3	<5.6	<5.2
Dichlorobenzene, 1,2-	<2.1	<2.2	<2.1
Dichlorobenzene, 1,3-	<2.1	<2.2	<2.1
Dichlorobenzene, 1,4-	<2.1	<2.2	<2.1
Dichlorophenol, 2,4-	<2.1	<2.2	<2.1
Dieldrin	<.0022	<.002	<.0021
Diethyl phthalate	<5.3	<5.6	<5.2
Dimethyl phthalate	<5.3	<5.6	<5.2
Dimethylphenol, 2,4-	<10.6	<11.1	<10.4
Dinitro-o-cresol	<5.3	<5.6	<5.2[a]
Dinitrophenol, 2,4-	<21.3	<22.2	<20.8[a]
Dinitrotoluene, 2,4-	<2.1	<2.2	<2.1
Dinitrotoluene, 2,6-	<2.1	<2.2	<2.1
Endosulfan sulfate	<.022	<.02	<.021
Endosulfan, alpha-	<.0022	<.002	<.0021
Endosulfan, beta-	<.0022	<.002	<.0021
Endrin	<.0022	<.002	<.0021

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01P10 E. BR. BLACK R. AT ELYRIA @ E. BRIDGE ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	1.14	222.0	04110001-04-04	41.36976	-82.09870

	2012/7/10	2012/7/26	2012/9/24
Endrin aldehyde	<.0067	<.006	<.0062
Fluoranthene	<2.1	<2.2	<2.1
Fluorene	<2.1	<2.2	<2.1
Heptachlor	<.0022	<.002	<.0021
Heptachlor epoxide	<.0022	<.002	<.0021
Hexachlorobenzene	<.0022	<.002	<.0021
Hexachlorobutadiene	<2.1	<2.2	<2.1
Hexachlorocyclopentadiene	<2.1	<2.2	<2.1
Hexachloroethane	<5.3	<5.6	<5.2
Indeno[1,2,3-cd]pyrene	<2.1	<2.2	<2.1
Isophorone	<2.1	<2.2	<2.1
Methoxychlor	<.011	<.01	<.01
Mirex	<.011	<.01	<.01
Naphthalene	<2.1	<2.2	<2.1
Nitro-benzene	<2.1	<2.2	<2.1
Nitrophenol, 2-	<2.1	<2.2	<2.1
Nitrophenol, 4-	<21.3	<22.2	<20.8
Nitrosodiphenylamine, n-	<5.3	<5.6	<5.2
Nitrosodipropylamine, n-	<2.1	<2.2	<2.1
PCB-Aroclor 1016	<.11	<.1	<.1
PCB-Aroclor 1221	<.11	<.1	<.1
PCB-Aroclor 1232	<.11	<.1	<.1
PCB-Aroclor 1242	<.11	<.1	<.1
PCB-Aroclor 1248	<.11	<.1	<.1
PCB-Aroclor 1254	<.11	<.1	<.1
PCB-Aroclor 1260	<.11	<.1	<.1
Pentachlorophenol (PCP)	<10.6	<11.1	<10.4[a]
Phenanthrene	<2.1	<2.2	<2.1
Phenol	<2.1	<2.2	<2.1
Pyrene	<2.1[a]	<2.2	<2.1
Trichlorobenzene, 1,2,4-	<2.1	<2.2	<2.1
Trichlorophenol, 2,4,6- (TCPh)	<5.3	<5.6	<5.2

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01S09 BLACK R. DST. ELYRIA, NEAR SPRING VALLEY GOLF CLUB

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	11.50	398.0	04110001-06-02	41.39690	-82.09780

	2012/6/28	2012/7/16	2012/10/10
4-Chloro-3-methylphenol	<10.5	<11.1	<10.4
Acenaphthene	<5.3	<5.6[a]	<5.2
Acenaphthylene	<5.3	<5.6[a]	<5.2
Aldrin	<.002	<.0021	<.0021
Anthracene	<2.1	<2.2[a]	<2.1
Benzo[a]anthracene	<2.1	<2.2[a]	<2.1
Benzo[a]pyrene	<2.1	<2.2	<2.1
Benzo[b]fluoranthene	<2.1	<2.2[a]	<2.1
Benzo[g,h,i]perylene	<2.1	<2.2	<2.1
Benzo[k]fluoranthene	<2.1	<2.2[a]	<2.1
BHC-alpha	<.002	<.0021	<.0021
BHC-beta	<.002	<.0021	<.0021
BHC-delta	<.002	<.0021	.003
BHC-gamma (Lindane)	<.002	<.0021	<.0021
bis(2-chloroethoxy) methane	<5.3	<5.6[a]	<5.2
bis(2-chloroethyl) ether	<2.1	<2.2[a]	<2.1
bis(2-Chloroisopropyl) ether	<2.1	<2.2[a]	<2.1
bis(2-ethylhexyl) phthalate (DEHP)	<10.5	<11.1	<10.4
bis(n-octyl) phthalate	<2.1	<2.2	<2.1
Bromophenyl-4 phenyl ether	<5.3	<5.6[a]	<5.2
Butyl benzyl phthalate	<2.1	<2.2[a]	<2.1
Chloronaphthalene-2	<5.3	<5.6[a]	<5.2
Chlorophenol-2	<2.1	<2.2	<2.1
Chlorophenyl-4 phenyl ether	<2.1	<2.2[a]	<2.1
Chrysene	<2.1	<2.2	<2.1
DDD	<.0061	<.0063	<.0062
DDE	<.002	<.0021	<.0021
DDT	<.0061	<.0063	<.0062
Dibenzo[a,h]anthracene	<2.1	<2.2	<2.1
Dibutyl phthalate	<5.3	<5.6[a]	<5.2
Dichlorobenzene, 1,2-	<2.1	<2.2	<2.1
Dichlorobenzene, 1,3-	<2.1	<2.2[a]	<2.1
Dichlorobenzene, 1,4-	<2.1	<2.2	<2.1
Dichlorophenol, 2,4-	<2.1	<2.2	<2.1
Dieldrin	<.002	<.0021	<.0021
Diethyl phthalate	<5.3	<5.6	<5.2
Dimethyl phthalate	<5.3	<5.6[a]	<5.2
Dimethylphenol, 2,4-	<10.5[a]	<11.1	<10.4
Dinitro-o-cresol	<5.3	<5.6	<5.2
Dinitrophenol, 2,4-	<21.1	<22.2	<20.8
Dinitrotoluene, 2,4-	<2.1	<2.2[a]	<2.1
Dinitrotoluene, 2,6-	<2.1	<2.2[a]	<2.1
Endosulfan sulfate	<.02	<.021	<.021
Endosulfan, alpha-	<.002	<.0021	<.0021
Endosulfan, beta-	<.002	<.0021	<.0021
Endrin	<.002	<.0021	<.0021

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01S09 BLACK R. DST. ELYRIA, NEAR SPRING VALLEY GOLF CLUB

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	11.50	398.0	04110001-06-02	41.39690	-82.09780

	2012/6/28	2012/7/16	2012/10/10
Endrin aldehyde	<.0061	<.0063	<.0062
Fluoranthene	<2.1	<2.2[a]	<2.1
Fluorene	<2.1	<2.2[a]	<2.1
Heptachlor	<.002	<.0021	<.0021
Heptachlor epoxide	<.002	<.0021	<.0021
Hexachlorobenzene	<.002	<.0021	<.0021
Hexachlorobutadiene	<2.1	<2.2	<2.1
Hexachlorocyclopentadiene	<2.1	<2.2	<2.1
Hexachloroethane	<5.3	<5.6	<5.2
Indeno[1,2,3-cd]pyrene	<2.1	<2.2	<2.1
Isophorone	<2.1	<2.2	<2.1
Methoxychlor	<.01	<.011	<.01
Mirex	<.01	<.011	<.01
Naphthalene	<2.1	<2.2[a]	<2.1
Nitro-benzene	<2.1	<2.2[a]	<2.1
Nitrophenol, 2-	<2.1	<2.2	<2.1
Nitrophenol, 4-	<21.1	<22.2	<20.8
Nitrosodiphenylamine, n-	<5.3	<5.6[a]	<5.2
Nitrosodipropylamine, n-	<2.1	<2.2[a]	<2.1
PCB-Aroclor 1016	<.1	<.11	<.1
PCB-Aroclor 1221	<.1	<.11	<.1
PCB-Aroclor 1232	<.1	<.11	<.1
PCB-Aroclor 1242	<.1	<.11	<.1
PCB-Aroclor 1248	<.1	<.11	<.1
PCB-Aroclor 1254	<.1	<.11	<.1
PCB-Aroclor 1260	<.1	<.11	<.1
Pentachlorophenol (PCP)	<10.5	<11.1	<10.4
Phenanthrene	<2.1	<2.2[a]	<2.1
Phenol	<2.1	<2.2	<2.1
Pyrene	<2.1	<2.2[a]	<2.1
Trichlorobenzene, 1,2,4-	<2.1	<2.2	<2.1
Trichlorophenol, 2,4,6- (TCPh)	<5.3	<5.6	<5.2

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01S39 W. BR. BLACK R. E OF OBERLIN @ PARSONS RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-020-000	14.39	130.0	04110001-05-06	41.27940	-82.16230

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
4-Chloro-3-methylphenol	<10.8	<12	<11.1	<10.5				
Acenaphthene	<5.4	<6	<5.6[a]	<5.3				
Acenaphthylene	<5.4	<6	<5.6[a]	<5.3				
Acetochlor	.26	<.22	<.22	<.2	<.21	2.69	<.21	<.21
Alachlor	<.21	<.22	<.22	<.2	<.21	.23	<.21	<.21
Aldicarb	<.5	<.5	<.5	<.5				
Aldicarb sulfone	<.5	<.5	<.5	<.5				
Aldicarb sulfoxide	<.5	<.5	<.5	<.5				
Aldrin	<.002	<.002	<.002	<.0021				
Anthracene	<2.2	<2.4	<2.2	<2.1				
Atrazine	.62	.5	.26	<.2	<.2	4.53	1.07	.77
Benzo[a]anthracene	<2.2	<2.4	<2.2	<2.1				
Benzo[a]pyrene	<.53[a]	<.54	<.55	<.51	<.51	<.52	<.52[a]	<.53
Benzo[b]fluoranthene	<2.2	<2.4	<2.2	<2.1				
Benzo[g,h,i]perylene	<2.2	<2.4	<2.2	<2.1				
Benzo[k]fluoranthene	<2.2	<2.4	<2.2	<2.1				
BHC-alpha	<.002	<.002	<.002	<.0021				
BHC-beta	<.002	<.002	<.002	<.0021				
BHC-delta	<.002	<.002	<.002	.0023				
BHC-gamma (Lindane)	<.002	<.002	<.002	<.0021				
bis(2-chloroethoxy) methane	<5.4	<6	<5.6[a]	<5.3				
bis(2-chloroethyl) ether	<2.2	<2.4	<2.2	<2.1				
bis(2-Chloroisopropyl) ether	<2.2	<2.4	<2.2	<2.1				
bis(2-ethylhexyl) phthalate (DEHP)	.65	.61	<.55	<.51	<.51	.55	<.52	.71
bis(n-octyl) phthalate	<2.2	<2.4	<2.2	<2.1				
Bromophenyl-4 phenyl ether	<5.4	<6	<5.6	<5.3				
Butachlor	<.21	<.22	<.22	<.2	<.21	<.21	<.21	<.21
Butyl benzyl phthalate	<2.2	<2.4	<2.2	<2.1				
Carbofuran	<.5	<.5	<.5	<.5				
Chloronaphthalene-2	<5.4	<6	<5.6	<5.3				
Chlorophenol-2	<2.2	<2.4	<2.2	<2.1				
Chlorophenyl-4 phenyl ether	<2.2	<2.4	<2.2	<2.1				
Chrysene	<2.2	<2.4	<2.2	<2.1				
Cyanazine	<.21	<.21	<.22	<.21				
DDD	<.006	<.0061	<.0061	<.0062				
DDE	<.002	<.002	<.002	<.0021				
DDT	<.006	<.0061	<.0061	<.0062				
Di(2-ethylhexyl) adipate	<.53	<.54	<.55	<.51[a]	<.51	.6	<.52	<.53
Dibenzo[a,h]anthracene	<2.2	<2.4	<2.2	<2.1				
Dibutyl phthalate	<5.4	<6	<5.6	<5.3				
Dichlorobenzene, 1,2-	<2.2	<2.4	<2.2	<2.1				
Dichlorobenzene, 1,3-	<2.2	<2.4	<2.2	<2.1				
Dichlorobenzene, 1,4-	<2.2	<2.4	<2.2	<2.1				
Dichlorophenol, 2,4-	<2.2	<2.4	<2.2	<2.1				
Dieldrin	<.002	<.002	<.002	<.0021				
Diethyl phthalate	<5.4	<6	<5.6	<5.3				

Drainage Area

2013/6/6	2013/6/10
1.86	.82
<.22	<.21
45	9.1
<.54[a]	<.53[a]
.7	3.16
<.22	<.21
<.54	<.53

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01S39 W. BR. BLACK R. E OF OBERLIN @ PARSONS RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-020-000	14.39	130.0	04110001-05-06	41.27940	-82.16230

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
Dimethyl phthalate	<5.4	<6	<5.6	<5.3				
Dimethylphenol, 2,4-	<10.8	<12	<11.1	<10.5				
Dinitro-o-cresol	<5.4	<6	<5.6	<5.3[a]				
Dinitrophenol, 2,4-	<21.5	<24.1	<22.2	<21.1[a]				
Dinitrotoluene, 2,4-	<2.2	<2.4	<2.2	<2.1				
Dinitrotoluene, 2,6-	<2.2	<2.4	<2.2	<2.1				
Endosulfan sulfate	<.02	<.02	<.02	<.021				
Endosulfan, alpha-	<.002	<.002	<.002	<.0021				
Endosulfan, beta-	<.002	<.002	<.002	<.0021				
Endrin	<.002	<.002	<.002	<.0021				
Endrin aldehyde	<.006	<.0061	<.0061	<.0062				
Fluoranthene	<2.2	<2.4	<2.2	<2.1				
Fluorene	<2.2	<2.4	<2.2	<2.1				
Glyphosate (Roundup)	<5	<5	<5	<5				
Heptachlor	<.002	<.002	<.002	<.0021				
Heptachlor epoxide	<.002	<.002	<.002	<.0021				
Hexachlorobenzene	<.002	<.002	<.002	<.0021				
Hexachlorobutadiene	<2.2	<2.4	<2.2	<2.1				
Hexachlorocyclopentadiene	<2.2	<2.4	<2.2	<2.1				
Hexachloroethane	<5.4	<6	<5.6	<5.3				
Hydroxycarbofuran, 3-	<.5	<.5	<.5	<.5				
Indeno[1,2,3-cd]pyrene	<2.2	<2.4	<2.2	<2.1				
Isophorone	<2.2	<2.4	<2.2	<2.1				
Mercaptodimethur	<.5	<.5	<.5	<.5				
Methomyl	<.5	<.5	<.5	<.5				
Methoxychlor	<.01	<.01	<.01	<.01				
Metolachlor	.32	<.22	<.22	<.2	<.21	.42	<.21	.22
Metribuzin	<.21	<.22	<.22	<.2	<.21	<.21	<.21	<.21
Mirex	<.01	<.01	<.01	<.01				
Naphthalene	<2.2	<2.4	<2.2	<2.1				
Nitro-benzene	<2.2	<2.4	<2.2	<2.1				
Nitrophenol, 2-	<2.2	<2.4	<2.2	<2.1				
Nitrophenol, 4-	<21.5	<24.1	<22.2	<21.1				
Nitrosodiphenylamine, n-	<5.4	<6	<5.6	<5.3				
Nitrosodipropylamine, n-	<2.2	<2.4	<2.2	<2.1				
Oxamyl	<.5	<.5	<.5	<.5				
PCB-Aroclor 1016	<.1	<.1	<.1	<.1				
PCB-Aroclor 1221	<.1	<.1	<.1	<.1				
PCB-Aroclor 1232	<.1	<.1	<.1	<.1				
PCB-Aroclor 1242	<.1	<.1	<.1	<.1				
PCB-Aroclor 1248	<.1	<.1	<.1	<.1				
PCB-Aroclor 1254	<.1	<.1	<.1	<.1				
PCB-Aroclor 1260	<.1	<.1	<.1	<.1				
Pentachlorophenol (PCP)	<10.8	<12	<11.1	<10.5[a]	6.11	<5.21	<5.21	<5.32
Phenanthrene	<2.2	<2.4	<2.2	<2.1				
Phenol	<2.2	<2.4	<2.2	<2.1				

Drainage Area

2013/6/6	2013/6/10
.64	2.25
<.22	<.21
<5.43	<5.26

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.

All units are ug/L.

B01S39 W. BR. BLACK R. E OF OBERLIN @ PARSONS RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-020-000	14.39	130.0	04110001-05-06	41.27940	-82.16230

	2012/7/23	2012/8/6	2012/9/5	2012/9/25	2013/4/24	2013/5/15	2013/5/23	2013/5/28
Propachlor	<.21	<.22	<.22	<.2	<.21	<.21	<.21	<.21
Propoxur	<.5	<.5	<.5	<.5				
Pyrene	<2.2	<2.4	<2.2	<2.1				
Sevin	<.5	<.5	<.5	<.5				
Simazine	<.21[a]	<.22	<.22	<.2	.34	<.21[a]	<.21	<.21
Trichlorobenzene, 1,2,4-	<2.2	<2.4	<2.2	<2.1				
Trichlorophenol, 2,4,6- (TCPh)	<5.4	<6	<5.6	<5.3				

Drainage Area

2013/6/6	2013/6/10
<.22	<.21
<.22[a]	.76

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01W07 BLACK R. 250 FT. UPST ELYRIA WWTP

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	10.70	401.0	04110001-06-02	41.40625	-82.09530

	2012/6/28	2012/7/16
4-Chloro-3-methylphenol	<10.6	<10.8
Acenaphthene	<5.3	<5.4[a]
Acenaphthylene	<5.3	<5.4[a]
Aldrin	<.002	<.0021
Anthracene	<2.1	<2.2[a]
Benzo[a]anthracene	<2.1	<2.2[a]
Benzo[a]pyrene	<2.1	<2.2
Benzo[b]fluoranthene	<2.1	<2.2[a]
Benzo[g,h,i]perylene	<2.1	<2.2
Benzo[k]fluoranthene	<2.1	<2.2[a]
BHC-alpha	<.002	<.0021
BHC-beta	.012	<.0021
BHC-delta	<.002	.0028
BHC-gamma (Lindane)	<.002	<.0021
bis(2-chloroethoxy) methane	<5.3	<5.4[a]
bis(2-chloroethyl) ether	<2.1	<2.2[a]
bis(2-Chloroisopropyl) ether	<2.1	<2.2[a]
bis(2-ethylhexyl) phthalate (DEHP)	<10.6	<10.8
bis(n-octyl) phthalate	<2.1	<2.2
Bromophenyl-4 phenyl ether	<5.3	<5.4[a]
Butyl benzyl phthalate	<2.1	<2.2[a]
Chloronaphthalene-2	<5.3	<5.4[a]
Chlorophenol-2	<2.1	<2.2
Chlorophenyl-4 phenyl ether	<2.1	<2.2[a]
Chrysene	<2.1	<2.2
DDD	<.0061	<.0062
DDE	<.002	<.0021
DDT	<.0061	<.0062
Dibenzo[a,h]anthracene	<2.1	<2.2
Dibutyl phthalate	<5.3	<5.4[a]
Dichlorobenzene, 1,2-	<2.1	<2.2
Dichlorobenzene, 1,3-	<2.1	<2.2[a]
Dichlorobenzene, 1,4-	<2.1	<2.2
Dichlorophenol, 2,4-	<2.1	<2.2
Dieldrin	<.002	<.0021
Diethyl phthalate	<5.3	<5.4
Dimethyl phthalate	<5.3	<5.4[a]
Dimethylphenol, 2,4-	<10.6[a]	<10.8
Dinitro-o-cresol	<5.3	<5.4
Dinitrophenol, 2,4-	<21.3	<21.5
Dinitrotoluene, 2,4-	<2.1	<2.2[a]
Dinitrotoluene, 2,6-	<2.1	<2.2[a]
Endosulfan sulfate	<.02	<.021
Endosulfan, alpha-	<.002	<.0021
Endosulfan, beta-	<.002	<.0021
Endrin	<.002	<.0021

Appendix Table 2. Results from organic scans of water column samples collected during the 2012 Black River survey.
All units are ug/L.

B01W07		BLACK R. 250 FT. UPST ELYRIA WWTP			
Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	10.70	401.0	04110001-06-02	41.40625	-82.09530

	2012/6/28	2012/7/16
Endrin aldehyde	<.0061	<.0062
Fluoranthene	<2.1	<2.2[a]
Fluorene	<2.1	<2.2[a]
Heptachlor	<.002	<.0021
Heptachlor epoxide	<.002	<.0021
Hexachlorobenzene	<.002	<.0021
Hexachlorobutadiene	<2.1	<2.2
Hexachlorocyclopentadiene	<2.1	<2.2
Hexachloroethane	<5.3	<5.4
Indeno[1,2,3-cd]pyrene	<2.1	<2.2
Isophorone	<2.1	<2.2
Methoxychlor	<.01	<.01
Mirex	<.01	<.01
Naphthalene	<2.1	<2.2[a]
Nitro-benzene	<2.1	<2.2[a]
Nitrophenol, 2-	<2.1	<2.2
Nitrophenol, 4-	<21.3	<21.5
Nitrosodiphenylamine, n-	<5.3	<5.4[a]
Nitrosodipropylamine, n-	<2.1	<2.2[a]
PCB-Aroclor 1016	<.1	<.1
PCB-Aroclor 1221	<.1	<.1
PCB-Aroclor 1232	<.1	<.1
PCB-Aroclor 1242	<.1	<.1
PCB-Aroclor 1248	<.1	<.1
PCB-Aroclor 1254	<.1	<.1
PCB-Aroclor 1260	<.1	<.1
Pentachlorophenol (PCP)	<10.6	<10.8
Phenanthrene	<2.1	<2.2[a]
Phenol	<2.1	<2.2
Pyrene	<2.1	<2.2[a]
Trichlorobenzene, 1,2,4-	<2.1	<2.2
Trichlorophenol, 2,4,6- (TCPh)	<5.3	<5.4

¡ Deteced in Blank; º Exceeds Calibration; ¿ QC Criteria Not Met; ¹ Invalid Colony Count; ¥ CoAnalyeCorrelation; £ Matrix Interference; ªEstimatedValue; ¯Holding/Shipping Time Exceeded; ¤ PesticideGCDiff

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

501510 BLACK R. DST. ELYRIA @ FORD RD.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	9.80	412.0	04110001-06-02	41.41148	-82.09520

	13-AUG-2012
% Solids percent	34.3
Aluminum mg/kg	9610[a]
Arsenic mg/kg	14.8
Barium mg/kg	72.4
Cadmium mg/kg	4.28
Calcium mg/kg	7930
Carbon, Total Organic (TOC) percent	3
Chromium mg/kg	32.4
Copper mg/kg	40.7
Iron mg/kg	29200
Lead mg/kg	28.3
Magnesium mg/kg	4470
Manganese mg/kg	611
Mercury mg/kg	.149
Nickel mg/kg	36.2
Potassium mg/kg	<2080
Selenium mg/kg	<2.08
Sodium mg/kg	<5210
Strontium mg/kg	<31
Substrate - clay percent	7.1
Substrate - clay, medium percent	1.8
Substrate - claypan soil percent	3.6
Substrate - sand, coarse percent	71
Substrate - silt, coarse percent	1.8
Substrate - silt, fine percent	3.6
Substrate - silt, medium percent	7.1
Substrate - silt, very fine percent	3.6
Zinc mg/kg	194

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

501520		BLACK R. AT ELYRIA @ CASCADE PARK			
Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	14.95	396.0	04110001-06-02	41.37932	-82.10772

	13-AUG-2012
% Solids percent	15.3
Aluminum mg/kg	18100[a]
Arsenic mg/kg	21.7
Barium mg/kg	198
Cadmium mg/kg	19.6
Calcium mg/kg	37600
Carbon, Total Organic (TOC) percent	2.4
Chromium mg/kg	76.4
Copper mg/kg	97.3
Iron mg/kg	53000
Lead mg/kg	81
Magnesium mg/kg	11300
Manganese mg/kg	1000
Mercury mg/kg	.331
Nickel mg/kg	62.2
Potassium mg/kg	<4750
Selenium mg/kg	12.4
Sodium mg/kg	<11900
Strontium mg/kg	81
Substrate - clay percent	3.2
Substrate - clay, medium percent	1.6
Substrate - claypan soil percent	1.6
Substrate - sand, coarse percent	82
Substrate - silt, coarse percent	3.2
Substrate - silt, fine percent	1.6
Substrate - silt, medium percent	4.9
Substrate - silt, very fine percent	1.6
Zinc mg/kg	356

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

B01P07 E. BR. BLACK R. AT ELYRIA @ WASHINGTON ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	0.36	222.0	04110001-04-04	41.36875	-82.10640

	03-DEC-2012
% Solids percent	50.3
Aluminum mg/kg	7340
Arsenic mg/kg	7.04
Barium mg/kg	60.9
Cadmium mg/kg	2.63
Calcium mg/kg	11500
Carbon, Total Organic (TOC) percent	2.2
Chromium mg/kg	28.1
Copper mg/kg	56.6
Iron mg/kg	17600
Lead mg/kg	29.1
Magnesium mg/kg	3800
Manganese mg/kg	356
Mercury mg/kg	.051
Nickel mg/kg	21.2
Potassium mg/kg	<1520
Selenium mg/kg	<1.52
Sodium mg/kg	<3800
Strontium mg/kg	<23
Zinc mg/kg	124

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

B01P10 E. BR. BLACK R. AT ELYRIA @ E. BRIDGE ST.

Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-010-000	1.14	222.0	04110001-04-04	41.36976	-82.09870

	03-DEC-2012
% Solids percent	41.7
Aluminum mg/kg	13500
Arsenic mg/kg	9.66
Barium mg/kg	92
Cadmium mg/kg	.923
Calcium mg/kg	9770
Carbon, Total Organic (TOC) percent	2.1
Chromium mg/kg	19.4
Copper mg/kg	29.2
Iron mg/kg	27400
Lead mg/kg	27.2
Magnesium mg/kg	5220
Manganese mg/kg	583
Mercury mg/kg	.055
Nickel mg/kg	28.3
Potassium mg/kg	<1810
Selenium mg/kg	<1.81
Sodium mg/kg	<4520
Strontium mg/kg	<27
Zinc mg/kg	142

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

B01S09		BLACK R. DST. ELYRIA, NEAR SPRING VALLEY GOLF CLUB			
Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	11.50	398.0	04110001-06-02	41.39690	-82.09780

	13-AUG-2012
% Solids percent	45.1
Aluminum mg/kg	11800[a]
Arsenic mg/kg	12.2
Barium mg/kg	89.2
Cadmium mg/kg	9.74
Calcium mg/kg	12200
Carbon, Total Organic (TOC) percent	1.9
Chromium mg/kg	55.5
Copper mg/kg	78.3
Iron mg/kg	33600
Lead mg/kg	54.8
Magnesium mg/kg	5030
Manganese mg/kg	558
Mercury mg/kg	.17
Nickel mg/kg	39.3
Potassium mg/kg	2010
Selenium mg/kg	3.05
Sodium mg/kg	<4350
Strontium mg/kg	31
Substrate - clay percent	11
Substrate - clay, medium percent	5.4
Substrate - claypan soil percent	5.4
Substrate - sand, coarse percent	46
Substrate - silt, coarse percent	5.4
Substrate - silt, fine percent	16
Substrate - silt, medium percent	5.4
Substrate - silt, very fine percent	5.4
Zinc mg/kg	204

Appendix Table 3. Sediment inorganic results for samples collected in support of the 2012 Black River survey.

B01W07		BLACK R. 250 FT. UPST ELYRIA WWTP			
Rivercode	River Mile	Drainage Area	Hydro Unit	Lat	Long
20-001-000	10.70	401.0	04110001-06-02	41.40625	-82.09530

	13-AUG-2012
% Solids percent	53.7
Aluminum mg/kg	8630[a]
Arsenic mg/kg	12
Barium mg/kg	65.5
Cadmium mg/kg	7.21
Calcium mg/kg	9560
Carbon, Total Organic (TOC) percent	2.2
Chromium mg/kg	45.5
Copper mg/kg	71.2
Iron mg/kg	23200
Lead mg/kg	39.5
Magnesium mg/kg	3930
Manganese mg/kg	409
Mercury mg/kg	.114
Nickel mg/kg	29.6
Potassium mg/kg	1380
Selenium mg/kg	<1.38
Sodium mg/kg	<3450
Strontium mg/kg	25
Substrate - clay percent	9.4
Substrate - clay, medium percent	5.6
Substrate - claypan soil percent	3.7[a]
Substrate - sand, coarse percent	48
Substrate - silt, coarse percent	3.7
Substrate - silt, fine percent	7.5
Substrate - silt, medium percent	17
Substrate - silt, very fine percent	5.6
Zinc mg/kg	152

¡ Deteced in Blank; º Exceeds Calibration; ¿ QC Criteria Not Met; ± Invalid Colony Count; ¥ CoAnalyeCorrelation; £ Matrix Interference; ªEstimatedValue; ¯Holding/Shipping Time Exceeded: ¤ PesticideGCDiff

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
501510 BLACK R. DST. ELYRIA @ FORD RD.		
OTHER	**13-AUG-2012**	
% Solids	57.8	
1,2,4,5-Tetrachlorobenzene	<.69	
1,2,4-Trichlorobenzene	<.69	
1,2-Dichlorobenzene	<.69	
1,3-Dichlorobenzene	<.69	
1,3-Dinitrobenzene	<.69	
1,4-Dichlorobenzene	<.69	
2,3,4,6-Tetrachlorophenol	<.69	
2,4,5-Trichlorophenol	<.69	
2,4,6-Trichlorophenol	<.69	
2,4-Dichlorophenol	<.69	
2,4-Dimethylphenol	<.69	
2,4-Dinitrophenol	<3.4	
2,4-Dinitrotoluene	<.69	
2,6-Dichlorophenol	<.69	
2,6-Dinitrotoluene	<.69	
2-Acetylaminofluorene	<.69	
2-Chloronaphthalene	<.69	
2-Chlorophenol	<.69	
2-Methylphenol	<.69	
2-Nitroaniline	<.69	
2-Nitrophenol	<.69	
2-Picoline	<.69	
Phenol, 4-methyl-	<.69	
3,3'-Dichlorobenzidine	<3.4	
4,4'-DDD	<6.9	
4,4'-DDE	<6.9	
4,4'-DDT	<6.9	
4,6-Dinitro-2-methylphenol	<.69	
4-Bromophenyl-phenylether	<.69	
4-Chloro-3-methylphenol	<.69	
4-Chlorophenyl-phenylether	<.69	
4-Nitroaniline	<.69	
4-Nitrophenol	<3.4	
7,12-Dimethylbenz[a]anthracene	<3.4	
Acetophenone	<.69	
Aldrin	<6.9	
Aniline	<3.4	
Benzyl Alcohol	<.69	
Butylbenzylphthalate	<.69	
Di-n-butylphthalate	<.69	
Di-n-octylphthalate	<.69	
Dieldrin	<6.9	
Diethylphthalate	<.69	
Dimethylphthalate	<.69	
Dinoseb	<.69	
Diphenylamine	<.69	
Endosulfan I	<6.9	
Endosulfan II	<6.9	
Endosulfan sulfate	<6.9	
Endrin	<6.9	
Endrin aldehyde	<6.9	
Ethyl methanesulfonate	<.69	
Heptachlor	<6.9	
Heptachlor epoxide	<6.9	
Hexachlorobenzene	<6.9	
Hexachlorobenzene	<.69	
Hexachlorobutadiene	<.69	
Hexachlorocyclopentadiene	<.69	
Hexachloroethane	<.69	
Hexachloropropene	<.69	
Isophorone	<.69	
Methoxychlor	<6.9	
Methyl methanesulfonate	<.69	
Mirex	<6.9	
N-Nitroso-di-n-butylamine	<.69	
N-Nitroso-di-n-propylamine	<.69	
N-Nitrosomorpholine	<.69	
N-Nitrosopiperidine	<.69	
N-Nitrosopyrrolidine	<.69	
Nitrobenzene	<.69	
PCB-1016	<34.4	
PCB-1221	<34.4	
PCB-1232	<34.4	
PCB-1242	<34.4	
PCB-1248	<34.4	
PCB-1254	<34.4	
PCB-1260	<34.4	
Pentachlorobenzene	<.69	
Pentachlorophenol	<.69[a]	
Phenacetin	<.69	
Phenol	<.69	
Pronamide	<.69	
Safrole	<.69	
a-BHC	<6.9	
b-BHC	<6.9	
bis(2-Chloroethoxy)methane	<.69	
bis(2-Chloroethyl)ether	<.69	
bis(2-Chloroisopropyl)ether	<.69	
bis(2-Ethylhexyl)phthalate	.8	
d-BHC	<6.9	
p-Dimethylaminoazobenzene	<.69	
y-BHC	<6.9	
PAH	**13-AUG-2012**	
1,4-Naphthoquinone	<.69	12
2-Methylnaphthalene	<.69	12
3-Methylcholanthrene	<.69	12
Acenaphthene	<.69	12
Acenaphthylene	<.69	12
Anthracene	<.69	12
Benzo(a)anthracene	<.69	12
Benzo(a)pyrene	.81	27
Benzo[b]fluoranthene	.81	27
Benzo[g,h,i]perylene	<.69	12
Benzo[k]fluoranthene	<.69	12
Chrysene	.84	28
Dibenz[a,h]anthracene	<.69	12
Dibenzofuran	<.69	12
Fluoranthene	.97	32
Fluorene	<.69	12
Indeno[1,2,3-cd]pyrene	<.69	12
Naphthalene	<.69	12
Phenanthrene	<.69	12
Pyrene	.91	30

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
501520 BLACK R. AT ELYRIA @ CASCADE PARK		
OTHER	**13-AUG-2012**	
% Solids	64.9	
1,2,4,5-Tetrachlorobenzene	<.61	
1,2,4-Trichlorobenzene	<.61	
1,2-Dichlorobenzene	<.61	
1,3-Dichlorobenzene	<.61	
1,3-Dinitrobenzene	<.61	
1,4-Dichlorobenzene	<.61	
2,3,4,6-Tetrachlorophenol	<.61	
2,4,5-Trichlorophenol	<.61	
2,4,6-Trichlorophenol	<.61	
2,4-Dichlorophenol	<.61	
2,4-Dimethylphenol	<.61	
2,4-Dinitrophenol	<3.1	
2,4-Dinitrotoluene	<.61	
2,6-Dichlorophenol	<.61	
2,6-Dinitrotoluene	<.61	
2-Acetylaminofluorene	<.61	
2-Chloronaphthalene	<.61	
2-Chlorophenol	<.61	
2-Methylphenol	<.61	
2-Nitroaniline	<.61	
2-Nitrophenol	<.61	
2-Picoline	<.61	
Phenol, 4-methyl-	<.61	
3,3'-Dichlorobenzidine	<3.1	
4,4'-DDD	<6.1	
4,4'-DDE	<6.1	
4,4'-DDT	<6.1	
4,6-Dinitro-2-methylphenol	<.61	
4-Bromophenyl-phenylether	<.61	
4-Chloro-3-methylphenol	<.61	
4-Chlorophenyl-phenylether	<.61	
4-Nitroaniline	<.61	
4-Nitrophenol	<3.1	
7,12-Dimethylbenz[a]anthracene	<3.1	
Acetophenone	<.61	
Aldrin	<6.1	
Aniline	<3.1	
Benzyl Alcohol	<.61	
Butylbenzylphthalate	<.61	
Di-n-butylphthalate	<.61	
Di-n-octylphthalate	<.61	
Dieldrin	<6.1	
Diethylphthalate	<.61	
Dimethylphthalate	<.61	
Dinoseb	<.61	
Diphenylamine	<.61	
Endosulfan I	<6.1	
Endosulfan II	<6.1	
Endosulfan sulfate	<6.1	
Endrin	<6.1	
Endrin aldehyde	<6.1	
Ethyl methanesulfonate	<.61	
Heptachlor	<6.1	
Heptachlor epoxide	<6.1	
Hexachlorobenzene	<.61	
Hexachlorobenzene	<6.1	
Hexachlorobutadiene	<.61	
Hexachlorocyclopentadiene	<.61	
Hexachloroethane	<.61	
Hexachloropropene	<.61	
Isophorone	<.61	
Methoxychlor	<6.1	
Methyl methanesulfonate	<.61	
Mirex	<6.1	
N-Nitroso-di-n-butylamine	<.61	
N-Nitroso-di-n-propylamine	<.61	
N-Nitrosomorpholine	<.61	
N-Nitrosopiperidine	<.61	
N-Nitrosopyrrolidine	<.61	
Nitrobenzene	<.61	
PCB-1016	<30.7	
PCB-1221	<30.7	
PCB-1232	<30.7	
PCB-1242	60.8	
PCB-1248	<30.7	
PCB-1254	<30.7	
PCB-1260	<30.7	
Pentachlorobenzene	<.61	
Pentachlorophenol	<.61[a]	
Phenacetin	<.61	
Phenol	<.61	
Pronamide	<.61	
Safrole	<.61	
a-BHC	<6.1	
b-BHC	<6.1	
bis(2-Chloroethoxy)methane	<.61	
bis(2-Chloroethyl)ether	<.61	
bis(2-Chloroisopropyl)ether	<.61	
bis(2-Ethylhexyl)phthalate	<.61	
d-BHC	<6.1	
p-Dimethylaminoazobenzene	<.61	
y-BHC	<6.1	
PAH	**13-AUG-2012**	
1,4-Naphthoquinone	<.61	13
2-Methylnaphthalene	<.61	13
3-Methylcholanthrene	<.61	13
Acenaphthene	<.61	13
Acenaphthylene	<.61	13
Anthracene	<.61	13
Benzo(a)anthracene	.89	37
Benzo(a)pyrene	1	42
Benzo[b]fluoranthene	1.05	44
Benzo[g,h,i]perylene	.76	32
Benzo[k]fluoranthene	.84	35
Chrysene	1.08	45
Dibenz[a,h]anthracene	<.61	13
Dibenzofuran	<.61	13
Fluoranthene	2.22	93
Fluorene	<.61	13
Indeno[1,2,3-cd]pyrene	.69	29
Naphthalene	<.61	13
Phenanthrene	1.19	50
Pyrene	1.72	72

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
B01P07 E. BR. BLACK R. AT ELYRIA @ WASHINGTON ST.		
OTHER	**03-DEC-2012**	
% Solids	57.7	
1,2,4,5-Tetrachlorobenzene	<.69	
1,2,4-Trichlorobenzene	<.69	
1,2-Dichlorobenzene	<.69	
1,3-Dichlorobenzene	<.69	
1,3-Dinitrobenzene	<.69	
1,4-Dichlorobenzene	<.69	
2,3,4,6-Tetrachlorophenol	<.69	
2,4,5-Trichlorophenol	<.69	
2,4,6-Trichlorophenol	<.69	
2,4-Dichlorophenol	<.69	
2,4-Dimethylphenol	<.69	
2,4-Dinitrophenol	<3.4	
2,4-Dinitrotoluene	<.69	
2,6-Dichlorophenol	<.69	
2,6-Dinitrotoluene	<.69	
2-Acetylaminofluorene	<.69	
2-Chloronaphthalene	<.69	
2-Chlorophenol	<.69	
2-Methylphenol	<.69	
2-Nitroaniline	<.69	
2-Nitrophenol	<.69	
2-Picoline	<.69	
Phenol, 4-methyl-	<.69	
3,3'-Dichlorobenzidine	<3.4	
4,4'-DDD	<6.9	
4,4'-DDE	<6.9	
4,4'-DDT	<6.9	
4,6-Dinitro-2-methylphenol	<.69	
4-Bromophenyl-phenylether	<.69	
4-Chloro-3-methylphenol	<.69	
4-Chlorophenyl-phenylether	<.69	
4-Nitroaniline	<.69	
4-Nitrophenol	<3.4	
7,12-Dimethylbenz[a]anthracene	<3.4	
Acetophenone	<.69	
Aldrin	<6.9	
Aniline	<3.4	
Benzyl Alcohol	<.69	
Butylbenzylphthalate	<.69	
Di-n-butylphthalate	<.69	
Di-n-octylphthalate	<.69	
Dieldrin	<6.9	
Diethylphthalate	<.69	
Dimethylphthalate	<.69	
Dinoseb	<.69	
Diphenylamine	<.69	
Endosulfan I	<6.9	
Endosulfan II	<6.9	
Endosulfan sulfate	<6.9	
Endrin	<6.9	
Endrin aldehyde	<6.9	
Ethyl methanesulfonate	<.69	
Heptachlor	<6.9	
Heptachlor epoxide	<6.9	
Hexachlorobenzene	<6.9	
Hexachlorobenzene	<.69	
Hexachlorobutadiene	<.69	
Hexachlorocyclopentadiene	<.69	
Hexachloroethane	<.69	
Hexachloropropene	<.69	
Isophorone	<.69	
Methoxychlor	<6.9	
Methyl methanesulfonate	<.69	
Mirex	<6.9	
N-Nitroso-di-n-butylamine	<.69	
N-Nitroso-di-n-propylamine	<.69	
N-Nitrosomorpholine	<.69	
N-Nitrosopiperidine	<.69	
N-Nitrosopyrrolidine	<.69	
Nitrobenzene	<.69	
PCB-1016	<34.6	
PCB-1221	<34.6	
PCB-1232	<34.6	
PCB-1242	<34.6	
PCB-1248	<34.6	
PCB-1254	<34.6	
PCB-1260	<34.6	
Pentachlorobenzene	<.69	
Pentachlorophenol	<.69	
Phenacetin	<.69	
Phenol	<.69	
Pronamide	<.69	
Safrole	<.69	
a-BHC	<6.9	
b-BHC	<6.9	
bis(2-Chloroethoxy)methane	<.69	
bis(2-Chloroethyl)ether	<.69	
bis(2-Chloroisopropyl)ether	<.69	
bis(2-Ethylhexyl)phthalate	<.69	
d-BHC	<6.9	
p-Dimethylaminoazobenzene	<.69	
y-BHC	<6.9	
PAH	**03-DEC-2012**	
1,4-Naphthoquinone	<.69	16
2-Methylnaphthalene	<.69	16
3-Methylcholanthrene	<.69	16
Acenaphthene	<.69	16
Acenaphthylene	<.69	16
Anthracene	.83	38
Benzo(a)anthracene	1.09	50
Benzo(a)pyrene	<.69	16
Benzo[b]fluoranthene	1.24	56
Benzo[g,h,i]perylene	.79	36
Benzo[k]fluoranthene	<.69	16
Chrysene	1.07	49
Dibenz[a,h]anthracene	<.69	16
Dibenzofuran	<.69	16
Fluoranthene	1.82	83
Fluorene	<.69	16
Indeno[1,2,3-cd]pyrene	.7	32
Naphthalene	<.69	16
Phenanthrene	.85	39
Pyrene	1.52	69

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
B01P10 E. BR. BLACK R. AT ELYRIA @ E. BRIDGE ST.		
OTHER	**03-DEC-2012**	
% Solids	52.6	
1,2,4,5-Tetrachlorobenzene	<.76	
1,2,4-Trichlorobenzene	<.76	
1,2-Dichlorobenzene	<.76	
1,3-Dichlorobenzene	<.76	
1,3-Dinitrobenzene	<.76	
1,4-Dichlorobenzene	<.76	
2,3,4,6-Tetrachlorophenol	<.76	
2,4,5-Trichlorophenol	<.76	
2,4,6-Trichlorophenol	<.76	
2,4-Dichlorophenol	<.76	
2,4-Dimethylphenol	<.76	
2,4-Dinitrophenol	<3.8	
2,4-Dinitrotoluene	<.76	
2,6-Dichlorophenol	<.76	
2,6-Dinitrotoluene	<.76	
2-Acetylaminofluorene	<.76	
2-Chloronaphthalene	<.76	
2-Chlorophenol	<.76	
2-Methylphenol	<.76	
2-Nitroaniline	<.76	
2-Nitrophenol	<.76	
2-Picoline	<.76	
Phenol, 4-methyl-	<.76	
3,3'-Dichlorobenzidine	<3.8	
4,4'-DDD	<7.6	
4,4'-DDE	<7.6	
4,4'-DDT	<7.6	
4,6-Dinitro-2-methylphenol	<.76	
4-Bromophenyl-phenylether	<.76	
4-Chloro-3-methylphenol	<.76	
4-Chlorophenyl-phenylether	<.76	
4-Nitroaniline	<.76	
4-Nitrophenol	<3.8	
7,12-Dimethylbenz[a]anthracene	<3.8	
Acetophenone	<.76	
Aldrin	<7.6	
Aniline	<3.8	
Benzyl Alcohol	<.76	
Butylbenzylphthalate	<.76	
Di-n-butylphthalate	1.64	
Di-n-octylphthalate	<.76	
Dieldrin	<7.6	
Diethylphthalate	<.76	
Dimethylphthalate	<.76	
Dinoseb	<.76	
Diphenylamine	<.76	
Endosulfan I	<7.6	
Endosulfan II	<7.6	
Endosulfan sulfate	<7.6	
Endrin	<7.6	
Endrin aldehyde	<7.6	
Ethyl methanesulfonate	<.76	
Heptachlor	<7.6	
Heptachlor epoxide	<7.6	
Hexachlorobenzene	<.76	
Hexachlorobenzene	<7.6	
Hexachlorobutadiene	<.76	
Hexachlorocyclopentadiene	<.76	
Hexachloroethane	<.76	
Hexachloropropene	<.76	
Isophorone	<.76	
Methoxychlor	<7.6	
Methyl methanesulfonate	<.76	
Mirex	<7.6	
N-Nitroso-di-n-butylamine	<.76	
N-Nitroso-di-n-propylamine	<.76	
N-Nitrosomorpholine	<.76	
N-Nitrosopiperidine	<.76	
N-Nitrosopyrrolidine	<.76	
Nitrobenzene	<.76	
PCB-1016	<37.8	
PCB-1221	<37.8	
PCB-1232	<37.8	
PCB-1242	<37.8	
PCB-1248	<37.8	
PCB-1254	<37.8	
PCB-1260	<37.8	
Pentachlorobenzene	<.76	
Pentachlorophenol	<.76	
Phenacetin	<.76	
Phenol	<.76	
Pronamide	<.76	
Safrole	<.76	
a-BHC	<7.6	
b-BHC	<7.6	
bis(2-Chloroethoxy)methane	<.76	
bis(2-Chloroethyl)ether	<.76	
bis(2-Chloroisopropyl)ether	<.76	
bis(2-Ethylhexyl)phthalate	<.76	
d-BHC	<7.6	
p-Dimethylaminoazobenzene	<.76	
y-BHC	<7.6	
PAH	**03-DEC-2012**	
1,4-Naphthoquinone	<.76	18
2-Methylnaphthalene	<.76	18
3-Methylcholanthrene	<.76	18
Acenaphthene	<.76	18
Acenaphthylene	<.76	18
Anthracene	<.76	18
Benzo(a)anthracene	<.76	18
Benzo(a)pyrene	<.76	18
Benzo[b]fluoranthene	1.01	48
Benzo[g,h,i]perylene	<.76	18
Benzo[k]fluoranthene	<.76	18
Chrysene	.91	43
Dibenz[a,h]anthracene	<.76	18
Dibenzofuran	<.76	18
Fluoranthene	1.79	85
Fluorene	<.76	18
Indeno[1,2,3-cd]pyrene	<.76	18
Naphthalene	<.76	18
Phenanthrene	.85	40
Pyrene	1.44	69

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
B01S09 BLACK R. DST. ELYRIA, NEAR SPRING VALLEY GOLF CLUB		
OTHER	**13-AUG-2012**	
% Solids	61	
1,2,4,5-Tetrachlorobenzene	<.65	
1,2,4-Trichlorobenzene	<.65	
1,2-Dichlorobenzene	<.65	
1,3-Dichlorobenzene	<.65	
1,3-Dinitrobenzene	<.65	
1,4-Dichlorobenzene	<.65	
2,3,4,6-Tetrachlorophenol	<.65	
2,4,5-Trichlorophenol	<.65	
2,4,6-Trichlorophenol	<.65	
2,4-Dichlorophenol	<.65	
2,4-Dimethylphenol	<.65	
2,4-Dinitrophenol	<3.3	
2,4-Dinitrotoluene	<.65	
2,6-Dichlorophenol	<.65	
2,6-Dinitrotoluene	<.65	
2-Acetylaminofluorene	<.65	
2-Chloronaphthalene	<.65	
2-Chlorophenol	<.65	
2-Methylphenol	<.65	
2-Nitroaniline	<.65	
2-Nitrophenol	<.65	
2-Picoline	<.65	
Phenol, 4-methyl-	<.65	
3,3'-Dichlorobenzidine	<3.3	
4,4'-DDD	<6.5	
4,4'-DDE	<6.5	
4,4'-DDT	37.7	
4,6-Dinitro-2-methylphenol	<.65	
4-Bromophenyl-phenylether	<.65	
4-Chloro-3-methylphenol	<.65	
4-Chlorophenyl-phenylether	<.65	
4-Nitroaniline	<.65	
4-Nitrophenol	<3.3	
7,12-Dimethylbenz[a]anthracene	<3.3	
Acetophenone	<.65	
Aldrin	<6.5	
Aniline	<3.3	
Benzyl Alcohol	<.65	
Butylbenzylphthalate	<.65	
Di-n-butylphthalate	<.65	
Di-n-octylphthalate	<.65	
Dieldrin	<6.5	
Diethylphthalate	<.65	
Dimethylphthalate	<.65	
Dinoseb	<.65	
Diphenylamine	<.65	
Endosulfan I	<6.5	
Endosulfan II	<6.5	
Endosulfan sulfate	<6.5	
Endrin	<6.5	
Endrin aldehyde	<6.5	
Ethyl methanesulfonate	<.65	
Heptachlor	<6.5	
Heptachlor epoxide	<6.5	
Hexachlorobenzene	<6.5	
Hexachlorobenzene	<.65	
Hexachlorobutadiene	<.65	
Hexachlorocyclopentadiene	<.65	
Hexachloroethane	<.65	
Hexachloropropene	<.65	
Isophorone	<.65	
Methoxychlor	<6.5	
Methyl methanesulfonate	<.65	
Mirex	<6.5	
N-Nitroso-di-n-butylamine	<.65	
N-Nitroso-di-n-propylamine	<.65	
N-Nitrosomorpholine	<.65	
N-Nitrosopiperidine	<.65	
N-Nitrosopyrrolidine	<.65	
Nitrobenzene	<.65	
PCB-1016	<32.7	
PCB-1221	<32.7	
PCB-1232	<32.7	
PCB-1242	<32.7	
PCB-1248	<32.7	
PCB-1254	<32.7	
PCB-1260	<32.7	
Pentachlorobenzene	<.65	
Pentachlorophenol	<.65[a]	
Phenacetin	<.65	
Phenol	<.65	
Pronamide	<.65	
Safrole	<.65	
a-BHC	<6.5	
b-BHC	<6.5	
bis(2-Chloroethoxy)methane	<.65	
bis(2-Chloroethyl)ether	<.65	
bis(2-Chloroisopropyl)ether	<.65	
bis(2-Ethylhexyl)phthalate	<.65	
d-BHC	<6.5	
p-Dimethylaminoazobenzene	<.65	
y-BHC	<6.5	
PAH	**13-AUG-2012**	
1,4-Naphthoquinone	<.65	17
2-Methylnaphthalene	<.65	17
3-Methylcholanthrene	<.65	17
Acenaphthene	<.65	17
Acenaphthylene	<.65	17
Anthracene	<.65	17
Benzo(a)anthracene	<.65	17
Benzo(a)pyrene	<.65	17
Benzo[b]fluoranthene	<.65	17
Benzo[g,h,i]perylene	<.65	17
Benzo[k]fluoranthene	<.65	17
Chrysene	<.65	17
Dibenz[a,h]anthracene	<.65	17
Dibenzofuran	<.65	17
Fluoranthene	.89	47
Fluorene	<.65	17
Indeno[1,2,3-cd]pyrene	<.65	17
Naphthalene	<.65	17
Phenanthrene	<.65	17
Pyrene	.72	38

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg.

PARAMETER	RESULT	normalized PAH
B01W07 BLACK R. 250 FT. UPST ELYRIA WWTP		
OTHER	**13-AUG-2012**	
% Solids	61.9	
1,2,4,5-Tetrachlorobenzene	<.65	
1,2,4-Trichlorobenzene	<.65	
1,2-Dichlorobenzene	<.65	
1,3-Dichlorobenzene	<.65	
1,3-Dinitrobenzene	<.65	
1,4-Dichlorobenzene	<.65	
2,3,4,6-Tetrachlorophenol	<.65	
2,4,5-Trichlorophenol	<.65	
2,4,6-Trichlorophenol	<.65	
2,4-Dichlorophenol	<.65	
2,4-Dimethylphenol	<.65	
2,4-Dinitrophenol	<3.2	
2,4-Dinitrotoluene	<.65	
2,6-Dichlorophenol	<.65	
2,6-Dinitrotoluene	<.65	
2-Acetylaminofluorene	<.65	
2-Chloronaphthalene	<.65	
2-Chlorophenol	<.65	
2-Methylphenol	<.65	
2-Nitroaniline	<.65	
2-Nitrophenol	<.65	
2-Picoline	<.65	
Phenol, 4-methyl-	<.65	
3,3'-Dichlorobenzidine	<3.2	
4,4'-DDD	<6.4	
4,4'-DDE	<6.4	
4,4'-DDT	<6.4	
4,6-Dinitro-2-methylphenol	<.65	
4-Bromophenyl-phenylether	<.65	
4-Chloro-3-methylphenol	<.65	
4-Chlorophenyl-phenylether	<.65	
4-Nitroaniline	<.65	
4-Nitrophenol	<3.2	
7,12-Dimethylbenz[a]anthracene	<3.2	
Acetophenone	<.65	
Aldrin	<6.4	
Aniline	<3.2	
Benzyl Alcohol	<.65	
Butylbenzylphthalate	<.65	
Di-n-butylphthalate	<.65	
Di-n-octylphthalate	<.65	
Dieldrin	<6.4	
Diethylphthalate	<.65	
Dimethylphthalate	<.65	
Dinoseb	<.65	
Diphenylamine	<.65	
Endosulfan I	<6.4	
Endosulfan II	<6.4	
Endosulfan sulfate	<6.4	
Endrin	<6.4	
Endrin aldehyde	<6.4	
Ethyl methanesulfonate	<.65	
Heptachlor	<6.4	
Heptachlor epoxide	<6.4	
Hexachlorobenzene	<6.4	
Hexachlorobenzene	<.65	
Hexachlorobutadiene	<.65	
Hexachlorocyclopentadiene	<.65	
Hexachloroethane	<.65	
Hexachloropropene	<.65	
Isophorone	<.65	
Methoxychlor	<6.4	
Methyl methanesulfonate	<.65	
Mirex	<6.4	
N-Nitroso-di-n-butylamine	<.65	
N-Nitroso-di-n-propylamine	<.65	
N-Nitrosomorpholine	<.65	
N-Nitrosopiperidine	<.65	
N-Nitrosopyrrolidine	<.65	
Nitrobenzene	<.65	
PCB-1016	<32.1	
PCB-1221	<32.1	
PCB-1232	<32.1	
PCB-1242	<32.1	
PCB-1248	<32.1	
PCB-1254	<32.1	
PCB-1260	50.3	
Pentachlorobenzene	<.65	
Pentachlorophenol	<.65[a]	
Phenacetin	<.65	
Phenol	<.65	
Pronamide	<.65	
Safrole	<.65	
a-BHC	<6.4	
b-BHC	<6.4	
bis(2-Chloroethoxy)methane	<.65	
bis(2-Chloroethyl)ether	<.65	
bis(2-Chloroisopropyl)ether	<.65	
bis(2-Ethylhexyl)phthalate	<.65	
d-BHC	<6.4	
p-Dimethylaminoazobenzene	<.65	
y-BHC	<6.4	
PAH	**13-AUG-2012**	
1,4-Naphthoquinone	<.65	15
2-Methylnaphthalene	<.65	15
3-Methylcholanthrene	<.65	15
Acenaphthene	<.65	15
Acenaphthylene	<.65	15
Anthracene	<.65	15
Benzo(a)anthracene	<.65	15
Benzo(a)pyrene	<.65	15
Benzo[b]fluoranthene	<.65	15
Benzo[g,h,i]perylene	<.65	15
Benzo[k]fluoranthene	<.65	15
Chrysene	<.65	15
Dibenz[a,h]anthracene	<.65	15
Dibenzofuran	<.65	15
Fluoranthene	<.65	15
Fluorene	<.65	15
Indeno[1,2,3-cd]pyrene	<.65	15
Naphthalene	<.65	15
Phenanthrene	<.65	15
Pyrene	<.65	15

Appendix Table 4. Organic parameters from sediment samples collected during the 2012 Black River survey.

All units are mg/kg. PARAMETER	RESULT	normalized PAH	PARAMETER	RESULT	normalized PAH

ⁱ Deteced in Blank; ᵒ Exceeds Calibration; ¿ QC Criteria Not Met; ¹ Invalid Colony Count; ¥ CoAnalyeCorrelation; ᵉ Matrix Interference; ᵍEstimatedValue; ¯Holding/Shipping Time Exceeded; ¤ PesticideGCDiff

Appendix Table 5. *E. coli* results, 2012.

Black River Survey 2012

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
E Fk E Br Black R @ Lodi City Park	B01S36	301	110	7/10/2012	2.67	Medina	20-014-000
			130	7/25/2012			
			110	7/25/2012			
			120	9/13/2012			
			80	10/4/2012			
			63	10/16/2012			
			2	10/24/2012			
E Fk E Br Black R @ Richmond Rd	B01W10	301	470	7/10/2012	0.06	Medina	20-014-000
			460	7/25/2012			
			580	9/13/2012			
			350	10/4/2012			
			180	10/16/2012			
			320	10/24/2012			
Clear Creek SW of Lodi @ Pawnee Rd	201615	302	320	7/10/2012	1.8	Medina	20-016-000
			290	7/25/2012			
			220	9/13/2012			
			24,000	10/4/2012			
			5	10/16/2012			
			8	10/24/2012			
W Fk E Br Black R @ Homer @ St Rt 301	201609	302	610	7/25/2012	8.9	Medina	20-015-000
			220	9/13/2012			
			5,200	10/4/2012			
			61	10/16/2012			
			290	10/24/2012			
W Fk E Br Black R @ Sanford Rd	B01W13	302	330	7/10/2012	0.34	Medina	20-015-000
			120	7/25/2012			
			160	9/13/2012			
			5,500	10/4/2012			
			86	10/16/2012			
			73	10/24/2012			
W Fk E Br Black R @ Twp Rd 391	301931	302	60	7/25/2012	13.97	Medina	20-015-000
			86	9/13/2012			
			6,900	10/4/2012			
			100	10/15/2012			
			52	10/18/2012			
Coon Creek @ River Corners Rd	301933	303	63	7/10/2012	0.88	Lorain	20-013-000
			70	7/25/2012			
			77	9/13/2012			
			780	10/4/2012			
			61	10/16/2012			
			21	10/24/2012			
E Branch Black R @ Old Mill Rd	B01K07	303	86	7/10/2012	40.47	Lorain	20-010-000
			110	7/25/2012			
East Branch Black R @ Shaw Rd	B01S34	303	72	7/10/2012	41.45	Medina	20-010-000
			54	7/25/2012			
			490	9/13/2012			
			1,500	10/4/2012			
			110	10/16/2012			
			610	10/24/2012			
Trib to E Br Black R (39.06) @ Spencer Lake Rd	Q01K04	303	170	7/25/2012	2.16	Medina	20-010-010
Trib to E Br Black R (RM 41.41) @ Shaw Rd	302006	303	1,200	7/25/2012	0.35	Medina	20-010-011
			1,100	7/25/2012			
			140	9/13/2012			
			91	10/4/2012			
			15	10/16/2012			
			390	10/24/2012			
Trib to E Br Black R (RM 28.65) @ Foster Rd	201599	401	230	7/10/2012	1.5	Lorain	20-010-008
			220	7/25/2012			
			570	9/13/2012			
			750	10/4/2012			
			190	10/16/2012			
			86	10/24/2012			
E Br Black R @ Smith Rd	B01S33	401	290	6/27/2012	32.42	Medina	20-010-000
			110	7/10/2012			
			74	7/25/2012			
			98	7/26/2012			

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
			890	9/5/2012			
			460	9/13/2012			
			2,000	10/4/2012			
			31	10/16/2012			
			310	10/24/2012			
			110	10/24/2012			
			13,000	10/29/2012			
Crow Creek @ Vermont Rd	201602	402	110	7/10/2012	0.8	Lorain	20-012-000
			300	7/25/2012			
			950	10/4/2012			
			180	10/16/2012			
			800	10/24/2012			
E Br Black R @ Vermont Ave	B01S32	402	610	7/25/2012	18.94	Lorain	20-010-000
			210	9/13/2012			
			3,870	10/4/2012			
			62	10/16/2012			
			210	10/24/2012			
Salt Creek @ Chamberlain Rd	301934	402	2,500	7/10/2012	0.53	Lorain	20-011-000
			200	7/25/2012			
			380	9/13/2012			
			2,440	10/4/2012			
			60	10/16/2012			
			300	10/24/2012			
Trib to E Br Black R (RM 22.65) @ Vermont Rd	B01K09	402	120	7/10/2012	0.6	Lorain	20-010-006
			58,000	7/25/2012			
			86	9/13/2012			
			1,010	10/4/2012			
			26	10/16/2012			
			20	10/24/2012			
Willow Creek @ Durkee Rd	B01S38	403	430	7/10/2012	2.85	Lorain	20-010-001
			470	7/25/2012			
			390	9/13/2012			
			8,700	10/3/2012			
			250	10/12/2012			
			130	10/17/2012			
Willow Creek @ Island Rd	301935	403	130	7/10/2012	6.49	Lorain	20-010-001
			280	7/25/2012			
			1,200	9/13/2012			
			4,600	10/3/2012			
			1,000	10/12/2012			
			750	10/17/2012			
Brentwood Trib (RM 5.89 trib E Br) @ Robson Rd	301937	404	49	7/10/2012	0.1	Lorain	20-010-012
			230	7/25/2012			
			260	9/13/2012			
			12000	10/3/2012			
			140	10/12/2012			
			48	10/17/2012			
E Br Black R @ Bridge St	B01P10	404	30	7/25/2012	1.14	Lorain	20-010-000
E Br Black R @ Fuller Rd	B01S11	404	340	6/27/2012	3.07	Lorain	20-010-000
			1,700	7/10/2012			
			660	7/25/2012			
			3,100	7/26/2012			
			3,200	9/5/2012			
			420	9/13/2012			
			980	10/3/2012			
			240	10/12/2012			
			340	10/17/2012			
			830	10/24/2012			
			12,000	10/29/2012			
E Br Black R @ Indian Hollow Park	B01S30	404	86	6/27/2012	10.5	Lorain	20-010-000
			59	7/10/2012			
			140	7/25/2012			
			110	7/26/2012			
			1,100	9/13/2012			
			3,900	10/3/2012			
			59	10/12/2012			

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
			10	10/17/2012			
			58	10/25/2012			
			11,000	10/29/2012			
E Br Black R @ Washington St	B01P07	404	530	7/10/2012	0.36	Lorain	20-010-000
			21	7/25/2012			
			150	9/13/2012			
			350	10/9/2012			
			200	10/10/2012			
			80	10/17/2012			
			67	10/25/2012			
E Br Black R upst Brentwood Trib	B01S29	404	190	7/10/2012	6	Lorain	20-010-000
			410	7/25/2012			
			230	9/13/2012			
			5,500	10/3/2012			
			86	10/12/2012			
			160	10/17/2012			
Charlemont Creek @ Baker Rd	301938	501	230	7/23/2012	8.55	Lorain	20-024-000
			3,100	8/6/2012			
			4,100	10/4/2012			
			380	10/15/2012			
			190	10/18/2012			
			160	10/26/2012			
Charlemont Creek @ Peck-Wadsworth Rd	B01P05	501	510	6/27/2012	0.39	Lorain	20-024-000
			420	7/23/2012			
			990	7/26/2012			
			690	8/6/2012			
			2,700	8/29/2012			
			1,400	9/5/2012			
			830	10/4/2012			
			610	10/15/2012			
			210	10/18/2012			
			670	10/24/2012			
			270	10/26/2012			
			20,000	10/29/2012			
Charlemont Creek @ Pitts Rd	201634	501	160	7/23/2012	2.2	Lorain	20-024-000
			250	8/6/2012			
			1,600	8/29/2012			
			120	10/4/2012			
			680	10/15/2012			
			250	10/18/2012			
			150	10/26/2012			
Buck Creek @ Bursley Rd	B01S46	502	130	7/23/2012	0.95	Lorain	20-025-000
			20	8/6/2012			
			9,900	10/4/2012			
			350	10/15/2012			
			97	10/18/2012			
			20	10/26/2012			
East Creek @ Stocking Rd	B01W23	502	110	10/4/2012	0.56	Lorain	20-020-003
			31	10/15/2012			
			20	10/18/2012			
			15	10/26/2012			
W Br Black R @ Pitts Rd	B01K21	502	310	6/27/2012	28.5	Lorain	20-020-000
				7/23/2012			
			86	7/26/2012			
			240	8/6/2012			
			70	8/6/2012			
			62	8/6/2012			
			100	8/29/2012			
			37	9/5/2012			
			75	10/4/2012			
			52	10/15/2012			
			4	10/18/2012			
			80	10/24/2012			
			41	10/26/2012			
			10,000	10/29/2012			
W Br Black R @ SR 511	B01S41	502	96	7/23/2012	41.67	Lorain	20-020-000

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
			80	8/6/2012			
			97	8/29/2012			
			130	10/4/2012			
			98	10/15/2012			
			20	10/18/2012			
			52	10/26/2012			
W Branch Black R pool with failing septic	B01K21b	502	50	7/26/2012	28.51	Lorain	20-020-000
West Br Black R ust Pitts Rd & Failing septic	B01K21a	502	200	7/26/2012	28.52	Lorain	20-020-000
Wellington Creek @ Bursley Rd	201633	503	320	6/27/2012	17.1	Lorain	20-023-000
			110	7/23/2012			
			86	8/6/2012			
			13	8/29/2012			
			4,200	10/4/2012			
			700	10/15/2012			
			570	10/18/2012			
			530	10/24/2012			
			320	10/26/2012			
			4,400	10/29/2012			
Wellington Creek @ Cemetary Rd	B01S43	503	160	7/23/2012	13.09	Lorain	20-023-000
			130	7/23/2012			
			280	8/6/2012			
			610	8/29/2012			
			3,900	10/4/2012			
			450	10/15/2012			
			29	10/18/2012			
			35	10/26/2012			
Wellington Creek @ Nickle Plate Rd	201630	503	200	6/27/2012	0.6	Lorain	20-023-000
			310	7/23/2012			
			160	7/26/2012			
			200	8/6/2012			
			3,200	8/29/2012			
			270	9/5/2012			
			1,200	10/3/2012			
			693	10/12/2012			
			80	10/17/2012			
			170	10/24/2012			
			7,300	10/29/2012			
W Br Black R @ Kipton-Nickle Plate Rd	B01W19	504	450	6/27/2012	16.56	Lorain	20-020-000
			580	7/23/2012			
			370	7/26/2012			
			380	8/6/2012			
			550	9/5/2012			
			12000	10/3/2012			
			260	10/12/2012			
			74	10/17/2012			
			140	10/24/2012			
			8,700	10/29/2012			
W Br Black R @ St Rt 303	201620	504	140	7/23/2012	19.6	Lorain	20-020-000
			240	8/6/2012			
			12,000	10/3/2012			
			190	10/12/2012			
			90	10/17/2012			
Plum Creek @ Morgan St	301944	505	1,200	7/23/2012	5.57	Lorain	20-021-000
			350	8/6/2012			
			1,200	10/3/2012			
			120	10/12/2012			
			220	10/17/2012			
Plum Creek @ Oberlin-Elyria Rd	B01P02	505	620	6/27/2012	0.71	Lorain	20-021-000
			690	7/23/2012			
			530	7/26/2012			
			1,200	8/6/2012			
			720	9/5/2012			
			1,200	10/3/2012			
			270	10/12/2012			
			160	10/17/2012			
			350	10/24/2012			

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
			5,500	10/29/2012			
Plum Creek @ St Rt 511	B01P03	505	9,800	7/23/2012	3.19	Lorain	20-021-000
			740	8/6/2012			
			2,100	10/3/2012			
			400	10/12/2012			
			59	10/17/2012			
Kelner Ditch @ Nickle Plate-Diagonal Rd	B01W15	506	910	7/23/2012	1	Lorain	20-020-001
			680	8/6/2012			
			9,800	10/3/2012			
			58	10/12/2012			
			98	10/17/2012			
W Br Black R @ Metroparks Equestrian Area	201619	506	190	7/23/2012	10.6	Lorain	20-020-000
			98	8/6/2012			
			5,200	10/3/2012			
			130	10/12/2012			
			130	10/17/2012			
W Br Black R @ Oberlin-Elyria Rd	B01S13	506	360	6/27/2012	4.18	Lorain	20-020-000
			130	7/23/2012			
			91	7/26/2012			
			31	8/6/2012			
			590	9/5/2012			
			330	10/3/2012			
			270	10/12/2012			
			12	10/17/2012			
			98	10/24/2012			
			6,500	10/29/2012			
W Br Black R upst Third St	B01K18	506	120	7/23/2012	1.2	Lorain	20-020-000
			550	8/6/2012			
			310	10/9/2012			
			150	10/10/2012			
			54	10/17/2012			
			26	10/25/2012			
French Creek @ Abbe Rd	B01P32	601	320	8/16/2012	3.75	Lorain	20-002-000
			330	10/9/2012			
			370	10/10/2012			
			48	10/17/2012			
			200	10/25/2012			
French Creek @ Gulf Rd	B01S14	601	92	6/27/2012	0.54	Lorain	20-002-000
			250	7/16/2012			
			200	7/26/2012			
			860	8/16/2012			
			2,046	9/5/2012			
			320	10/9/2012			
			180	10/10/2012			
			34	10/17/2012			
			120	10/25/2012			
			7,700	10/29/2012			
French Creek @ Riegelsberger Rd	B01P18	601	150	7/16/2012	9.02	Lorain	20-002-000
			230	8/16/2012			
			330	10/9/2012			
			59	10/10/2012			
			130	10/17/2012			
			26	10/25/2012			
Black R @ Cascade Park	501520	602	170	6/27/2012	14.95	Lorain	20-001-000
			720	7/16/2012			
			120	7/26/2012			
			150	8/16/2012			
			1,800	9/5/2012			
			330	10/9/2012			
			120	10/10/2012			
			110	10/17/2012			
			120	10/24/2012			
			60	10/25/2012			
			8,200	10/29/2012			
Black R @ E 31st St	B01S06	602	39	7/16/2012	6.2	Lorain	20-001-000
			420	8/16/2012			

Black River Survey 2012

River or Stream	Storet Station Code	AU	Result (#/100ml)	Date	River Mile	County	River Code
			450	10/9/2012			
			98	10/10/2012			
			97	10/17/2012			
			41	10/25/2012			
Black R @ Ford Rd	501510	602	610	6/27/2012	9.8	Lorain	20-001-000
			240	7/16/2012			
			290	7/26/2012			
			230	8/16/2012			
			1,800	9/5/2012			
			430	10/9/2012			
			520	10/10/2012			
			130	10/17/2012			
			190	10/25/2012			
			17,000	10/29/2012			
Trib to Black R (10.18) @ Gulf Rd	301954	602	400	7/16/2012	0.68	Lorain	20-001-001
			1,700	8/16/2012			
			760	10/9/2012			
			1,300	10/10/2012			
			200	10/17/2012			
			1,200	10/25/2012			
Gable Ditch @ Electric Ave	301956	603	1,500	7/16/2012	0.3	Lorain	13-008-000
			1,200	8/16/2012			
			2,100	10/9/2012			
			9,700	10/10/2012			
			1,000	10/17/2012			
			2,000	10/25/2012			
Heider Ditch @ Electric Ave	301955	603	1,100	7/16/2012	0.25	Lorain	13-006-000
			1,000	8/16/2012			
			1,300	10/9/2012			
			960	10/10/2012			
			420	10/17/2012			
			48,000	10/25/2012			
Powdermaker Ditch @ Electric Ave	301958	603	200	7/16/2012	0.15	Lorain	13-007-000
			52	8/16/2012			
			530	10/9/2012			
			330	10/10/2012			
			76	10/17/2012			
			2,600	10/25/2012			

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: June 26 - June 28, 2012																			
Black R @ Cascade Pk			A	22.34	22.91	23.47	1.13	7.97	8.11	8.25	0.28	619	628	635	16	11.70	11.80	11.80	0.10
WWH	14.95	501520	B	22.34	22.80	23.13	0.79	7.88	8.08	8.35	0.47	628	633	636	8	11.70	11.76	11.80	0.10
			C	22.34	22.90	23.19	0.85	7.76	8.02	8.35	0.59	630	635	643	13	11.60	11.73	11.80	0.20
Black R UST Elyria WWTP			A	21.18	23.67	26.45	5.27	7.96	8.31	8.62	0.66	632	640	646	14	5.97	8.92	13.31	7.34
WWH	10.7	B01W07	B	21.18	24.16	27.00	5.82	7.96	8.29	8.58	0.62	634	643	646	12	5.97	8.83	13.13	7.16
			C	21.18	24.61	27.00	5.82	7.96	8.29	8.58	0.62	634	644	655	21	5.73	8.74	13.13	7.40
Black R DST Elyria WWTP @ Ford Rd			A	20.92	22.83	25.63	4.71	7.62	7.76	7.94	0.32	1504	1762	1882	378	5.74	7.65	9.86	4.12
WWH	9.8	501510	B	20.92	23.20	25.63	4.71	7.55	7.73	7.94	0.39	1504	1743	1871	367	5.74	7.45	9.86	4.12
			C	21.43	23.50	25.63	4.20	7.52	7.70	7.94	0.42	1504	1739	1871	367	5.13	7.30	9.86	4.73
Black R @ North Ridge Rd			A	20.73	23.28	26.28	5.55	7.72	8.19	8.74	1.02	1489	1687	1835	346	5.40	9.08	14.62	9.22
WWH	8.35	B01S07	B	20.73	23.82	26.72	5.99	7.72	8.20	8.75	1.03	1664	1748	1835	171	5.40	9.31	14.92	9.52
			C	20.73	24.19	26.72	5.99	7.69	8.20	8.75	1.06	1664	1760	1835	171	5.20	9.26	14.92	9.72
French Ck @ Abbe Rd			A	19.49	22.55	25.24	5.75	7.68	8.12	8.54	0.86	948	961	973	25	4.65	7.92	12.41	7.76
WWH	3.2	B01P32	B	19.49	22.86	25.63	6.14	7.68	8.08	8.43	0.75	954	965	973	19	4.65	7.69	11.06	6.41
			C	19.68	23.40	25.63	5.95	7.59	8.07	8.43	0.84	954	968	980	26	3.87	7.56	11.06	7.19
French Ck @ E River Rd			A	17.97	20.53	23.64	5.67	7.61	8.16	8.86	1.25	945	958	968	23	6.99	8.70	11.33	4.34
WWH	0.54	B01S14	B	17.97	21.00	23.98	6.01	7.61	8.20	8.94	1.33	946	961	979	33	6.74	8.63	11.33	4.59
			C	18.47	21.39	23.98	5.51	7.57	8.19	8.94	1.37	946	966	988	42	6.60	8.46	11.33	4.73
E Br @ Shaw Rd (ust dam)			A	12.69	12.79	12.95	0.26	7.05	7.07	7.08	0.03	1242	1257	1263	21	0.70	4.46	7.20	6.50
WWH	41.45	B01S34	B	12.69	12.75	12.84	0.15	7.07	7.07	7.08	0.01	1255	1260	1267	12	0.70	4.20	6.90	6.20
			C	12.63	12.74	12.84	0.21	7.07	7.08	7.09	0.02	1255	1263	1269	14	0.70	4.89	10.30	9.60
E Br @ Old Mill Rd (dst dam)			A	20.37	22.62	25.51	5.14	7.68	7.85	8.05	0.37	652	681	691	39	6.33	7.92	10.66	4.33
WWH	40.47	B01K07	B	20.37	22.89	25.51	5.14	7.68	7.86	8.05	0.37	683	691	705	22	6.33	7.90	10.66	4.33
			C	20.67	23.12	25.51	4.84	7.70	7.88	8.05	0.35	685	696	711	26	6.49	7.95	10.66	4.17
E Br @ County Line (Smith Rd)			A	20.69	21.84	23.57	2.88	7.61	7.72	7.80	0.19	713	722	727	14	5.74	6.81	7.76	2.02
WWH	32.42	B01S33	B	20.69	22.25	23.69	3.00	7.61	7.73	7.81	0.20	708	716	724	16	5.74	6.96	7.95	2.21
			C	20.69	22.53	23.69	3.00	7.61	7.73	7.81	0.20	706	712	723	17	5.74	7.05	7.95	2.21
E Br @ Grafton @ Parsons Rd			A	20.03	23.59	28.06	8.03	7.78	8.14	8.57	0.79	593	609	617	24	5.97	8.89	14.24	8.27
WWH	11.34	B01S31	B	20.03	24.01	28.06	8.03	7.78	8.14	8.57	0.79	593	606	616	23	5.80	8.90	14.24	8.44
			C	21.25	24.39	28.06	6.81	7.76	8.14	8.57	0.81	593	605	613	20	5.70	8.84	14.24	8.54
E Br DST Grafton WWTP @ Indian Ho			A	19.51	23.48	29.10	9.59	7.53	8.13	8.83	1.30	563	603	618	55	5.59	10.11	16.83	11.24
WWH	10.5	B01S30	B	19.51	23.97	29.10	9.59	7.53	8.11	8.83	1.30	563	601	617	54	5.15	9.94	16.83	11.68
			C	21.24	24.37	29.10	7.86	7.50	8.10	8.83	1.33	563	601	616	53	5.09	9.82	16.83	11.74

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: June 26 - June 28, 2012																			
E Br UST Elyria @ Fuller Rd			A	20.76	23.47	28.81	8.05	8.17	8.44	8.73	0.56	592	627	646	54	6.57	9.45	14.77	8.20
WWH	3.07	B01S11	B	20.76	24.10	28.81	8.05	8.15	8.40	8.73	0.58	592	611	640	48	5.74	9.11	14.77	9.03
			C	21.40	24.43	28.81	7.41	8.08	8.38	8.73	0.65	591	603	623	32	5.74	8.89	14.77	9.03
E Br @ Washington St			A	22.93	23.63	24.42	1.49	7.69	7.88	8.09	0.40	660	674	683	23	4.52	6.28	7.94	3.42
WWH	0.36	B01P07	B	22.93	23.61	24.37	1.44	7.69	7.95	8.30	0.61	674	683	696	22	4.52	6.97	10.11	5.59
			C	22.98	23.77	24.37	1.39	7.72	8.05	8.30	0.58	677	689	699	22	4.88	7.63	10.11	5.23
Willow Ck @ Durkee Rd			A	17.87	19.80	22.69	4.82	7.57	7.67	7.84	0.27	1088	1093	1098	10	5.78	6.99	9.11	3.33
WWH	2.85	B01S38	B	17.87	20.33	22.69	4.82	7.57	7.69	7.84	0.27	1088	1094	1098	10	5.78	6.95	9.11	3.33
			C	18.49	20.73	22.69	4.20	7.55	7.69	7.84	0.29	1088	1094	1098	10	5.36	6.90	9.11	3.75
E Fk E Br UST Lodi WWTP			A	18.64	20.75	23.88	5.24	7.68	7.75	7.85	0.17	1107	1116	1130	23	5.56	6.85	8.51	2.95
WWH	1.73	B01W11	B	18.64	21.31	23.88	5.24	7.68	7.74	7.82	0.14	1107	1124	1132	25	5.56	6.77	8.51	2.95
			C	18.85	21.64	23.88	5.03	7.65	7.73	7.82	0.17	1116	1128	1132	16	5.48	6.76	8.51	3.03
E Fk E Br DST Lodi WWTP			A	18.49	20.64	24.09	5.60	7.36	7.52	7.76	0.40	1812	1875	1939	127	5.30	7.55	11.59	6.29
WWH	1.61	B01S35	B	18.49	21.07	24.09	5.60	7.36	7.53	7.76	0.40	1867	1922	2008	141	5.30	7.61	11.59	6.29
			C	18.85	21.38	24.09	5.24	7.35	7.53	7.76	0.41	1867	1955	2027	160	5.33	7.61	11.59	6.26
E Fk E Br @ mouth (Richmond Rd)			A	17.43	20.13	23.59	6.16	7.78	7.86	8.02	0.24	1561	1595	1635	74	6.75	7.83	9.74	2.99
WWH	0.06	B01W10	B	17.43	20.67	23.59	6.16	7.77	7.87	8.02	0.25	1592	1624	1652	60	6.44	7.77	9.74	3.30
			C	18.20	21.08	23.59	5.39	7.76	7.86	8.02	0.26	1606	1639	1658	52	6.40	7.67	9.74	3.34
W Br @ Pitts Rd			A	18.23	19.57	21.55	3.32	7.58	7.66	7.77	0.19	607	609	612	5	5.49	6.29	7.28	1.79
WWH	28.5	B01K21	B	18.23	20.11	21.58	3.35	7.58	7.68	7.77	0.19	608	611	614	6	5.49	6.31	7.28	1.79
			C	18.35	20.47	21.58	3.23	7.59	7.69	7.77	0.18	609	612	615	6	5.04	6.26	7.28	2.24
W Br @ West Rd (Kipton-NP)			A	19.39	20.98	22.58	3.19	7.65	7.73	7.82	0.17	601	602	605	4	5.86	6.70	7.90	2.04
WWH	16.56	B01W19	B	19.39	21.54	23.24	3.85	7.65	7.74	7.83	0.18	601	604	607	6	5.86	6.72	7.90	2.04
			C	19.53	21.96	23.24	3.71	7.64	7.73	7.83	0.19	602	605	607	5	5.60	6.65	7.90	2.30
W Br @ MP Equestrian			A	19.50	21.26	23.04	3.54	7.77	7.93	8.13	0.36	697	710	718	21	6.50	8.16	11.39	4.89
WWH	10.6	201619	B	19.50	21.54	23.45	3.95	7.77	7.97	8.14	0.37	697	703	712	15	6.50	8.51	11.39	4.89
			C	19.50	21.79	23.45	3.95	7.77	7.98	8.14	0.37	697	700	709	12	6.50	8.53	11.39	4.89
W Br @ Butternut Ridge Rd			A	19.62	21.50	24.49	4.87	7.71	7.83	8.02	0.31	800	803	808	8	6.24	7.55	9.85	3.61
WWH	7.68	B01P01	B	19.62	21.88	24.49	4.87	7.71	7.83	8.02	0.31	800	805	810	10	6.24	7.80	9.91	3.67
			C	19.82	22.15	24.49	4.67	7.67	7.83	8.02	0.35	800	808	813	13	6.46	7.94	9.91	3.45
W Br @ O-E Rd			A	20.77	22.70	25.76	4.99	7.39	7.74	8.23	0.84	621	626	629	8	5.27	7.61	12.72	7.45
WWH	4.18	B01S13	B	20.77	23.38	25.76	4.99	7.39	7.75	8.23	0.84	621	629	637	16	4.82	7.40	12.72	7.90

Appendix Table 6. Water quality sonde results.

			C	21.52	23.67	25.76	4.24	7.38	7.74	8.23	0.85	621	631	637	16	4.55	7.24	12.72	8.17

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: June 26 - June 28, 2012																			
Kellner D @ Parsons Rd			A	17.02	19.48	23.18	6.16	7.45	7.73	8.21	0.76	821	829	835	14	4.36	6.87	10.47	6.11
WWH	3	201629	B	17.02	19.97	23.18	6.16	7.45	7.73	8.21	0.76	829	832	835	6	4.31	6.75	10.47	6.16
			C	17.30	20.38	23.18	5.88	7.44	7.73	8.21	0.77	829	833	835	6	4.26	6.68	10.47	6.21
Plum Ck UST Oberlin WWTP (SR511)			A	16.60	18.68	21.73	5.13	7.18	7.26	7.43	0.25	655	662	667	12	2.19	3.42	4.17	1.98
WWH	3.19	B01P03	B	16.60	19.19	21.73	5.13	7.25	7.33	7.44	0.19	654	661	669	15	2.19	3.35	3.70	1.51
			C	16.96	19.62	21.73	4.77	7.25	7.36	7.44	0.19	652	660	669	17	2.41	3.23	3.70	1.29
Plum Ck @ O-E Rd			A	18.07	19.33	21.30	3.23	7.64	7.69	7.75	0.11	1027	1033	1041	14	7.36	7.74	8.28	0.92
WWH	0.83	B01P02	B	18.07	19.75	21.47	3.40	7.63	7.68	7.75	0.12	1028	1038	1047	19	7.26	7.65	8.17	0.91
			C	18.30	20.11	21.47	3.17	7.60	7.67	7.75	0.15	1032	1043	1058	26	7.02	7.57	8.17	1.15
Wellington Ck @ NP Rd			A	17.23	18.98	21.22	3.99	7.67	7.74	7.86	0.19	489	490	491	2	6.37	7.06	8.38	2.01
WWH	0.6	201630	B	17.23	19.56	21.79	4.56	7.67	7.74	7.83	0.16	487	491	493	6	6.37	7.08	8.38	2.01
			C	17.55	20.01	21.79	4.24	7.62	7.74	7.83	0.21	487	492	494	7	5.69	6.95	8.38	2.69
Charlemont Ck @ Pitts Rd			A	16.78	18.17	19.30	2.52	7.84	7.91	8.06	0.22	684	697	728	44	6.02	6.68	7.41	1.39
WWH	2.2	201634	B	16.78	18.66	20.37	3.59	7.84	7.89	8.06	0.22	685	698	742	57	5.45	6.45	7.41	1.96
			C	17.00	19.14	20.37	3.37	7.84	7.89	8.06	0.22	686	713	775	89	5.45	6.45	7.41	1.96
Charlemont Ck @ P-W Rd			A	17.15	19.32	22.89	5.74	7.68	7.80	8.02	0.34	893	926	968	75	7.00	7.77	9.45	2.45
WWH	0.39	B01P05	B	17.15	19.89	22.89	5.74	7.68	7.80	8.02	0.34	893	933	968	75	7.00	7.71	9.45	2.45
			C	17.42	20.34	22.89	5.47	7.67	7.80	8.02	0.35	893	935	968	75	6.82	7.68	9.45	2.63

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: July 24 - July 26, 2012																			
Black R @ Cascade Pk			A	24.89	26.19	27.74	2.85	7.72	8.17	8.69	0.97	653	658	661	8	5.17	9.15	15.97	10.80
WWH	14.95	501520	B	24.89	26.26	27.74	2.85	7.72	8.30	8.72	1.00	653	658	665	12	5.17	10.56	15.98	10.81
			C	24.89	26.38	27.74	2.85	7.87	8.41	8.72	0.85	653	660	668	15	6.41	11.27	15.98	9.57
Black R UST Elyria WWTP			A	23.55	26.03	29.12	5.57	8.01	8.28	8.61	0.60	671	678	684	13	5.74	8.19	11.73	5.99
WWH	10.7	B01W07	B	23.55	25.90	28.12	4.57	8.01	8.26	8.58	0.57	679	681	684	5	5.74	8.23	12.26	6.52
			C	23.55	26.40	28.12	4.57	8.01	8.27	8.58	0.57	679	681	684	5	5.62	8.20	12.26	6.64
Black R DST Elyria WWTP @ Ford Rd			A	22.71	24.91	28.00	5.29	7.59	7.73	7.95	0.36	1752	2098	2273	521	5.64	7.22	9.38	3.74
WWH	9.8	501510	B	22.71	25.07	28.00	5.29	7.52	7.70	7.91	0.39	1752	2067	2259	507	5.64	7.15	9.38	3.74
			C	23.31	25.52	28.00	4.69	7.48	7.67	7.91	0.43	1682	2030	2259	577	5.17	7.04	9.38	4.21
Black R @ North Ridge Rd			A	23.42	25.69	28.13	4.71	7.48	7.83	8.17	0.69	1852	1975	2183	331	5.15	8.18	12.02	6.87
WWH	8.35	B01S07	B	23.42	25.73	27.61	4.19	7.48	7.87	8.27	0.79	1859	2032	2183	324	5.15	8.35	12.49	7.34
			C	23.42	26.12	27.61	4.19	7.48	7.88	8.27	0.79	1933	2075	2183	250	5.15	8.37	12.49	7.34
French Ck @ Abbe Rd			A	22.63	24.80	27.32	4.69	8.22	8.54	8.81	0.59	832	844	860	28	4.60	7.83	11.16	6.56
WWH	3.2	B01P32	B	22.63	24.84	26.50	3.87	8.22	8.48	8.72	0.50	840	851	860	20	4.60	7.31	9.60	5.00
			C	22.69	25.40	26.50	3.81	8.22	8.44	8.63	0.41	846	852	860	14	4.03	7.23	9.60	5.57
French Ck @ E River Rd			A	20.38	22.61	25.41	5.03	7.59	8.06	8.75	1.16	885	927	949	64	6.91	7.95	9.79	2.88
WWH	0.54	B01S14	B	20.38	23.12	25.61	5.23	7.59	8.01	8.65	1.06	929	946	988	59	6.35	7.81	9.79	3.44
			C	20.64	23.79	25.61	4.97	7.45	7.98	8.65	1.20	929	962	1020	91	6.21	7.65	9.79	3.58
E Br @ Shaw Rd (ust dam)			A	19.25	19.66	20.04	0.79	7.13	7.15	7.19	0.06	1173	1197	1216	43	4.26	5.04	5.75	1.49
WWH	41.45	B01S34	B	19.25	19.65	20.04	0.79	7.14	7.17	7.19	0.05	1186	1206	1216	30	4.48	5.32	5.75	1.27
			C	19.26	19.62	20.04	0.78	7.14	7.18	7.20	0.06	1199	1208	1216	17	4.48	5.39	5.97	1.49
E Br @ Old Mill Rd (dst dam)			A	22.36	24.87	27.46	5.10	7.67	7.78	7.95	0.28	939	981	1003	64	3.93	5.86	8.36	4.43
WWH	40.47	B01K07	B	22.36	24.99	27.46	5.10	7.66	7.73	7.84	0.18	939	957	1003	64	3.93	5.34	7.88	3.95
			C	22.64	25.52	27.46	4.82	7.64	7.72	7.84	0.20	917	939	954	37	3.55	5.22	7.88	4.33
E Br @ County Line (Smith Rd)			A	23.48	25.14	27.11	3.63	7.63	7.72	7.88	0.25	858	871	878	20	3.92	5.10	6.81	2.89
WWH	32.42	B01S33	B	23.48	24.89	26.26	2.78	7.63	7.75	7.91	0.28	852	863	878	26	3.92	5.37	6.97	3.05
			C	23.48	25.08	26.26	2.78	7.63	7.78	7.91	0.28	850	857	868	18	3.92	5.62	6.97	3.05
E Br @ Grafton @ Parsons Rd			A	22.29	26.01	29.81	7.52	7.83	8.09	8.38	0.55	609	621	627	18	5.78	7.85	10.64	4.86
WWH	11.34	B01S31	B	22.29	26.63	29.84	7.55	7.83	8.04	8.27	0.44	614	623	635	21	5.11	7.66	10.64	5.53
			C	23.44	27.38	29.84	6.40	7.72	8.01	8.27	0.55	614	625	637	23	4.77	7.42	10.64	5.87
E Br DST Grafton WWTP @ Indian Ho			A	21.50	25.43	30.63	9.13	7.84	8.06	8.29	0.45	594	614	624	30				
WWH	10.5	B01S30	B	21.50	26.05	30.63	9.13	7.45	7.94	8.29	0.84	594	611	621	27				
DO sensor failure			C	23.22	26.87	30.63	7.41	7.39	7.75	8.29	0.90	594	610	619	25				

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: July 24 - July 26, 2012																			
E Br UST Elyria @ Fuller Rd			A	21.86	25.20	30.27	8.41	8.06	8.39	8.83	0.77	447	621	649	202	5.69	7.80	11.87	6.18
WWH	3.07	B01S11	B	21.86	25.85	30.27	8.41	8.06	8.37	8.74	0.68	405	546	648	243	5.10	7.57	11.87	6.77
			C	22.34	26.69	30.27	7.93	8.01	8.36	8.74	0.73	405	518	643	238	5.06	7.40	11.87	6.81
E Br @ Washington St			A	25.11	25.75	27.06	1.95	7.98	8.24	8.69	0.71	695	704	714	19	4.13	6.36	11.16	7.03
WWH	0.36	B01P07	B	25.11	25.57	26.03	0.92	7.93	8.06	8.22	0.29	704	711	716	12	4.13	4.99	6.25	2.12
			C	25.15	25.75	26.05	0.90	7.93	8.06	8.23	0.30	708	714	718	10	4.13	5.09	6.25	2.12
Willow Ck @ Durkee Rd			A	20.63	22.93	25.54	4.91	7.62	7.74	7.97	0.35	805	811	822	17	4.72	5.98	8.80	4.08
WWH	2.85	B01S38	B	20.63	23.03	25.54	4.91	7.62	7.74	7.97	0.35	805	807	810	5	4.72	5.98	8.80	4.08
			C	21.08	23.56	25.54	4.46	7.60	7.74	7.97	0.37	803	807	810	7	4.36	5.92	8.80	4.44
E Fk E Br UST Lodi WWTP			A	22.06	24.19	26.27	4.21	7.39	7.47	7.58	0.19	1053	1057	1066	13	4.09	5.03	6.37	2.28
WWH	1.73	B01W11	B	22.06	24.26	26.27	4.21	7.39	7.47	7.54	0.15	1054	1061	1067	13	4.09	4.87	5.62	1.53
			C	22.35	24.69	26.27	3.92	7.40	7.48	7.54	0.14	1056	1064	1068	12	4.16	4.88	5.62	1.46
E Fk E Br DST Lodi WWTP			A	20.73	23.45	26.46	5.73	7.35	7.53	7.79	0.44	2227	2251	2341	114				
WWH	1.61	B01S35	B	20.73	23.67	26.46	5.73	7.35	7.52	7.79	0.44	2227	2306	2388	161				
DO sensor failure			C	20.94	24.27	26.46	5.52	7.35	7.52	7.79	0.44	2234	2337	2391	157				
E Fk E Br @ mouth (Richmond Rd)			A	20.48	23.95	27.96	7.48	7.71	7.96	8.49	0.78	1731	1786	1828	97	5.84	7.94	12.72	6.88
WWH	0.06	B01W10	B	20.48	24.07	27.96	7.48	7.71	7.96	8.49	0.78	1783	1837	1913	130	5.59	7.93	12.72	7.13
			C	22.12	24.73	27.96	5.84	7.71	7.96	8.49	0.78	1806	1873	1949	143	5.58	7.83	12.72	7.14
W Br @ Pitts Rd			A	18.74	21.95	25.28	6.54	7.57	7.69	7.90	0.33	641	645	647	6	2.43	4.42	9.06	6.63
WWH	28.5	B01K21	B	18.74	22.33	25.26	6.52	7.56	7.69	7.90	0.34	641	645	647	6	2.35	4.57	9.06	6.71
			C	19.36	23.33	25.26	5.90	7.52	7.68	7.90	0.38	641	646	648	7	1.58	4.39	9.06	7.48
W Br @ West Rd (Kipton-NP)			A	21.59	23.70	26.03	4.44	7.72	7.81	8.00	0.28	689	692	700	11	4.25	5.43	8.06	3.81
WWH	16.56	B01W19	B	21.59	23.88	25.73	4.14	7.72	7.80	8.00	0.28	689	697	704	15	4.25	5.44	8.06	3.81
			C	22.00	24.56	25.73	3.73	7.66	7.79	8.00	0.34	692	701	707	15	4.07	5.40	8.06	3.99
W Br @ MP Equestrian			A	22.94	24.53	26.76	3.82	7.75	7.86	8.00	0.25	650	653	660	10	5.36	6.56	8.57	3.21
WWH	10.6	201619	B	22.94	24.36	25.62	2.68	7.75	7.86	8.00	0.25	652	656	669	17	5.36	6.60	8.57	3.21
			C	22.94	24.63	25.62	2.68	7.73	7.85	8.00	0.27	652	660	684	32	5.14	6.55	8.57	3.43
W Br @ Butternut Ridge Rd			A	26.45	26.96	27.33	0.88	7.99	8.03	8.05	0.06	641	643	646	5	7.76	8.35	8.72	0.96
WWH	7.68	B01P01	B																
sensor failure (first 4 hrs rec only)			C																
W Br @ O-E Rd			A	23.36	24.98	27.52	4.16	7.74	8.00	8.27	0.53	634	648	658	24	5.97	7.77	11.36	5.39
WWH	4.18	B01S13	B	23.36	25.65	27.52	4.16	7.74	8.01	8.25	0.51	642	659	679	37	5.71	7.54	11.36	5.65
			C	23.75	26.22	27.52	3.77	7.72	7.99	8.25	0.53	642	665	680	38	5.41	7.41	11.36	5.95

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: July 24 - July 26, 2012																			
Kellner D @ Parsons Rd			A	20.26	22.82	26.51	6.25	7.58	7.71	8.03	0.45	797	799	802	5	3.86	5.38	8.42	4.56
WWH	3.0	201629	B	20.26	22.83	25.64	5.38	7.59	7.73	8.03	0.44	797	801	808	11	3.95	5.53	8.42	4.47
			C	20.44	23.44	25.64	5.20	7.60	7.73	8.03	0.43	797	805	816	19	4.15	5.58	8.42	4.27
Plum Ck UST Oberlin WWTP (SR511)			A	20.19	22.31	24.71	4.52	7.27	7.32	7.41	0.14	709	713	724	15	3.74	4.15	4.88	1.14
WWH	3.19	B01P03	B	20.19	22.29	24.57	4.38	7.27	7.33	7.41	0.14	709	719	725	16	3.74	4.07	4.72	0.98
			C	21.09	22.85	24.57	3.48	7.30	7.33	7.41	0.11	714	723	726	12	3.66	4.04	4.72	1.06
Plum Ck @ O-E Rd			A	21.27	22.88	25.12	3.85	7.70	7.75	7.83	0.13	1094	1107	1111	17	6.60	6.98	7.72	1.12
WWH	0.83	B01P02	B	21.27	22.69	23.98	2.71	7.70	7.75	7.83	0.13	1050	1094	1110	60	6.60	7.07	7.72	1.12
			C	21.42	23.08	23.98	2.56	7.68	7.75	7.83	0.15	1050	1083	1110	60	6.37	7.02	7.72	1.35
Wellington Ck @ NP Rd			A	18.50	22.06	26.36	7.86	7.50	7.85	8.76	1.26	509	524	563	54	4.94	6.90	11.32	6.38
WWH	0.6	201630	B	18.50	22.72	26.36	7.86	7.41	7.92	8.76	1.35	509	527	567	58	2.41	6.52	11.32	8.91
			C	19.33	23.89	26.36	7.03	7.36	7.89	8.76	1.40	509	537	567	58	2.17	5.88	11.32	9.15
Charlemont Ck @ Pitts Rd			A	19.35	21.67	24.63	5.28	7.77	7.82	7.95	0.18	850	854	856	6	5.41	6.06	7.87	2.46
WWH	2.2	201634	B	19.35	22.01	24.08	4.73	7.78	7.86	7.97	0.19	848	852	855	7	5.45	6.42	7.99	2.54
			C	19.95	22.89	24.08	4.13	7.71	7.85	7.97	0.26	848	854	862	14	5.07	6.38	7.99	2.92
Charlemont Ck @ P-W Rd			A	19.66	22.16	25.68	6.02	7.52	7.64	7.95	0.43	931	942	967	36	6.18	6.83	8.60	2.42
WWH	0.39	B01P05	B	19.66	22.06	24.58	4.92	7.52	7.67	7.95	0.43	919	936	960	41	6.24	7.00	8.60	2.36
			C	19.82	22.75	24.58	4.76	7.53	7.67	7.95	0.42	901	929	960	59	6.13	6.98	8.60	2.47

Appendix Table 6. Water quality sonde results.

Stream	River Mile	STORET		Temperature (C)				pH (SU)				Sp Conductivity (µS/cm)				Dissolved Oxygen (mg/l)			
				Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range	Min	Ave	Max	Range
Dates sampled: Aug. 20 - Aug. 22, 2013																			
E Fk E Br Lodi Pk			A	17.88	19.10	20.88	3.00	8.02	8.12	8.32	0.30	868	888	902	34	7.66	8.48	9.79	2.13
WWH	2.67	B01S36	B	17.88	19.45	20.88	3.00	8.02	8.13	8.32	0.30	888	897	911	23	7.52	8.41	9.79	2.27
			C	17.93	19.69	20.88	2.95	8.02	8.13	8.32	0.30	888	902	917	29	7.40	8.35	9.79	2.39
E Fk E Br DST Lodi WWTP			A	19.39	20.53	22.43	3.04	7.40	7.51	7.67	0.27	1460	1552	1613	153	4.97	6.66	9.26	4.29
WWH	1.61	B01S35	B	19.39	20.89	22.43	3.04	7.40	7.52	7.67	0.27	1460	1562	1613	153	4.97	6.66	9.26	4.29
			C	19.54	21.12	22.43	2.89	7.39	7.52	7.67	0.28	1460	1566	1617	157	4.64	6.59	9.26	4.62
Wellington Ck @ Bursley Rd			A	18.03	19.64	21.45	3.42	7.63	7.79	7.98	0.35	514	516	524	10	7.01	8.39	10.72	3.71
WWH	17.1	201633	B	18.03	20.03	21.97	3.94	7.63	7.84	7.98	0.35	514	517	524	10	7.01	8.65	10.72	3.71
			C	18.37	20.30	21.97	3.60	7.65	7.87	7.98	0.33	514	518	524	10	6.80	8.66	10.72	3.92
Charlemont Ck @ P-W Rd			A	19.57	20.50	21.37	1.80	7.68	7.77	7.87	0.19	749	786	802	53	7.26	7.95	8.94	1.68
WWH	0.39	B01P05	B	19.57	20.73	21.79	2.22	7.68	7.77	7.88	0.20	285	731	802	517	7.26	7.95	8.78	1.52
			C	19.67	20.96	21.79	2.12	7.68	7.77	7.88	0.20	285	669	808	523	7.21	7.95	8.78	1.57
Heider D @ Electric Av			A	19.34	21.78	25.12	5.78	7.90	8.14	8.56	0.66	912	937	952	40	6.92	8.27	11.03	4.11
WWH	0.25	301955	B	19.34	22.18	25.12	5.78	7.88	8.15	8.56	0.68	912	930	956	44	6.25	8.09	11.03	4.78
			C	20.08	22.47	25.12	5.04	7.83	8.13	8.56	0.73	912	939	986	74	6.25	7.86	11.03	4.78
Gable D @ Electric Av			A	19.07	20.87	23.48	4.41	7.96	8.07	8.35	0.39	1102	1116	1132	30	7.36	8.45	11.64	4.28
WWH	0.3	301956	B	19.07	21.38	23.48	4.41	7.94	8.07	8.35	0.41	1102	1110	1116	14	7.12	8.38	11.64	4.52
			C	19.74	21.66	23.48	3.74	7.93	8.07	8.35	0.42	1102	1112	1120	18	7.12	8.29	11.64	4.52
Powdermaker D @ Electric Av			A	20.38	24.79	29.54	9.16	7.43	7.93	8.66	1.23	1205	1270	1309	104	3.33	8.31	16.91	13.58
WWH	0.15	301958	B	20.38	25.16	29.54	9.16	7.41	7.94	8.66	1.25	1226	1280	1324	98	2.76	8.30	16.91	14.15
			C	21.74	25.52	29.54	7.80	7.41	7.93	8.66	1.25	1226	1291	1350	124	2.75	8.15	16.91	14.16
Frenck Ck @ Mills Rd			A	18.33	22.49	29.00	10.67	7.68	7.85	8.17	0.49	949	1032	1113	164	4.52	7.64	13.89	9.37
WWH	10.41	B01P19	B	18.33	23.26	29.00	10.67	7.63	7.82	8.17	0.54	869	993	1085	216	4.12	7.45	13.89	9.77
			C	19.78	23.68	29.00	9.22	7.60	7.80	8.17	0.57	869	973	1085	216	3.99	7.32	13.89	9.90
Frenck Ck @ Riegelsberger Rd			A	20.23	23.73	28.59	8.36	7.62	7.88	8.31	0.69	781	787	795	14	4.47	7.29	11.45	6.98
WWH	9.02	B01P18	B	20.23	24.25	28.59	8.36	7.60	7.89	8.31	0.71	781	786	795	14	4.35	7.26	11.45	7.10
			C	21.87	24.59	28.59	6.72	7.59	7.87	8.31	0.72	780	786	795	15	4.18	7.12	11.45	7.27
Willow Ck @ Island Rd			A	17.99	19.65	22.16	4.17	7.11	7.14	7.19	0.08	793	892	974	181	3.57	4.29	6.24	2.67
WWH	6.5	301935	B	17.99	20.13	22.16	4.17	7.11	7.14	7.19	0.08	869	955	1061	192	3.46	4.44	6.24	2.78
			C	18.65	20.43	22.16	3.51	7.12	7.15	7.19	0.07	869	988	1103	234	3.30	4.39	6.24	2.94
Willow Ck @ Durkee Rd			A	19.15	20.77	22.96	3.81	7.77	7.89	8.02	0.25	881	887	896	15	5.54	7.19	9.03	3.49
WWH	2.85	B01S38	B	19.15	21.21	22.96	3.81	7.77	7.87	7.98	0.21	884	893	898	14	5.54	7.03	8.83	3.29
			C	19.75	21.50	22.96	3.21	7.75	7.86	7.98	0.23	892	896	900	8	5.19	6.95	8.83	3.64

Appendix Table 7. Boat IBI metrics.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Number of: Sunfish species	Number of: Sucker species	Number of: Intolerant species	Percent of Individuals: Rnd-bodied suckers	Percent of Individuals: Simple Lithophils	Percent of Individuals: Tolerant fishes	Percent of Individuals: Omni-vores	Percent of Individuals: Top carnivores	Percent of Individuals: Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(1.0 km)	IBI	Modified Iwb
Black River - (20-001)																	
Year: 2012																	
15.40	A	07/09/2012	396	22(5)	4(5)	6(5)	0(1)	25(3)	28(3)	17(3)	35(1)	16(5)	47(3)	0.0(5)	466(5)	44	9.5
15.40	A	09/11/2012	396	25(5)	6(5)	7(5)	0(1)	12(1)	30(3)	25(3)	25(3)	10(5)	63(5)	0.0(5)	610(5)	46	9.2
11.50	A	07/10/2012	398	18(3)	4(5)	5(3)	0(1)	41(5)	55(5)	21(3)	23(3)	8(3)	66(5)	0.0(5)	383(3)	44	9.1
11.50	A	09/12/2012	398	24(5)	4(5)	6(5)	0(1)	26(3)	40(3)	26(3)	46(1)	4(1)	49(3)	0.0(5)	691(5)	40	9.9
10.70	A	07/10/2012	401	27(5)	6(5)	6(5)	0(1)	23(3)	31(3)	28(1)	26(3)	10(5)	61(5)	0.0(5)	583(5)	46	9.9
10.70	A	09/12/2012	401	31(5)	7(5)	7(5)	1(1)	19(1)	36(3)	36(1)	54(1)	3(1)	39(3)	0.0(5)	750(5)	36	9.9
9.80	A	07/03/2012	412	16(3)	2(3)	5(3)	0(1)	64(5)	72(5)	10(5)	13(5)	3(1)	77(5)	0.0(5)	611(5)	46	9.0
9.80	A	09/12/2012	412	27(5)	4(5)	7(5)	1(1)	27(3)	46(3)	23(3)	37(1)	4(1)	57(5)	0.0(5)	588(5)	42	9.8
8.00	A	07/11/2012	418	27(5)	5(5)	6(5)	1(1)	24(3)	49(3)	26(3)	30(1)	5(3)	63(5)	0.0(5)	726(5)	44	9.9
8.00	A	09/13/2012	418	27(5)	5(5)	7(5)	0(1)	16(1)	35(3)	16(3)	29(1)	7(3)	61(5)	0.9(3)	708(5)	40	10.4
E. Br. Black River - (20-010)																	
Year: 2012																	
40.80	A	09/11/2012	72	16(3)	4(5)	2(1)	0(1)	23(3)	64(5)	42(1)	40(1)	13(5)	45(3)	0.0(5)	290(3)	36	8.1
0.80	A	07/05/2012	222	11(3)	5(5)	2(1)	0(1)	30(3)	33(3)	42(1)	21(3)	11(5)	67(5)	0.0(5)	186(1)	36	7.4
0.80	A	09/11/2012	222	15(3)	5(5)	2(1)	0(1)	14(1)	22(1)	49(1)	22(3)	9(3)	67(5)	0.0(5)	198(1)	30	7.9

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

Appendix Table 8. Wading IBI metrics.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Percent of Individuals: Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb
French Creek - (20002)																	
Year: 2012																	
5.60	E	08/21/2012	25	15(3)	2(3)	1(1)	0(1)	2(3)	23(3)	35(3)	21(3)	1.2(3)	20(1)	0.0(5)	824(5)	34	8.0
2.60	E	08/21/2012	32	11(3)	2(3)	1(1)	0(1)	2(1)	30(3)	65(1)	28(3)	2.0(3)	36(3)	0.0(5)	316(3)	30	6.2
0.60	D	08/08/2012	38	16(3)	3(3)	2(3)	0(1)	2(1)	13(1)	40(3)	7(5)	3.1(3)	46(3)	0.0(5)	699(3)	34	8.6
0.60	D	09/20/2012	38	13(3)	2(3)	2(3)	0(1)	2(1)	14(1)	38(3)	16(5)	6.6(5)	42(3)	0.2(5)	480(3)	36	8.4
E. Br. Black River - (20010)																	
Year: 2012																	
41.90	D	08/01/2012	65	21(3)	3(3)	3(3)	0(1)	4(3)	51(5)	43(3)	29(3)	7.9(5)	61(5)	0.0(5)	239(3)	42	8.0
41.90	D	09/18/2012	65	19(3)	3(3)	3(3)	0(1)	3(3)	46(5)	39(3)	27(3)	7.3(5)	59(5)	0.0(5)	404(3)	42	9.0
40.50	E	08/16/2012	72	26(5)	5(5)	3(3)	0(1)	4(3)	16(1)	49(1)	35(1)	1.5(3)	46(3)	0.0(5)	2394(5)	36	10.4
40.50	E	10/02/2012	72	22(5)	4(5)	3(3)	0(1)	3(3)	18(1)	50(1)	44(1)	4.1(3)	47(3)	0.1(5)	633(3)	34	8.8
36.80	D	07/31/2012	96	22(3)	2(3)	3(3)	0(1)	4(3)	29(3)	33(3)	25(3)	1.4(3)	46(3)	0.1(5)	1167(5)	38	9.1
36.80	D	09/06/2012	96	20(3)	2(3)	3(3)	0(1)	4(3)	22(3)	45(1)	37(1)	1.8(3)	48(3)	0.0(5)	1001(5)	34	9.0
24.60	D	07/25/2012	136	23(5)	4(5)	3(3)	0(1)	4(3)	30(3)	51(1)	39(1)	1.7(3)	49(3)	0.0(5)	1043(5)	38	9.3
24.60	D	09/18/2012	136	22(3)	3(3)	3(3)	0(1)	4(3)	24(3)	46(1)	29(3)	3.0(3)	53(3)	0.2(5)	1217(5)	36	9.5
19.00	D	07/25/2012	158	18(3)	3(3)	3(3)	0(1)	4(3)	25(3)	48(1)	45(1)	5.6(5)	48(3)	0.2(5)	333(3)	34	7.8
19.00	D	09/07/2012	158	16(3)	3(3)	3(3)	0(1)	3(3)	39(5)	29(3)	25(3)	8.6(5)	66(5)	0.0(5)	485(3)	42	8.7
11.40	D	07/23/2012	179	18(3)	3(3)	3(3)	0(1)	4(3)	45(5)	30(3)	14(5)	11.1(5)	72(5)	0.0(5)	788(5)	46	9.3
11.40	D	09/07/2012	179	19(3)	3(3)	3(3)	0(1)	5(3)	46(5)	28(3)	24(3)	11.0(5)	61(5)	0.0(5)	1437(5)	44	9.6
10.50	E	08/13/2012	180	20(3)	3(3)	3(3)	0(1)	5(3)	37(5)	48(1)	47(1)	5.3(5)	44(3)	0.1(5)	2394(5)	38	9.2
10.50	D	09/18/2012	180	19(3)	3(3)	3(3)	0(1)	4(3)	21(3)	64(1)	62(1)	4.8(3)	31(3)	0.0(5)	1516(5)	34	9.1
6.00	E	08/14/2012	180	17(3)	1(1)	2(1)	0(1)	4(3)	28(3)	44(1)	39(1)	0.5(1)	41(3)	0.0(5)	3771(5)	28	8.9
6.00	D	09/19/2012	180	21(3)	3(3)	2(1)	1(1)	5(3)	30(3)	37(1)	33(3)	0.4(1)	57(5)	0.0(5)	5699(5)	34	9.3
3.00	E	08/14/2012	217	21(3)	5(5)	3(3)	0(1)	4(3)	29(3)	56(1)	49(1)	1.4(3)	48(3)	0.0(5)	2048(5)	36	9.5

na - Qualitative data, Modified Iwb not applicable.

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Percent of Individuals: Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb
3.00	D	09/19/2012	217	26(5)	5(5)	3(3)	1(1)	5(3)	50(5)	35(1)	28(3)	1.1(3)	71(5)	0.0(5)	4209(5)	44	9.6
W Fk E Fk Black R. - (20015)																	
Year: 2012																	
9.70	E	08/29/2012	21	17(3)	2(3)	1(1)	0(1)	4(5)	5(1)	75(1)	52(1)	0.9(1)	20(1)	0.0(5)	766(5)	28	7.7
2.30	D	08/07/2012	41	22(5)	2(3)	3(3)	0(1)	4(3)	17(1)	17(5)	8(5)	1.2(3)	29(3)	0.0(5)	3384(5)	42	9.4
2.30	D	09/17/2012	41	23(5)	2(3)	3(3)	0(1)	4(3)	24(3)	42(3)	30(3)	2.9(3)	38(3)	0.0(5)	968(5)	40	8.9
0.40	D	08/01/2012	42	24(5)	3(3)	3(3)	0(1)	4(3)	20(3)	27(3)	9(5)	4.1(3)	40(3)	0.1(5)	1199(5)	42	9.8
0.40	D	09/17/2012	42	23(5)	3(3)	3(3)	0(1)	4(3)	19(3)	57(1)	43(1)	6.0(5)	34(3)	0.0(5)	719(3)	36	8.8
W. Br. Black River - (20020)																	
Year: 2012																	
37.40	E	09/18/2012	28	18(3)	3(3)	1(1)	0(1)	4(5)	47(5)	73(1)	47(1)	1.3(3)	35(3)	0.8(3)	246(3)	32	6.2
37.40	D	08/15/2012	28	17(3)	3(3)	1(1)	0(1)	4(5)	49(5)	66(1)	35(1)	0.4(1)	34(3)	0.1(5)	479(3)	32	7.1
28.50	E	09/19/2012	37	17(3)	3(3)	1(1)	0(1)	3(3)	22(3)	80(1)	44(1)	0.2(1)	27(3)	0.0(5)	161(1)	26	6.2
28.50	E	08/15/2012	37	18(3)	2(3)	1(1)	0(1)	4(3)	36(3)	68(1)	32(3)	0.7(1)	27(3)	0.0(5)	509(3)	30	7.2
25.30	D	09/04/2012	67	16(3)	4(5)	1(1)	0(1)	3(3)	47(5)	76(1)	66(1)	1.2(3)	26(1)	0.0(5)	182(1)	30	6.4
25.30	D	07/16/2012	67	16(3)	3(3)	1(1)	0(1)	4(3)	56(5)	72(1)	45(1)	1.7(3)	29(3)	0.0(5)	147(1)	30	5.7
20.50	D	09/12/2012	79	16(3)	3(3)	1(1)	1(1)	4(3)	30(3)	83(1)	72(1)	0.3(1)	18(1)	0.0(5)	252(3)	26	6.2
20.50	D	07/17/2012	79	22(5)	5(5)	1(1)	0(1)	4(3)	45(5)	79(1)	63(1)	0.5(1)	23(1)	0.0(5)	306(3)	32	7.4
16.90	D	07/18/2012	83	18(3)	4(5)	1(1)	0(1)	4(3)	17(1)	79(1)	40(1)	1.7(3)	27(3)	0.0(5)	147(1)	28	6.7
16.70	D	09/12/2012	83	17(3)	3(3)	1(1)	1(1)	4(3)	27(3)	80(1)	60(1)	0.0(1)	24(1)	0.0(5)	237(3)	26	6.1
16.70	D	07/18/2012	83	16(3)	3(3)	1(1)	0(1)	4(3)	26(3)	76(1)	56(1)	0.7(1)	28(3)	0.0(5)	350(3)	28	6.7
10.20	D	09/12/2012	132	20(3)	4(5)	1(1)	1(1)	4(3)	29(3)	54(1)	38(1)	13.2(5)	42(3)	0.0(5)	179(1)	32	7.6
10.20	D	07/17/2012	132	23(5)	4(5)	1(1)	0(1)	4(3)	27(3)	48(1)	26(3)	9.2(5)	52(3)	0.0(5)	660(3)	38	8.5
7.60	D	09/07/2012	161	17(3)	5(5)	1(1)	0(1)	2(1)	21(3)	32(3)	22(3)	28.0(5)	50(3)	1.1(3)	185(1)	32	7.3
7.60	D	07/19/2012	161	20(3)	5(5)	1(1)	0(1)	3(3)	13(1)	49(1)	25(3)	17.6(5)	53(3)	0.0(5)	156(1)	32	6.8

na - Qualitative data, Modified Iwb not applicable.

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Percent of Individuals: Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb
4.10	D	09/07/2012	169	23(5)	4(5)	1(1)	1(1)	3(3)	24(3)	63(1)	56(1)	2.2(3)	36(3)	0.3(3)	1074(5)	34	8.4
4.10	D	07/24/2012	169	21(3)	3(3)	1(1)	0(1)	4(3)	34(3)	42(1)	27(3)	1.8(3)	59(5)	0.0(5)	1043(5)	36	8.7
0.40	D	07/24/2012	174	10(1)	2(3)	1(1)	0(1)	2(1)	59(5)	31(3)	13(5)	7.7(5)	80(5)	0.5(5)	286(3)	38	6.1
Wellington Creek - (20023)																	
Year: 2012																	
0.50	E	09/18/2012	29	21(5)	3(3)	1(1)	0(1)	4(3)	30(3)	64(1)	39(1)	0.8(1)	36(3)	0.0(5)	213(3)	30	6.9
0.50	E	08/28/2012	29	19(5)	4(5)	1(1)	0(1)	4(3)	47(5)	54(1)	33(3)	0.4(1)	48(3)	0.0(5)	351(3)	36	7.8
Charlemont Creek - (20024)																	
Year: 2012																	
2.20	E	09/19/2012	22	16(3)	2(3)	1(1)	0(1)	4(5)	36(3)	59(1)	32(3)	0.6(1)	36(3)	0.0(5)	321(3)	32	7.3
2.20	E	08/15/2012	22	18(5)	3(3)	1(1)	0(1)	3(3)	25(3)	80(1)	22(3)	0.3(1)	28(3)	0.0(5)	207(3)	32	6.5
0.40	E	09/19/2012	25	16(3)	3(3)	1(1)	0(1)	4(5)	31(3)	71(1)	54(1)	1.9(3)	28(3)	0.3(5)	162(1)	30	6.2
0.40	E	08/28/2012	25	16(3)	2(3)	1(1)	0(1)	3(3)	33(3)	86(1)	55(1)	0.2(1)	19(1)	0.0(5)	137(1)	24	5.8

na - Qualitative data, Modified Iwb not applicable.

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table 9. Headwater IBI metrics.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Percent of Individuals: Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
Heider Ditch - (13-006)																
Year: 2012																
0.20	E	08/02/2012	7.8	12(3)	6(5)	0(1)	0(1)	0(1)	1(1)	27(5)	11(5)	15(5)	15(1)	0.0(5)	960(5)	38
Gable Ditch - (13-010)																
Year: 2012																
0.40	E	10/15/2012	1.4	2(1)	2(3)	0(1)	0(1)	0(1)	0(1)	68(1)	0(5)	68(1)	0(1)	0.0(5)	268(5)	26
Powdermaker Ditch - (13-011)																
Year: 2012																
0.20	E	10/04/2012	4.3	4(1)	2(1)	0(1)	0(1)	0(1)	0(1)	28(5)	0(5)	28(5)	0(1)	0.0(5)	3737(5)	32
French Creek - (20-002)																
Year: 2012																
10.40	E	09/18/2012	11.8	15(5)	8(5)	1(1)	1(1)	1(1)	2(1)	28(5)	18(3)	39(3)	75(5)	0.0(5)	394(3)	38
9.00	E	10/10/2012	17.2	13(3)	7(5)	0(1)	1(1)	1(1)	2(1)	38(3)	16(5)	32(3)	33(3)	0.0(5)	142(1)	32
Salt Creek - (20-011)																
Year: 2012																
0.50	E	09/12/2012	6.7	14(5)	6(5)	4(5)	1(1)	3(3)	3(3)	65(1)	47(1)	29(5)	16(1)	0.0(5)	730(5)	40
Crow Creek - (20-012)																
Year: 2012																
0.80	E	09/12/2012	3.7	12(5)	5(3)	4(5)	1(1)	3(5)	3(3)	46(3)	21(3)	38(3)	24(3)	0.0(5)	286(3)	42
Coon Creek - (20-013)																
Year: 2012																
0.90	E	06/25/2012	10.2	16(5)	4(3)	2(3)	0(1)	4(5)	3(3)	63(1)	14(5)	40(3)	52(5)	0.0(5)	128(1)	40
E Fk E Fk Black R. - (20-014)																
Year: 2012																
5.80	E	07/26/2012	7.6	13(3)	6(5)	4(5)	1(1)	3(3)	4(3)	61(1)	9(5)	56(1)	36(3)	0.0(5)	458(3)	38
2.70	E	07/26/2012	12.9	9(3)	3(1)	3(3)	0(1)	3(3)	2(1)	50(3)	17(5)	16(5)	19(1)	0.0(5)	976(5)	36
1.80	E	08/20/2012	13.9	16(5)	6(3)	3(3)	3(3)	5(5)	5(3)	66(1)	46(1)	65(1)	23(3)	0.0(5)	478(3)	36
1.60	E	08/20/2012	14.0	18(5)	7(5)	4(5)	3(3)	5(5)	6(3)	13(5)	3(5)	10(5)	8(1)	0.0(5)	3351(5)	52

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Percent of Individuals: Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
0.10	E	08/27/2012	15.2	18(5)	9(5)	3(3)	4(3)	4(3)	6(3)	33(3)	13(5)	33(3)	19(1)	0.0(5)	1642(5)	44
W Fk E Fk Black R. - (20-015)																
Year: 2012																
14.00	E	09/06/2012	14.1	10(3)	5(3)	1(1)	0(1)	1(1)	2(1)	97(1)	1(5)	93(1)	4(1)	0.0(5)	18(1)	24
Clear Creek - (20-016)																
Year: 2012																
1.80	E	06/22/2012	6.2	11(3)	6(5)	5(5)	1(1)	3(3)	5(3)	47(3)	4(5)	34(3)	25(3)	0.0(5)	538(3)	42
Willow Creek - (20-018)																
Year: 2012																
6.60	E	08/30/2012	3.0	9(3)	2(1)	1(1)	0(1)	1(1)	0(1)	72(1)	0(5)	70(1)	54(5)	0.9(5)	69(1)	26
2.80	E	08/30/2012	13.3	8(3)	3(1)	0(1)	0(1)	1(1)	1(1)	76(1)	18(3)	79(1)	28(3)	0.0(5)	142(1)	22
E Fk Black R 41.41 - (20-019)																
Year: 2012																
0.40	E	06/25/2012	1.8	11(5)	5(5)	5(5)	1(1)	4(5)	5(5)	75(1)	7(5)	59(1)	21(3)	0.0(5)	128(3)	44
Plum Creek - (20-021)																
Year: 2012																
5.60	E	08/22/2012	4.8	11(3)	4(3)	1(1)	0(1)	1(1)	2(1)	95(1)	18(3)	76(1)	30(3)	0.0(5)	54(1)	24
3.30	E	08/22/2012	7.6	13(3)	6(5)	2(3)	0(1)	2(3)	3(3)	97(1)	10(5)	80(1)	25(3)	0.0(5)	62(1)	34
2.80	E	08/23/2012	7.9	17(5)	9(5)	2(3)	0(1)	2(3)	3(3)	96(1)	26(3)	66(1)	15(1)	0.0(5)	92(1)	32
0.20	E	08/22/2012	13.6	21(5)	10(5)	2(3)	4(3)	5(5)	6(3)	73(1)	33(1)	59(1)	34(3)	0.0(5)	575(3)	38
Elk Creek - (20-022)																
Year: 2012																
0.20	E	09/05/2012	7.5	12(3)	5(3)	2(3)	0(1)	2(3)	2(1)	89(1)	19(3)	79(1)	14(1)	0.0(5)	136(1)	26
Wellington Creek - (20-023)																
Year: 2012																
17.10	E	07/25/2012	5.2	12(5)	6(5)	1(1)	0(1)	1(1)	2(1)	77(1)	15(3)	62(1)	17(1)	0.0(5)	180(3)	28
13.10	E	07/25/2012	10.5	14(3)	5(3)	1(1)	1(1)	3(3)	5(3)	90(1)	30(1)	65(1)	33(3)	0.2(5)	124(1)	26
8.40	E	07/25/2012	19.7	14(3)	5(3)	2(3)	1(1)	4(3)	5(3)	73(1)	21(3)	64(1)	30(3)	0.0(5)	192(1)	30

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Percent of Individuals: Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
Charlemont Creek - (20-024)																
Year: 2012																
8.60	E	07/09/2012	10.8	13(3)	6(3)	2(3)	1(1)	3(3)	4(3)	79(1)	28(3)	55(1)	19(1)	0.0(5)	104(1)	28
Buck Creek - (20-025)																
Year: 2012																
1.00	E	09/05/2012	4.8	16(5)	7(5)	2(3)	1(1)	3(3)	4(3)	77(1)	29(1)	46(3)	24(3)	0.0(5)	574(5)	38
Charlemont trib 0.51 - (20-026)																
Year: 2012																
1.00	E	08/28/2012	1.7	7(3)	2(1)	1(1)	0(1)	1(3)	2(3)	100(1)	1(5)	67(1)	8(1)	0.0(5)	5(1)	26
0.70	E	08/28/2012	1.8	13(5)	8(5)	2(3)	0(1)	1(3)	3(5)	97(1)	5(5)	77(1)	4(1)	0.0(5)	63(3)	38
Kellner Ditch - (20-027)																
Year: 2012																
3.00	E	08/08/2012	4.4	11(3)	4(3)	1(1)	0(1)	1(1)	3(3)	87(1)	8(5)	77(1)	23(3)	0.0(5)	162(3)	30
1.00	E	08/08/2012	9.4	13(3)	4(3)	1(1)	0(1)	3(3)	3(3)	77(1)	28(3)	65(1)	32(3)	0.0(5)	186(1)	28
EB Black trib 22.65 - (20-030)																
Year: 2012																
0.60	E	08/21/2012	6.4	7(3)	4(3)	2(3)	0(1)	3(3)	1(1)	77(1)	3(5)	90(1)	20(3)	0.0(5)	78(1)	30
EB Black trib 39.06 - (20-031)																
Year: 2012																
2.20	E	06/25/2012	4.7	10(3)	3(3)	3(3)	0(1)	3(3)	2(1)	52(3)	2(5)	29(5)	33(3)	0.0(5)	308(3)	38
EB Black trib 28.65 - (20-038)																
Year: 2012																
1.50	E	08/21/2012	5.3	12(3)	7(5)	4(5)	1(1)	3(3)	4(3)	64(1)	10(5)	60(1)	29(3)	0.0(5)	345(3)	38
Brentwood Lake Trib. - (20-052)																
Year: 2012																
1.00	E	07/09/2012	4.4	15(5)	6(5)	2(3)	2(3)	2(3)	4(3)	64(1)	8(5)	49(3)	38(5)	0.0(5)	279(3)	44
0.10	E	08/14/2012	7.2	16(5)	6(5)	4(5)	5(5)	5(5)	6(5)	77(1)	12(5)	69(1)	14(1)	0.0(5)	290(3)	46
Black R. trib. 10.18 - (20-053)																
Year: 2012																

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

River Mile	Type	Date	Drainage area (sq mi)	Number of						Percent of Individuals					Rel.No. minus tolerants /(0.3km)	IBI
				Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies		
0.60	E	08/21/2012	10.2	17(5)	7(5)	2(3)	4(3)	4(5)	4(3)	33(5)	14(5)	25(5)	15(1)	0.0(5)	2212(5)	50

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix Table 10. Fish species by site.

River Code: **13-006**	Stream: **Heider Ditch**	Sample Date: **2012**
River Mile: **0.20**	Location: Electric Blvd.	Date Range: 08/02/2012
Time Fished: 2438 sec	Drainage: 7.8 sq mi	
Dist Fished: 0.13 km	Basin: No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	58	133.85	10.12			
Golden Shiner	N	I	M	T	5	11.54	0.87			
Creek Chub	N	G	N	T	59	136.15	10.30			
Spotfin Shiner	N	I	M		2	4.62	0.35			
Fathead Minnow	N	O	C	T	1	2.31	0.17			
Bluntnose Minnow	N	O	C	T	1	2.31	0.17			
Central Stoneroller	N	H	N		363	837.69	63.35			
Brown Bullhead		I	C	T	8	18.46	1.40			
Largemouth Bass	F	C	C		7	16.15	1.22			
Green Sunfish	S	I	C	T	25	57.69	4.36			
Bluegill Sunfish	S	I	C	P	40	92.31	6.98			
Pumpkinseed Sunfish	S	I	C	P	4	9.23	0.70			
Mile Total					573	1,322.31				
Number of Species					12					
Number of Hybrids					0					

River Code: **13-010**	Stream: **Gable Ditch**	Sample Date: **2012**
River Mile: **0.40**	Location: upst. Electric Ave.	Date Range: 10/15/2012
Time Fished: 2974 sec	Drainage: 1.4 sq mi	
Dist Fished: 0.15 km	Basin: Rocky River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	283	566.00	67.87			
Central Stoneroller	N	H	N		134	268.00	32.13			
Mile Total					417	834.00				
Number of Species					2					
Number of Hybrids					0					

River Code: **13-011**	Stream: **Powdermaker Ditch**	Sample Date: **2012**
River Mile: **0.20**	Location: Electric Ave.	Date Range: 10/04/2012
Time Fished: 3517 sec	Drainage: 4.3 sq mi	
Dist Fished: 0.13 km	Basin: Rocky River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	643	1,483.85	28.40			
Central Stoneroller	N	H	N		1,615	3,726.92	71.33			
Yellow Bullhead		I	C	T	2	4.62	0.09			
Bluegill Sunfish	S	I	C	P	4	9.23	0.18			
Mile Total					2,264	5,224.62				
Number of Species					4					
Number of Hybrids					0					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **15.40**	Location: Cascade Park	Date Range: 07/09/2012
Time Fished: 8200 sec	Drainage: 396.0 sq mi	Thru: 09/11/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		65	65.00	9.46	11.16	3.55	171.61
Rainbow Trout	E		N		1	1.00	0.15	1.90	0.60	1,900.00
Bigmouth Buffalo	C	I	M		3	3.00	0.44	12.70	4.04	4,233.33
Smallmouth Buffalo	C	I	M		2	2.00	0.29	6.70	2.13	3,350.00
Quillback	C	O	M		3	3.00	0.44	2.45	0.78	816.67
Silver Redhorse	R	I	S	M	2	2.00	0.29	3.85	1.22	1,925.00
Golden Redhorse	R	I	S	M	89	89.00	12.95	26.89	8.55	302.16
Northern Hog Sucker	R	I	S	M	17	17.00	2.47	2.40	0.76	141.24
White Sucker	W	O	S	T	13	13.00	1.89	0.90	0.29	69.09
Spotted Sucker	R	I	S		8	8.00	1.16	0.04	0.01	5.00
Common Carp	G	O	M	T	73	73.00	10.63	211.39	67.22	2,895.80
Golden Shiner	N	I	M	T	1	1.00	0.15	0.00	0.00	4.00
Emerald Shiner	N	I	M		3	3.00	0.44	0.02	0.00	5.00
Striped Shiner	N	I	S		27	27.00	3.93	0.40	0.13	14.89
Common Shiner	N	I	S		18	18.00	2.62	0.22	0.07	12.00
Spotfin Shiner	N	I	M		117	117.00	17.03	0.35	0.11	2.96
Sand Shiner	N	I	M	M	7	7.00	1.02	0.02	0.01	2.86
Bluntnose Minnow	N	O	C	T	46	46.00	6.70	0.16	0.05	3.43
Striped Sh X Common Sh		I			22	22.00	3.20	0.26	0.08	12.00
Channel Catfish	F		C		6	6.00	0.87	4.55	1.45	758.33
Yellow Bullhead		I	C	T	2	2.00	0.29	0.56	0.18	280.00
Black Bullhead		I	C	P	1	1.00	0.15	0.43	0.14	425.00
Flathead Catfish	F	P	C		1	1.00	0.15	3.50	1.11	3,500.00
White Crappie	S	I	C		6	6.00	0.87	1.41	0.45	235.00
Black Crappie	S	I	C		1	1.00	0.15	0.10	0.03	98.00
Rock Bass	S	C	C		28	28.00	4.08	3.32	1.06	118.54
Smallmouth Bass	F	C	C	M	44	44.00	6.40	12.10	3.85	275.05
Largemouth Bass	F	C	C		15	15.00	2.18	3.61	1.15	240.93
Green Sunfish	S	I	C	T	14	14.00	2.04	0.60	0.19	43.17
Bluegill Sunfish	S	I	C	P	37	37.00	5.39	2.07	0.66	56.06
Pumpkinseed Sunfish	S	I	C	P	6	6.00	0.87	0.20	0.06	33.67
Green Sf X Bluegill Sf					3	3.00	0.44	0.06	0.02	21.33
Green Sf X Pumpkinseed					1	1.00	0.15	0.12	0.04	124.00
Logperch	D	I	S	M	1	1.00	0.15	0.01	0.00	10.00
Johnny Darter	D	I	C		1	1.00	0.15	0.00	0.00	2.00
Greenside Darter	D	I	S	M	1	1.00	0.15	0.00	0.00	4.00
Rainbow Darter	D	I	S	M	1	1.00	0.15	0.00	0.00	3.00
Round Goby	E				1	1.00	0.15	0.00	0.00	2.00
	Mile Total				687	687.00		314.47		
	Number of Species				35					
	Number of Hybrids				3					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **11.50**	Location: dst. Elyria at Spring Valley Golf Club	Date Range: 07/10/2012
Time Fished: 5000 sec	Drainage: 398.0 sq mi	Thru: 09/12/2012
Dist Fished: 0.70 km	Basin: Black River No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		76	108.57	15.29	12.29	7.08	113.21
Quillback	C	O	M		5	7.14	1.01	0.06	0.04	9.00
Silver Redhorse	R	I	S	M	2	2.86	0.40	2.29	1.32	800.00
Golden Redhorse	R	I	S	M	97	138.57	19.52	58.13	33.50	419.49
Northern Hog Sucker	R	I	S	M	39	55.71	7.85	11.88	6.85	213.28
White Sucker	W	O	S	T	39	55.71	7.85	6.28	3.62	112.69
Spotted Sucker	R	I	S		17	24.29	3.42	1.99	1.15	81.88
Common Carp	G	O	M	T	20	28.57	4.02	65.80	37.92	2,303.00
Golden Shiner	N	I	M	T	2	2.86	0.40	0.01	0.00	2.50
Emerald Shiner	N	I	M		1	1.43	0.20	0.01	0.01	8.00
Redfin Shiner	N	I	N		1	1.43	0.20	0.00	0.00	2.00
Striped Shiner	N	I	S		28	40.00	5.63	0.70	0.40	17.50
Spotfin Shiner	N	I	M		44	62.86	8.85	0.18	0.10	2.88
Sand Shiner	N	I	M	M	1	1.43	0.20	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	49	70.00	9.86	0.17	0.10	2.37
Channel Catfish	F		C		3	4.29	0.60	2.26	1.30	526.67
White Perch	E		M		1	1.43	0.20	0.01	0.01	10.00
Rock Bass	S	C	C		4	5.71	0.80	0.77	0.44	134.00
Smallmouth Bass	F	C	C	M	19	27.14	3.82	5.66	3.26	208.58
Largemouth Bass	F	C	C		3	4.29	0.60	0.25	0.14	58.67
Green Sunfish	S	I	C	T	11	15.71	2.21	0.25	0.14	15.91
Bluegill Sunfish	S	I	C	P	20	28.57	4.02	0.96	0.56	33.75
Pumpkinseed Sunfish	S	I	C	P	5	7.14	1.01	0.13	0.07	18.00
Green Sf X Bluegill Sf					2	2.86	0.40	0.25	0.14	87.00
Logperch	D	I	S	M	1	1.43	0.20	0.02	0.01	12.00
Johnny Darter	D	I	C		3	4.29	0.60	0.01	0.00	2.00
Greenside Darter	D	I	S	M	2	2.86	0.40	0.01	0.01	3.50
Freshwater Drum			M	P	2	2.86	0.40	3.14	1.81	1,100.00
	Mile Total				497	710.00		173.51		
	Number of Species				27					
	Number of Hybrids				1					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **10.70**	Location: upst. Elyria WWTP	Date Range: 07/10/2012
Time Fished: 6553 sec	Drainage: 401.0 sq mi	Thru: 09/12/2012
Dist Fished: 0.80 km	Basin: Black River No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		134	167.50	16.94	4.74	2.44	28.28
Smallmouth Buffalo	C	I	M		1	1.25	0.13	0.21	0.11	170.00
Quillback	C	O	M		2	2.50	0.25	0.06	0.03	25.00
Silver Redhorse	R	I	S	M	1	1.25	0.13	0.16	0.08	130.00
Golden Redhorse	R	I	S	M	122	152.50	15.42	59.28	30.58	388.69
Shorthead Redhorse	R	I	S	M	6	7.50	0.76	2.39	1.23	318.33
Northern Hog Sucker	R	I	S	M	15	18.75	1.90	4.74	2.45	253.00
White Sucker	W	O	S	T	74	92.50	9.36	9.14	4.71	98.78
Spotted Sucker	R	I	S		18	22.50	2.28	1.18	0.61	52.44
Common Carp	G	O	M	T	27	33.75	3.41	83.44	43.04	2,472.22
Emerald Shiner	N	I	M		2	2.50	0.25	0.01	0.00	3.00
Rosyface Shiner	N	I	S	I	4	5.00	0.51	0.02	0.01	3.75
Redfin Shiner	N	I	N		3	3.75	0.38	0.01	0.01	3.33
Striped Shiner	N	I	S		13	16.25	1.64	0.28	0.15	17.31
Spotfin Shiner	N	I	M		44	55.00	5.56	0.21	0.11	3.79
Sand Shiner	N	I	M	M	1	1.25	0.13	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	97	121.25	12.26	0.40	0.21	3.28
Central Stoneroller	N	H	N		4	5.00	0.51	0.03	0.01	5.25
Brown Bullhead		I	C	T	1	1.25	0.13	0.29	0.15	235.00
White Bass	F	P	M		1	1.25	0.13	0.02	0.01	12.00
White Perch	E		M		13	16.25	1.64	0.15	0.08	9.17
White Crappie	S	I	C		7	8.75	0.88	2.06	1.06	235.71
Black Crappie	S	I	C		4	5.00	0.51	0.84	0.43	167.50
Rock Bass	S	C	C		16	20.00	2.02	2.00	1.03	100.08
Smallmouth Bass	F	C	C	M	24	30.00	3.03	6.21	3.20	207.08
Largemouth Bass	F	C	C		8	10.00	1.01	1.25	0.64	125.00
Green Sunfish	S	I	C	T	59	73.75	7.46	1.45	0.75	19.67
Bluegill Sunfish	S	I	C	P	46	57.50	5.82	1.18	0.61	20.45
Orangespotted Sunfish	S	I	C		1	1.25	0.13	0.01	0.00	5.00
Pumpkinseed Sunfish	S	I	C	P	11	13.75	1.39	0.28	0.14	20.00
Yellow Perch			M		5	6.25	0.63	0.43	0.22	68.60
Blackside Darter	D	I	S		1	1.25	0.13	0.01	0.01	9.00
Logperch	D	I	S	M	10	12.50	1.26	0.17	0.09	13.33
Johnny Darter	D	I	C		3	3.75	0.38	0.01	0.00	1.67
Greenside Darter	D	I	S	M	5	6.25	0.63	0.02	0.01	3.20
Fantail Darter	D	I	C		1	1.25	0.13	0.00	0.00	3.00
Freshwater Drum			M	P	7	8.75	0.88	11.19	5.77	1,278.57
Mile Total					791	988.75		193.84		
Number of Species					37					
Number of Hybrids					0					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **9.80**	Location: Ford Rd.	Date Range: 07/03/2012
Time Fished: 7100 sec	Drainage: 412.0 sq mi	Thru: 09/12/2012
Dist Fished: 0.85 km	Basin: Black River	No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		62	65.00	8.89	3.45	1.38	53.71
Rainbow Trout	E		N		1	1.00	0.14	0.70	0.28	700.00
Quillback	C	O	M		4	4.43	0.61	0.35	0.14	65.00
Silver Redhorse	R	I	S	M	4	5.29	0.72	9.20	3.68	1,775.00
Golden Redhorse	R	I	S	M	210	271.29	37.09	111.34	44.56	414.69
Shorthead Redhorse	R	I	S	M	2	2.00	0.27	0.85	0.34	425.00
Northern Hog Sucker	R	I	S	M	28	31.00	4.24	6.36	2.55	210.30
White Sucker	W	O	S	T	55	58.86	8.05	9.26	3.70	148.03
Spotted Sucker	R	I	S		14	14.00	1.91	0.86	0.34	61.54
Common Carp	G	O	M	T	25	30.14	4.12	75.84	30.35	2,560.80
Creek Chub	N	G	N	T	1	1.00	0.14	0.02	0.01	20.00
Emerald Shiner	N	I	M		1	1.00	0.14	0.01	0.00	10.00
Rosyface Shiner	N	I	S	I	2	2.00	0.27	0.01	0.00	3.00
Striped Shiner	N	I	S		23	24.71	3.38	0.33	0.13	12.43
Common Shiner	N	I	S		1	1.43	0.20	0.03	0.01	24.00
Spotfin Shiner	N	I	M		50	51.29	7.01	0.15	0.06	2.92
Sand Shiner	N	I	M	M	7	7.00	0.96	0.01	0.00	1.43
Mimic Shiner	N	I	M	I	12	12.00	1.64	0.02	0.01	1.50
Bluntnose Minnow	N	O	C	T	26	27.29	3.73	0.10	0.04	3.72
Central Stoneroller	N	H	N		1	1.00	0.14	0.01	0.00	6.00
Channel Catfish	F		C		12	16.71	2.29	21.49	8.60	1,283.33
Yellow Bullhead		I	C	T	1	1.00	0.14	0.13	0.05	130.00
White Perch	E		M		4	4.00	0.55	0.10	0.04	25.00
Rock Bass	S	C	C		6	6.00	0.82	0.52	0.21	86.67
Smallmouth Bass	F	C	C	M	13	15.57	2.13	3.01	1.20	210.38
Largemouth Bass	F	C	C		2	2.00	0.27	0.03	0.01	12.50
Green Sunfish	S	I	C	T	5	5.43	0.74	0.10	0.04	18.00
Bluegill Sunfish	S	I	C	P	35	42.71	5.84	1.07	0.43	24.86
Redear Sunfish	E	I	C		1	1.00	0.14	0.04	0.02	40.00
Pumpkinseed Sunfish	S	I	C	P	4	4.00	0.55	0.09	0.04	22.50
Green Sf X Bluegill Sf					1	1.00	0.14	0.05	0.02	50.00
Yellow Perch			M		3	4.29	0.59	0.27	0.11	62.33
Logperch	D	I	S	M	8	10.14	1.39	0.17	0.07	16.25
Johnny Darter	D	I	C		1	1.00	0.14	0.00	0.00	2.00
Freshwater Drum			M	P	4	4.86	0.66	3.92	1.57	702.50
Mile Total					629	731.43		249.87		
Number of Species					34					
Number of Hybrids					1					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **8.00**	Location: Lookout Trail	Date Range: 07/11/2012
Time Fished: 4480 sec	Drainage: 418.0 sq mi	Thru: 09/13/2012
Dist Fished: 0.75 km	Basin: Black River	No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		67	86.79	9.53	8.27	7.66	90.85
Quillback	C	O	M		2	2.68	0.29	0.59	0.55	207.00
Silver Redhorse	R	I	S	M	1	1.25	0.14	2.31	2.14	1,850.00
Golden Redhorse	R	I	S	M	66	91.61	10.06	27.81	25.78	305.27
Shorthead Redhorse	R	I	S	M	6	7.68	0.84	0.62	0.57	80.00
Northern Hog Sucker	R	I	S	M	61	81.43	8.95	9.47	8.78	115.87
White Sucker	W	O	S	T	83	114.11	12.54	1.36	1.26	12.57
Spotted Sucker	R	I	S		4	5.36	0.59	1.26	1.16	222.50
Common Carp	G	O	M	T	9	12.68	1.39	42.47	39.38	3,361.11
Emerald Shiner	N	I	M		60	79.11	8.69	0.24	0.22	3.00
Rosyface Shiner	N	I	S	I	1	1.43	0.16	0.00	0.00	3.00
Striped Shiner	N	I	S		25	32.32	3.55	0.57	0.52	16.97
Spotfin Shiner	N	I	M		47	63.21	6.95	0.23	0.21	3.57
Sand Shiner	N	I	M	M	21	27.86	3.06	0.07	0.06	2.48
Mimic Shiner	N	I	M	I	28	36.96	4.06	0.08	0.07	2.14
Bluntnose Minnow	N	O	C	T	38	50.71	5.57	0.16	0.15	3.03
Central Stoneroller	N	H	N		8	10.36	1.14	0.17	0.15	15.75
Channel Catfish	F		C		1	1.43	0.16	0.56	0.52	390.00
Yellow Bullhead		I	C	T	1	1.25	0.14	0.07	0.07	58.00
White Crappie	S	I	C		3	3.93	0.43	0.80	0.74	204.00
Rock Bass	S	C	C		16	21.07	2.32	1.83	1.69	87.94
Smallmouth Bass	F	C	C	M	19	25.89	2.84	3.13	2.90	124.74
Largemouth Bass	F	C	C		5	6.25	0.69	1.27	1.17	202.40
Green Sunfish	S	I	C	T	11	14.82	1.63	0.43	0.40	29.27
Bluegill Sunfish	S	I	C	P	39	53.04	5.83	2.35	2.18	44.92
Pumpkinseed Sunfish	S	I	C	P	5	6.96	0.77	0.15	0.14	21.00
Yellow Perch			M		6	8.21	0.90	0.42	0.39	50.67
Logperch	D	I	S	M	8	11.07	1.22	0.20	0.18	17.50
Johnny Darter	D	I	C		3	4.11	0.45	0.01	0.01	1.67
Greenside Darter	D	I	S	M	27	35.89	3.94	0.13	0.12	3.46
Rainbow Darter	D	I	S	M	4	5.54	0.61	0.02	0.01	2.75
Freshwater Drum			M	P	1	1.43	0.16	0.86	0.79	600.00
Round Goby	E				3	3.75	0.41	0.01	0.01	2.67
	Mile Total				679	910.18		107.87		
	Number of Species				33					
	Number of Hybrids				0					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **5.80**	Location: adj. D-2 landfill	Date Range: 06/20/2012
Time Fished: 4499 sec	Drainage: 425.0 sq mi	Thru: 07/31/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		92	92.00	23.83	9.30	12.96	101.06
Golden Redhorse	R	I	S	M	19	19.00	4.92	8.17	11.39	430.16
Shorthead Redhorse	R	I	S	M	1	1.00	0.26	0.82	1.14	815.00
Northern Hog Sucker	R	I	S	M	1	1.00	0.26	0.31	0.43	308.00
White Sucker	W	O	S	T	6	6.00	1.55	0.38	0.53	63.67
Spotted Sucker	R	I	S		21	21.00	5.44	5.23	7.28	248.81
Common Carp	G	O	M	T	4	4.00	1.04	12.10	16.86	3,025.00
Emerald Shiner	N	I	M		35	35.00	9.07	0.09	0.13	2.66
Spotfin Shiner	N	I	M		4	4.00	1.04	0.05	0.07	12.75
Mimic Shiner	N	I	M	I	7	7.00	1.81	0.02	0.02	2.14
Bluntnose Minnow	N	O	C	T	17	17.00	4.40	0.09	0.12	5.00
Channel Catfish	F		C		4	4.00	1.04	2.40	3.34	600.00
Flathead Catfish	F	P	C		1	1.00	0.26	0.93	1.29	925.00
White Bass	F	P	M		1	1.00	0.26	0.06	0.08	60.00
White Perch	E		M		2	2.00	0.52	0.08	0.12	42.00
White Crappie	S	I	C		6	6.00	1.55	1.38	1.92	229.17
Rock Bass	S	C	C		15	15.00	3.89	1.33	1.85	88.67
Smallmouth Bass	F	C	C	M	4	4.00	1.04	2.66	3.70	664.25
Largemouth Bass	F	C	C		53	53.00	13.73	12.69	17.68	239.42
Green Sunfish	S	I	C	T	7	7.00	1.81	0.14	0.20	20.14
Bluegill Sunfish	S	I	C	P	62	62.00	16.06	1.80	2.51	29.08
Pumpkinseed Sunfish	S	I	C	P	7	7.00	1.81	0.22	0.31	31.43
Bluegill X Pumpkinseed					3	3.00	0.78	0.24	0.33	78.67
Yellow Perch			M		1	1.00	0.26	0.06	0.09	63.00
Logperch	D	I	S	M	1	1.00	0.26	0.02	0.02	17.00
Freshwater Drum			M	P	7	7.00	1.81	11.19	15.59	1,597.86
Round Goby	E				5	5.00	1.30	0.02	0.03	4.80
	Mile Total				386	386.00		71.75		
	Number of Species				26					
	Number of Hybrids				1					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **4.80**	Location: dst. French Creek	Date Range: 06/20/2012
Time Fished: 5325 sec	Drainage: 464.0 sq mi	Thru: 07/31/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		53	53.00	27.89	7.80	7.92	147.18
Silver Redhorse	R	I	S	M	1	1.00	0.53	1.05	1.07	1,050.00
Golden Redhorse	R	I	S	M	8	8.00	4.21	3.71	3.77	463.63
White Sucker	W	O	S	T	1	1.00	0.53	0.01	0.01	10.00
Spotted Sucker	R	I	S		5	5.00	2.63	2.38	2.41	475.00
Common Carp	G	O	M	T	19	19.00	10.00	63.40	64.39	3,336.58
Goldfish	G	O	M	T	1	1.00	0.53	0.48	0.49	478.00
Golden Shiner	N	I	M	T	2	2.00	1.05	0.07	0.07	34.00
Emerald Shiner	N	I	M		9	9.00	4.74	0.03	0.03	2.78
Spotfin Shiner	N	I	M		2	2.00	1.05	0.01	0.01	5.00
Mimic Shiner	N	I	M	I	2	2.00	1.05	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	4	4.00	2.11	0.01	0.01	3.25
Channel Catfish	F		C		3	3.00	1.58	7.73	7.85	2,575.00
Flathead Catfish	F	P	C		1	1.00	0.53	0.06	0.06	56.00
White Perch	E		M		1	1.00	0.53	0.01	0.01	9.00
Rock Bass	S	C	C		2	2.00	1.05	0.18	0.18	90.00
Smallmouth Bass	F	C	C	M	3	3.00	1.58	1.28	1.29	425.00
Largemouth Bass	F	C	C		15	15.00	7.89	3.71	3.77	247.27
Green Sunfish	S	I	C	T	5	5.00	2.63	0.10	0.10	20.60
Bluegill Sunfish	S	I	C	P	26	26.00	13.68	1.14	1.16	43.79
Pumpkinseed Sunfish	S	I	C	P	16	16.00	8.42	0.67	0.68	41.56
Freshwater Drum			M	P	6	6.00	3.16	4.63	4.70	770.83
Round Goby	E				5	5.00	2.63	0.04	0.04	7.00
	Mile Total				190	190.00		98.46		
	Number of Species				23					
	Number of Hybrids				0					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **3.40**	Location: 0.1 mi. dst. Kobe 002	Date Range: 06/18/2012
Time Fished: 5039 sec	Drainage: 466.0 sq mi	Thru: 07/31/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		154	154.00	25.75	6.03	5.28	39.16
Golden Redhorse	R	I	S	M	1	1.00	0.17	0.68	0.59	675.00
White Sucker	W	O	S	T	3	3.00	0.50	0.01	0.01	2.67
Common Carp	G	O	M	T	18	18.00	3.01	60.50	52.97	3,361.11
Golden Shiner	N	I	M	T	43	43.00	7.19	0.39	0.34	9.15
Emerald Shiner	N	I	M		68	68.00	11.37	0.16	0.14	2.38
Bullhead Minnow	N	O	C		2	2.00	0.33	0.02	0.01	7.50
Bluntnose Minnow	N	O	C	T	45	45.00	7.53	0.10	0.09	2.20
Channel Catfish	F		C		18	18.00	3.01	21.94	19.21	1,218.61
Yellow Bullhead		I	C	T	2	2.00	0.33	0.19	0.17	97.00
Brown Bullhead		I	C	T	1	1.00	0.17	0.50	0.44	500.00
Flathead Catfish	F	P	C		7	7.00	1.17	4.28	3.74	610.71
Brook Silverside		I	M	M	1	1.00	0.17	0.00	0.00	2.00
White Perch	E		M		1	1.00	0.17	0.02	0.02	23.00
Rock Bass	S	C	C		10	10.00	1.67	1.01	0.88	100.60
Smallmouth Bass	F	C	C	M	15	15.00	2.51	0.85	0.75	56.73
Largemouth Bass	F	C	C		61	61.00	10.20	11.72	10.27	192.20
Green Sunfish	S	I	C	T	17	17.00	2.84	0.48	0.42	28.24
Bluegill Sunfish	S	I	C	P	103	103.00	17.22	4.45	3.90	43.20
Pumpkinseed Sunfish	S	I	C	P	25	25.00	4.18	0.87	0.76	34.80
Round Goby	E				3	3.00	0.50	0.02	0.02	6.00
	Mile Total				598	598.00		114.21		
	Number of Species				21					
	Number of Hybrids				0					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **1.60**	Location: dst. E. 21st. St.	Date Range: 06/18/2012
Time Fished: 4897 sec	Drainage: 468.0 sq mi	Thru: 07/31/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Bowfin		P	C		1	1.00	0.15	1.95	1.77	1,950.00
Gizzard Shad		O	M		29	29.00	4.35	1.15	1.04	39.59
Smallmouth Buffalo	C	I	M		2	2.00	0.30	6.65	6.04	3,325.00
White Sucker	W	O	S	T	5	5.00	0.75	0.04	0.03	7.00
Spotted Sucker	R	I	S		30	30.00	4.50	13.24	12.02	441.38
Common Carp	G	O	M	T	17	17.00	2.55	45.78	41.56	2,692.65
Goldfish	G	O	M	T	3	3.00	0.45	1.61	1.46	537.33
Golden Shiner	N	I	M	T	9	9.00	1.35	0.02	0.02	2.22
Emerald Shiner	N	I	M		12	12.00	1.80	0.03	0.03	2.75
Mimic Shiner	N	I	M	I	2	2.00	0.30	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	12	12.00	1.80	0.01	0.01	1.00
Channel Catfish	F		C		1	1.00	0.15	1.60	1.45	1,600.00
Yellow Bullhead		I	C	T	1	1.00	0.15	0.04	0.03	35.00
Brown Bullhead		I	C	T	12	12.00	1.80	7.60	6.90	633.33
Brook Silverside		I	M	M	1	1.00	0.15	0.00	0.00	2.00
White Bass	F	P	M		3	3.00	0.45	0.30	0.27	99.33
White Perch	E		M		5	5.00	0.75	0.10	0.09	20.40
White Crappie	S	I	C		3	3.00	0.45	0.90	0.82	300.67
Rock Bass	S	C	C		9	9.00	1.35	0.65	0.59	72.22
Smallmouth Bass	F	C	C	M	1	1.00	0.15	0.02	0.01	15.00
Largemouth Bass	F	C	C		63	63.00	9.46	11.90	10.80	188.86
Green Sunfish	S	I	C	T	59	59.00	8.86	1.28	1.16	21.67
Bluegill Sunfish	S	I	C	P	247	247.00	37.09	5.53	5.02	22.40
Orangespotted Sunfish	S	I	C		3	3.00	0.45	0.05	0.04	15.67
Redear Sunfish	E	I	C		1	1.00	0.15	0.06	0.06	64.00
Pumpkinseed Sunfish	S	I	C	P	125	125.00	18.77	4.27	3.88	34.17
Bluegill X Pumpkinseed					1	1.00	0.15	0.09	0.08	90.00
Yellow Perch			M		3	3.00	0.45	0.11	0.10	35.00
Logperch	D	I	S	M	1	1.00	0.15	0.01	0.01	12.00
Freshwater Drum			M	P	4	4.00	0.60	5.15	4.68	1,287.50
Round Goby	E				1	1.00	0.15	0.00	0.00	4.00
	Mile Total				666	666.00		110.14		
	Number of Species				30					
	Number of Hybrids				1					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **0.60**	Location: upst. Erie St.	Date Range: 06/18/2012
Time Fished: 3645 sec	Drainage: 470.0 sq mi	Thru: 07/31/2012
Dist Fished: 0.90 km	Basin: Black River	No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		53	55.50	13.73	2.05	2.63	34.74
Spotted Sucker	R	I	S		18	22.50	5.57	12.72	16.38	565.28
Common Carp	G	O	M	T	5	5.25	1.30	16.85	21.69	3,149.00
Golden Shiner	N	I	M	T	18	18.50	4.58	0.28	0.36	12.90
Emerald Shiner	N	I	M		9	11.25	2.78	0.05	0.06	4.00
Spottail Shiner	N	I	M	P	1	1.25	0.31	0.02	0.02	14.00
Spotfin Shiner	N	I	M		1	1.25	0.31	0.01	0.01	6.00
Mimic Shiner	N	I	M	I	5	5.25	1.30	0.01	0.02	2.40
Brown Bullhead		I	C	T	1	1.25	0.31	0.97	1.25	778.00
White Bass	F	P	M		8	10.00	2.47	0.80	1.03	79.75
White Perch	E		M		15	18.75	4.64	0.83	1.07	44.33
Rock Bass	S	C	C		3	3.50	0.87	0.32	0.41	87.33
Smallmouth Bass	F	C	C	M	3	3.00	0.74	0.32	0.41	106.67
Largemouth Bass	F	C	C		119	136.75	33.83	26.82	34.54	187.03
Green Sunfish	S	I	C	T	6	6.50	1.61	0.20	0.26	29.56
Bluegill Sunfish	S	I	C	P	42	51.00	12.62	2.43	3.13	46.53
Orangespotted Sunfish	S	I	C		3	3.50	0.87	0.03	0.04	9.00
Pumpkinseed Sunfish	S	I	C	P	33	40.75	10.08	1.23	1.59	30.18
Bluegill X Pumpkinseed					1	1.25	0.31	0.11	0.14	84.00
Yellow Perch			M		1	1.25	0.31	0.06	0.08	48.00
Freshwater Drum			M	P	5	6.00	1.48	11.55	14.88	1,930.00
	Mile Total				350	404.25		77.65		
	Number of Species				20					
	Number of Hybrids				1					

River Code: **20-001**	Stream: **Black River**	Sample Date: **2012**
River Mile: **0.30**	Location: dst. Erie St.	Date Range: 06/18/2012
Time Fished: 3722 sec	Drainage: 470.0 sq mi	Thru: 07/31/2012
Dist Fished: 1.00 km	Basin: Black River	No of Passes: 2	Sampler Type: O

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		31	31.00	14.76	1.35	2.60	43.61
Spotted Sucker	R	I	S		24	24.00	11.43	21.73	41.80	905.21
Common Carp	G	O	M	T	5	5.00	2.38	14.83	28.52	2,965.00
Goldfish	G	O	M	T	1	1.00	0.48	0.45	0.87	452.00
Emerald Shiner	N	I	M		102	102.00	48.57	0.15	0.29	1.49
Yellow Bullhead		I	C	T	1	1.00	0.48	0.48	0.91	475.00
White Bass	F	P	M		3	3.00	1.43	0.73	1.39	241.67
Rock Bass	S	C	C		7	7.00	3.33	1.18	2.26	167.86
Largemouth Bass	F	C	C		14	14.00	6.67	2.53	4.86	180.36
Bluegill Sunfish	S	I	C	P	17	17.00	8.10	0.57	1.10	33.53
Pumpkinseed Sunfish	S	I	C	P	1	1.00	0.48	0.02	0.04	20.00
Bluegill X Pumpkinseed					1	1.00	0.48	0.03	0.05	28.00
Freshwater Drum			M	P	3	3.00	1.43	7.95	15.30	2,650.00
	Mile Total				210	210.00		51.97		
	Number of Species				12					
	Number of Hybrids				1					

River Code: **20-002**	Stream: **French Creek**	Sample Date: **2012**
River Mile: **10.40**	Location: Mills Rd.	Date Range: 09/18/2012
Time Fished: 3147 sec	Drainage: 11.8 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		2	4.00	0.73			
White Sucker	W	O	S	T	3	6.00	1.09			
Western Blacknose Dace	N	G	S	T	1	2.00	0.36			
Creek Chub	N	G	N	T	11	22.00	4.00			
Spotfin Shiner	N	I	M		2	4.00	0.73			
Sand Shiner	N	I	M	M	141	282.00	51.27			
Silverjaw Minnow	N	I	M		41	82.00	14.91			
Fathead Minnow	N	O	C	T	27	54.00	9.82			
Bluntnose Minnow	N	O	C	T	17	34.00	6.18			
Central Stoneroller	N	H	N		2	4.00	0.73			
Yellow Bullhead		I	C	T	10	20.00	3.64			
Western Mosquitofish	E	I	N		1	2.00	0.36			
Largemouth Bass	F	C	C		5	10.00	1.82			
Green Sunfish	S	I	C	T	9	18.00	3.27			
Bluegill Sunfish	S	I	C	P	2	4.00	0.73			
Johnny Darter	D	I	C		1	2.00	0.36			
Mile Total					275	550.00				
Number of Species					16					
Number of Hybrids					0					

River Code: **20-002**	Stream: **French Creek**	Sample Date: **2012**
River Mile: **9.00**	Location: Riegelsberger Rd.	Date Range: 10/10/2012
Time Fished: 1970 sec	Drainage: 17.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	8	16.00	7.02			
Creek Chub	N	G	N	T	16	32.00	14.04			
Striped Shiner	N	I	S		2	4.00	1.75			
Spotfin Shiner	N	I	M		2	4.00	1.75			
Sand Shiner	N	I	M	M	12	24.00	10.53			
Silverjaw Minnow	N	I	M		3	6.00	2.63			
Bluntnose Minnow	N	O	C	T	10	20.00	8.77			
Central Stoneroller	N	H	N		42	84.00	36.84			
Yellow Bullhead		I	C	T	5	10.00	4.39			
Largemouth Bass	F	C	C		1	2.00	0.88			
Green Sunfish	S	I	C	T	4	8.00	3.51			
Bluegill Sunfish	S	I	C	P	6	12.00	5.26			
Johnny Darter	D	I	C		3	6.00	2.63			
Mile Total					114	228.00				
Number of Species					13					
Number of Hybrids					0					

River Code: **20-002**	Stream: **French Creek**	Sample Date: **2012**
River Mile: **5.60**	Location: upst. Bridge Pointe Trail	Date Range: 08/21/2012
Time Fished: 2700 sec	Drainage: 25.4 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	167	250.50	19.69	1.22	10.34	4.85
Creek Chub	N	G	N	T	61	91.50	7.19	3.05	25.96	33.33
Striped Shiner	N	I	S		15	22.50	1.77	0.61	5.21	27.20
Spotfin Shiner	N	I	M		1	1.50	0.12	0.01	0.05	4.00
Sand Shiner	N	I	M	M	31	46.50	3.66	0.17	1.40	3.55
Silverjaw Minnow	N	I	M		5	7.50	0.59	0.05	0.41	6.40
Fathead Minnow	N	O	C	T	1	1.50	0.12	0.01	0.05	4.00
Bluntnose Minnow	N	O	C	T	11	16.50	1.30	0.11	0.95	6.80
Central Stoneroller	N	H	N		319	478.50	37.62	3.17	26.94	6.61
Yellow Bullhead		I	C	T	17	25.50	2.00	1.20	10.21	47.06
White Perch	E		M		1	1.50	0.12	0.01	0.05	4.00
Largemouth Bass	F	C	C		10	15.00	1.18	0.26	2.19	17.11
Green Sunfish	S	I	C	T	42	63.00	4.95	0.76	6.49	12.10
Bluegill Sunfish	S	I	C	P	42	63.00	4.95	0.35	3.00	5.61
Johnny Darter	D	I	C		4	6.00	0.47	0.02	0.13	2.50
Rainbow Darter	D	I	S	M	15	22.50	1.77	0.06	0.49	2.53
Round Goby	E				106	159.00	12.50	0.72	6.13	4.53
	Mile Total				848	1,272.00		11.75		
	Number of Species				17					
	Number of Hybrids				0					

River Code: **20-002**	Stream: **French Creek**	Sample Date: **2012**
River Mile: **2.60**	Location: upst. North Ridgeville WWTP	Date Range: 08/21/2012
Time Fished: 2100 sec	Drainage: 32.3 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	121	242.00	27.07	1.51	18.27	6.22
Creek Chub	N	G	N	T	32	64.00	7.16	1.99	24.10	31.03
Striped Shiner	N	I	S		7	14.00	1.57	0.04	0.49	2.86
Bluntnose Minnow	N	O	C	T	3	6.00	0.67	0.05	0.66	9.00
Central Stoneroller	N	H	N		42	84.00	9.40	0.28	3.40	3.33
Yellow Bullhead		I	C	T	15	30.00	3.36	1.00	12.14	33.33
White Perch	E		M		1	2.00	0.22	0.01	0.10	4.00
Largemouth Bass	F	C	C		9	18.00	2.01	0.28	3.40	15.56
Green Sunfish	S	I	C	T	118	236.00	26.40	2.40	29.13	10.17
Bluegill Sunfish	S	I	C	P	16	32.00	3.58	0.22	2.67	6.88
Logperch	D	I	S	M	1	2.00	0.22	0.02	0.29	12.00
Rainbow Darter	D	I	S	M	4	8.00	0.89	0.03	0.36	3.75
Round Goby	E				78	156.00	17.45	0.41	5.00	2.64
Mile Total					447	894.00		8.24		
Number of Species					13					
Number of Hybrids					0					

River Code: **20-002**	Stream: **French Creek**	Sample Date: **2012**
River Mile: **0.60**	Location: upst. East River Rd.	Date Range: 08/08/2012
Time Fished: 5100 sec	Drainage: 38.6 sq mi	Thru: 09/20/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Rainbow Trout	E		N		1	0.75	0.08	0.05	0.24	60.00
Northern Hog Sucker	R	I	S	M	11	8.25	0.85	1.93	10.25	233.82
White Sucker	W	O	S	T	84	63.00	6.49	2.87	15.22	45.48
Common Carp	G	O	M	T	1	0.75	0.08	0.12	0.64	160.00
Creek Chub	N	G	N	T	42	31.50	3.25	0.49	2.58	15.40
Emerald Shiner	N	I	M		1	0.75	0.08	0.00	0.01	3.00
Striped Shiner	N	I	S		61	45.75	4.71	0.87	4.62	19.02
Spotfin Shiner	N	I	M		10	7.50	0.77	0.02	0.10	2.60
Bluntnose Minnow	N	O	C	T	50	37.50	3.86	0.21	1.10	5.52
Central Stoneroller	N	H	N		204	153.00	15.77	0.78	4.13	5.08
Yellow Bullhead		I	C	T	77	57.75	5.95	2.97	15.78	51.43
Rock Bass	S	C	C		5	3.75	0.39	0.44	2.32	116.40
Smallmouth Bass	F	C	C	M	8	6.00	0.62	1.89	10.02	314.38
Largemouth Bass	F	C	C		45	33.75	3.48	1.24	6.60	36.78
Green Sunfish	S	I	C	T	254	190.50	19.63	2.39	12.67	12.52
Bluegill Sunfish	S	I	C	P	147	110.25	11.36	1.46	7.73	13.20
Green Sf X Bluegill Sf					4	3.00	0.31	0.16	0.84	52.50
Logperch	D	I	S	M	3	2.25	0.23	0.03	0.16	13.33
Greenside Darter	D	I	S	M	12	9.00	0.93	0.06	0.32	6.67
Rainbow Darter	D	I	S	M	3	2.25	0.23	0.01	0.03	2.67
Round Goby	E				271	203.25	20.94	0.87	4.64	4.29
	Mile Total				1,294	970.50		18.82		
	Number of Species				20					
	Number of Hybrids				1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **41.90**	Location: upst. Shaw Rd.	Date Range: 08/01/2012
Time Fished: 5700 sec	Drainage: 65.3 sq mi	Thru: 09/18/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	45	33.75	6.28	8.70	28.85	257.78
Northern Hog Sucker	R	I	S	M	42	31.50	5.86	2.27	7.51	71.90
White Sucker	W	O	S	T	142	106.50	19.80	10.82	35.89	101.62
Common Carp	G	O	M	T	1	0.75	0.14	2.40	7.96	3,200.00
Creek Chub	N	G	N	T	35	26.25	4.88	0.15	0.50	5.71
Redfin Shiner	N	I	N		42	31.50	5.86	0.07	0.23	2.20
Common Shiner	N	I	S		67	50.25	9.34	0.33	1.09	6.54
Spotfin Shiner	N	I	M		7	5.25	0.98	0.02	0.05	2.86
Sand Shiner	N	I	M	M	10	7.50	1.39	0.02	0.07	2.90
Silverjaw Minnow	N	I	M		12	9.00	1.67	0.02	0.07	2.50
Bluntnose Minnow	N	O	C	T	57	42.75	7.95	0.13	0.42	3.00
Yellow Bullhead		I	C	T	16	12.00	2.23	0.69	2.29	57.50
Rock Bass	S	C	C		31	23.25	4.32	0.68	2.26	29.35
Smallmouth Bass	F	C	C	M	12	9.00	1.67	2.39	7.94	266.00
Largemouth Bass	F	C	C		11	8.25	1.53	0.19	0.63	23.18
Green Sunfish	S	I	C	T	38	28.50	5.30	0.52	1.72	18.16
Bluegill Sunfish	S	I	C	P	58	43.50	8.09	0.62	2.06	14.28
Blackside Darter	D	I	S		25	18.75	3.49	0.05	0.16	2.60
Johnny Darter	D	I	C		41	30.75	5.72	0.04	0.14	1.40
Greenside Darter	D	I	S	M	22	16.50	3.07	0.04	0.14	2.50
Fantail Darter	D	I	C		1	0.75	0.14	0.00	0.00	2.00
Mottled Sculpin		I	C		2	1.50	0.28	0.00	0.01	2.50
	Mile Total				717	537.75		30.16		
	Number of Species				22					
	Number of Hybrids				0					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **40.80**	Location: upst. old mill dam	Date Range: 09/11/2012
Time Fished: 3553 sec	Drainage: 72.0 sq mi	
Dist Fished: 0.50 km	Basin: Black River No of Passes: 1	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	57	114.00	22.62	30.62	31.39	268.60
White Sucker	W	O	S	T	95	190.00	37.70	23.50	24.10	123.70
Common Carp	G	O	M	T	3	6.00	1.19	31.40	32.19	5,233.33
Creek Chub	N	G	N	T	2	4.00	0.79	0.34	0.35	85.00
Redfin Shiner	N	I	N		7	14.00	2.78	0.01	0.01	0.57
Common Shiner	N	I	S		7	14.00	2.78	0.31	0.32	22.00
Spotfin Shiner	N	I	M		2	4.00	0.79	0.02	0.02	6.00
Bluntnose Minnow	N	O	C	T	4	8.00	1.59	0.05	0.05	6.25
Central Stoneroller	N	H	N		1	2.00	0.40	0.10	0.10	50.00
Yellow Bullhead		I	C	T	2	4.00	0.79	0.92	0.94	230.00
White Crappie	S	I	C		1	2.00	0.40	0.02	0.02	10.00
Rock Bass	S	C	C		6	12.00	2.38	0.80	0.82	66.67
Smallmouth Bass	F	C	C	M	4	8.00	1.59	4.96	5.09	620.00
Largemouth Bass	F	C	C		22	44.00	8.73	2.12	2.17	48.09
Green Sunfish	S	I	C	T	1	2.00	0.40	0.03	0.03	15.00
Bluegill Sunfish	S	I	C	P	34	68.00	13.49	2.23	2.28	32.76
Green Sf X Bluegill Sf					1	2.00	0.40	0.03	0.03	15.00
Blackside Darter	D	I	S		3	6.00	1.19	0.08	0.08	13.33
Mile Total					252	504.00		97.54		
Number of Species					17					
Number of Hybrids					1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **40.50**	Location: Co. Rd. 99	Date Range: 08/16/2012
Time Fished: 5400 sec	Drainage: 72.0 sq mi	Thru: 10/02/2012
Dist Fished: 0.35 km	Basin: Black River No of Passes: 2	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	80	68.00	2.29	11.90	28.28	177.53
Northern Hog Sucker	R	I	S	M	53	45.50	1.53	3.32	7.89	72.56
White Sucker	W	O	S	T	46	38.50	1.30	2.29	5.45	58.37
Common Carp	G	O	M	T	4	3.00	0.10	8.50	20.21	2,833.33
Western Blacknose Dace	N	G	S	T	24	24.00	0.81	0.04	0.08	1.46
Creek Chub	N	G	N	T	293	284.50	9.58	1.11	2.64	3.96
Redfin Shiner	N	I	N		6	5.00	0.17	0.01	0.03	2.83
Common Shiner	N	I	S		270	261.25	8.80	1.41	3.36	5.41
Spotfin Shiner	N	I	M		156	133.50	4.50	0.29	0.68	2.09
Sand Shiner	N	I	M	M	238	224.00	7.55	0.37	0.87	1.64
Silverjaw Minnow	N	I	M		309	295.50	9.95	0.61	1.44	2.04
Fathead Minnow	N	O	C	T	1	0.75	0.03	0.00	0.01	3.00
Bluntnose Minnow	N	O	C	T	1,149	1,065.25	35.89	1.30	3.08	1.21
Central Stoneroller	N	H	N		122	120.25	4.05	0.38	0.89	3.12
Yellow Bullhead		I	C	T	14	12.75	0.43	1.09	2.59	85.00
Black Bullhead		I	C	P	1	1.00	0.03	0.17	0.41	174.00
White Crappie	S	I	C		4	3.75	0.13	0.41	0.98	103.75
Rock Bass	S	C	C		15	13.25	0.45	0.61	1.46	43.47
Smallmouth Bass	F	C	C	M	29	27.00	0.91	2.54	6.04	93.36
Largemouth Bass	F	C	C		26	21.25	0.72	1.92	4.57	94.62
Green Sunfish	S	I	C	T	28	26.25	0.88	0.30	0.71	11.43
Bluegill Sunfish	S	I	C	P	135	124.00	4.18	3.10	7.36	24.93
Pumpkinseed Sunfish	S	I	C	P	1	1.00	0.03	0.01	0.03	12.00
Green Sf X Bluegill Sf					3	2.50	0.08	0.08	0.18	31.67
Blackside Darter	D	I	S		10	9.75	0.33	0.03	0.08	3.40
Johnny Darter	D	I	C		105	102.00	3.44	0.11	0.26	1.07
Greenside Darter	D	I	S	M	48	47.00	1.58	0.13	0.30	2.73
Fantail Darter	D	I	C		1	1.00	0.03	0.00	0.01	3.00
Mottled Sculpin		I	C		7	7.00	0.24	0.04	0.10	5.71
	Mile Total				3,178	2,968.50		42.06		
	Number of Species				28					
	Number of Hybrids				1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **36.80**	Location: Co. Rd. 27 (River Corners Rd.)	Date Range: 07/31/2012
Time Fished: 6660 sec	Drainage: 96.0 sq mi	Thru: 09/06/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	31	23.25	1.32	4.56	37.48	196.05
Northern Hog Sucker	R	I	S	M	72	54.00	3.06	1.71	14.07	31.71
White Sucker	W	O	S	T	76	57.00	3.23	0.05	0.42	0.89
Western Blacknose Dace	N	G	S	T	14	10.50	0.60	0.02	0.20	2.31
Creek Chub	N	G	N	T	111	83.25	4.72	0.41	3.36	4.90
Redfin Shiner	N	I	N		22	16.50	0.94	0.03	0.23	1.68
Common Shiner	N	I	S		18	13.50	0.77	0.05	0.43	3.89
Spotfin Shiner	N	I	M		18	13.50	0.77	0.03	0.26	2.33
Sand Shiner	N	I	M	M	102	76.50	4.34	0.21	1.76	2.79
Silverjaw Minnow	N	I	M		19	14.25	0.81	0.04	0.35	3.00
Bluntnose Minnow	N	O	C	T	662	496.50	28.17	1.06	8.74	2.14
Central Stoneroller	N	H	N		355	266.25	15.11	0.85	6.98	3.19
B.n. Dace X Stoneroller					1	0.75	0.04	0.00	0.02	3.00
Yellow Bullhead		I	C	T	48	36.00	2.04	0.98	8.05	27.19
Rock Bass	S	C	C		9	6.75	0.38	0.36	2.96	53.33
Smallmouth Bass	F	C	C	M	27	20.25	1.15	0.78	6.38	38.32
Largemouth Bass	F	C	C		2	1.50	0.09	0.00	0.02	2.00
Green Sunfish	S	I	C	T	12	9.00	0.51	0.10	0.85	11.39
Blackside Darter	D	I	S		69	51.75	2.94	0.10	0.81	1.88
Johnny Darter	D	I	C		195	146.25	8.30	0.11	0.94	0.78
Greenside Darter	D	I	S	M	329	246.75	14.00	0.45	3.71	1.83
Fantail Darter	D	I	C		65	48.75	2.77	0.05	0.39	0.98
Mottled Sculpin		I	C		93	69.75	3.96	0.20	1.61	2.81
Mile Total					2,350	1,762.50		12.16		
Number of Species					22					
Number of Hybrids					1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **24.60**	Location: Short Rd.	Date Range: 07/25/2012
Time Fished: 6000 sec	Drainage: 136.0 sq mi	Thru: 09/18/2012
Dist Fished: 0.38 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	214	168.08	7.69	28.24	51.59	167.73
Northern Hog Sucker	R	I	S	M	121	95.33	4.36	2.25	4.11	23.80
White Sucker	W	O	S	T	119	95.58	4.37	11.27	20.59	114.32
Common Carp	G	O	M	T	1	0.75	0.03	0.13	0.24	175.00
Western Blacknose Dace	N	G	S	T	6	4.58	0.21	0.01	0.02	2.83
Creek Chub	N	G	N	T	322	257.25	11.77	1.97	3.60	7.78
Redfin Shiner	N	I	N		185	150.67	6.90	0.21	0.38	1.37
Common Shiner	N	I	S		110	86.42	3.96	0.39	0.71	4.55
Spotfin Shiner	N	I	M		120	97.50	4.46	0.24	0.44	2.46
Sand Shiner	N	I	M	M	105	84.17	3.85	0.16	0.30	1.95
Silverjaw Minnow	N	I	M		1	0.83	0.04	0.00	0.00	3.00
Bluntnose Minnow	N	O	C	T	818	639.67	29.28	1.22	2.23	1.92
Central Stoneroller	N	H	N		34	26.67	1.22	0.08	0.14	2.94
Yellow Bullhead		I	C	T	31	24.25	1.11	1.86	3.40	76.13
White Crappie	S	I	C		1	0.75	0.03	0.03	0.05	40.00
Rock Bass	S	C	C		22	17.67	0.81	1.39	2.54	77.50
Smallmouth Bass	F	C	C	M	28	22.58	1.03	2.53	4.63	113.57
Largemouth Bass	F	C	C		14	11.08	0.51	0.61	1.11	55.00
Green Sunfish	S	I	C	T	42	33.17	1.52	0.49	0.90	14.94
Bluegill Sunfish	S	I	C	P	71	54.17	2.48	0.82	1.50	14.97
Green Sf X Bluegill Sf					5	4.00	0.18	0.14	0.25	34.00
Blackside Darter	D	I	S		68	53.00	2.43	0.19	0.34	3.53
Johnny Darter	D	I	C		186	148.25	6.79	0.25	0.45	1.67
Greenside Darter	D	I	S	M	117	90.58	4.15	0.23	0.41	2.46
Fantail Darter	D	I	C		22	17.08	0.78	0.03	0.06	2.00
Mottled Sculpin		I	C		1	0.75	0.03	0.01	0.01	10.00
Mile Total					2,764	2,184.83		54.73		
Number of Species					25					
Number of Hybrids					1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **19.00**	Location: upst. Vermont St. (Co. Rd. 62)	Date Range: 07/25/2012
Time Fished: 6600 sec	Drainage: 158.0 sq mi	Thru: 09/07/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	118	88.50	13.42	13.69	58.44	154.71
Northern Hog Sucker	R	I	S	M	35	26.25	3.98	1.02	4.37	38.99
White Sucker	W	O	S	T	23	17.25	2.62	2.05	8.76	119.02
Creek Chub	N	G	N	T	8	6.00	0.91	0.01	0.06	2.38
Redfin Shiner	N	I	N		78	58.50	8.87	0.22	0.93	3.73
Common Shiner	N	I	S		68	51.00	7.74	0.15	0.66	3.01
Spotfin Shiner	N	I	M		89	66.75	10.13	0.30	1.26	4.43
Bluntnose Minnow	N	O	C	T	280	210.00	31.85	0.63	2.68	2.99
Rock Bass	S	C	C		26	19.50	2.96	1.70	7.27	87.32
Smallmouth Bass	F	C	C	M	30	22.50	3.41	1.89	8.06	83.93
Largemouth Bass	F	C	C		7	5.25	0.80	0.56	2.40	107.14
Green Sunfish	S	I	C	T	23	17.25	2.62	0.24	1.02	13.91
Bluegill Sunfish	S	I	C	P	29	21.75	3.30	0.66	2.83	30.48
Green Sf X Bluegill Sf					1	0.75	0.11	0.03	0.13	40.00
Yellow Perch			M		1	0.75	0.11	0.04	0.16	50.00
Blackside Darter	D	I	S		30	22.50	3.41	0.16	0.68	7.03
Johnny Darter	D	I	C		20	15.00	2.28	0.03	0.13	2.00
Greenside Darter	D	I	S	M	8	6.00	0.91	0.03	0.12	4.75
Fantail Darter	D	I	C		4	3.00	0.46	0.01	0.03	2.50
Mottled Sculpin		I	C		1	0.75	0.11	0.00	0.02	5.00
	Mile Total				879	659.25		23.43		
	Number of Species				19					
	Number of Hybrids				1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **11.40**	Location: upst. Parsons Rd.	Date Range: 07/23/2012
Time Fished: 6600 sec	Drainage: 179.0 sq mi	Thru: 09/07/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	45	33.75	2.16	9.18	17.73	271.94
Northern Hog Sucker	R	I	S	M	101	75.75	4.86	6.24	12.05	82.34
White Sucker	W	O	S	T	36	27.00	1.73	1.09	2.11	40.37
Common Carp	G	O	M	T	6	4.50	0.29	13.85	26.77	3,078.33
Creek Chub	N	G	N	T	6	4.50	0.29	0.03	0.05	6.17
Redfin Shiner	N	I	N		21	15.75	1.01	0.05	0.09	2.86
Spotfin Shiner	N	I	M		78	58.50	3.75	0.20	0.38	3.33
Sand Shiner	N	I	M	M	43	32.25	2.07	0.08	0.16	2.63
Bluntnose Minnow	N	O	C	T	354	265.50	17.03	0.66	1.27	2.47
Central Stoneroller	N	H	N		70	52.50	3.37	0.52	1.00	9.81
Yellow Bullhead		I	C	T	20	15.00	0.96	1.20	2.32	80.00
Black Bullhead		I	C	P	103	77.25	4.95	0.09	0.16	1.10
Rock Bass	S	C	C		80	60.00	3.85	6.14	11.87	102.37
Smallmouth Bass	F	C	C	M	149	111.75	7.17	10.03	19.38	89.75
Green Sunfish	S	I	C	T	48	36.00	2.31	0.72	1.40	20.07
Bluegill Sunfish	S	I	C	P	5	3.75	0.24	0.11	0.22	30.00
Green Sf X Bluegill Sf					2	1.50	0.10	0.08	0.15	52.50
Blackside Darter	D	I	S		27	20.25	1.30	0.08	0.16	4.07
Johnny Darter	D	I	C		34	25.50	1.64	0.03	0.05	1.03
Greenside Darter	D	I	S	M	658	493.50	31.65	1.09	2.10	2.20
Rainbow Darter	D	I	S	M	83	62.25	3.99	0.14	0.27	2.21
Fantail Darter	D	I	C		110	82.50	5.29	0.17	0.33	2.06
	Mile Total				2,079	1,559.25		51.75		
	Number of Species				21					
	Number of Hybrids				1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **10.50**	Location: dst. Grafton WWTP @ Indian Hollow Park	Date Range: 08/13/2012
Time Fished: 6000 sec	Drainage: 180.0 sq mi	Thru: 09/18/2012
Dist Fished: 0.35 km	Basin: Black River No of Passes: 2	Sampler Type: E D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	22	21.00	0.48	8.22	15.38	395.45
Northern Hog Sucker	R	I	S	M	103	87.00	1.98	9.73	18.20	111.30
White Sucker	W	O	S	T	41	35.75	0.81	1.14	2.13	28.82
Common Carp	G	O	M	T	1	1.00	0.02	2.90	5.42	2,900.00
Creek Chub	N	G	N	T	28	26.75	0.61	0.22	0.42	9.14
Redfin Shiner	N	I	N		51	51.00	1.16	0.05	0.10	1.00
Striped Shiner	N	I	S		5	3.75	0.09	0.03	0.06	8.40
Common Shiner	N	I	S		25	23.50	0.53	0.09	0.16	4.00
Spotfin Shiner	N	I	M		127	109.25	2.48	0.38	0.70	3.41
Sand Shiner	N	I	M	M	147	125.25	2.85	0.27	0.51	2.21
Silverjaw Minnow	N	I	M		2	1.50	0.03	0.00	0.01	2.50
Bluntnose Minnow	N	O	C	T	2,691	2,336.00	53.09	4.56	8.53	2.03
Central Stoneroller	N	H	N		125	100.25	2.28	1.32	2.47	13.20
Striped Sh X Common Sh		I			1	0.75	0.02	0.01	0.01	8.00
Yellow Bullhead		I	C	T	27	22.25	0.51	2.49	4.65	116.67
Rock Bass	S	C	C		43	38.75	0.88	1.94	3.63	49.72
Smallmouth Bass	F	C	C	M	220	183.50	4.17	17.14	32.06	89.74
Green Sunfish	S	I	C	T	26	22.50	0.51	0.24	0.44	11.11
Bluegill Sunfish	S	I	C	P	14	13.25	0.30	0.17	0.32	13.57
Blackside Darter	D	I	S		1	0.75	0.02	0.00	0.00	3.00
Johnny Darter	D	I	C		9	7.50	0.17	0.02	0.03	2.22
Greenside Darter	D	I	S	M	1,369	1,110.50	25.24	2.40	4.48	2.15
Rainbow Darter	D	I	S	M	26	22.00	0.50	0.04	0.08	1.85
Fantail Darter	D	I	C		65	56.25	1.28	0.11	0.21	1.95
Mile Total					5,169	4,400.00		53.46		
Number of Species					23					
Number of Hybrids					1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **6.00**	Location: adj. Robson Rd.	Date Range: 08/14/2012
Time Fished: 6000 sec	Drainage: 185.0 sq mi	Thru: 09/19/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Northern Hog Sucker	R	I	S	M	118	88.50	1.13	0.53	3.22	5.99
White Sucker	W	O	S	T	179	134.25	1.71	0.79	4.78	5.86
Creek Chub	N	G	N	T	406	304.50	3.88	1.34	8.16	4.40
Redside Dace	N	I	S	I	1	0.75	0.01	0.00	0.02	3.00
Redfin Shiner	N	I	N		4	3.00	0.04	0.00	0.03	1.50
Common Shiner	N	I	S		5	3.75	0.05	0.04	0.23	10.00
Spotfin Shiner	N	I	M		421	315.75	4.02	0.40	2.43	1.27
Sand Shiner	N	I	M	M	1,713	1,284.75	16.37	2.16	13.16	1.68
Silverjaw Minnow	N	I	M		25	18.75	0.24	0.06	0.36	3.20
Bluntnose Minnow	N	O	C	T	3,491	2,618.25	33.36	5.01	30.45	1.91
Central Stoneroller	N	H	N		1,078	808.50	10.30	2.63	16.00	3.25
Channel Catfish	F		C		3	2.25	0.03	0.01	0.05	3.33
Yellow Bullhead		I	C	T	59	44.25	0.56	0.34	2.05	7.63
Rock Bass	S	C	C		3	2.25	0.03	0.01	0.04	3.00
Smallmouth Bass	F	C	C	M	43	32.25	0.41	0.32	1.96	9.97
Green Sunfish	S	I	C	T	18	13.50	0.17	0.06	0.36	4.44
Bluegill Sunfish	S	I	C	P	1	0.75	0.01	0.00	0.02	3.00
Blackside Darter	D	I	S		2	1.50	0.02	0.01	0.04	4.00
Johnny Darter	D	I	C		144	108.00	1.38	0.12	0.71	1.09
Greenside Darter	D	I	S	M	2,690	2,017.50	25.70	2.56	15.54	1.27
Rainbow Darter	D	I	S	M	51	38.25	0.49	0.04	0.27	1.16
Fantail Darter	D	I	C		10	7.50	0.10	0.02	0.10	2.20
Mottled Sculpin		I	C		1	0.75	0.01	0.01	0.03	7.00
	Mile Total				10,466	7,849.50		16.44		
	Number of Species				23					
	Number of Hybrids				0					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **3.00**	Location: Fuller Rd.	Date Range: 08/14/2012
Time Fished: 6300 sec	Drainage: 217.0 sq mi	Thru: 09/19/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Gizzard Shad		O	M		2	1.50	0.03	0.03	0.04	20.00
Golden Redhorse	R	I	S	M	38	28.50	0.51	9.02	13.25	316.58
Northern Hog Sucker	R	I	S	M	289	216.75	3.91	7.57	11.12	34.93
White Sucker	W	O	S	T	317	237.75	4.29	2.36	3.46	9.92
Common Carp	G	O	M	T	16	12.00	0.22	28.47	41.81	2,372.50
Creek Chub	N	G	N	T	41	30.75	0.55	0.17	0.25	5.61
Redside Dace	N	I	S	I	1	0.75	0.01	0.00	0.00	3.00
Redfin Shiner	N	I	N		73	54.75	0.99	0.07	0.10	1.30
Common Shiner	N	I	S		1	0.75	0.01	0.03	0.04	40.00
Spotfin Shiner	N	I	M		250	187.50	3.38	0.32	0.46	1.69
Sand Shiner	N	I	M	M	668	501.00	9.03	0.85	1.24	1.69
Silverjaw Minnow	N	I	M		2	1.50	0.03	0.01	0.01	3.50
Bluntnose Minnow	N	O	C	T	2,367	1,775.25	32.01	2.07	3.04	1.17
Central Stoneroller	N	H	N		12	9.00	0.16	0.05	0.07	5.42
Yellow Bullhead		I	C	T	88	66.00	1.19	3.51	5.15	53.18
Brown Bullhead		I	C	T	1	0.75	0.01	0.15	0.22	200.00
White Crappie	S	I	C		13	9.75	0.18	1.29	1.89	131.77
Rock Bass	S	C	C		27	20.25	0.37	1.24	1.81	61.04
Smallmouth Bass	F	C	C	M	61	45.75	0.82	6.51	9.56	142.36
Largemouth Bass	F	C	C		1	0.75	0.01	0.16	0.23	210.00
Green Sunfish	S	I	C	T	393	294.75	5.32	1.26	1.85	4.27
Bluegill Sunfish	S	I	C	P	202	151.50	2.73	0.65	0.95	4.26
Pumpkinseed Sunfish	S	I	C	P	19	14.25	0.26	0.08	0.12	5.53
Green Sf X Bluegill Sf					2	1.50	0.03	0.01	0.01	6.00
Blackside Darter	D	I	S		1	0.75	0.01	0.00	0.00	4.00
Johnny Darter	D	I	C		106	79.50	1.43	0.12	0.18	1.51
Greenside Darter	D	I	S	M	2,367	1,775.25	32.01	2.06	3.02	1.16
Rainbow Darter	D	I	S	M	26	19.50	0.35	0.04	0.06	2.15
Fantail Darter	D	I	C		10	7.50	0.14	0.02	0.03	2.50
Mile Total					7,394	5,545.50		68.10		
Number of Species					28					
Number of Hybrids					1					

River Code: **20-010**	Stream: **East Branch Black River**	Sample Date: **2012**
River Mile: **0.80**	Location: upst. Washington St.	Date Range: 07/05/2012
Time Fished: 7541 sec	Drainage: 222.0 sq mi	Thru: 09/11/2012
Dist Fished: 1.00 km	Basin: Black River No of Passes: 2	Sampler Type: A

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Golden Redhorse	R	I	S	M	74	74.00	20.90	31.19	16.72	421.50
White Sucker	W	O	S	T	21	21.00	5.93	7.20	3.86	342.86
Common Carp	G	O	M	T	46	46.00	12.99	134.30	71.99	2,919.57
Golden Shiner	N	I	M	T	22	22.00	6.21	0.28	0.15	12.51
Redfin Shiner	N	I	N		2	2.00	0.56	0.00	0.00	2.00
Spotfin Shiner	N	I	M		2	2.00	0.56	0.01	0.00	3.50
Sand Shiner	N	I	M	M	9	9.00	2.54	0.01	0.01	1.63
Bluntnose Minnow	N	O	C	T	9	9.00	2.54	0.02	0.01	2.00
Yellow Bullhead		I	C	T	3	3.00	0.85	0.25	0.13	83.33
White Crappie	S	I	C		8	8.00	2.26	1.43	0.77	178.50
Rock Bass	S	C	C		3	3.00	0.85	0.39	0.21	130.00
Smallmouth Bass	F	C	C	M	28	28.00	7.91	6.52	3.49	232.72
Largemouth Bass	F	C	C		5	5.00	1.41	0.25	0.14	50.80
Green Sunfish	S	I	C	T	61	61.00	17.23	1.90	1.02	31.22
Bluegill Sunfish	S	I	C	P	20	20.00	5.65	1.15	0.62	57.41
Pumpkinseed Sunfish	S	I	C	P	37	37.00	10.45	1.38	0.74	37.33
Green Sf X Bluegill Sf					4	4.00	1.13	0.27	0.14	67.00
	Mile Total				354	354.00		186.55		
	Number of Species				16					
	Number of Hybrids				1					

River Code: **20-011**	Stream: **Salt Creek**	Sample Date: **2012**
River Mile: **0.50**	Location:	Date Range: 09/12/2012
Time Fished: 2287 sec	Drainage: 6.7 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	408	816.00	39.08			
Western Blacknose Dace	N	G	S	T	26	52.00	2.49			
Creek Chub	N	G	N	T	138	276.00	13.22			
Redside Dace	N	I	S	I	40	80.00	3.83			
Silverjaw Minnow	N	I	M		10	20.00	0.96			
Bluntnose Minnow	N	O	C	T	79	158.00	7.57			
Central Stoneroller	N	H	N		223	446.00	21.36			
Yellow Bullhead		I	C	T	12	24.00	1.15			
Largemouth Bass	F	C	C		1	2.00	0.10			
Green Sunfish	S	I	C	T	16	32.00	1.53			
Bluegill Sunfish	S	I	C	P	4	8.00	0.38			
Johnny Darter	D	I	C		56	112.00	5.36			
Fantail Darter	D	I	C		16	32.00	1.53			
Mottled Sculpin		I	C		15	30.00	1.44			
Mile Total					1,044	2,088.00				
Number of Species					14					
Number of Hybrids					0					

River Code: **20-012**	Stream: **Crow Creek**	Sample Date: **2012**
River Mile: **0.80**	Location: Vermont Rd.	Date Range: 09/12/2012
Time Fished: 2013 sec	Drainage: 3.7 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	30	60.00	11.28			
Western Blacknose Dace	N	G	S	T	6	12.00	2.26			
Creek Chub	N	G	N	T	54	108.00	20.30			
Redside Dace	N	I	S	I	5	10.00	1.88			
Bluntnose Minnow	N	O	C	T	26	52.00	9.77			
Central Stoneroller	N	H	N		62	124.00	23.31			
Largemouth Bass	F	C	C		23	46.00	8.65			
Green Sunfish	S	I	C	T	7	14.00	2.63			
Bluegill Sunfish	S	I	C	P	5	10.00	1.88			
Johnny Darter	D	I	C		15	30.00	5.64			
Fantail Darter	D	I	C		8	16.00	3.01			
Mottled Sculpin		I	C		25	50.00	9.40			
	Mile Total				266	532.00				
	Number of Species				12					
	Number of Hybrids				0					

River Code: **20-013**	Stream: **Coon Creek**	Sample Date: **2012**
River Mile: **0.90**	Location:	Date Range: 06/25/2012
Time Fished: 2928 sec	Drainage: 10.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	24	48.00	13.79			
Creek Chub	N	G	N	T	49	98.00	28.16			
Common Shiner	N	I	S		2	4.00	1.15			
Bluntnose Minnow	N	O	C	T	1	2.00	0.57			
Central Stoneroller	N	H	N		6	12.00	3.45			
Yellow Bullhead		I	C	T	16	32.00	9.20			
Brown Bullhead		I	C	T	3	6.00	1.72			
White Crappie	S	I	C		2	4.00	1.15			
Largemouth Bass	F	C	C		3	6.00	1.72			
Green Sunfish	S	I	C	T	17	34.00	9.77			
Bluegill Sunfish	S	I	C	P	13	26.00	7.47			
Pumpkinseed Sunfish	S	I	C	P	1	2.00	0.57			
Blackside Darter	D	I	S		1	2.00	0.57			
Johnny Darter	D	I	C		3	6.00	1.72			
Fantail Darter	D	I	C		25	50.00	14.37			
Mottled Sculpin		I	C		8	16.00	4.60			
Mile Total					174	348.00				
Number of Species					16					
Number of Hybrids					0					

River Code: **20-014**	Stream: **East Fork East Branch Black River**	Sample Date: **2012**
River Mile: **5.80**	Location: Chippewa Lake Rd.	Date Range: 07/26/2012
Time Fished: 2565 sec	Drainage: 7.6 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	35	70.00	5.91			
Western Blacknose Dace	N	G	S	T	14	28.00	2.36			
Creek Chub	N	G	N	T	194	388.00	32.77			
Redside Dace	N	I	S	I	10	20.00	1.69			
Common Shiner	N	I	S		22	44.00	3.72			
Bluntnose Minnow	N	O	C	T	17	34.00	2.87			
Central Stoneroller	N	H	N		117	234.00	19.76			
Largemouth Bass	F	C	C		2	4.00	0.34			
Green Sunfish	S	I	C	T	103	206.00	17.40			
Bluegill Sunfish	S	I	C	P	28	56.00	4.73			
Johnny Darter	D	I	C		17	34.00	2.87			
Fantail Darter	D	I	C		8	16.00	1.35			
Mottled Sculpin		I	C		25	50.00	4.22			
Mile Total					592	1,184.00				
Number of Species					13					
Number of Hybrids					0					

River Code: **20-014**	Stream: **East Fork East Branch Black River**	Sample Date: **2012**
River Mile: **2.70**	Location: Lodi City Park	Date Range: 07/26/2012
Time Fished: 2481 sec	Drainage: 12.9 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	162	324.00	16.53			
Western Blacknose Dace	N	G	S	T	207	414.00	21.12			
Creek Chub	N	G	N	T	118	236.00	12.04			
Central Stoneroller	N	H	N		304	608.00	31.02			
Green Sunfish	S	I	C	T	5	10.00	0.51			
Bluegill Sunfish	S	I	C	P	1	2.00	0.10			
Johnny Darter	D	I	C		30	60.00	3.06			
Fantail Darter	D	I	C		6	12.00	0.61			
Mottled Sculpin		I	C		147	294.00	15.00			
	Mile Total				980	1,960.00				
	Number of Species				9					
	Number of Hybrids				0					

River Code: **20-014**	Stream: **East Fork East Branch Black River**	Sample Date: **2012**
River Mile: **1.80**	Location: upst. Lodi WWTP	Date Range: 08/20/2012
Time Fished: 2400 sec	Drainage: 13.9 sq mi	
Dist Fished: 0.12 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	11	27.50	1.96			
Creek Chub	N	G	N	T	88	220.00	15.71			
Redside Dace	N	I	S	I	8	20.00	1.43			
Redfin Shiner	N	I	N		2	5.00	0.36			
Common Shiner	N	I	S		37	92.50	6.61			
Bluntnose Minnow	N	O	C	T	244	610.00	43.57			
Central Stoneroller	N	H	N		84	210.00	15.00			
Smallmouth Bass	F	C	C	M	1	2.50	0.18			
Largemouth Bass	F	C	C		2	5.00	0.36			
Green Sunfish	S	I	C	T	26	65.00	4.64			
Bluegill Sunfish	S	I	C	P	12	30.00	2.14			
Blackside Darter	D	I	S		1	2.50	0.18			
Johnny Darter	D	I	C		5	12.50	0.89			
Greenside Darter	D	I	S	M	3	7.50	0.54			
Fantail Darter	D	I	C		5	12.50	0.89			
Mottled Sculpin		I	C		31	77.50	5.54			
Mile Total					560	1,400.00				
Number of Species					16					
Number of Hybrids					0					

River Code: **20-014**	Stream: **East Fork East Branch Black River**	Sample Date: **2012**
River Mile: **1.60**	Location: dst. Lodi WWTP	Date Range: 08/20/2012
Time Fished: 3000 sec	Drainage: 14.0 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	36	54.00	1.40			
Western Blacknose Dace	N	G	S	T	70	105.00	2.73			
Creek Chub	N	G	N	T	153	229.50	5.96			
Redside Dace	N	I	S	I	24	36.00	0.93			
Redfin Shiner	N	I	N		1	1.50	0.04			
Common Shiner	N	I	S		27	40.50	1.05			
Bluntnose Minnow	N	O	C	T	38	57.00	1.48			
Central Stoneroller	N	H	N		2,068	3,102.00	80.56			
Yellow Bullhead		I	C	T	7	10.50	0.27			
Smallmouth Bass	F	C	C	M	2	3.00	0.08			
Largemouth Bass	F	C	C		1	1.50	0.04			
Green Sunfish	S	I	C	T	29	43.50	1.13			
Bluegill Sunfish	S	I	C	P	12	18.00	0.47			
Blackside Darter	D	I	S		1	1.50	0.04			
Johnny Darter	D	I	C		28	42.00	1.09			
Greenside Darter	D	I	S	M	1	1.50	0.04			
Fantail Darter	D	I	C		12	18.00	0.47			
Mottled Sculpin		I	C		57	85.50	2.22			
	Mile Total				2,567	3,850.50				
	Number of Species				18					
	Number of Hybrids				0					

River Code: **20-014**	Stream: **East Fork East Branch Black River**	Sample Date: **2012**
River Mile: **0.10**	Location: at Richmond Rd.	Date Range: 08/27/2012
Time Fished: 2700 sec	Drainage: 15.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	88	176.00	7.17	0.82	8.39	4.66
Western Blacknose Dace	N	G	S	T	8	16.00	0.65	0.05	0.49	3.00
Creek Chub	N	G	N	T	228	456.00	18.58	3.42	34.95	7.49
Redside Dace	N	I	S	I	6	12.00	0.49	0.03	0.33	2.67
Common Shiner	N	I	S		15	30.00	1.22	0.34	3.51	11.43
Spotfin Shiner	N	I	M		25	50.00	2.04	0.02	0.23	0.44
Sand Shiner	N	I	M	M	32	64.00	2.61	0.14	1.43	2.19
Silverjaw Minnow	N	I	M		82	164.00	6.68	0.38	3.85	2.29
Bluntnose Minnow	N	O	C	T	71	142.00	5.79	0.34	3.44	2.37
Central Stoneroller	N	H	N		597	1,194.00	48.66	3.66	37.45	3.07
Yellow Bullhead		I	C	T	2	4.00	0.16	0.07	0.74	18.00
Rock Bass	S	C	C		3	6.00	0.24	0.02	0.16	2.67
Smallmouth Bass	F	C	C	M	2	4.00	0.16	0.03	0.31	7.50
Green Sunfish	S	I	C	T	8	16.00	0.65	0.21	2.11	12.86
Blackside Darter	D	I	S		3	6.00	0.24	0.02	0.25	4.00
Johnny Darter	D	I	C		11	22.00	0.90	0.02	0.25	1.09
Greenside Darter	D	I	S	M	34	68.00	2.77	0.14	1.47	2.12
Mottled Sculpin		I	C		12	24.00	0.98	0.06	0.65	2.67
Mile Total					1,227	2,454.00		9.77		
Number of Species					18					
Number of Hybrids					0					

River Code: **20-015**	Stream: **West Fork East Branch Black River**	Sample Date: **2012**
River Mile: **14.00**	Location: Twp. Rd. 391	Date Range: 09/06/2012
Time Fished: 1590 sec	Drainage: 14.1 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Western Blacknose Dace	N	G	S	T	10	20.00	3.44			
Creek Chub	N	G	N	T	261	522.00	89.69			
Common Shiner	N	I	S		1	2.00	0.34			
Bluntnose Minnow	N	O	C	T	3	6.00	1.03			
Central Stoneroller	N	H	N		6	12.00	2.06			
Yellow Bullhead		I	C	T	1	2.00	0.34			
Brown Bullhead		I	C	T	2	4.00	0.69			
Green Sunfish	S	I	C	T	5	10.00	1.72			
Bluegill Sunfish	S	I	C	P	1	2.00	0.34			
Johnny Darter	D	I	C		1	2.00	0.34			
Mile Total					291	582.00				
Number of Species					10					
Number of Hybrids					0					

River Code: **20-015**	Stream: **West Fork East Branch Black River**	Sample Date: **2012**
River Mile: **9.70**	Location: adj. Wandel Rd.	Date Range: 08/29/2012
Time Fished: 1800 sec	Drainage: 21.6 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	1	2.00	0.07	0.01	0.07	5.00
White Sucker	W	O	S	T	8	16.00	0.52	0.16	1.08	10.00
Common Carp	G	O	M	T	11	22.00	0.72	1.10	7.45	50.00
Western Blacknose Dace	N	G	S	T	8	16.00	0.52	0.03	0.22	2.00
Creek Chub	N	G	N	T	190	380.00	12.39	1.90	12.86	5.00
Common Shiner	N	I	S		57	114.00	3.72	0.23	1.54	2.00
Silverjaw Minnow	N	I	M		18	36.00	1.17	0.07	0.49	2.00
Fathead Minnow	N	O	C	T	4	8.00	0.26	0.02	0.11	2.00
Bluntnose Minnow	N	O	C	T	770	1,540.00	50.20	1.38	9.34	0.90
Central Stoneroller	N	H	N		226	452.00	14.73	1.25	8.46	2.77
Yellow Bullhead		I	C	T	83	166.00	5.41	4.15	28.09	25.00
Largemouth Bass	F	C	C		14	28.00	0.91	0.07	0.47	2.50
Green Sunfish	S	I	C	T	76	152.00	4.95	3.04	20.58	20.00
Bluegill Sunfish	S	I	C	P	29	58.00	1.89	1.16	7.85	20.00
Green Sf X Bluegill Sf					3	6.00	0.20	0.12	0.81	20.00
Johnny Darter	D	I	C		29	58.00	1.89	0.06	0.39	1.00
Greenside Darter	D	I	S	M	1	2.00	0.07	0.00	0.03	2.00
Rainbow Darter	D	I	S	M	1	2.00	0.07	0.00	0.03	2.00
Fantail Darter	D	I	C		5	10.00	0.33	0.02	0.14	2.00
Mile Total					1,534	3,068.00		14.77		
Number of Species					18					
Number of Hybrids					1					

River Code: **20-015**	Stream: **West Fork East Branch Black River**	Sample Date: **2012**
River Mile: **2.30**	Location: dst. St. Rt. 421 at RR bridge	Date Range: 08/07/2012
Time Fished: 6000 sec	Drainage: 41.3 sq mi	Thru: 09/17/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	8	6.00	0.21	0.05	0.23	8.25
Redfin Pickerel		P	M	P	2	1.50	0.05	0.21	0.96	140.00
Golden Redhorse	R	I	S	M	2	1.50	0.05	0.65	2.93	430.00
Northern Hog Sucker	R	I	S	M	36	27.00	0.94	1.48	6.73	54.75
White Sucker	W	O	S	T	177	132.75	4.61	7.42	33.74	55.88
Common Carp	G	O	M	T	1	0.75	0.03	0.20	0.92	270.00
Western Blacknose Dace	N	G	S	T	15	11.25	0.39	0.02	0.10	1.87
Creek Chub	N	G	N	T	295	221.25	7.69	3.14	14.28	14.19
Redfin Shiner	N	I	N		1	0.75	0.03	0.00	0.01	2.00
Common Shiner	N	I	S		250	187.50	6.52	1.99	9.05	10.61
Sand Shiner	N	I	M	M	6	4.50	0.16	0.02	0.07	3.50
Silverjaw Minnow	N	I	M		76	57.00	1.98	0.19	0.87	3.37
Bluntnose Minnow	N	O	C	T	384	288.00	10.01	0.37	1.67	1.28
Central Stoneroller	N	H	N		1,690	1,267.50	44.04	1.98	9.03	1.56
Yellow Bullhead		I	C	T	21	15.75	0.55	0.31	1.39	19.47
Rock Bass	S	C	C		43	32.25	1.12	1.37	6.24	42.51
Smallmouth Bass	F	C	C	M	14	10.50	0.36	0.78	3.57	74.64
Largemouth Bass	F	C	C		6	4.50	0.16	0.42	1.91	93.17
Green Sunfish	S	I	C	T	35	26.25	0.91	0.38	1.72	14.38
Green Sf X Bluegill Sf					4	3.00	0.10	0.09	0.39	28.75
Blackside Darter	D	I	S		36	27.00	0.94	0.07	0.31	2.50
Johnny Darter	D	I	C		306	229.50	7.97	0.25	1.14	1.09
Greenside Darter	D	I	S	M	223	167.25	5.81	0.31	1.40	1.84
Fantail Darter	D	I	C		40	30.00	1.04	0.04	0.19	1.38
Mottled Sculpin		I	C		166	124.50	4.33	0.26	1.17	2.07
Mile Total					3,837	2,877.75		21.98		
Number of Species					24					
Number of Hybrids					1					

River Code: **20-015**	Stream: **West Fork East Branch Black River**	Sample Date: **2012**
River Mile: **0.40**	Location: upst. Sanford Rd.	Date Range: 08/01/2012
Time Fished: 6000 sec	Drainage: 42.4 sq mi	Thru: 09/17/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	1	0.75	0.05	0.01	0.05	12.00
Golden Redhorse	R	I	S	M	8	6.00	0.36	1.52	8.47	254.00
Northern Hog Sucker	R	I	S	M	64	48.00	2.89	2.68	14.87	55.78
White Sucker	W	O	S	T	75	56.25	3.39	4.27	23.71	75.90
Western Blacknose Dace	N	G	S	T	4	3.00	0.18	0.01	0.03	2.00
Creek Chub	N	G	N	T	248	186.00	11.20	1.40	7.75	7.50
Redfin Shiner	N	I	N		4	3.00	0.18	0.01	0.04	2.50
Common Shiner	N	I	S		71	53.25	3.21	0.31	1.72	5.83
Spotfin Shiner	N	I	M		29	21.75	1.31	0.07	0.37	3.10
Sand Shiner	N	I	M	M	24	18.00	1.08	0.04	0.20	2.00
Silverjaw Minnow	N	I	M		46	34.50	2.08	0.09	0.52	2.70
Bluntnose Minnow	N	O	C	T	499	374.25	22.53	0.49	2.74	1.32
Central Stoneroller	N	H	N		461	345.75	20.81	0.97	5.40	2.81
Yellow Bullhead		I	C	T	34	25.50	1.53	0.82	4.54	32.03
Rock Bass	S	C	C		52	39.00	2.35	1.13	6.26	28.90
Smallmouth Bass	F	C	C	M	51	38.25	2.30	2.01	11.17	52.58
Largemouth Bass	F	C	C		9	6.75	0.41	0.37	2.04	54.44
Green Sunfish	S	I	C	T	76	57.00	3.43	0.75	4.17	13.18
Bluegill Sunfish	S	I	C	P	46	34.50	2.08	0.65	3.62	18.91
Green Sf X Bluegill Sf					1	0.75	0.05	0.02	0.09	21.00
Blackside Darter	D	I	S		41	30.75	1.85	0.07	0.40	2.33
Johnny Darter	D	I	C		105	78.75	4.74	0.08	0.43	0.99
Greenside Darter	D	I	S	M	176	132.00	7.95	0.13	0.74	1.01
Fantail Darter	D	I	C		19	14.25	0.86	0.03	0.16	2.05
Mottled Sculpin		I	C		71	53.25	3.21	0.09	0.48	1.63
	Mile Total				2,215	1,661.25		18.00		
	Number of Species				24					
	Number of Hybrids				1					

River Code: **20-016**	Stream: **Clear Creek**	Sample Date: **2012**
River Mile: **1.80**	Location: Pawnee Rd.	Date Range: 06/22/2012
Time Fished: 3357 sec	Drainage: 6.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	21	42.00	4.10			
Western Blacknose Dace	N	G	S	T	48	96.00	9.38			
Creek Chub	N	G	N	T	174	348.00	33.98			
South. Redbelly Dace	N	H	S		21	42.00	4.10			
Redside Dace	N	I	S	I	28	56.00	5.47			
Common Shiner	N	I	S		1	2.00	0.20			
Central Stoneroller	N	H	N		122	244.00	23.83			
Bluegill Sunfish	S	I	C	P	3	6.00	0.59			
Johnny Darter	D	I	C		1	2.00	0.20			
Fantail Darter	D	I	C		3	6.00	0.59			
Mottled Sculpin		I	C		90	180.00	17.58			
Mile Total					512	1,024.00				
Number of Species					11					
Number of Hybrids					0					

River Code: **20-018**	Stream: **Willow Creek**	Sample Date: **2012**
River Mile: **6.60**	Location:	Date Range: 08/30/2012
Time Fished: 2330 sec	Drainage: 3.0 sq mi	
Dist Fished: 0.13 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	2	4.62	1.89			
Golden Shiner	N	I	M	T	1	2.31	0.94			
Creek Chub	N	G	N	T	46	106.15	43.40			
Largemouth Bass	F	C	C		2	4.62	1.89			
Green Sunfish	S	I	C	T	27	62.31	25.47			
Bluegill Sunfish	S	I	C	P	14	32.31	13.21			
Pumpkinseed Sunfish	S	I	C	P	11	25.39	10.38			
Green Sf X Pumpkinseed					1	2.31	0.94			
Johnny Darter	D	I	C		1	2.31	0.94			
Brook Stickleback		I	C		1	2.31	0.94			
Mile Total					106	244.62				
Number of Species					9					
Number of Hybrids					1					

River Code: **20-018**	Stream: **Willow Creek**	Sample Date: **2012**
River Mile: **2.80**	Location: Durkee Rd.	Date Range: 08/30/2012
Time Fished: 2491 sec	Drainage: 13.3 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	28	56.00	9.46			
Creek Chub	N	G	N	T	124	248.00	41.89			
Bluntnose Minnow	N	O	C	T	26	52.00	8.78			
Central Stoneroller	N	H	N		25	50.00	8.45			
Largemouth Bass	F	C	C		9	18.00	3.04			
Green Sunfish	S	I	C	T	47	94.00	15.88			
Pumpkinseed Sunfish	S	I	C	P	1	2.00	0.34			
Johnny Darter	D	I	C		36	72.00	12.16			
Mile Total					296	592.00				
Number of Species					8					
Number of Hybrids					0					

River Code: **20-019**	Stream: **Trib. to E. Br. Black R. (RM 41.41)**	Sample Date: **2012**
River Mile: **0.40**	Location: Shaw Rd. (lower crossing)	Date Range: 06/25/2012
Time Fished: 1750 sec	Drainage: 1.8 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	18	36.00	6.90			
Western Blacknose Dace	N	G	S	T	36	72.00	13.79			
Creek Chub	N	G	N	T	136	272.00	52.11			
South. Redbelly Dace	N	H	S		7	14.00	2.68			
Redside Dace	N	I	S	I	17	34.00	6.51			
Central Stoneroller	N	H	N		10	20.00	3.83			
Green Sunfish	S	I	C	T	7	14.00	2.68			
Blackside Darter	D	I	S		1	2.00	0.38			
Johnny Darter	D	I	C		11	22.00	4.21			
Fantail Darter	D	I	C		2	4.00	0.77			
Mottled Sculpin		I	C		16	32.00	6.13			
Mile Total					261	522.00				
Number of Species					11					
Number of Hybrids					0					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **37.40**	Location: St. Rt. 511	Date Range: 08/15/2012
Time Fished: 4402 sec	Drainage: 28.0 sq mi	Thru: 09/18/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	412	309.00	26.33	5.83	37.47	18.85
Common Carp	G	O	M	T	5	3.75	0.32	3.28	21.11	875.00
Western Blacknose Dace	N	G	S	T	1	0.75	0.06	0.00	0.02	4.00
Creek Chub	N	G	N	T	373	279.75	23.83	2.60	16.73	9.30
Redfin Shiner	N	I	N		1	0.75	0.06	0.00	0.01	2.00
Striped Shiner	N	I	S		66	49.50	4.22	0.07	0.44	1.39
Common Shiner	N	I	S		206	154.50	13.16	0.85	5.46	5.49
Bigmouth Shiner [T]	N	I	M		9	6.75	0.58	0.01	0.07	1.56
Sand Shiner	N	I	M	M	6	4.50	0.38	0.01	0.06	2.00
Bluntnose Minnow	N	O	C	T	203	152.25	12.97	0.23	1.50	1.53
Central Stoneroller	N	H	N		15	11.25	0.96	0.02	0.10	1.40
Yellow Bullhead		I	C	T	17	12.75	1.09	1.18	7.61	92.82
Rock Bass	S	C	C		9	6.75	0.58	0.20	1.26	29.11
Largemouth Bass	F	C	C		3	2.25	0.19	0.21	1.35	93.00
Green Sunfish	S	I	C	T	65	48.75	4.15	0.70	4.51	14.38
Bluegill Sunfish	S	I	C	P	4	3.00	0.26	0.08	0.49	25.00
Green Sf X Bluegill Sf					3	2.25	0.19	0.14	0.91	62.67
Blackside Darter	D	I	S		36	27.00	2.30	0.05	0.29	1.68
Johnny Darter	D	I	C		89	66.75	5.69	0.04	0.27	0.64
Greenside Darter	D	I	S	M	2	1.50	0.13	0.00	0.03	2.50
Rainbow Darter	D	I	S	M	29	21.75	1.85	0.03	0.17	1.23
Mottled Sculpin		I	C		11	8.25	0.70	0.02	0.15	2.91
Mile Total					1,565	1,173.75		15.55		
Number of Species					21					
Number of Hybrids					1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **28.50**	Location: Pitts Rd.	Date Range: 08/15/2012
Time Fished: 6134 sec	Drainage: 37.0 sq mi	Thru: 09/19/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Redfin Pickerel		P	M	P	1	0.75	0.06	0.05	0.44	60.00
White Sucker	W	O	S	T	270	202.50	17.19	4.55	44.29	22.45
Common Carp	G	O	M	T	2	1.50	0.13	0.01	0.12	8.00
Western Blacknose Dace	N	G	S	T	67	50.25	4.26	0.09	0.84	1.71
Creek Chub	N	G	N	T	437	327.75	27.82	2.70	26.27	8.23
Redfin Shiner	N	I	N		1	0.75	0.06	0.00	0.02	3.00
Striped Shiner	N	I	S		13	9.75	0.83	0.04	0.36	3.77
Common Shiner	N	I	S		74	55.50	4.71	0.20	1.97	3.65
Bigmouth Shiner [T]	N	I	M		1	0.75	0.06	0.00	0.01	1.00
Silverjaw Minnow	N	I	M		3	2.25	0.19	0.00	0.04	2.00
Bluntnose Minnow	N	O	C	T	295	221.25	18.78	0.29	2.81	1.30
Central Stoneroller	N	H	N		64	48.00	4.07	0.15	1.48	3.16
Yellow Bullhead		I	C	T	7	5.25	0.45	0.33	3.21	62.71
White Crappie	S	I	C		1	0.75	0.06	0.22	2.12	290.00
Rock Bass	S	C	C		5	3.75	0.32	0.16	1.53	42.00
Largemouth Bass	F	C	C		2	1.50	0.13	0.29	2.82	192.50
Green Sunfish	S	I	C	T	47	35.25	2.99	0.51	4.94	14.38
Bluegill Sunfish	S	I	C	P	4	3.00	0.25	0.04	0.37	12.50
Green Sf X Bluegill Sf					2	1.50	0.13	0.17	1.62	110.50
Yellow Perch			M		3	2.25	0.19	0.12	1.15	52.67
Blackside Darter	D	I	S		18	13.50	1.15	0.04	0.38	2.89
Johnny Darter	D	I	C		129	96.75	8.21	0.07	0.66	0.70
Greenside Darter	D	I	S	M	4	3.00	0.25	0.01	0.09	3.00
Rainbow Darter	D	I	S	M	42	31.50	2.67	0.03	0.27	0.88
Mottled Sculpin		I	C		79	59.25	5.03	0.23	2.21	3.82
	Mile Total				1,571	1,178.25		10.26		
	Number of Species				24					
	Number of Hybrids				1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **25.30**	Location: St. Rt. 58	Date Range: 07/16/2012
Time Fished: 4961 sec	Drainage: 67.0 sq mi	Thru: 09/04/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Redfin Pickerel		P	M	P	5	3.75	0.58	0.13	0.37	34.80
White Sucker	W	O	S	T	282	211.50	32.91	7.26	20.46	34.33
Common Carp	G	O	M	T	13	9.75	1.52	23.19	65.34	2,378.77
Creek Chub	N	G	N	T	117	87.75	13.65	1.59	4.49	18.17
Redfin Shiner	N	I	N		9	6.75	1.05	0.01	0.03	1.78
Striped Shiner	N	I	S		3	2.25	0.35	0.06	0.16	25.00
Common Shiner	N	I	S		115	86.25	13.42	0.81	2.29	9.43
Bluntnose Minnow	N	O	C	T	197	147.75	22.99	0.36	1.01	2.42
Yellow Bullhead		I	C	T	8	6.00	0.93	0.43	1.22	72.00
Black Crappie	S	I	C		1	0.75	0.12	0.14	0.40	190.00
Rock Bass	S	C	C		4	3.00	0.47	0.18	0.52	61.50
Largemouth Bass	F	C	C		3	2.25	0.35	0.41	1.17	184.00
Green Sunfish	S	I	C	T	21	15.75	2.45	0.31	0.87	19.62
Bluegill Sunfish	S	I	C	P	21	15.75	2.45	0.33	0.93	20.86
Green Sf X Bluegill Sf					2	1.50	0.23	0.08	0.21	50.00
Yellow Perch			M		2	1.50	0.23	0.10	0.27	65.00
Blackside Darter	D	I	S		27	20.25	3.15	0.06	0.16	2.81
Johnny Darter	D	I	C		21	15.75	2.45	0.03	0.08	1.76
Greenside Darter	D	I	S	M	1	0.75	0.12	0.00	0.01	4.00
Rainbow Darter	D	I	S	M	5	3.75	0.58	0.01	0.02	1.60
	Mile Total				857	642.75		35.50		
	Number of Species				19					
	Number of Hybrids				1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **20.50**	Location: at ford, upst. St. Rt. 303	Date Range: 07/17/2012
Time Fished: 5439 sec	Drainage: 78.7 sq mi	Thru: 09/12/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	494	370.50	25.17	13.50	42.67	36.44
Common Carp	G	O	M	T	17	12.75	0.87	8.61	27.20	674.93
Golden Shiner	N	I	M	T	1	0.75	0.05	0.01	0.02	10.00
Western Blacknose Dace	N	G	S	T	5	3.75	0.25	0.01	0.02	1.80
Creek Chub	N	G	N	T	227	170.25	11.56	3.07	9.71	18.04
Redfin Shiner	N	I	N		17	12.75	0.87	0.02	0.06	1.35
Striped Shiner	N	I	S		80	60.00	4.08	0.27	0.84	4.42
Common Shiner	N	I	S		78	58.50	3.97	0.91	2.87	15.51
Bigmouth Shiner [T]	N	I	M		2	1.50	0.10	0.00	0.01	2.00
Mimic Shiner	N	I	M	I	14	10.50	0.71	0.01	0.03	0.79
Bluntnose Minnow	N	O	C	T	811	608.25	41.31	1.35	4.27	2.22
Central Stoneroller	N	H	N		2	1.50	0.10	0.00	0.01	2.50
Yellow Bullhead		I	C	T	16	12.00	0.82	0.91	2.89	76.19
White Crappie	S	I	C		1	0.75	0.05	0.28	0.88	370.00
Black Crappie	S	I	C		1	0.75	0.05	0.02	0.05	20.00
Rock Bass	S	C	C		4	3.00	0.20	0.38	1.20	126.25
Largemouth Bass	F	C	C		4	3.00	0.20	0.54	1.70	178.75
Green Sunfish	S	I	C	T	19	14.25	0.97	0.38	1.19	26.32
Bluegill Sunfish	S	I	C	P	29	21.75	1.48	0.86	2.71	39.46
Green Sf X Bluegill Sf					1	0.75	0.05	0.02	0.07	30.00
Yellow Perch			M		2	1.50	0.10	0.23	0.73	155.00
Blackside Darter	D	I	S		44	33.00	2.24	0.17	0.52	5.00
Johnny Darter	D	I	C		56	42.00	2.85	0.05	0.16	1.20
Greenside Darter	D	I	S	M	21	15.75	1.07	0.03	0.08	1.67
Rainbow Darter	D	I	S	M	12	9.00	0.61	0.02	0.06	1.92
Mottled Sculpin		I	C		5	3.75	0.25	0.03	0.08	7.00
	Mile Total				1,963	1,472.25		31.64		
	Number of Species				25					
	Number of Hybrids				1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **16.90**	Location: upst. Kipton Nickel Plate Rd.	Date Range: 07/18/2012
Time Fished: 2400 sec	Drainage: 83.0 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	56	84.00	11.84	4.26	22.81	50.71
Common Carp	G	O	M	T	3	4.50	0.63	7.53	40.31	1,673.33
Golden Shiner	N	I	M	T	2	3.00	0.42	0.01	0.06	4.00
Creek Chub	N	G	N	T	147	220.50	31.08	2.33	12.45	10.54
Redfin Shiner	N	I	N		21	31.50	4.44	0.04	0.24	1.40
Common Shiner	N	I	S		12	18.00	2.54	0.27	1.45	15.00
Spotfin Shiner	N	I	M		4	6.00	0.85	0.02	0.13	4.00
Sand Shiner	N	I	M	M	5	7.50	1.06	0.01	0.07	1.80
Bluntnose Minnow	N	O	C	T	132	198.00	27.91	0.45	2.41	2.27
Yellow Bullhead		I	C	T	11	16.50	2.33	1.58	8.43	95.45
Rock Bass	S	C	C		2	3.00	0.42	0.23	1.20	75.00
Largemouth Bass	F	C	C		6	9.00	1.27	1.17	6.26	130.00
Green Sunfish	S	I	C	T	24	36.00	5.07	0.10	0.54	2.79
Bluegill Sunfish	S	I	C	P	16	24.00	3.38	0.57	3.05	23.75
Pumpkinseed Sunfish	S	I	C	P	1	1.50	0.21	0.02	0.09	11.00
Blackside Darter	D	I	S		10	15.00	2.11	0.05	0.27	3.30
Johnny Darter	D	I	C		17	25.50	3.59	0.03	0.16	1.18
Greenside Darter	D	I	S	M	2	3.00	0.42	0.01	0.04	2.50
Rainbow Darter	D	I	S	M	2	3.00	0.42	0.01	0.03	2.00
	Mile Total				473	709.50		18.68		
	Number of Species				19					
	Number of Hybrids				0					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **16.70**	Location: upst. Kipton Nickel Plate Rd.	Date Range: 07/18/2012
Time Fished: 6195 sec	Drainage: 83.0 sq mi	Thru: 09/12/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	229	171.75	12.87	8.77	47.20	51.07
Common Carp	G	O	M	T	6	4.50	0.34	0.22	1.16	47.67
Golden Shiner	N	I	M	T	1	0.75	0.06	0.00	0.01	2.00
Western Blacknose Dace	N	G	S	T	7	5.25	0.39	0.02	0.11	3.86
Creek Chub	N	G	N	T	266	199.50	14.94	4.80	25.81	24.04
Redfin Shiner	N	I	N		47	35.25	2.64	0.08	0.44	2.34
Striped Shiner	N	I	S		84	63.00	4.72	0.25	1.32	3.90
Common Shiner	N	I	S		88	66.00	4.94	0.55	2.94	8.28
Spotfin Shiner	N	I	M		7	5.25	0.39	0.01	0.06	2.00
Bigmouth Shiner [T]	N	I	M		6	4.50	0.34	0.01	0.04	1.67
Sand Shiner	N	I	M	M	9	6.75	0.51	0.02	0.09	2.50
Mimic Shiner	N	I	M	I	5	3.75	0.28	0.01	0.03	1.40
Fathead Minnow	N	O	C	T	1	0.75	0.06	0.00	0.01	2.00
Bluntnose Minnow	N	O	C	T	784	588.00	44.04	1.09	5.87	1.86
Yellow Bullhead		I	C	T	26	19.50	1.46	1.46	7.84	74.74
White Crappie	S	I	C		1	0.75	0.06	0.01	0.03	8.00
Rock Bass	S	C	C		7	5.25	0.39	0.25	1.33	47.14
Green Sunfish	S	I	C	T	52	39.00	2.92	0.64	3.46	16.47
Bluegill Sunfish	S	I	C	P	10	7.50	0.56	0.15	0.81	20.00
Green Sf X Bluegill Sf					3	2.25	0.17	0.07	0.37	30.33
Blackside Darter	D	I	S		33	24.75	1.85	0.09	0.47	3.50
Johnny Darter	D	I	C		76	57.00	4.27	0.06	0.34	1.11
Greenside Darter	D	I	S	M	17	12.75	0.96	0.03	0.15	2.12
Rainbow Darter	D	I	S	M	15	11.25	0.84	0.03	0.14	2.27
Mile Total					1,780	1,335.00		18.58		
Number of Species					23					
Number of Hybrids					1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **10.20**	Location: dst. equestrian trail	Date Range: 07/17/2012
Time Fished: 5624 sec	Drainage: 132.0 sq mi	Thru: 09/12/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Redfin Pickerel		P	M	P	1	0.75	0.09	0.05	0.28	70.00
White Sucker	W	O	S	T	145	108.75	13.12	9.20	49.44	84.63
Common Carp	G	O	M	T	8	6.00	0.72	0.08	0.44	13.63
Creek Chub	N	G	N	T	123	92.25	11.13	2.41	12.97	26.16
Redfin Shiner	N	I	N		26	19.50	2.35	0.03	0.17	1.62
Striped Shiner	N	I	S		6	4.50	0.54	0.08	0.40	16.67
Common Shiner	N	I	S		28	21.00	2.53	0.21	1.10	9.79
Spotfin Shiner	N	I	M		26	19.50	2.35	0.07	0.36	3.42
Bigmouth Shiner [T]	N	I	M		3	2.25	0.27	0.00	0.02	2.00
Sand Shiner	N	I	M	M	66	49.50	5.97	0.09	0.48	1.80
Mimic Shiner	N	I	M	I	8	6.00	0.72	0.01	0.05	1.63
Bluntnose Minnow	N	O	C	T	165	123.75	14.93	0.39	2.10	3.16
Channel Catfish	F		C		1	0.75	0.09	0.02	0.09	22.00
Yellow Bullhead		I	C	T	31	23.25	2.81	1.77	9.52	76.20
Black Bullhead		I	C	P	1	0.75	0.09	0.11	0.56	140.00
White Crappie	S	I	C		1	0.75	0.09	0.03	0.17	42.00
Black Crappie	S	I	C		3	2.25	0.27	0.04	0.23	19.00
Rock Bass	S	C	C		77	57.75	6.97	2.32	12.46	40.18
Smallmouth Bass	F	C	C	M	24	18.00	2.17	0.21	1.12	11.54
Largemouth Bass	F	C	C		10	7.50	0.90	0.37	2.01	49.90
Green Sunfish	S	I	C	T	74	55.50	6.70	0.50	2.68	8.98
Bluegill Sunfish	S	I	C	P	13	9.75	1.18	0.30	1.62	30.85
Blackside Darter	D	I	S		32	24.00	2.90	0.09	0.50	3.84
Johnny Darter	D	I	C		135	101.25	12.22	0.12	0.65	1.19
Greenside Darter	D	I	S	M	66	49.50	5.97	0.07	0.39	1.46
Rainbow Darter	D	I	S	M	28	21.00	2.53	0.03	0.15	1.31
Mottled Sculpin		I	C		4	3.00	0.36	0.01	0.05	3.00
Mile Total					1,105	828.75		18.62		
Number of Species					27					
Number of Hybrids					0					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **7.60**	Location: Butternut Ridge Rd.	Date Range: 07/19/2012
Time Fished: 5778 sec	Drainage: 161.0 sq mi	Thru: 09/07/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	1	0.75	0.26	0.00	0.02	5.00
Redfin Pickerel		P	M	P	6	4.50	1.55	0.06	0.26	12.67
White Sucker	W	O	S	T	32	24.00	8.27	2.84	13.00	118.13
Common Carp	G	O	M	T	8	6.00	2.07	13.54	62.09	2,257.29
Golden Shiner	N	I	M	T	1	0.75	0.26	0.00	0.01	3.00
Creek Chub	N	G	N	T	8	6.00	2.07	0.05	0.21	7.50
Redfin Shiner	N	I	N		21	15.75	5.43	0.04	0.17	2.28
Striped Shiner	N	I	S		12	9.00	3.10	0.05	0.21	5.00
Common Shiner	N	I	S		7	5.25	1.81	0.01	0.05	2.00
Spotfin Shiner	N	I	M		35	26.25	9.04	0.12	0.55	4.57
Bluntnose Minnow	N	O	C	T	51	38.25	13.18	0.12	0.56	3.19
Yellow Bullhead		I	C	T	5	3.75	1.29	0.41	1.88	109.40
White Crappie	S	I	C		6	4.50	1.55	0.20	0.91	44.00
Black Crappie	S	I	C		2	1.50	0.52	0.05	0.23	33.50
Rock Bass	S	C	C		63	47.25	16.28	2.87	13.17	60.79
Smallmouth Bass	F	C	C	M	5	3.75	1.29	0.07	0.33	18.80
Largemouth Bass	F	C	C		13	9.75	3.36	0.17	0.76	17.08
Green Sunfish	S	I	C	T	54	40.50	13.95	0.44	2.03	10.94
Bluegill Sunfish	S	I	C	P	33	24.75	8.53	0.66	3.02	26.61
Green Sf X Bluegill Sf					1	0.75	0.26	0.05	0.24	70.00
Blackside Darter	D	I	S		11	8.25	2.84	0.05	0.22	5.73
Johnny Darter	D	I	C		7	5.25	1.81	0.01	0.03	1.43
Greenside Darter	D	I	S	M	3	2.25	0.78	0.01	0.04	3.67
Mottled Sculpin		I	C		2	1.50	0.52	0.01	0.03	5.00
Mile Total					387	290.25		21.81		
Number of Species					23					
Number of Hybrids					1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **4.10**	Location: U.S. Rt. 20	Date Range: 07/24/2012
Time Fished: 6847 sec	Drainage: 169.0 sq mi	Thru: 09/07/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	129	96.75	4.10	1.28	11.87	13.25
Common Carp	G	O	M	T	22	16.50	0.70	0.49	4.49	29.36
Golden Shiner	N	I	M	T	28	21.00	0.89	0.07	0.64	3.29
Western Blacknose Dace	N	G	S	T	46	34.50	1.46	0.11	0.98	3.07
Creek Chub	N	G	N	T	195	146.25	6.19	1.33	12.30	9.08
Redfin Shiner	N	I	N		5	3.75	0.16	0.01	0.08	2.20
Striped Shiner	N	I	S		8	6.00	0.25	0.15	1.35	24.25
Common Shiner	N	I	S		11	8.25	0.35	0.17	1.60	20.91
Spotfin Shiner	N	I	M		34	25.50	1.08	0.12	1.08	4.56
Bigmouth Shiner [T]	N	I	M		2	1.50	0.06	0.00	0.03	2.00
Sand Shiner	N	I	M	M	102	76.50	3.24	0.21	1.90	2.68
Mimic Shiner	N	I	M	I	222	166.50	7.05	0.36	3.34	2.16
Fathead Minnow	N	O	C	T	1	0.75	0.03	0.00	0.01	2.00
Bluntnose Minnow	N	O	C	T	1,259	944.25	39.99	2.24	20.70	2.37
Central Stoneroller	N	H	N		11	8.25	0.35	0.11	1.00	13.00
Yellow Bullhead		I	C	T	20	15.00	0.64	0.75	6.94	49.95
White Crappie	S	I	C		5	3.75	0.16	0.02	0.21	6.00
Black Crappie	S	I	C		9	6.75	0.29	0.03	0.29	4.67
Rock Bass	S	C	C		5	3.75	0.16	0.46	4.28	123.20
Smallmouth Bass	F	C	C	M	21	15.75	0.67	0.20	1.87	12.81
Largemouth Bass	F	C	C		38	28.50	1.21	0.54	4.98	18.89
Green Sunfish	S	I	C	T	35	26.25	1.11	0.48	4.45	18.31
Bluegill Sunfish	S	I	C	P	47	35.25	1.49	0.14	1.29	3.96
Green Sf X Bluegill Sf					5	3.75	0.16	0.10	0.90	26.00
Blackside Darter	D	I	S		1	0.75	0.03	0.01	0.06	8.00
Johnny Darter	D	I	C		196	147.00	6.23	0.10	0.91	0.67
Greenside Darter	D	I	S	M	581	435.75	18.46	1.14	10.56	2.62
Rainbow Darter	D	I	S	M	93	69.75	2.95	0.11	1.06	1.63
Mottled Sculpin		I	C		17	12.75	0.54	0.09	0.87	7.29
Mile Total					3,148	2,361.00		10.80		
Number of Species					28					
Number of Hybrids					1					

River Code: **20-020**	Stream: **West Branch Black River**	Sample Date: **2012**
River Mile: **0.40**	Location: upst. Lake Rd.	Date Range: 07/24/2012
Time Fished: 2700 sec	Drainage:	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: D

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	1	2.00	0.48	0.01	0.13	4.00
Redfin Shiner	N	I	N		2	4.00	0.96	0.01	0.13	2.00
Sand Shiner	N	I	M	M	4	8.00	1.92	0.01	0.19	1.50
Bluntnose Minnow	N	O	C	T	25	50.00	12.02	0.08	1.29	1.60
Yellow Bullhead		I	C	T	28	56.00	13.46	2.92	47.21	52.14
Rock Bass	S	C	C		9	18.00	4.33	0.24	3.88	13.33
Smallmouth Bass	F	C	C	M	7	14.00	3.37	1.60	25.87	114.29
Green Sunfish	S	I	C	T	11	22.00	5.29	0.61	9.86	27.73
Blackside Darter	D	I	S		1	2.00	0.48	0.04	0.65	20.00
Greenside Darter	D	I	S	M	120	240.00	57.69	0.67	10.78	2.78
Mile Total					208	416.00		6.19		
Number of Species					10					
Number of Hybrids					0					

River Code: **20-021**	Stream: **Plum Creek**	Sample Date: **2012**
River Mile: **5.60**	Location: upst. Morgan St.	Date Range: 08/22/2012
Time Fished: 2700 sec	Drainage: 4.8 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	21	31.50	2.97	0.55	4.01	17.38
White Sucker	W	O	S	T	98	147.00	13.84	4.80	35.08	32.63
Western Blacknose Dace	N	G	S	T	25	37.50	3.53	0.13	0.95	3.47
Creek Chub	N	G	N	T	341	511.50	48.16	4.65	34.02	9.10
Bigmouth Shiner [T]	N	I	M		1	1.50	0.14	0.01	0.04	3.00
Bluntnose Minnow	N	O	C	T	31	46.50	4.38	0.26	1.86	5.48
Yellow Bullhead		I	C	T	13	19.50	1.84	0.77	5.59	39.23
Largemouth Bass	F	C	C		3	4.50	0.42	0.27	1.97	60.00
Green Sunfish	S	I	C	T	143	214.50	20.20	2.04	14.92	9.51
Bluegill Sunfish	S	I	C	P	5	7.50	0.71	0.13	0.97	17.60
Green Sf X Bluegill Sf					1	1.50	0.14	0.01	0.08	7.00
Johnny Darter	D	I	C		26	39.00	3.67	0.07	0.53	1.85
Mile Total					708	1,062.00		13.68		
Number of Species					11					
Number of Hybrids					1					

River Code: **20-021**	Stream: **Plum Creek**	Sample Date: **2012**
River Mile: **3.30**	Location: upst. St. Rt. 511 at park	Date Range: 08/22/2012
Time Fished: 2700 sec	Drainage: 7.6 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	2	3.00	0.14			
White Sucker	W	O	S	T	131	196.50	9.40			
Western Blacknose Dace	N	G	S	T	114	171.00	8.18			
Creek Chub	N	G	N	T	795	1,192.50	57.07			
Common Shiner	N	I	S		4	6.00	0.29			
Bigmouth Shiner [T]	N	I	M		16	24.00	1.15			
Fathead Minnow	N	O	C	T	1	1.50	0.07			
Bluntnose Minnow	N	O	C	T	8	12.00	0.57			
Yellow Bullhead		I	C	T	5	7.50	0.36			
Black Bullhead		I	C	P	5	7.50	0.36			
Green Sunfish	S	I	C	T	296	444.00	21.25			
Green Sf X Bluegill Sf					3	4.50	0.22			
Johnny Darter	D	I	C		8	12.00	0.57			
Mottled Sculpin		I	C		5	7.50	0.36			
Mile Total					1,393	2,089.50				
Number of Species					13					
Number of Hybrids					1					

River Code: **20-021**	Stream: **Plum Creek**	Sample Date: **2012**
River Mile: **2.80**	Location: dst. Oberlin WWTP	Date Range: 08/23/2012
Time Fished: 2700 sec	Drainage: 7.9 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	13	26.00	1.11			
White Sucker	W	O	S	T	281	562.00	24.00			
Golden Shiner	N	I	M	T	1	2.00	0.09			
Western Blacknose Dace	N	G	S	T	71	142.00	6.06			
Creek Chub	N	G	N	T	613	1,226.00	52.35			
Redfin Shiner	N	I	N		2	4.00	0.17			
Common Shiner	N	I	S		13	26.00	1.11			
Bigmouth Shiner [T]	N	I	M		5	10.00	0.43			
Fathead Minnow	N	O	C	T	1	2.00	0.09			
Bluntnose Minnow	N	O	C	T	26	52.00	2.22			
Central Stoneroller	N	H	N		3	6.00	0.26			
Yellow Bullhead		I	C	T	2	4.00	0.17			
Black Bullhead		I	C	P	3	6.00	0.26			
Green Sunfish	S	I	C	T	117	234.00	9.99			
Bluegill Sunfish	S	I	C	P	3	6.00	0.26			
Green Sf X Bluegill Sf					1	2.00	0.09			
Johnny Darter	D	I	C		14	28.00	1.20			
Mottled Sculpin		I	C		2	4.00	0.17			
	Mile Total				1,171	2,342.00				
	Number of Species				17					
	Number of Hybrids				1					

River Code: **20-021**	Stream: **Plum Creek**	Sample Date: **2012**
River Mile: **0.20**	Location: near mouth, dst. Squires Ditch	Date Range: 08/22/2012
Time Fished: 2700 sec	Drainage: 13.6 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	3	4.50	0.21	0.02	0.10	5.00
White Sucker	W	O	S	T	128	192.00	9.05	7.73	32.68	40.23
Common Carp	G	O	M	T	1	1.50	0.07	0.02	0.10	15.00
Golden Shiner	N	I	M	T	1	1.50	0.07	0.01	0.03	4.00
Western Blacknose Dace	N	G	S	T	115	172.50	8.13	0.41	1.71	2.35
Creek Chub	N	G	N	T	323	484.50	22.84	7.20	30.46	14.86
Redfin Shiner	N	I	N		15	22.50	1.06	0.06	0.24	2.53
Common Shiner	N	I	S		54	81.00	3.82	0.58	2.46	7.19
Spotfin Shiner	N	I	M		29	43.50	2.05	0.13	0.57	3.07
Bigmouth Shiner [T]	N	I	M		2	3.00	0.14	0.01	0.03	2.50
Sand Shiner	N	I	M	M	57	85.50	4.03	0.17	0.70	1.93
Bluntnose Minnow	N	O	C	T	330	495.00	23.34	1.49	6.32	3.02
Central Stoneroller	N	H	N		29	43.50	2.05	0.45	1.89	10.28
Yellow Bullhead		I	C	T	11	16.50	0.78	0.83	3.49	50.00
Rock Bass	S	C	C		8	12.00	0.57	0.97	4.11	81.00
Smallmouth Bass	F	C	C	M	2	3.00	0.14	0.05	0.22	17.50
Green Sunfish	S	I	C	T	119	178.50	8.42	2.79	11.79	15.61
Blackside Darter	D	I	S		4	6.00	0.28	0.02	0.10	3.75
Johnny Darter	D	I	C		57	85.50	4.03	0.11	0.46	1.27
Greenside Darter	D	I	S	M	97	145.50	6.86	0.38	1.59	2.58
Rainbow Darter	D	I	S	M	5	7.50	0.35	0.02	0.08	2.40
Mottled Sculpin		I	C		24	36.00	1.70	0.21	0.90	5.92
Mile Total					1,414	2,121.00		23.64		
Number of Species					22					
Number of Hybrids					0					

River Code: **20-022**	Stream: **Elk Creek**	Sample Date: **2012**
River Mile: **0.20**	Location:	Date Range: 09/05/2012
Time Fished: 1999 sec	Drainage: 7.5 sq mi	
Dist Fished: 0.13 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	14	32.31	2.67			
White Sucker	W	O	S	T	74	170.77	14.10			
Common Carp	G	O	M	T	1	2.31	0.19			
Western Blacknose Dace	N	G	S	T	9	20.77	1.71			
Creek Chub	N	G	N	T	333	768.46	63.43			
Fathead Minnow	N	O	C	T	1	2.31	0.19			
Bluntnose Minnow	N	O	C	T	26	60.00	4.95			
Central Stoneroller	N	H	N		5	11.54	0.95			
Yellow Bullhead		I	C	T	1	2.31	0.19			
Largemouth Bass	F	C	C		1	2.31	0.19			
Green Sunfish	S	I	C	T	7	16.15	1.33			
Johnny Darter	D	I	C		50	115.39	9.52			
Mottled Sculpin		I	C		3	6.92	0.57			
Mile Total					525	1,211.54				
Number of Species					13					
Number of Hybrids					0					

River Code: **20-023**	Stream: **Wellington Creek**	Sample Date: **2012**
River Mile: **17.10**	Location:	Date Range: 07/25/2012
Time Fished: 1666 sec	Drainage: 5.2 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	69	103.50	13.29			
Golden Shiner	N	I	M	T	1	1.50	0.19			
Western Blacknose Dace	N	G	S	T	14	21.00	2.70			
Creek Chub	N	G	N	T	271	406.50	52.22			
Fathead Minnow	N	O	C	T	4	6.00	0.77			
Bluntnose Minnow	N	O	C	T	6	9.00	1.16			
Central Stoneroller	N	H	N		67	100.50	12.91			
Yellow Bullhead		I	C	T	3	4.50	0.58			
Green Sunfish	S	I	C	T	31	46.50	5.97			
Bluegill Sunfish	S	I	C	P	44	66.00	8.48			
Pumpkinseed Sunfish	S	I	C	P	1	1.50	0.19			
Johnny Darter	D	I	C		8	12.00	1.54			
	Mile Total				519	778.50				
	Number of Species				12					
	Number of Hybrids				0					

River Code: **20-023**	Stream: **Wellington Creek**	Sample Date: **2012**
River Mile: **13.10**	Location: Cemetery Rd.	Date Range: 07/25/2012
Time Fished: 2313 sec	Drainage: 10.5 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	114	228.00	18.42			
Golden Shiner	N	I	M	T	8	16.00	1.29			
Western Blacknose Dace	N	G	S	T	1	2.00	0.16			
Creek Chub	N	G	N	T	222	444.00	35.86			
Common Shiner	N	I	S		36	72.00	5.82			
Bluntnose Minnow	N	O	C	T	74	148.00	11.95			
Yellow Bullhead		I	C	T	35	70.00	5.65			
Brown Bullhead		I	C	T	2	4.00	0.32			
Black Crappie	S	I	C		1	2.00	0.16			
Green Sunfish	S	I	C	T	101	202.00	16.32			
Bluegill Sunfish	S	I	C	P	10	20.00	1.62			
Hybrid X Sunfish					1	2.00	0.16			
Blackside Darter	D	I	S		7	14.00	1.13			
Johnny Darter	D	I	C		5	10.00	0.81			
Greenside Darter	D	I	S	M	2	4.00	0.32			
Mile Total					619	1,238.00				
Number of Species					14					
Number of Hybrids					1					

River Code: **20-023**	Stream: **Wellington Creek**	Sample Date: **2012**
River Mile: **8.40**	Location:	Date Range: 07/25/2012
Time Fished: 2418 sec	Drainage: 19.7 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	50	75.00	10.42			
Western Blacknose Dace	N	G	S	T	26	39.00	5.42			
Creek Chub	N	G	N	T	204	306.00	42.50			
Common Shiner	N	I	S		31	46.50	6.46			
Bigmouth Shiner [T]	N	I	M		18	27.00	3.75			
Bluntnose Minnow	N	O	C	T	52	78.00	10.83			
Yellow Bullhead		I	C	T	2	3.00	0.42			
Largemouth Bass	F	C	C		2	3.00	0.42			
Green Sunfish	S	I	C	T	18	27.00	3.75			
Bluegill Sunfish	S	I	C	P	2	3.00	0.42			
Blackside Darter	D	I	S		3	4.50	0.63			
Johnny Darter	D	I	C		32	48.00	6.67			
Rainbow Darter	D	I	S	M	3	4.50	0.63			
Mottled Sculpin		I	C		37	55.50	7.71			
Mile Total					480	720.00				
Number of Species					14					
Number of Hybrids					0					

River Code: **20-023**	Stream: **Wellington Creek**	Sample Date: **2012**
River Mile: **0.50**	Location: Nickel Plate Rd.	Date Range: 08/28/2012
Time Fished: 4454 sec	Drainage: 29.6 sq mi	Thru: 09/18/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	97	72.75	10.73	1.06	24.77	14.56
Western Blacknose Dace	N	G	S	T	31	23.25	3.43	0.05	1.23	2.26
Creek Chub	N	G	N	T	148	111.00	16.37	0.53	12.41	4.78
Redfin Shiner	N	I	N		4	3.00	0.44	0.01	0.16	2.25
Striped Shiner	N	I	S		25	18.75	2.77	0.07	1.72	3.91
Common Shiner	N	I	S		151	113.25	16.70	0.87	20.28	7.65
Spotfin Shiner	N	I	M		2	1.50	0.22	0.00	0.09	2.50
Bigmouth Shiner [T]	N	I	M		4	3.00	0.44	0.01	0.20	2.75
Bluntnose Minnow	N	O	C	T	223	167.25	24.67	0.37	8.56	2.19
Central Stoneroller	N	H	N		11	8.25	1.22	0.02	0.48	2.45
Yellow Bullhead		I	C	T	4	3.00	0.44	0.22	5.22	74.25
Black Crappie	S	I	C		1	0.75	0.11	0.14	3.16	180.00
Rock Bass	S	C	C		2	1.50	0.22	0.11	2.53	72.00
Smallmouth Bass	F	C	C	M	1	0.75	0.11	0.01	0.18	10.00
Largemouth Bass	F	C	C		2	1.50	0.22	0.13	2.98	85.00
Green Sunfish	S	I	C	T	25	18.75	2.77	0.32	7.40	16.88
Bluegill Sunfish	S	I	C	P	5	3.75	0.55	0.10	2.25	25.60
Blackside Darter	D	I	S		9	6.75	1.00	0.02	0.55	3.44
Johnny Darter	D	I	C		63	47.25	6.97	0.05	1.24	1.13
Greenside Darter	D	I	S	M	17	12.75	1.88	0.06	1.37	4.58
Rainbow Darter	D	I	S	M	30	22.50	3.32	0.03	0.65	1.23
Mottled Sculpin		I	C		49	36.75	5.42	0.11	2.65	3.08
Mile Total					904	678.00		4.28		
Number of Species					22					
Number of Hybrids					0					

River Code: **20-024**	Stream: **Charlemont Creek**	Sample Date: **2012**
River Mile: **8.60**	Location: Baker Rd.	Date Range: 07/09/2012
Time Fished: 2462 sec	Drainage: 10.8 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Redfin Pickerel		P	M	P	1	2.00	0.41			
White Sucker	W	O	S	T	46	92.00	18.78			
Western Blacknose Dace	N	G	S	T	17	34.00	6.94			
Creek Chub	N	G	N	T	106	212.00	43.27			
Common Shiner	N	I	S		31	62.00	12.65			
Bigmouth Shiner [T]	N	I	M		2	4.00	0.82			
Bluntnose Minnow	N	O	C	T	23	46.00	9.39			
Central Stoneroller	N	H	N		5	10.00	2.04			
Yellow Bullhead		I	C	T	1	2.00	0.41			
Bluegill Sunfish	S	I	C	P	2	4.00	0.82			
Johnny Darter	D	I	C		6	12.00	2.45			
Rainbow Darter	D	I	S	M	3	6.00	1.22			
Mottled Sculpin		I	C		2	4.00	0.82			
Mile Total					245	490.00				
Number of Species					13					
Number of Hybrids					0					

River Code: **20-024**	Stream: **Charlemont Creek**	Sample Date: **2012**
River Mile: **2.20**	Location: Pitts Rd.	Date Range: 08/15/2012
Time Fished: 5267 sec	Drainage: 22.6 sq mi	Thru: 09/19/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	177	132.75	14.44	4.73	41.66	35.60
Common Carp	G	O	M	T	2	1.50	0.16	0.03	0.22	17.00
Golden Shiner	N	I	M	T	1	0.75	0.08	0.02	0.13	20.00
Western Blacknose Dace	N	G	S	T	36	27.00	2.94	0.06	0.54	2.28
Creek Chub	N	G	N	T	437	327.75	35.64	2.49	21.97	7.60
Redfin Shiner	N	I	N		2	1.50	0.16	0.01	0.06	4.50
Striped Shiner	N	I	S		75	56.25	6.12	0.34	2.98	6.01
Common Shiner	N	I	S		27	20.25	2.20	0.28	2.47	13.81
Bigmouth Shiner [T]	N	I	M		9	6.75	0.73	0.01	0.07	1.11
Bluntnose Minnow	N	O	C	T	142	106.50	11.58	0.36	3.14	3.34
Central Stoneroller	N	H	N		37	27.75	3.02	0.08	0.70	2.84
Yellow Bullhead		I	C	T	20	15.00	1.63	0.94	8.30	62.70
White Crappie	S	I	C		1	0.75	0.08	0.30	2.64	400.00
Rock Bass	S	C	C		3	2.25	0.24	0.05	0.43	21.67
Largemouth Bass	F	C	C		2	1.50	0.16	0.16	1.39	105.00
Green Sunfish	S	I	C	T	59	44.25	4.81	0.77	6.79	17.40
Bluegill Sunfish	S	I	C	P	10	7.50	0.82	0.10	0.89	13.50
Green Sf X Bluegill Sf					3	2.25	0.24	0.18	1.59	80.00
Yellow Perch			M		5	3.75	0.41	0.22	1.95	59.00
Blackside Darter	D	I	S		17	12.75	1.39	0.04	0.35	3.06
Johnny Darter	D	I	C		93	69.75	7.59	0.06	0.53	0.86
Greenside Darter	D	I	S	M	2	1.50	0.16	0.00	0.03	2.00
Rainbow Darter	D	I	S	M	27	20.25	2.20	0.02	0.20	1.12
Mottled Sculpin		I	C		39	29.25	3.18	0.11	1.00	3.87
Mile Total					1,226	919.50		11.34		
Number of Species					23					
Number of Hybrids					1					

River Code: **20-024**	Stream: **Charlemont Creek**	Sample Date: **2012**
River Mile: **0.40**	Location: upst. Wadsworth Rd., dst. trib	Date Range: 08/28/2012
Time Fished: 4779 sec	Drainage: 25.8 sq mi	Thru: 09/19/2012
Dist Fished: 0.40 km	Basin: Black River No of Passes: 2	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	226	169.50	22.22	4.84	52.09	28.55
Common Carp	G	O	M	T	6	4.50	0.59	0.06	0.69	14.17
Golden Shiner	N	I	M	T	6	4.50	0.59	0.05	0.58	12.00
Western Blacknose Dace	N	G	S	T	28	21.00	2.75	0.07	0.74	3.25
Creek Chub	N	G	N	T	192	144.00	18.88	1.77	19.05	12.29
Striped Shiner	N	I	S		33	24.75	3.24	0.16	1.77	6.64
Common Shiner	N	I	S		21	15.75	2.06	0.18	1.99	11.71
Bigmouth Shiner [T]	N	I	M		31	23.25	3.05	0.04	0.40	1.58
Fathead Minnow	N	O	C	T	2	1.50	0.20	0.00	0.05	3.00
Bluntnose Minnow	N	O	C	T	318	238.50	31.27	0.51	5.45	2.12
Central Stoneroller	N	H	N		7	5.25	0.69	0.02	0.19	3.43
Yellow Bullhead		I	C	T	10	7.50	0.98	0.49	5.32	65.90
Rock Bass	S	C	C		8	6.00	0.79	0.37	3.96	61.25
Green Sunfish	S	I	C	T	30	22.50	2.95	0.39	4.17	17.20
Bluegill Sunfish	S	I	C	P	7	5.25	0.69	0.07	0.79	14.00
Green Sf X Bluegill Sf					3	2.25	0.29	0.09	0.97	40.00
Blackside Darter	D	I	S		7	5.25	0.69	0.03	0.34	6.00
Johnny Darter	D	I	C		48	36.00	4.72	0.04	0.42	1.08
Greenside Darter	D	I	S	M	2	1.50	0.20	0.00	0.04	2.50
Rainbow Darter	D	I	S	M	12	9.00	1.18	0.01	0.11	1.17
Mottled Sculpin		I	C		20	15.00	1.97	0.08	0.91	5.60
Mile Total					1,017	762.75		9.29		
Number of Species					20					
Number of Hybrids					1					

River Code: **20-025**	Stream: **Buck Creek**	Sample Date: **2012**
River Mile: **1.00**	Location: upst. Bursley Rd.	Date Range: 09/05/2012
Time Fished: 3504 sec	Drainage: 4.8 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	273	546.00	21.88			
Golden Shiner	N	I	M	T	6	12.00	0.48			
Western Blacknose Dace	N	G	S	T	160	320.00	12.82			
Creek Chub	N	G	N	T	410	820.00	32.85			
Common Shiner	N	I	S		144	288.00	11.54			
Bigmouth Shiner [T]	N	I	M		5	10.00	0.40			
Bluntnose Minnow	N	O	C	T	84	168.00	6.73			
Central Stoneroller	N	H	N		19	38.00	1.52			
Yellow Bullhead		I	C	T	7	14.00	0.56			
Largemouth Bass	F	C	C		3	6.00	0.24			
Green Sunfish	S	I	C	T	21	42.00	1.68			
Bluegill Sunfish	S	I	C	P	12	24.00	0.96			
Pumpkinseed Sunfish	S	I	C	P	1	2.00	0.08			
Johnny Darter	D	I	C		63	126.00	5.05			
Rainbow Darter	D	I	S	M	17	34.00	1.36			
Mottled Sculpin		I	C		23	46.00	1.84			
Mile Total					1,248	2,496.00				
Number of Species					16					
Number of Hybrids					0					

River Code: **20-026**	Stream: **Trib. to Charlemont Creek (RM 0.51)**	Sample Date: **2012**
River Mile: **1.00**	Location: upst. Wellington WWTP	Date Range: 08/28/2012
Time Fished: 1500 sec	Drainage: 1.7 sq mi	
Dist Fished: 0.12 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	6	15.00	1.28			
Western Blacknose Dace	N	G	S	T	149	372.50	31.70			
Creek Chub	N	G	N	T	280	700.00	59.57			
Yellow Bullhead		I	C	T	1	2.50	0.21			
Green Sunfish	S	I	C	T	32	80.00	6.81			
Bluegill Sunfish	S	I	C	P	1	2.50	0.21			
Johnny Darter	D	I	C		1	2.50	0.21			
Mile Total					470	1,175.00				
Number of Species					7					
Number of Hybrids					0					

River Code: **20-026**	Stream: **Trib. to Charlemont Creek (RM 0.51)**	Sample Date: **2012**
River Mile: **0.70**	Location: dst. Wellington WWTP	Date Range: 08/28/2012
Time Fished: 2700 sec	Drainage: 1.8 sq mi	
Dist Fished: 0.20 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	50	75.00	4.04			
Western Blacknose Dace	N	G	S	T	195	292.50	15.74			
Creek Chub	N	G	N	T	916	1,374.00	73.93			
Redfin Shiner	N	I	N		1	1.50	0.08			
Common Shiner	N	I	S		7	10.50	0.56			
Bigmouth Shiner [T]	N	I	M		5	7.50	0.40			
Fathead Minnow	N	O	C	T	6	9.00	0.48			
Bluntnose Minnow	N	O	C	T	4	6.00	0.32			
Central Stoneroller	N	H	N		19	28.50	1.53			
Yellow Bullhead		I	C	T	1	1.50	0.08			
Green Sunfish	S	I	C	T	25	37.50	2.02			
Bluegill Sunfish	S	I	C	P	2	3.00	0.16			
Green Sf X Bluegill Sf					2	3.00	0.16			
Mottled Sculpin		I	C		6	9.00	0.48			
Mile Total					1,239	1,858.50				
Number of Species					13					
Number of Hybrids					1					

River Code: **20-027**	Stream: **Kelner Ditch**	Sample Date: **2012**
River Mile: **3.00**	Location: upst. Parsons Rd.	Date Range: 08/08/2012
Time Fished: 2658 sec	Drainage: 4.4 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	41	82.00	6.48			
Western Blacknose Dace	N	G	S	T	21	42.00	3.32			
Creek Chub	N	G	N	T	405	810.00	63.98			
Common Shiner	N	I	S		2	4.00	0.32			
Bluntnose Minnow	N	O	C	T	7	14.00	1.11			
Yellow Bullhead		I	C	T	5	10.00	0.79			
Largemouth Bass	F	C	C		11	22.00	1.74			
Green Sunfish	S	I	C	T	73	146.00	11.53			
Bluegill Sunfish	S	I	C	P	56	112.00	8.85			
Pumpkinseed Sunfish	S	I	C	P	7	14.00	1.11			
Johnny Darter	D	I	C		5	10.00	0.79			
Mile Total					633	1,266.00				
Number of Species					11					
Number of Hybrids					0					

River Code: **20-027**	Stream: **Kelner Ditch**	Sample Date: **2012**
River Mile: **1.00**	Location: Nickel Plate Diagonal Rd.	Date Range: 08/08/2012
Time Fished: 2551 sec	Drainage: 9.4 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	59	118.00	14.82			
Golden Shiner	N	I	M	T	1	2.00	0.25			
Creek Chub	N	G	N	T	155	310.00	38.94			
Common Shiner	N	I	S		14	28.00	3.52			
Bluntnose Minnow	N	O	C	T	51	102.00	12.81			
Yellow Bullhead		I	C	T	1	2.00	0.25			
Largemouth Bass	F	C	C		4	8.00	1.01			
Green Sunfish	S	I	C	T	38	76.00	9.55			
Bluegill Sunfish	S	I	C	P	54	108.00	13.57			
Pumpkinseed Sunfish	S	I	C	P	3	6.00	0.75			
Blackside Darter	D	I	S		1	2.00	0.25			
Johnny Darter	D	I	C		13	26.00	3.27			
Mottled Sculpin		I	C		4	8.00	1.01			
Mile Total					398	796.00				
Number of Species					13					
Number of Hybrids					0					

River Code: **20-030**	Stream: **Trib. to E. Br. Black R. (RM 22.65)**	Sample Date: **2012**
River Mile: **0.60**	Location: dst. Vermont Rd.	Date Range: 08/21/2012
Time Fished: 1800 sec	Drainage: 6.4 sq mi	
Dist Fished: 0.12 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Creek Chub	N	G	N	T	98	245.00	73.68			
Common Shiner	N	I	S		2	5.00	1.50			
Bluntnose Minnow	N	O	C	T	4	10.00	3.01			
Central Stoneroller	N	H	N		4	10.00	3.01			
Johnny Darter	D	I	C		17	42.50	12.78			
Fantail Darter	D	I	C		5	12.50	3.76			
Mottled Sculpin		I	C		3	7.50	2.26			
Mile Total					133	332.50				
Number of Species					7					
Number of Hybrids					0					

River Code: **20-031**	Stream: **Trib. to E. Br. Black R. (RM 39.06)**	Sample Date: **2012**
River Mile: **2.20**	Location: Spencer Lake Rd.	Date Range: 06/25/2012
Time Fished: 2655 sec	Drainage: 4.7 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	7	14.00	2.20			
Western Blacknose Dace	N	G	S	T	68	136.00	21.38			
Creek Chub	N	G	N	T	86	172.00	27.04			
Central Stoneroller	N	H	N		51	102.00	16.04			
Green Sunfish	S	I	C	T	3	6.00	0.94			
Bluegill Sunfish	S	I	C	P	9	18.00	2.83			
Pumpkinseed Sunfish	S	I	C	P	1	2.00	0.31			
Johnny Darter	D	I	C		4	8.00	1.26			
Fantail Darter	D	I	C		9	18.00	2.83			
Mottled Sculpin		I	C		80	160.00	25.16			
Mile Total					318	636.00				
Number of Species					10					
Number of Hybrids					0					

River Code: **20-038**	Stream: **Trib. to E. Br. Black R. (RM 28.65)**	Sample Date: **2012**
River Mile: **1.50**	Location: Foster Rd.	Date Range: 08/21/2012
Time Fished: 1500 sec	Drainage: 5.3 sq mi	
Dist Fished: 0.12 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	25	62.50	6.56			
Western Blacknose Dace	N	G	S	T	44	110.00	11.55			
Creek Chub	N	G	N	T	160	400.00	41.99			
Redside Dace	N	I	S	I	3	7.50	0.79			
Common Shiner	N	I	S		27	67.50	7.09			
Silverjaw Minnow	N	I	M		1	2.50	0.26			
Bluntnose Minnow	N	O	C	T	13	32.50	3.41			
Central Stoneroller	N	H	N		27	67.50	7.09			
Green Sunfish	S	I	C	T	1	2.50	0.26			
Johnny Darter	D	I	C		53	132.50	13.91			
Fantail Darter	D	I	C		9	22.50	2.36			
Mottled Sculpin		I	C		18	45.00	4.72			
Mile Total					381	952.50				
Number of Species					12					
Number of Hybrids					0					

River Code: **20-052**	Stream: **Trib. to E. Br. Black R. (RM 5.89)**	Sample Date: **2012**
River Mile: **1.00**	Location:	Date Range: 07/09/2012
Time Fished: 2683 sec	Drainage: 4.4 sq mi	
Dist Fished: 0.14 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Central Mudminnow		I	C	T	5	10.71	1.37			
White Sucker	W	O	S	T	13	27.86	3.57			
Golden Shiner	N	I	M	T	4	8.57	1.10			
Western Blacknose Dace	N	G	S	T	20	42.86	5.49			
Creek Chub	N	G	N	T	106	227.14	29.12			
Redside Dace	N	I	S	I	3	6.43	0.82			
Bluntnose Minnow	N	O	C	T	17	36.43	4.67			
Central Stoneroller	N	H	N		57	122.14	15.66			
Yellow Bullhead		I	C	T	15	32.14	4.12			
Brown Bullhead		I	C	T	3	6.43	0.82			
Largemouth Bass	F	C	C		14	30.00	3.85			
Green Sunfish	S	I	C	T	51	109.29	14.01			
Bluegill Sunfish	S	I	C	P	50	107.14	13.74			
Johnny Darter	D	I	C		4	8.57	1.10			
Greenside Darter	D	I	S	M	2	4.29	0.55			
Mile Total					364	780.00				
Number of Species					15					
Number of Hybrids					0					

River Code: **20-052**	Stream: **Trib. to E. Br. Black R. (RM 5.89)**	Sample Date: **2012**
River Mile: **0.10**	Location: Robson Rd.	Date Range: 08/14/2012
Time Fished: 1500 sec	Drainage: 7.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
Northern Hog Sucker	R	I	S	M	1	2.00	0.16	0.01	0.59	6.00
White Sucker	W	O	S	T	63	126.00	10.14	0.24	12.08	1.94
Western Blacknose Dace	N	G	S	T	17	34.00	2.74	0.13	6.44	3.82
Creek Chub	N	G	N	T	382	764.00	61.51	0.99	49.01	1.30
Redside Dace	N	I	S	I	2	4.00	0.32	0.01	0.50	2.50
Spotfin Shiner	N	I	M		1	2.00	0.16	0.01	0.30	3.00
Bluntnose Minnow	N	O	C	T	12	24.00	1.93	0.05	2.48	2.08
Central Stoneroller	N	H	N		61	122.00	9.82	0.20	9.90	1.64
Yellow Bullhead		I	C	T	1	2.00	0.16	0.02	1.19	12.00
Smallmouth Bass	F	C	C	M	1	2.00	0.16	0.01	0.30	3.00
Green Sunfish	S	I	C	T	1	2.00	0.16	0.01	0.30	3.00
Johnny Darter	D	I	C		32	64.00	5.15	0.09	4.46	1.41
Greenside Darter	D	I	S	M	10	20.00	1.61	0.05	2.48	2.50
Rainbow Darter	D	I	S	M	28	56.00	4.51	0.07	3.47	1.25
Fantail Darter	D	I	C		3	6.00	0.48	0.01	0.59	2.00
Mottled Sculpin		I	C		6	12.00	0.97	0.12	5.94	10.00
	Mile Total				621	1,242.00		2.02		
	Number of Species				16					
	Number of Hybrids				0					

River Code: **20-053**	Stream: **Trib. to Black River (RM 10.18)**	Sample Date: **2012**
River Mile: **0.60**	Location: Gulf Rd.	Date Range: 08/21/2012
Time Fished: 2400 sec	Drainage: 10.2 sq mi	
Dist Fished: 0.15 km	Basin: Black River No of Passes: 1	Sampler Type: E

Species Name / ODNR status	IBI Grp	Feed Guild	Breed Guild	Tol	# of Fish	Relative Number	% by Number	Relative Weight	% by Weight	Ave(gm) Weight
White Sucker	W	O	S	T	137	274.00	8.26			
Western Blacknose Dace	N	G	S	T	4	8.00	0.24			
Creek Chub	N	G	N	T	237	474.00	14.29			
Striped Shiner	N	I	S		2	4.00	0.12			
Spotfin Shiner	N	I	M		129	258.00	7.78			
Sand Shiner	N	I	M	M	2	4.00	0.12			
Silverjaw Minnow	N	I	M		1	2.00	0.06			
Bluntnose Minnow	N	O	C	T	88	176.00	5.30			
Central Stoneroller	N	H	N		925	1,850.00	55.76			
Yellow Bullhead		I	C	T	11	22.00	0.66			
Smallmouth Bass	F	C	C	M	3	6.00	0.18			
Largemouth Bass	F	C	C		11	22.00	0.66			
Green Sunfish	S	I	C	T	74	148.00	4.46			
Bluegill Sunfish	S	I	C	P	9	18.00	0.54			
Johnny Darter	D	I	C		9	18.00	0.54			
Greenside Darter	D	I	S	M	2	4.00	0.12			
Rainbow Darter	D	I	S	M	12	24.00	0.72			
Fantail Darter	D	I	C		3	6.00	0.18			
Mile Total					1,659	3,318.00				
Number of Species					18					
Number of Hybrids					0					

Appendix Table 11. Macroinvertebrate community attributes, 1977-2012.

River Mile	All Taxa			Sen. Taxa			EPT Taxa		CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
	Total	Qt.	Ql.	Total	Qt.	Ql.	Total	Ql.								
Heider Ditch (13-006)																
Year: 2012																
0.25	24		24	0		0	4		0	6	0.00	37.0		LF	7.8	
Gable Ditch (13-010)																
Year: 2012																
0.30	9		9	0		0	2		0	1	0.00	37.8		P	1.4	
Powdermaker Ditch (13-011)																
Year: 2012																
0.10	14		14	0		0	1		0	5	0.00	32.8		P	4.3	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
Black River (20-001)																
Year: 2012																
14.95	62	32	47	16	9	11	18	15	0	6	1.83	41.6	36		396.0	
11.50	55	22	47	14	6	12	17	15	0	8	1.50	40.2	36		398.0	
9.80	61	30	53	6	2	6	10	9	0	15	0.40	37.8	26		412.0	
8.35	52	32	43	9	5	7	9	8	0	8	0.88	40.0	32		418.0	
Year: 1997																
15.10	52	38	36	13	6	12	15	13	0	3	4.00	40.7	44		396.0	
12.30	59	37	46	20	10	17	20	17	0	7	2.43	41.5	52		404.0	
10.60 A	31		31	3		3		7	0	8	0.38	34.9		MG	412.0	X21
10.60 B	38		38	6		6		10	0	9	0.67	38.7		G	412.0	X21
9.80	45	33	36	11	9	8	15	12	0	6	1.33	40.9	44		413.0	
8.70	51	30	41	13	8	11	16	12	1	7	1.57	40.9	44		414.0	
5.50 W	28	23	13	3	2	1	5	0	0	5	0.20	31.7	0		425.0	X8,11
5.20 E	27	23	12	4	2	2	5	1	0	5	0.40	30.4	0		425.0	X8,11
4.90 W	35	24	20	2	1	2	3	2	0	9	0.22	30.2	0		464.0	X8,11
3.60 W	28	21	17	1	1	1	3	1	0	6	0.17	32.0	0		464.0	X8,11
2.30 W	25	22	11	0	0	0	3	0	0	7	0.00	19.5	0		465.0	X8,11
0.90 E	25	20	11	0	0	0	1	0	0	2	0.00	32.0	0		466.0	X8,11
0.10 E	20	19	8	1	1	0	0	0	0	5	0.00	25.4	0		466.0	X8,11
Year: 1994																
14.40	56	32	46	12	4	12	18	17	0	7	1.71	39.5	48		396.0	X15
5.60 A	26	17	17	0	0	0	5	4	0	7	0.00	26.7	0		425.0	X11
2.10 A	33	24	17	1	1	0	3	1	0	9	0.00	26.7	0		465.0	X11
0.50 A	39	28	23	1	0	1	3	1	0	10	0.10	25.4	0		466.0	X11
Year: 1992																
14.40	51	41	32	9	8	6	12	10	0	9	0.67	37.7	40		396.0	
11.20	32		32	4		4		9	0	6	0.67	38.6		MG	411.0	
10.60	50	40	33	5	4	4	9	9	0	11	0.36	33.4	28		412.0	X21
10.50	58	39	39	8	6	6	11	10	0	11	0.55	38.6	40		412.0	
8.30	61	51	31	10	9	7	14	11	0	8	0.88	38.4	40		414.0	
5.60 E	56	46	18	7	7	0	13	2	0	8	0.00	32.4	0		425.0	X11,15
5.30 W	52	47	17	5	5	0	9	3	0	7	0.00	31.7	0		425.0	X11,15
5.00 W	38	30	11	2	2	0	6	0	0	8	0.00	21.7	0		464.0	X8,11,21
4.80 W	47	42	18	1	1	0	6	1	0	9	0.00	33.1	0		464.0	X11,15
3.60 W	49	28	28	7	5	2	9	2	1	12	0.17	32.8	0		464.0	X8,11
3.00 W	44	33	24	2	2	0	8	3	0	7	0.00	34.3	0		465.0	X8,11
2.00 W	25	21	11	0	0	0	2	0	0	6	0.00	26.7	0		465.0	X8,11
1.10 W	32	25	21	1	1	0	1	1	0	12	0.00	23.9	0		466.0	X8,11

River Mile	All Taxa			Sen. Taxa			EPT Taxa		CW	Ql. Tol.	Ql. S					
	Total	Qt.	Ql.	Total	Qt.	Ql.	Total	Ql.	Taxa	Taxa	T	QCTV	ICI	Nar.	Drain	Comments
Black River (20-001)																
0.10 E	30	27	10	0	0	0	3	1	0	6	0.00	23.1	0		466.0	X8,11
Year: 1991																
14.40	61	38	50	12	8	10	13	13	0	11	0.91	36.7	46		396.0	
Year: 1989																
14.40	51	28	41	7	2	7	10	10	0	9	0.78	34.9	26		396.0	
Year: 1986																
14.40	45	26	34	6	4	3	9	8	0	7	0.43	34.9	22		396.0	X5
Year: 1982																
14.40	25	16	20	0	0	0	3	3	0	7	0.00	31.9	4		396.0	X12
11.30	46	27	30	2	0	2	6	5	0	9	0.22	32.8	18		411.0	
10.70	45	31	26	1	1	1	4	3	0	12	0.08	29.8	16		412.0	
9.80	19	13	11	0	0	0	0	0	0	7	0.00	29.8	8		413.0	
8.30	25	8	21	1	0	1	1	1	0	14	0.07	18.9	2		414.0	X12
6.70	23		23	0		0		4	0	13	0.00	29.8		F	419.0	
Year: 1980																
14.40	36	31	10	1	1	0	3	1	0	6	0.00	29.8	18		396.0	X4
Year: 1979																
14.40	20	17	6	0	0	0	1	0	0	1	0.00	30.4	8		396.0	X1,5
Year: 1978																
14.40	19	17	9	2	2	0	2	0	0	5	0.00	21.9	10		396.0	X1,5
Year: 1977																
14.40	15	14	6	0	0	0	2	1	0	3	0.00	30.7	8		396.0	X1
French Creek (20-002)																
Year: 2012																
10.41	38		38	1		1		4	0	14	0.07	34.5		LF	11.8	
9.02	33		33	1		1		4	0	14	0.07	33.8		LF	17.2	
5.50	40	21	31	1	1	1	7	7	0	9	0.11	34.8	34		25.4	
3.20	49	30	41	3	1	3	8	7	0	10	0.30	38.3	36		32.3	
0.54	43	23	32	4	3	2	6	5	0	10	0.20	36.5	38		38.6	
Year: 2001																
3.00	55	42	33	1	0	1	8	8	0	12	0.08	33.2	40		27.0	X13
Year: 1997																
5.50	25		25	0		0		5	0	10	0.00	32.8		F	22.5	
3.20	41	31	24	1	1	0	9	8	0	7	0.00	37.7	40		27.0	
0.40	18		18	0		0		4	0	5	0.00	38.4		F	31.0	
Year: 1992																
3.20	55	43	32	0	0	0	3	1	1	14	0.00	31.9	22		27.0	
0.50	49	36	29	0	0	0	6	4	0	11	0.00	33.3	34		31.0	
Year: 1982																

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
French Creek (20-002)																
3.20	44	33	27	1	1	1	8	6	0	8	0.13	32.6	40		27.0	
0.50	23		23	3		3		7	0	5	0.60	39.2		G	31.0	
Beaver Creek (20-003)																
Year: 1997																
7.10	43	34	26	6	6	5	12	7	2	0	*****	40.9	48		20.1	
4.80	44	30	31	7	6	6	10	10	2	5	1.20	39.5	44		24.2	
2.80	34	24	22	1	1	0	5	2	3	10	0.00	34.3	14		24.7	
East Branch Black River (20-010)																
Year: 2012																
41.40	41		41	1		1		3	0	20	0.05	34.3		F	68.0	
40.47	68	35	60	10	1	9	9	9	0	13	0.69	39.3	34		72.0	X15
36.80	75	37	56	24	11	16	20	16	0	9	1.78	40.6	46		96.0	X13
32.42	88	40	69	14	3	11	15	10	0	16	0.69	37.8	38		104.0	
24.60	66	31	50	12	8	8	12	11	0	11	0.73	39.3	24	G	136.0	X4,12
18.94	77	39	56	24	14	18	21	16	0	7	2.57	41.6	52		158.0	
11.34	85	39	71	25	13	19	26	22	0	11	1.73	41.5	50		179.0	
10.50	69	36	58	16	10	12	20	17	0	15	0.80	40.2	38		180.0	
6.00	84	38	73	25	14	20	27	25	0	14	1.43	40.5	52		185.0	
3.07	67	37	51	16	7	11	18	15	0	11	1.00	39.7	34		217.0	
0.36	38	19	28	1	1	0	6	2	0	15	0.00	29.2	8		222.0	X2,8
Year: 2001																
11.20	69	40	47	19	7	17	21	18	0	8	2.13	39.7	46		185.0	
10.60	36		36	12		12		14	0	7	1.71	39.7			187.0	
6.10	71	46	45	19	12	14	24	17	0	7	2.00	41.6	54		192.0	
Year: 1997																
40.40	58	46	35	10	10	5	15	9	1	3	1.67	39.5	48		71.0	
32.40	60	38	37	7	4	3	12	6	0	8	0.38	38.7	44		105.0	
18.90	70	39	42	17	8	11	17	12	0	4	2.75	40.3	44		166.0	
11.30	59	36	43	17	12	10	20	14	0	8	1.25	38.6	48		185.0	
10.80	67	47	47	15	10	10	17	14	0	10	1.00	38.4	44		185.0	
6.00	64	29	54	17	7	14	18	16	0	7	2.00	39.5	46		192.0	
5.20	64	46	45	22	14	15	23	18	0	7	2.14	40.9	48		210.0	
3.00	52	24	38	14	7	9	19	13	0	8	1.13	39.2	44		212.0	
0.10	53	38	37	9	5	7	14	12	0	6	1.17	38.6	46		215.8	
Year: 1992																
41.50	71	46	49	15	8	12	21	17	0	9	1.33	40.9	50		66.0	
32.30	72	55	42	9	9	3	15	10	0	12	0.25	37.9	42		105.0	
18.90	64	48	32	13	10	9	17	11	1	7	1.29	39.8	46		166.0	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
East Branch Black River (20-010)																
11.30	70	47	47	17	11	14	20	14	1	6	2.33	40.9	46		185.0	X16
10.80	71	41	56	16	3	14	14	13	1	9	1.56	38.7	30		185.0	X16
6.00	67	33	54	17	8	15	21	19	1	9	1.67	39.7	38		192.0	X16
5.40	74	50	50	23	10	19	23	20	0	8	2.38	41.0	48		210.0	X16
3.00	59	44	44	16	11	13	22	19	0	9	1.44	40.9	42		212.0	X16
0.10	58	46	33	12	8	9	15	13	0	8	1.13	39.2	42		215.8	X16
Year: 1982																
3.10	41		41	9		9		11	0	9	1.00	38.6		G	212.0	
0.20	23	17	13	2	0	2	2	1	0	4	0.50	29.8	6		215.8	
Salt Creek (20-011)																
Year: 2012																
0.53	42		42	3		3		6	0	13	0.23	34.9		F	6.7	X9
Year: 1996																
1.90	38		38	1		1		4	0	20	0.05	31.8		F	4.6	
Crow Creek (20-012)																
Year: 2012																
0.80	39		39	2		2		4	0	19	0.11	33.2		F	3.7	X9
Year: 1996																
0.80	21		21	0		0		3	1	11	0.00	33.3		F	2.4	
Coon Creek (20-013)																
Year: 2012																
0.88	41		41	4		4		8	0	13	0.31	34.8		MG	10.2	X9
Year: 1996																
2.70	32		32	1		1		4	2	10	0.10	32.2		F	7.6	
East Fork East Branch Black River (20-014)																
Year: 2013																
1.73	56		56	5		5		6	3	18	0.28	34.9			13.9	
1.60	49		49	5		5		7	2	17	0.29	35.8			14.0	
Year: 2012																
5.84	53		53	10		10		13	1	11	0.91	39.7		G	7.6	
2.67	34		34	6		6		5	3	5	1.20	39.7		F	12.9	
1.73	47		47	1		1		2	0	16	0.06	34.3		LF	13.9	
1.60	44		44	3		3		2	0	16	0.19	34.8		LF	14.0	
0.15	47		47	3		3		7	0	11	0.27	38.2		F	15.2	
Year: 2001																
2.70	46		46	18		18		19	6	4	4.50	41.3			13.1	
Year: 1997																
2.70	37		37	10		10		14	2	6	1.67	42.2		E	13.1	
0.10	36		36	2		2		6	1	8	0.25	33.4		MG	15.2	

River Mile	All Taxa			Sen. Taxa			EPT Taxa		CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
	Total	Qt.	Ql.	Total	Qt.	Ql.	Total	Ql.								
Year: 1992																
2.90	67	46	42	18	12	13	19	15	6	5	2.60	39.8	46		12.4	
1.50	63	46	44	9	7	5	13	10	3	11	0.45	37.7	40		14.4	
West Fork East Branch Black River (20-015)																
Year: 2012																
13.97	34		34	2		2		6	0	18	0.11	33.2		F	14.1	X9
8.90	38		38	0		0		3	0	15	0.00	34.3		LF	25.0	X9
2.30	88	48	67	18	11	13	22	17	0	18	0.72	38.2	38		41.3	X15
1.30	68		68	11		11		17	0	20	0.55	38.4		VG	41.7	
0.34	84	40	69	20	7	16	23	21	1	10	1.60	40.3	36		42.4	
Year: 2001																
4.10	35		35	9		9		12	1	9	1.00	38.3			27.1	
1.20	74	49	46	13	4	9	13	8	1	10	0.90	39.3	34		36.5	X15
0.30	49	35	29	4	1	3	8	6	0	5	0.60	39.4	32		36.8	X20 (ET)
Year: 1992																
4.20	44		44	10		10		17	1	8	1.25	40.9		VG	27.1	
Clear Creek (20-016)																
Year: 2012																
1.80	42		42	8		8		9	0	11	0.73	39.2		MG	6.2	
Year: 1996																
1.80	37		37	4		4		7	4	7	0.57	36.4		MG	5.9	
Willow Creek (20-018)																
Year: 2012																
6.50	20		20	0		0		0	0	15	0.00	24.1		P	3.0	
2.85	39		39	1		1		6	0	13	0.08	34.7		F	13.3	
Year: 1997																
6.10	16		16	0		0		0	0	13	0.00	18.9		P	4.0	
4.90	19		19	0		0		2	0	5	0.00	32.8		P	11.0	
2.90	38		38	2		2		7	1	9	0.22	35.9		MG	12.9	
Year: 1992																
2.80	40		40	0		0		7	0	8	0.00	38.7		MG	12.9	
Trib. to E. Br. Black R. (RM 41.41) (20-019)																
Year: 2012																
0.35	58		58	13		13		17	2	9	1.44	40.1		VG	1.8	
Year: 1996																
1.00	39		39	7		7		10	2	11	0.64	39.8		G	1.7	
West Branch Black River (20-020)																
Year: 2012																
48.10	39		39	1		1		3	1	12	0.08	34.3		LF	4.3	X9
41.67	39		39	7		7		11	0	6	1.17	38.6		MG	16.0	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
West Branch Black River (20-020)																
37.30	49		49	7		7		11	0	13	0.54	37.1		MG	28.0	X9
28.50	50		50	15		15		15	0	8	1.88	41.5		G	37.0	
25.15	53	33	39	5	1	5	8	7	0	8	0.63	38.2	36		67.0	
19.60	76	41	54	12	6	7	16	11	0	12	0.58	38.2	42		80.0	
16.56	60	33	45	4	2	2	11	10	0	13	0.15	37.8	34		83.0	
10.60	79	45	58	16	6	13	16	13	0	11	1.18	39.7	42		132.0	X15
7.68	65	23	57	22	6	19	19	16	0	7	2.71	40.5	40		161.0	
4.18	64	29	53	13	6	10	15	13	0	11	0.91	40.0	32		169.0	
1.20	74	39	62	17	11	12	19	16	0	16	0.75	39.7	46		172.0	X15
Year: 2001																
44.20	12		12	0		0		2	0	4	0.00	33.1		F	6.5	
41.60	37		37	6		6		8	0	7	0.86	37.0		MG	15.5	
28.60	74	35	48	18	5	16	19	14	0	5	3.20	40.4	38		39.0	X8
25.50	42	29	25	1	0	1	5	4	0	6	0.17	34.4	30		67.0	
18.20	65	42	43	12	4	11	15	14	0	5	2.20	39.4	46		80.0	
10.60	65	44	46	15	8	12	17	14	0	8	1.50	39.7	48		132.0	
Year: 1997																
0.10	38	35	16	6	5	3	10	6	0	2	1.50	40.9	38		175.0	
Year: 1994																
48.10 A	36		36	0		0		4	0	23	0.00	29.4		F	3.9	
48.10 B	35	13	27	0	0	0	2	2	0	19	0.00	29.4	8		3.9	X8,9,19
44.00 A	36		36	3		3		5	0	16	0.19	31.9		F	6.5	
44.00 B	45	22	34	1	1	0	4	2	1	13	0.00	32.8	14		6.5	X8,9
Year: 1992																
41.70	74	51	50	16	9	14	16	15	3	6	2.33	40.9	54		15.5	
25.30	65	40	41	7	4	3	15	9	1	9	0.33	38.4	38		67.0	X16
13.50	37		37	3		3		9	1	8	0.38	39.2		MG	131.0	X16
4.20	52	33	34	2	1	2	9	5	1	9	0.22	34.3	22		171.0	X16
0.10	49	43	22	4	4	3	10	7	1	6	0.50	34.9	28		175.0	X16
Year: 1982																
4.20	36	18	28	2	0	2	7	7	0	6	0.33	34.4	14		171.0	X13
0.10	18	12	14	0	0	0	2	2	0	6	0.00	32.4	2		175.0	
Plum Creek (20-021)																
Year: 2012																
5.57	35		35	2		2		8	0	7	0.29	39.5		F	4.8	
3.19	33		33	1		1		7	0	9	0.11	36.5		F	7.6	
2.80	34		34	0		0		5	0	8	0.00	36.4		F	7.9	
0.83	36		36	1		1		8	0	7	0.14	36.0		F	9.0	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
Year: 2001																
5.90	14		14	0		0		0	0	8	0.00	26.8		VP	6.0	
3.10	15		15	0		0		0	0	5	0.00	28.8		VP	9.7	
2.90	26	23	14	0	0	0	1	1	0	5	0.00	35.4	18		9.8	X19
0.70	50	34	42	3	0	3	5	4	0	13	0.23	33.9	42		10.7	
Year: 1997																
3.30	48	28	32	0	0	0	6	6	0	9	0.00	33.4	24	MG	9.7	X15,19
2.90	37	34	14	1	1	0	7	4	1	1	0.00	38.7	34		9.8	X19
0.80	48	41	18	2	1	1	8	6	1	3	0.33	38.7	44		10.7	
Year: 1994																
6.00 A	31		31	0		0		5	0	12	0.00	32.6		F	6.0	
6.00 B	39	19	30	1	0	1	5	4	0	10	0.10	32.6	10		6.0	X8,9,19
4.80 A	31		31	0		0		4	0	14	0.00	32.6		F	7.2	
4.80 B	53	29	36	1	1	0	5	5	1	19	0.00	31.9	14		7.2	X8,19
3.30 B	53	22	42	0	0	0	7	7	1	13	0.00	33.3	20		9.7	X8,19
2.80 B	44	34	24	1	1	0	6	3	0	10	0.00	32.8	30		9.8	X15,19
0.90 B	58	41	40	2	2	1	9	8	1	8	0.13	38.4	48		10.7	X15
Year: 1992																
7.00	27		27	1		1		2	3	12	0.08	31.8		F	3.0	
3.10	54	42	28	0	0	0	8	4	2	9	0.00	34.3	34		9.7	X19
2.80	50	39	23	0	0	0	8	3	2	10	0.00	32.8	36		9.8	X6,19
0.80	48	33	33	3	2	2	10	8	1	7	0.29	38.4	44		10.7	
Year: 1987																
7.00	42		42	0		0		3	2	25	0.00	32.8		F	3.0	
3.20	56		56	2		2		9	1	19	0.11	33.4		MG	9.7	
2.90	23		23	0		0		1	0	12	0.00	32.6		P	9.8	
0.80	46		46	0		0		7	0	18	0.00	32.8		F	10.7	
Elk Creek (20-022)																
Year: 2012																
0.15	38		38	8		8		10	0	9	0.89	39.6		MG	7.5	X9
Year: 1994																
1.10 A	42		42	1		1		7	2	13	0.08	36.8		MG	7.6	
1.10 B	46	17	38	1	0	1	10	9	1	9	0.11	35.3	18		7.6	X8,19
Wellington Creek (20-023)																
Year: 2012																
17.10	30		30	1		1		4	1	11	0.09	34.5		LF	5.2	X9
13.09	39		39	0		0		3	0	20	0.00	32.8		LF	10.5	X9
8.40	42		42	3		3		10	1	10	0.30	37.8		MG	19.7	X9
0.60	46		46	9		9		10	0	9	1.00	40.0		MG	29.6	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
Year: 2001																
17.10	17		17	0		0		1	0	12	0.00	28.8		P	5.6	
10.80	28		28	1		1		4	0	12	0.08	31.0		F	15.2	
0.60	32		32	4		4		5	2	6	0.67	39.5		MG	30.4	
Year: 1994																
18.20 A	32		32	1		1		2	0	17	0.06	27.4		F	3.3	
18.20 B	25		25	1		1		4	0	14	0.07	24.5		F	3.3	
16.60 A	25		25	1		1		3	0	13	0.08	32.4		F	6.0	
16.60 B	38	13	32	0	0	0	5	5	0	18	0.00	29.4	16		6.0	X8,9,19
10.80 B	41	19	35	0	0	0	4	3	1	17	0.00	31.4	8		15.2	X8
Year: 1992																
13.10	42		42	0		0		4	0	23	0.00	29.4		F	12.9	
10.80	24		24	0		0		3	0	11	0.00	26.7		F	15.2	
Charlemont Creek (20-024)																
Year: 2012																
8.55	33		33	3		3		5	1	10	0.30	36.4		F	10.8	X9
2.20	53		53	11		11		16	0	9	1.22	40.5		G	22.6	
0.39	47	27	38	2	0	2	3	3	0	9	0.22	34.9	28		25.8	
Year: 2001																
0.70	59	30	46	9	4	7	13	10	0	8	0.88	38.3	32		22.7	
0.40	35	20	23	2	1	1	2	2	1	6	0.17	33.2	12		25.1	
Year: 1994																
10.20 A	17		17	0		0		2	0	6	0.00	33.4		F	4.8	
10.20 B	35	19	28	1	1	0	5	3	0	12	0.00	32.4	26		4.8	X8,9,19
8.90 A	36		36	2		2		6	0	14	0.14	32.6		MG	10.6	
8.90 B	43	19	31	2	0	2	7	7	1	9	0.22	35.2	16		10.6	X8,9
2.70 B	68	26	54	8	1	7	12	10	1	12	0.58	38.6	28	MG	20.9	X8
Year: 1992																
0.60	40		40	3		3		8	0	11	0.27	34.9		MG	22.7	
0.40	30		30	2		2		8	2	8	0.25	34.9		MG	25.1	
Buck Creek (20-025)																
Year: 2012																
0.95	41		41	1		1		5	0	16	0.06	34.3		F	4.8	X9
Year: 2001																
0.10	25		25	0		0		1	0	10	0.00	33.2		F	5.8	
Year: 1994																
0.90 A	34		34	1		1		3	1	16	0.06	31.9		F	5.5	
0.90 B	45	15	37	0	0	0	4	3	0	19	0.00	31.7	14		5.5	X8,9,19
Year: 1992																
1.00	41		41	2		2		6	2	12	0.17	36.4		MG	5.5	

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
Trib. to Charlemont Creek (RM 0.51) (20-026)																
Year: 2012																
1.00	34		34	2		2		6	1	5	0.40	38.6		F	1.7	
0.76	26		26	0		0		1	0	12	0.00	34.3		P	1.8	
Kelner Ditch (20-027)																
Year: 2012																
3.00	39		39	2		2		5	0	12	0.17	35.9		F	4.4	
1.00	63		63	6		6		12	0	16	0.38	37.3		G	9.4	
Year: 2001																
3.00	23		23	0		0		0	0	13	0.00	29.8		VP	3.9	
0.50	43		43	3		3		7	0	13	0.23	33.3		MG	8.1	
Year: 1994																
1.00 A	53		53	2		2		8	1	25	0.08	32.6		G	7.8	
1.00 B	61	33	43	4	3	2	11	8	1	17	0.12	33.3	34		7.8	X8,19
Trib. to E. Br. Black R. (RM 22.65) (20-030)																
Year: 2012																
0.60	24		24	0		0		2	0	11	0.00	33.8		LF	6.4	X9
Year: 2001																
6.40	27		27	0		0		1	0	18	0.00	30.4			1.3	
2.70	26		26	1		1		3	0	12	0.08	32.5			3.6	X9
0.50	38		38	1		1		5	0	18	0.06	32.6			6.1	X9
Year: 1996																
1.70	31		31	0		0		2	0	14	0.00	32.6		F	5.6	
Trib. to E. Br. Black R. (RM 39.06) (20-031)																
Year: 2013																
3.60	49		49	10		10		9	4	10	1.00	40.1			3.2	
Year: 2012																
2.16	43		43	13		13		16	3	5	2.60	43.1		G	4.8	
Year: 2001																
5.20	31		31	0		0		1	0	18	0.00	31.6			1.1	X9
3.60	55		55	14		14		13	5	8	1.75	38.3			3.1	
0.60	37		37	8		8		6	1	8	1.00	39.5			6.2	
Year: 1996																
3.60	30		30	6		6		8	2	6	1.00	38.7		G	3.1	
2.20	31		31	7		7		8	1	4	1.75	39.0		G	4.8	
Year: 1994																
4.70 A	24		24	2		2		4	1	8	0.25	32.6		MG	1.3	
4.70 B	55	27	46	5	3	5	7	7	3	19	0.26	33.3	24	MG	1.3	X8,19
0.80 A	38		38	7		7		8	1	9	0.78	38.4		G	6.2	
0.80 B	55	24	37	14	2	12	13	11	3	8	1.50	39.8	20	G	6.2	X8,19

River Mile	All Taxa Total	All Taxa Qt.	All Taxa Ql.	Sen. Taxa Total	Sen. Taxa Qt.	Sen. Taxa Ql.	EPT Taxa Total	EPT Taxa Ql.	CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
Guthrie Ditch (20-033)																
Year: 2001																
0.20	15		15	0		0		0	0	11	0.00	26.8		VP	8.5	
Year: 1994																
0.10 A	33		33	1		1		8	0	17	0.06	31.8		F	8.5	
0.10 B	54	35	34	1	1	1	6	5	1	19	0.05	27.1	16		8.5	X8,9,19
Trib. to West Branch (RM 21.32) (20-034)																
Year: 1994																
0.50 A	35		35	0		0		2	0	21	0.00	24.4		F	5.9	
0.50 B	40	11	33	0	0	0	4	3	0	17	0.00	31.8	4		5.9	X8,9,19
East Creek (20-035)																
Year: 2001																
0.50	26		26	1		1		4	0	7	0.14	37.5		F	3.8	
Year: 1994																
0.60 A	34		34	1		1		3	0	17	0.06	32.8		MG	3.8	
0.60 B	50	20	39	2	1	1	7	6	0	14	0.07	32.8	24		3.8	X8,9,19
Trib. to Charlemont Creek (RM 9.06) (20-036)																
Year: 1994																
2.00 A	29		29	2		2		5	0	11	0.18	33.1		F	2.9	
2.00 B	43	21	35	2	1	2	6	5	0	15	0.13	31.8	16		2.9	X8,9,19
Trib. to E. Br. Black R. (RM 28.50) (20-037)																
Year: 2001																
5.20	39		39	0		0		2	0	24	0.00	32.4			1.6	X9
4.20	31		31	0		0		0	0	25	0.00	29.8			2.0	X9
0.50	36		36	3		3		9	0	10	0.30	39.5			5.3	
Year: 1996																
0.50	17		17	0		0		0	0	9	0.00	29.4		P	5.3	
Trib. to E. Br. Black R. (RM 28.65) (20-038)																
Year: 2012																
1.50	52		52	7		7		10	3	17	0.41	38.2		MG	5.3	
Year: 1996																
1.50	27		27	0		0		2	1	14	0.00	33.3		F	5.3	
Trib to E. Fk. E. Br. Black R. (RM 2.87) (20-039)																
Year: 2001																
0.10	16		16	7		7		4	4	2	3.50	42.6			0.7	X29
Trib. to E. Br. Black R. (RM 5.89) (20-052)																
Year: 2012																
1.00	41		41	3		3		6	0	19	0.16	33.8		F	4.5	X9
0.10	42		42	5		5		10	1	10	0.50	39.3		MG	7.2	
Trib. to Black River (RM 10.18) (20-053)																
Year: 2012																

River Mile	All Taxa			Sen. Taxa			EPT Taxa		CW Taxa	Ql. Tol. Taxa	Ql. S T	QCTV	ICI	Nar.	Drain	Comments
	Total	Qt.	Ql.	Total	Qt.	Ql.	Total	Ql.								
Trib. to Black River (RM 10.18) (20-053)																
0.68	51		51	5		5		11	0	17	0.29	38.2		G	10.2	

Appendix Table 12 . Invertebrate Community Index metrics for stations sampled in the Black River survey, 2012.

RM	Drainage Area (sq mi)	Number of Taxa				Percent Composition					QUAL EPT	Eco-region	ICI
		Total	Mayfly	Caddisfly	Dipteran	Mayfly	Caddisfly	Tany-tarsini	Other Dipt/NI	Tolerant Organisms			
20-001-000 BLACK RIVER													
14.95	396.0	32 (4)	3 (2)	7 (6)	14 (4)	7.5 (2)	34.0 (6)	7.6 (2)	50.3 (0)	2.8 (6)	15 (4)	EOLP	36
11.50	398.0	22 (2)	7 (4)	3 (4)	8 (2)	27.6 (4)	33.7 (6)	1.3 (2)	37.3 (2)	0.0 (6)	15 (4)	EOLP	36
9.80	412.0	30 (4)	2 (0)	4 (4)	12 (4)	1.4 (2)	36.4 (6)	10.5 (2)	49.0 (0)	7.8 (2)	9 (2)	EOLP	26
8.35	418.0	32 (4)	2 (0)	4 (4)	17 (6)	1.9 (2)	30.1 (6)	23.9 (4)	43.2 (2)	7.2 (2)	8 (2)	EOLP	32
20-002-000 FRENCH CREEK													
5.50	25.4	21 (2)	3 (2)	3 (6)	8 (2)	11.2 (2)	51.3 (6)	6.6 (2)	30.9 (4)	3.9 (6)	7 (2)	EOLP	34
3.20	32.3	30 (4)	3 (2)	4 (6)	13 (2)	7.5 (2)	4.1 (2)	50.6 (6)	37.5 (4)	4.4 (6)	7 (2)	EOLP	36
0.54	38.6	23 (2)	3 (2)	3 (4)	12 (2)	1.3 (2)	13.6 (6)	56.8 (6)	27.9 (6)	0.2 (6)	5 (2)	EOLP	38
20-010-000 EAST BRANCH BLACK RIVER													
40.47	72.0	35 (4)	1 (0)	2 (4)	23 (6)	0.4 (2)	2.2 (2)	35.9 (6)	59.4 (2)	4.8 (6)	9 (2)	EOLP	34
36.80	96.0	37 (4)	5 (2)	4 (6)	17 (4)	17.0 (4)	20.8 (6)	18.3 (4)	38.0 (4)	3.5 (6)	16 (6)	EOLP	46
32.42	104.0	40 (6)	4 (2)	4 (4)	18 (4)	0.6 (2)	40.5 (6)	8.1 (2)	49.0 (2)	0.7 (6)	10 (4)	EOLP	38
24.60	136.0	31 (4)	2 (0)	4 (4)	16 (4)	1.9 (2)	18.3 (4)	4.3 (2)	74.0 (0)	23.4 (0)	11 (4)	EOLP	24
18.94	158.0	39 (6)	9 (6)	3 (4)	14 (4)	36.0 (6)	40.1 (6)	1.2 (2)	16.6 (6)	2.2 (6)	16 (6)	EOLP	52
11.34	179.0	39 (6)	10 (6)	6 (6)	11 (2)	16.2 (4)	9.8 (2)	59.3 (6)	14.4 (6)	0.5 (6)	22 (6)	EOLP	50
10.50	180.0	36 (4)	7 (4)	5 (6)	8 (2)	12.8 (2)	47.4 (6)	6.5 (2)	32.7 (4)	8.5 (4)	17 (6)	EOLP	38
6.00	185.0	38 (6)	9 (6)	5 (6)	15 (4)	27.6 (4)	25.7 (6)	18.7 (4)	26.4 (4)	0.6 (6)	25 (6)	EOLP	52
3.07	217.0	37 (6)	6 (4)	4 (4)	17 (6)	3.5 (2)	2.4 (2)	32.2 (4)	61.5 (0)	8.1 (2)	15 (4)	EOLP	34
0.36	222.0	19 (2)	2 (0)	2 (2)	4 (0)	0.0 (2)	0.3 (2)	0.0 (0)	99.3 (0)	49.4 (0)	2 (0)	EOLP	8
20-015-000 WEST FORK EAST BRANCH BLACK RIVER													
2.30	41.3	48 (6)	7 (4)	7 (6)	17 (4)	4.8 (2)	8.3 (4)	21.1 (4)	64.1 (0)	13.6 (2)	17 (6)	EOLP	38
0.34	42.4	40 (6)	2 (0)	5 (6)	21 (6)	2.1 (2)	12.1 (6)	4.7 (2)	77.5 (0)	17.3 (2)	21 (6)	EOLP	36
20-020-000 WEST BRANCH BLACK RIVER													
25.30	67.0	33 (4)	4 (2)	2 (4)	16 (4)	3.4 (2)	36.2 (6)	22.0 (4)	33.5 (4)	9.2 (4)	7 (2)	EOLP	36
19.60	80.0	41 (6)	5 (2)	6 (6)	18 (4)	15.2 (2)	31.4 (6)	14.6 (2)	37.9 (4)	3.4 (6)	11 (4)	EOLP	42
16.56	83.0	33 (4)	3 (2)	2 (4)	16 (4)	3.8 (2)	15.0 (4)	17.0 (4)	60.1 (2)	9.6 (4)	10 (4)	EOLP	34
10.60	132.0	45 (6)	6 (4)	3 (4)	24 (6)	22.2 (4)	10.1 (4)	12.5 (2)	49.2 (2)	3.7 (6)	13 (4)	EOLP	42
7.68	161.0	23 (2)	7 (4)	4 (4)	8 (2)	15.5 (2)	53.1 (6)	14.4 (2)	15.3 (6)	0.0 (6)	16 (6)	EOLP	40
4.18	169.0	29 (4)	2 (0)	5 (6)	10 (2)	1.0 (2)	3.1 (2)	34.8 (6)	60.2 (0)	2.7 (6)	13 (4)	EOLP	32
1.20	172.0	39 (6)	7 (4)	7 (6)	9 (2)	4.9 (2)	5.8 (2)	67.3 (6)	20.9 (6)	1.3 (6)	16 (6)	EOLP	46
20-024-000 CHARLEMONT CREEK													
0.39	25.8	27 (4)	1 (0)	2 (4)	15 (4)	0.0 (2)	1.2 (2)	67.4 (6)	31.1 (4)	19.6 (2)	3 (0)	EOLP	28

Appendix Table 13. Macroinvertebrate taxa by location, 2012.

Site: Heider Ditch

Collection Date: 07/17/2012 River Code: 13-006 RM: 0.25

Taxa Code	Taxa	Quant/Qual
00556	*Ephydatia fluviatilis*	+
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
04935	*Erpobdella punctata punctata*	+
05800	*Caecidotea sp*	+
11120	*Baetis flavistriga*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
27400	*Neurocordulia sp*	+
52200	*Cheumatopsyche sp*	+
53800	*Hydroptila sp*	+
71900	*Tipula sp*	+
74100	*Simulium sp*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80410	*Cricotopus (C.) sp*	+
82820	*Cryptochironomus sp*	+
83003	*Dicrotendipes fumidus*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84300	*Phaenopsectra obediens group*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
85625	*Rheotanytarsus sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 24

No. Qualitative Taxa: 24 ICI:

Number of Organisms: 0 Qual EPT: 4

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Gable Ditch

Collection Date: 07/17/2012 River Code: 13-010 RM: 0.30

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
11120	*Baetis flavistriga*	+
52200	*Cheumatopsyche sp*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 9

No. Qualitative Taxa: 9 ICI:

Number of Organisms: 0 Qual EPT: 2

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Powdermaker Ditch

Collection Date: 07/17/2012 River Code: 13-011 RM: 0.10

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23600	*Aeshna sp*	+
28208	*Erythemis simplicicollis*	+
28500	*Libellula sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 14

No. Qualitative Taxa: 14 ICI:

Number of Organisms: 0 Qual EPT: 1

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Black River
Collection Date: 08/29/2012 River Code: 20-001 RM: 14.95 Cascade Park, Elyria

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	16
01801	*Turbellaria*	204 +
03360	*Plumatella sp*	13 +
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08250	*Orconectes (Procericambarus) rusticus*	+
11120	*Baetis flavistriga*	10 +
11130	*Baetis intercalaris*	474 +
11651	*Procloeon sp (w/o hindwing pads)*	+
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	23 +
17200	*Caenis sp*	+
22300	*Argia sp*	4 +
45400	*Trichocorixa sp*	+
50315	*Chimarra obscura*	295 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	978 +
52430	*Ceratopsyche morosa group*	794 +
52530	*Hydropsyche depravata group*	49
52540	*Hydropsyche dicantha*	140
53800	*Hydroptila sp*	35 +
58505	*Helicopsyche borealis*	+
59140	*Ceraclea maculata*	9
59300	*Mystacides sp*	+
59970	*Petrophila sp*	1 +
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68901	*Macronychus glabratus*	33
69400	*Stenelmis sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	47
77750	*Hayesomyia senata or Thienemannimyia norena*	47 +
77800	*Helopelopia sp*	+
78450	*Nilotanypus fimbriatus*	224
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	80
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	+
81240	*Nanocladius (N.) distinctus*	186
82121	*Thienemanniella lobapodema*	+
82130	*Thienemanniella similis*	80
82141	*Thienemanniella xena*	96
82820	*Cryptochironomus sp*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	47
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	2143 +
84490	*Polypedilum (Cerobregma) ontario*	47
84540	*Polypedilum (Tripodura) scalaenum group*	140 +
85230	*Cladotanytarsus mancus group*	+
85625	*Rheotanytarsus sp*	233 +
85821	*Tanytarsus glabrescens group sp 7*	280 +
85840	*Tanytarsus sepp*	+
87540	*Hemerodromia sp*	16
96900	*Ferrissia sp*	+
98200	*Pisidium sp*	1
98600	*Sphaerium sp*	17 +
99700	*Potamilus alatus*	+

No. Quantitative Taxa: 32 Total Taxa: 62
No. Qualitative Taxa: 47 ICI: **36**
Number of Organisms: 6762 Qual EPT: 15

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Black River

Collection Date: 08/29/2012 River Code: 20-001 RM: 11.50 dst. Elyria at Spring Valley Golf Club

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	91 +
03121	*Paludicella articulata*	+
03360	*Plumatella sp*	1 +
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
06810	*Gammarus fasciatus*	+
08250	*Orconectes (Procericambarus) rusticus*	+
11120	*Baetis flavistriga*	83
11130	*Baetis intercalaris*	348 +
11650	*Procloeon sp (w/ hindwing pads)*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13000	*Leucrocuta sp*	4 +
13400	*Stenacron sp*	203 +
13510	*Maccaffertium exiguum*	1
13521	*Stenonema femoratum*	1 +
13561	*Maccaffertium pulchellum*	202 +
17200	*Caenis sp*	+
18600	*Ephemera sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
43300	*Ranatra sp*	+
45400	*Trichocorixa sp*	+
50315	*Chimarra obscura*	884 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	96 +
52430	*Ceratopsyche morosa group*	48 +
52530	*Hydropsyche depravata group*	+
59970	*Petrophila sp*	+
65800	*Berosus sp*	+
68075	*Psephenus herricki*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	1 +
69400	*Stenelmis sp*	2 +
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	8
77750	*Hayesomyia senata or Thienemannimyia norena*	+
77800	*Helopelopia sp*	+
78450	*Nilotanypus fimbriatus*	20
78601	*Pentaneura inyoensis*	+
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	40
82130	*Thienemanniella similis*	16
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	8
83300	*Glyptotendipes (G.) sp*	8 +
84450	*Polypedilum (Uresipedilum) flavum*	946 +
84540	*Polypedilum (Tripodura) scalaenum group*	+
85625	*Rheotanytarsus sp*	39
85840	*Tanytarsus sepp*	+
96900	*Ferrissia sp*	+
97601	*Corbicula fluminea*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 22 Total Taxa: 55
No. Qualitative Taxa: 47 ICI: **36**
Number of Organisms: 3050 Qual EPT: 15

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Black River
Ford Rd.

Collection Date: 08/30/2012 River Code: 20-001 RM: 9.80

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	20 +
03360	*Plumatella sp*	4 +
03600	*Oligochaeta*	64 +
04664	*Helobdella stagnalis*	+
04666	*Helobdella papillata*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08250	*Orconectes (Procericambarus) rusticus*	1
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	1 +
11130	*Baetis intercalaris*	107 +
11670	*Procloeon viridoculare*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22300	*Argia sp*	7 +
23909	*Boyeria vinosa*	+
43300	*Ranatra sp*	+
45400	*Trichocorixa sp*	+
50315	*Chimarra obscura*	+
52200	*Cheumatopsyche sp*	1422 +
52430	*Ceratopsyche morosa group*	1221 +
52530	*Hydropsyche depravata group*	32
53800	*Hydroptila sp*	101 +
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
68075	*Psephenus herricki*	+
68601	*Ancyronyx variegata*	23
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	16 +
69400	*Stenelmis sp*	164 +
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	424 +
77800	*Helopelopia sp*	+
78450	*Nilotanypus fimbriatus*	32
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	16
81240	*Nanocladius (N.) distinctus*	330
82130	*Thienemanniella similis*	32 +
82141	*Thienemanniella xena*	16
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	94 +
83300	*Glyptotendipes (G.) sp*	47 +
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	2402 +
84475	*Polypedilum (P.) ophioides*	+
84540	*Polypedilum (Tripodura) scalaenum group*	47 +
85625	*Rheotanytarsus sp*	235 +
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	565 +
85840	*Tanytarsus sepp*	+
94400	*Fossaria sp*	+
96120	*Menetus (Micromenetus) dilatatus*	2
96900	*Ferrissia sp*	199 +
96930	*Laevapex fuscus*	+
97601	*Corbicula fluminea*	1 +
98200	*Pisidium sp*	11 +
98600	*Sphaerium sp*	+
99680	*Leptodea fragilis*	+

No. Quantitative Taxa: 30 Total Taxa: 61
No. Qualitative Taxa: 53 ICI: **26**
Number of Organisms: 7636 Qual EPT: 9

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Black River
North Ridge Rd.

Collection Date: 08/29/2012 River Code: 20-001 RM: 8.35

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	37 +
03360	*Plumatella sp*	1 +
03600	*Oligochaeta*	32 +
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06810	*Gammarus fasciatus*	+
11130	*Baetis intercalaris*	100 +
11670	*Procloeon viridoculare*	+
17200	*Caenis sp*	17 +
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	21 +
44501	*Corixidae*	+
50315	*Chimarra obscura*	+
52200	*Cheumatopsyche sp*	760 +
52430	*Ceratopsyche morosa group*	810 +
52540	*Hydropsyche dicantha*	2
53800	*Hydroptila sp*	250 +
59160	*Ceraclea spongillovorax*	+
59970	*Petrophila sp*	8 +
65800	*Berosus sp*	+
66500	*Enochrus sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68601	*Ancyronyx variegata*	3
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	18 +
77750	*Hayesomyia senata or Thienemannimyia norena*	172 +
77800	*Helopelopia sp*	34 +
78450	*Nilotanypus fimbriatus*	16
80310	*Cardiocladius obscurus*	34
80410	*Cricotopus (C.) sp*	34 +
80420	*Cricotopus (C.) bicinctus*	34 +
80430	*Cricotopus (C.) tremulus group*	241
81240	*Nanocladius (N.) distinctus*	138
82101	*Thienemanniella taurocapita*	176 +
82121	*Thienemanniella lobapodema*	128
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	69 +
83050	*Dicrotendipes lucifer*	34
84450	*Polypedilum (Uresipedilum) flavum*	1204 +
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85230	*Cladotanytarsus mancus group*	+
85500	*Paratanytarsus sp*	69
85625	*Rheotanytarsus sp*	310 +
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	1032 +
85840	*Tanytarsus sepp*	34 +
96900	*Ferrissia sp*	229 +
97601	*Corbicula fluminea*	1 +
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 32 Total Taxa: 52
No. Qualitative Taxa: 43 ICI: **32**
Number of Organisms: 6048 Qual EPT: 8

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: French Creek

Collection Date: 07/18/2012 River Code: 20-002 RM: 10.41

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08601	*Hydrachnidia*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
44501	*Corixidae*	+
53800	*Hydroptila sp*	+
60900	*Peltodytes sp*	+
65700	*Anacaena sp*	+
65800	*Berosus sp*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	+
80510	*Cricotopus (Isocladius) sylvestris group*	+
82820	*Cryptochironomus sp*	+
83002	*Dicrotendipes modestus*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
95100	*Physella sp*	+
97601	*Corbicula fluminea*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0	Total Taxa: 38
No. Qualitative Taxa: 38	ICI:
Number of Organisms: 0	Qual EPT: 4

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: French Creek

Collection Date: 07/18/2012 River Code: 20-002 RM: 9.02

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04666	*Helobdella papillata*	+
04964	*Erpobdella microstoma*	+
08601	*Hydrachnidia*	+
11120	*Baetis flavistriga*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
28208	*Erythemis simplicicollis*	+
52530	*Hydropsyche depravata group*	+
53800	*Hydroptila sp*	+
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
69400	*Stenelmis sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85500	*Paratanytarsus sp*	+
92615	*Cipangopaludina japonica*	+
93200	*Hydrobiidae*	+
95100	*Physella sp*	+
96120	*Menetus (Micromenetus) dilatatus*	+
97601	*Corbicula fluminea*	+
99160	*Anodontoides ferussacianus*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 33

No. Qualitative Taxa: 33 ICI:

Number of Organisms: 0 Qual EPT: 4

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: French Creek
Bridge Pointe Trail

Collection Date: 08/30/2012 River Code: 20-002 RM: 5.50

Taxa Code	Taxa	Quant/Qual		Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*		+			
01320	*Hydra sp*	17				
01801	*Turbellaria*	80	+			
03600	*Oligochaeta*	96	+			
04664	*Helobdella stagnalis*		+			
05800	*Caecidotea sp*	1	+			
06700	*Crangonyx sp*		+			
08260	*Orconectes (Crokerinus) sanbornii sanbornii*		+			
11120	*Baetis flavistriga*	15	+			
11130	*Baetis intercalaris*	363	+			
13521	*Stenonema femoratum*		+			
17200	*Caenis sp*	3	+			
22001	*Coenagrionidae*		+			
22300	*Argia sp*	1	+			
29105	*Tramea carolina*		+			
52200	*Cheumatopsyche sp*	761	+			
52430	*Ceratopsyche morosa group*	664	+			
52530	*Hydropsyche depravata group*	318	+			
69400	*Stenelmis sp*	1	+			
71900	*Tipula sp*		+			
74100	*Simulium sp*	2				
77120	*Ablabesmyia mallochi*		+			
77500	*Conchapelopia sp*	24				
77800	*Helopelopia sp*		+			
78655	*Procladius (Holotanypus) sp*		+			
80370	*Corynoneura lobata*	32				
82141	*Thienemanniella xena*	37				
82820	*Cryptochironomus sp*		+			
84210	*Paratendipes albimanus or P. duplicatus*		+			
84450	*Polypedilum (Uresipedilum) flavum*	724	+			
84470	*Polypedilum (P.) illinoense*		+			
84540	*Polypedilum (Tripodura) scalaenum group*		+			
85625	*Rheotanytarsus sp*	175				
85821	*Tanytarsus glabrescens group sp 7*	48				
87540	*Hemerodromia sp*	1				
89716	*Limnophora discreta*		+			
93200	*Hydrobiidae*		+			
95100	*Physella sp*		+			
96900	*Ferrissia sp*	36				
97601	*Corbicula fluminea*		+			

No. Quantitative Taxa: 21 Total Taxa: 40
No. Qualitative Taxa: 31 ICI: **34**
Number of Organisms: 3399 Qual EPT: 7

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: French Creek
upst. St. Rt. 301

Collection Date: 08/30/2012 River Code: 20-002 RM: 3.20

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	47
01801	*Turbellaria*	1 +
03600	*Oligochaeta*	32 +
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	43 +
11130	*Baetis intercalaris*	186 +
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	233 +
21200	*Calopteryx sp*	2 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	17 +
27400	*Neurocordulia sp*	+
52200	*Cheumatopsyche sp*	172 +
52430	*Ceratopsyche morosa group*	34 +
52530	*Hydropsyche depravata group*	39 +
53800	*Hydroptila sp*	9
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
69400	*Stenelmis sp*	1 +
72700	*Anopheles sp*	+
77500	*Conchapelopia sp*	37 +
77800	*Helopelopia sp*	+
78450	*Nilotanypus fimbriatus*	37
78655	*Procladius (Holotanypus) sp*	+
80410	*Cricotopus (C.) sp*	111
80430	*Cricotopus (C.) tremulus group*	74
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	37
82141	*Thienemanniella xena*	32
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	37 +
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	1586 +
84470	*Polypedilum (P.) illinoense*	111 +
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	37 +
85500	*Paratanytarsus sp*	74
85625	*Rheotanytarsus sp*	2213 +
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	848 +

Taxa Code	Taxa	Quant/Qual
93200	*Hydrobiidae*	6 +
96120	*Menetus (Micromenetus) dilatatus*	8 +
96900	*Ferrissia sp*	129 +
97601	*Corbicula fluminea*	1 +
98600	*Sphaerium sp*	+
99240	*Lasmigona complanata*	+

No. Quantitative Taxa: 30 Total Taxa: 49
No. Qualitative Taxa: 41 ICI: **36**
Number of Organisms: 6194 Qual EPT: 7

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: French Creek
Gulf Rd.

Collection Date: 08/30/2012 River Code: 20-002 RM: 0.54

Taxa Code	Taxa	Quant/Qual
00556	*Ephydatia fluviatilis*	+
01801	*Turbellaria*	32 +
03600	*Oligochaeta*	4
04664	*Helobdella stagnalis*	+
05800	*Caecidotea sp*	2 +
06700	*Crangonyx sp*	+
11120	*Baetis flavistriga*	4 +
11130	*Baetis intercalaris*	11
17200	*Caenis sp*	16 +
21200	*Calopteryx sp*	9 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	1 +
27500	*Somatochlora sp*	+
49200	*Climacia sp*	+
52200	*Cheumatopsyche sp*	76 +
52430	*Ceratopsyche morosa group*	124 +
52530	*Hydropsyche depravata group*	133 +
68075	*Psephenus herricki*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
74100	*Simulium sp*	4
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	32
77800	*Helopelopia sp*	27 +
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
80363	*Corynoneura sp 12*	8
80370	*Corynoneura lobata*	64
82101	*Thienemanniella taurocapita*	32
82141	*Thienemanniella xena*	24
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	27
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	427 +
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84888	*Xenochironomus xenolabis*	+
85500	*Paratanytarsus sp*	80
85625	*Rheotanytarsus sp*	427
85821	*Tanytarsus glabrescens group sp 7*	881 +
85840	*Tanytarsus sepp*	+
97601	*Corbicula fluminea*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 23 Total Taxa: 43
No. Qualitative Taxa: 32 ICI: **38**
Number of Organisms: 2445 Qual EPT: 5

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River

Collection Date: 08/01/2012 River Code: 20-010 RM: 41.40

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
03600	*Oligochaeta*	+
08601	*Hydrachnidia*	+
17200	*Caenis sp*	+
18708	*Hexagenia bilineata*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
27500	*Somatochlora sp*	+
42700	*Belostoma sp*	+
45100	*Palmacorixa sp*	+
45300	*Sigara sp*	+
47600	*Sialis sp*	+
49200	*Climacia sp*	+
51400	*Nyctiophylax sp*	+
60900	*Peltodytes sp*	+
66200	*Cymbiodyta sp*	+
66500	*Enochrus sp*	+
67000	*Helophorus sp*	+
67800	*Tropisternus sp*	+
68201	*Scirtidae*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
74501	*Ceratopogonidae*	+
77130	*Ablabesmyia rhamphe group*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
83050	*Dicrotendipes lucifer*	+
83158	*Endochironomus nigricans*	+
83840	*Microtendipes pedellus group*	+
84155	*Paralauterborniella nigrohalteralis*	+
84750	*Stictochironomus sp*	+
84790	*Tribelos fuscicorne*	+
84800	*Tribelos jucundum*	+
86100	*Chrysops sp*	+
86200	*Tabanus sp*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 41

No. Qualitative Taxa: 41 ICI:

Number of Organisms: 0 Qual EPT: 3

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Co. Rd. 99 (Old Mill Rd.)

Collection Date: 08/20/2012 River Code: 20-010 RM: 40.47

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	4 +
03360	*Plumatella sp*	1 +
03600	*Oligochaeta*	32 +
06810	*Gammarus fasciatus*	+
11130	*Baetis intercalaris*	+
11670	*Procloeon viridoculare*	+
17200	*Caenis sp*	20 +
18700	*Hexagenia sp*	+
21200	*Calopteryx sp*	1 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	97 +
23909	*Boyeria vinosa*	+
24900	*Gomphus sp*	+
26700	*Macromia sp*	+
27307	*Epitheca (Epicordulia) princeps*	+
51400	*Nyctiophylax sp*	+
52200	*Cheumatopsyche sp*	103 +
52430	*Ceratopsyche morosa group*	+
53800	*Hydroptila sp*	8 +
54160	*Ochrotrichia sp*	+
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	5 +
69400	*Stenelmis sp*	2 +
71100	*Hexatoma sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	4 +
77500	*Conchapelopia sp*	195 +
77750	*Hayesomyia senata or Thienemannimyia norena*	423 +
77800	*Helopelopia sp*	+
78500	*Paramerina fragilis*	33 +
78655	*Procladius (Holotanypus) sp*	33 +
81240	*Nanocladius (N.) distinctus*	33
81633	*Parakiefferiella n.sp 5*	+
82121	*Thienemanniella lobapodema*	80
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	65 +
82824	*Cryptochironomus ponderosus*	+
82881	*Cryptotendipes sp 1*	+
82885	*Cryptotendipes pseudotener*	33 +
83002	*Dicrotendipes modestus*	65 +
83040	*Dicrotendipes neomodestus*	1010 +
83158	*Endochironomus nigricans*	65
83300	*Glyptotendipes (G.) sp*	65 +
83670	*Lipiniella sp*	+
83900	*Nilothauma sp*	195
84020	*Parachironomus carinatus*	33
84155	*Paralauterborniella nigrohalteralis*	33 +
84210	*Paratendipes albimanus or P. duplicatus*	326 +
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	98 +
84540	*Polypedilum (Tripodura) scalaenum group*	65 +
84612	*Saetheria tylus*	+
84800	*Tribelos jucundum*	+
85261	*Cladotanytarsus vanderwulpi*	33
85264	*Cladotanytarsus vanderwulpi group sp 4*	+
85625	*Rheotanytarsus sp*	130
85821	*Tanytarsus glabrescens group sp 7*	1368 +
85840	*Tanytarsus sepp*	260 +
86100	*Chrysops sp*	+
95100	*Physella sp*	70 +
96900	*Ferrissia sp*	4
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 35 Total Taxa: 68
No. Qualitative Taxa: 60 ICI: **34**
Number of Organisms: 4992 Qual EPT: 9

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Co. Rd. 27 (River Corners Rd.)

Collection Date: 08/20/2012 River Code: 20-010 RM: 36.80

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	11 +
03600	*Oligochaeta*	+
04935	*Erpobdella punctata punctata*	+
04964	*Erpobdella microstoma*	+
06810	*Gammarus fasciatus*	6 +
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	18 +
11020	*Acerpenna pygmaea*	6
11120	*Baetis flavistriga*	6 +
11130	*Baetis intercalaris*	127 +
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
12200	*Isonychia sp*	1
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	6 +
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	+
17200	*Caenis sp*	+
18700	*Hexagenia sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	5 +
50315	*Chimarra obscura*	4 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	168 +
52430	*Ceratopsyche morosa group*	4
57400	*Neophylax sp*	+
57900	*Pycnopsyche sp*	+
59100	*Ceraclea sp*	2
59110	*Ceraclea ancylus*	+
59970	*Petrophila sp*	+
60900	*Peltodytes sp*	+
67500	*Laccobius sp*	+
67700	*Paracymus sp*	+
68075	*Psephenus herricki*	12 +
68130	*Helichus sp*	2
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	14
69400	*Stenelmis sp*	17 +
71100	*Hexatoma sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	28
77750	*Hayesomyia senata or Thienemannimyia norena*	8
77800	*Helopelopia sp*	4 +
78450	*Nilotanypus fimbriatus*	6
78655	*Procladius (Holotanypus) sp*	+
80351	*Corynoneura caudicula*	12
80360	*Corynoneura floridaensis*	4
80363	*Corynoneura sp 12*	2
80370	*Corynoneura lobata*	100
81825	*Rheocricotopus (Psilocricotopus) robacki*	4
82101	*Thienemanniella taurocapita*	8
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83840	*Microtendipes pedellus group*	12 +
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	53 +
84460	*Polypedilum (P.) fallax group*	24
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84700	*Stenochironomus sp*	4
84750	*Stictochironomus sp*	+
85230	*Cladotanytarsus mancus group*	+
85264	*Cladotanytarsus vanderwulpi group sp 4*	+
85625	*Rheotanytarsus sp*	98 +
85720	*Stempellinella fimbriata*	6
85821	*Tanytarsus glabrescens group sp 7*	53
87400	*Stratiomys sp*	+
93900	*Elimia sp*	12 +
96900	*Ferrissia sp*	6 +
98600	*Sphaerium sp*	4 +
99440	*Fusconaia flava*	+
99860	*Lampsilis radiata luteola*	+

No. Quantitative Taxa: 37 Total Taxa: 75
No. Qualitative Taxa: 56 ICI: **46**
Number of Organisms: 857 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River

Collection Date: 08/21/2012 River Code: 20-010 RM: 32.42 Lorain/Medina County line (Smith Rd.)

Taxa Code	Taxa	Quant/Qual	
00401	*Spongillidae*		+
01320	*Hydra sp*	935	
01801	*Turbellaria*	50	+
02600	*Nematomorpha*	1	
03360	*Plumatella sp*	40	+
03451	*Urnatella gracilis*		+
03600	*Oligochaeta*		+
06201	*Hyalella azteca*		+
06810	*Gammarus fasciatus*	2	+
08601	*Hydrachnidia*	8	
11130	*Baetis intercalaris*	5	+
11651	*Procloeon sp (w/o hindwing pads)*		+
13400	*Stenacron sp*	1	
13510	*Maccaffertium exiguum*	15	
13561	*Maccaffertium pulchellum*		+
17200	*Caenis sp*	16	+
18700	*Hexagenia sp*		+
21200	*Calopteryx sp*		+
22001	*Coenagrionidae*		+
22300	*Argia sp*	83	+
23600	*Aeshna sp*		+
23909	*Boyeria vinosa*	1	+
24900	*Gomphus sp*		+
25010	*Hagenius brevistylus*		+
43570	*Neoplea sp*		+
45100	*Palmacorixa sp*		+
47600	*Sialis sp*		+
49200	*Climacia sp*		+
51206	*Cyrnellus fraternus*	1	
52200	*Cheumatopsyche sp*	2608	+
52570	*Hydropsyche simulans*	41	
53800	*Hydroptila sp*	8	
57900	*Pycnopsyche sp*		+
59310	*Mystacides sepulchralis*		+
59410	*Nectopsyche diarina*		+
59550	*Oecetis inconspicua complex sp A (sensu Floyd, 1995)*		+
60900	*Peltodytes sp*		+
63300	*Hydroporini*		+
66500	*Enochrus sp*		+
68130	*Helichus sp*		+
68201	*Scirtidae*		+
68601	*Ancyronyx variegata*	16	+
68708	*Dubiraphia vittata group*		+
68901	*Macronychus glabratus*	19	+
69400	*Stenelmis sp*	5	+
71100	*Hexatoma sp*		+
72700	*Anopheles sp*		+
77130	*Ablabesmyia rhamphe group*		+
77740	*Hayesomyia senata*	839	+
77800	*Helopelopia sp*	62	
78401	*Natarsia species A (sensu Roback, 1978)*		+
78655	*Procladius (Holotanypus) sp*		+
80370	*Corynoneura lobata*	8	
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	31	
81240	*Nanocladius (N.) distinctus*		+
81825	*Rheocricotopus (Psilocricotopus) robacki*	31	
82121	*Thienemanniella lobapodema*	8	
82730	*Chironomus (C.) decorus group*		+
82820	*Cryptochironomus sp*		+
82824	*Cryptochironomus ponderosus*		+
82885	*Cryptotendipes pseudotener*		+
83040	*Dicrotendipes neomodestus*	124	+
83050	*Dicrotendipes lucifer*	248	
83300	*Glyptotendipes (G.) sp*	248	+
83310	*Glyptotendipes (Heynotendipes) chelonia*	31	
84020	*Parachironomus carinatus*	31	+
84155	*Paralauterborniella nigrohalteralis*		+
84210	*Paratendipes albimanus or P. duplicatus*	31	+
84300	*Phaenopsectra obediens group*	62	
84450	*Polypedilum (Uresipedilum) flavum*	373	+
84460	*Polypedilum (P.) fallax group*	31	
84470	*Polypedilum (P.) illinoense*		+
84540	*Polypedilum (Tripodura) scalaenum group*		+
84612	*Saetheria tylus*		+
84800	*Tribelos jucundum*		+
85210	*Cladotanytarsus species group B*		+
85264	*Cladotanytarsus vanderwulpi group sp 4*		+
85500	*Paratanytarsus sp*	31	+
85625	*Rheotanytarsus sp*	373	
85800	*Tanytarsus sp*		+
85821	*Tanytarsus glabrescens group sp 7*	124	+
86100	*Chrysops sp*		+
95100	*Physella sp*	7	+
96900	*Ferrissia sp*	9	+
98200	*Pisidium sp*	1	
98600	*Sphaerium sp*		+
99440	*Fusconaia flava*		+
99860	*Lampsilis radiata luteola*		+

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Lorain/Medina County line (Smith Rd.)

Collection Date: 08/21/2012 River Code: 20-010 RM: 32.42

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 40 Total Taxa: 88
No. Qualitative Taxa: 69 ICI: **38**
Number of Organisms: 6558 Qual EPT: 10

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Short Rd.

Collection Date: 08/21/2012 River Code: 20-010 RM: 24.60

Taxa Code	Taxa	Quant/Qual	
01801	*Turbellaria*	9	
03600	*Oligochaeta*	373	+
04685	*Placobdella ornata*		+
04901	*Erpobdellidae*	3	
06201	*Hyalella azteca*	1	+
06810	*Gammarus fasciatus*		+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*		+
11130	*Baetis intercalaris*	30	+
11650	*Procloeon sp (w/ hindwing pads)*		+
11670	*Procloeon viridoculare*		+
13400	*Stenacron sp*		+
13510	*Maccaffertium exiguum*	2	+
17200	*Caenis sp*		+
18700	*Hexagenia sp*		+
22001	*Coenagrionidae*		+
22300	*Argia sp*		+
24600	*Arigomphus sp*		+
43300	*Ranatra sp*		+
43570	*Neoplea sp*		+
45100	*Palmacorixa sp*		+
45400	*Trichocorixa sp*		+
50315	*Chimarra obscura*	3	+
52200	*Cheumatopsyche sp*	266	+
52570	*Hydropsyche simulans*	28	+
53800	*Hydroptila sp*	5	
57900	*Pycnopsyche sp*		+
60900	*Peltodytes sp*		+
67500	*Laccobius sp*	1	+
68130	*Helichus sp*		+
68601	*Ancyronyx variegata*		+
68708	*Dubiraphia vittata group*		+
68901	*Macronychus glabratus*	9	+
69400	*Stenelmis sp*	15	+
71100	*Hexatoma sp*	5	
72700	*Anopheles sp*		+
77500	*Conchapelopia sp*	35	
77750	*Hayesomyia senata or Thienemannimyia norena*	70	
78450	*Nilotanypus fimbriatus*	4	+
78655	*Procladius (Holotanypus) sp*		+
80363	*Corynoneura sp 12*	4	
80420	*Cricotopus (C.) bicinctus*	12	
80430	*Cricotopus (C.) tremulus group*	12	
82121	*Thienemanniella lobapodema*	4	
82600	*Axarus sp*		+
82730	*Chironomus (C.) decorus group*		+
82820	*Cryptochironomus sp*		+
82885	*Cryptotendipes pseudotener*		+
83002	*Dicrotendipes modestus*		+
83300	*Glyptotendipes (G.) sp*		+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	12	
84155	*Paralauterborniella nigrohalteralis*		+
84210	*Paratendipes albimanus or P. duplicatus*	46	+
84450	*Polypedilum (Uresipedilum) flavum*	186	+
84460	*Polypedilum (P.) fallax group*		+
84540	*Polypedilum (Tripodura) scalaenum group*	430	+
84612	*Saetheria tylus*		+
85265	*Cladotanytarsus vanderwulpi group sp 5*	35	
85800	*Tanytarsus sp*	12	
85821	*Tanytarsus glabrescens group sp 7*	23	
86100	*Chrysops sp*		+
87540	*Hemerodromia sp*	4	
93900	*Elimia sp*	7	+
95100	*Physella sp*		+
96900	*Ferrissia sp*	1	
98600	*Sphaerium sp*		+
99440	*Fusconaia flava*		+

No. Quantitative Taxa: 31 Total Taxa: 66
No. Qualitative Taxa: 50 ICI: **24**
Number of Organisms: 1647 Qual EPT: 11

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Vermont St. (Co. Rd. 62)

Collection Date: 08/21/2012 River Code: 20-010 RM: 18.94

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	28
01801	*Turbellaria*	17 +
03360	*Plumatella sp*	5
03600	*Oligochaeta*	4 +
04935	*Erpobdella punctata punctata*	+
04964	*Erpobdella microstoma*	+
06201	*Hyalella azteca*	+
06810	*Gammarus fasciatus*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11018	*Acerpenna macdunnoughi*	+
11020	*Acerpenna pygmaea*	5
11120	*Baetis flavistriga*	7
11130	*Baetis intercalaris*	82 +
11651	*Procloeon sp (w/o hindwing pads)*	+
12200	*Isonychia sp*	9
13000	*Leucrocuta sp*	3 +
13100	*Nixe sp*	+
13400	*Stenacron sp*	45 +
13510	*Maccaffertium exiguum*	148 +
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	287 +
13570	*Maccaffertium terminatum*	6
17200	*Caenis sp*	+
18750	*Hexagenia limbata*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
43300	*Ranatra sp*	+
43570	*Neoplea sp*	+
48410	*Corydalus cornutus*	1 +
49200	*Climacia sp*	1
50315	*Chimarra obscura*	6 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	635 +
52430	*Ceratopsyche morosa group*	18
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59970	*Petrophila sp*	1 +
68075	*Psephenus herricki*	3 +
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	80 +
69400	*Stenelmis sp*	15 +
70600	*Antocha sp*	1
77110	*Ablabesmyia annulata*	+
77500	*Conchapelopia sp*	25
77750	*Hayesomyia senata or Thienemannimyia norena*	2
78140	*Labrundinia pilosella*	+
78400	*Natarsia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	50
81240	*Nanocladius (N.) distinctus*	4
81270	*Nanocladius (N.) spiniplenus*	2
83040	*Dicrotendipes neomodestus*	2
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	2
83840	*Microtendipes pedellus group*	+
84040	*Parachironomus frequens*	2
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	99 +
84460	*Polypedilum (P.) fallax group*	4
84470	*Polypedilum (P.) illinoense*	4
84800	*Tribelos jucundum*	+
85625	*Rheotanytarsus sp*	4
85821	*Tanytarsus glabrescens group sp 7*	15
85840	*Tanytarsus sepp*	+
93900	*Elimia sp*	1 +
95100	*Physella sp*	1 +
96900	*Ferrissia sp*	19 +
98600	*Sphaerium sp*	+
99100	*Pyganodon grandis*	+
99180	*Strophitus undulatus undulatus*	+
99440	*Fusconaia flava*	+
99820	*Villosa iris iris*	+
99860	*Lampsilis radiata luteola*	+

No. Quantitative Taxa: 39 Total Taxa: 77
No. Qualitative Taxa: 56 ICI: **52**
Number of Organisms: 1643 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Parsons Rd.

Collection Date: 08/21/2012 River Code: 20-010 RM: 11.34

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	24
01801	*Turbellaria*	67 +
03121	*Paludicella articulata*	1 +
03360	*Plumatella sp*	9 +
03451	*Urnatella gracilis*	1
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
06810	*Gammarus fasciatus*	+
08601	*Hydrachnidia*	24 +
11020	*Acerpenna pygmaea*	89
11120	*Baetis flavistriga*	76 +
11130	*Baetis intercalaris*	513 +
11200	*Callibaetis sp*	+
11650	*Procloeon sp (w/ hindwing pads)*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13000	*Leucrocuta sp*	23 +
13400	*Stenacron sp*	312 +
13510	*Maccaffertium exiguum*	68
13521	*Stenonema femoratum*	6 +
13561	*Maccaffertium pulchellum*	296 +
16700	*Tricorythodes sp*	32
17200	*Caenis sp*	64 +
18600	*Ephemera sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	12 +
23909	*Boyeria vinosa*	+
27404	*Neurocordulia molesta*	+
44501	*Corixidae*	+
48410	*Corydalus cornutus*	1
50315	*Chimarra obscura*	45 +
51206	*Cyrnellus fraternus*	11
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	722 +
52430	*Ceratopsyche morosa group*	41 +
53800	*Hydroptila sp*	75 +
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59110	*Ceraclea ancylus*	+
59140	*Ceraclea maculata*	3 +
59150	*Ceraclea resurgens group*	+
59970	*Petrophila sp*	8 +

Taxa Code	Taxa	Quant/Qual
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	17 +
69400	*Stenelmis sp*	1 +
70600	*Antocha sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	76 +
77750	*Hayesomyia senata or Thienemannimyia norena*	+
78400	*Natarsia sp*	76
78450	*Nilotanypus fimbriatus*	32
78500	*Paramerina fragilis*	+
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	16
81280	*Nanocladius (Plecopteracoluthus) downesi*	+
82130	*Thienemanniella similis*	16
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	76 +
83050	*Dicrotendipes lucifer*	153
84210	*Paratendipes albimanus or P. duplicatus*	+
84300	*Phaenopsectra obediens group*	+
84450	*Polypedilum (Uresipedilum) flavum*	688 +
84470	*Polypedilum (P.) illinoense*	+
84888	*Xenochironomus xenolabis*	+
85230	*Cladotanytarsus mancus group*	+
85615	*Rheotanytarsus pellucidus*	+
85625	*Rheotanytarsus sp*	2522 +
85821	*Tanytarsus glabrescens group sp 7*	2904 +
85840	*Tanytarsus sepp*	+
86100	*Chrysops sp*	+
87540	*Hemerodromia sp*	16
96120	*Menetus (Micromenetus) dilatatus*	+
96900	*Ferrissia sp*	42
98600	*Sphaerium sp*	+

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Parsons Rd.

Collection Date: 08/21/2012 River Code: 20-010 RM: 11.34

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 39 Total Taxa: 85
No. Qualitative Taxa: 71 ICI: **50**
Number of Organisms: 9158 Qual EPT: 22

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River

Collection Date: 08/21/2012 River Code: 20-010 RM: 10.50 dst. Grafton WWTP @ Indian Hollow Park

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	161
01801	*Turbellaria*	195 +
03360	*Plumatella sp*	7 +
03600	*Oligochaeta*	528 +
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	1
06810	*Gammarus fasciatus*	27 +
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	1
11120	*Baetis flavistriga*	90 +
11130	*Baetis intercalaris*	628 +
11200	*Callibaetis sp*	+
11650	*Procloeon sp (w/ hindwing pads)*	+
11670	*Procloeon viridoculare*	+
12200	*Isonychia sp*	1
13000	*Leucrocuta sp*	5
13400	*Stenacron sp*	+
13510	*Maccaffertium exiguum*	7
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	143 +
17200	*Caenis sp*	40 +
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
27500	*Somatochlora sp*	+
28208	*Erythemis simplicicollis*	+
43300	*Ranatra sp*	+
48410	*Corydalus cornutus*	1
50315	*Chimarra obscura*	131 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	1831 +
52430	*Ceratopsyche morosa group*	1255 +
52570	*Hydropsyche simulans*	51 +
53800	*Hydroptila sp*	117 +
59100	*Ceraclea sp*	+
59110	*Ceraclea ancylus*	+
59970	*Petrophila sp*	9 +
65501	*Hydrophilidae*	1
65800	*Berosus sp*	1 +
67500	*Laccobius sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	1 +
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	18 +
69400	*Stenelmis sp*	18 +
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	64 +
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	48 +
81240	*Nanocladius (N.) distinctus*	32
82220	*Tvetenia discoloripes group*	32 +
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	32 +
84155	*Paralauterborniella nigrohalteralis*	+
84450	*Polypedilum (Uresipedilum) flavum*	1205 +
85625	*Rheotanytarsus sp*	273
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	193 +
94400	*Fossaria sp*	1
95100	*Physella sp*	+
96120	*Menetus (Micromenetus) dilatatus*	1 +
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 36 Total Taxa: 69

No. Qualitative Taxa: 58 ICI: **38**

Number of Organisms: 7149 Qual EPT: 17

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
adj. Robson Rd.

Collection Date: 08/22/2012 River Code: 20-010 RM: 6.00

Taxa Code	Taxa	Quant/Qual	
01320	*Hydra sp*	53	
01801	*Turbellaria*	4	+
03360	*Plumatella sp*	10	+
03600	*Oligochaeta*		+
04964	*Erpobdella microstoma*		+
05800	*Caecidotea sp*		+
06810	*Gammarus fasciatus*	15	+
08250	*Orconectes (Procericambarus) rusticus*	1	+
11020	*Acerpenna pygmaea*	32	+
11120	*Baetis flavistriga*	149	+
11130	*Baetis intercalaris*	109	+
11650	*Procloeon sp (w/ hindwing pads)*		+
11651	*Procloeon sp (w/o hindwing pads)*		+
11670	*Procloeon viridoculare*		+
12200	*Isonychia sp*	14	
13000	*Leucrocuta sp*	68	+
13400	*Stenacron sp*	35	+
13521	*Stenonema femoratum*		+
13561	*Maccaffertium pulchellum*	351	+
16700	*Tricorythodes sp*	112	
17200	*Caenis sp*	1	+
18600	*Ephemera sp*		+
21200	*Calopteryx sp*		+
22001	*Coenagrionidae*		+
22300	*Argia sp*		+
23909	*Boyeria vinosa*		+
43300	*Ranatra sp*		+
48410	*Corydalus cornutus*	1	
50315	*Chimarra obscura*	162	+
51600	*Polycentropus sp*		+
52200	*Cheumatopsyche sp*	559	+
52430	*Ceratopsyche morosa group*	80	+
52530	*Hydropsyche depravata group*		+
52540	*Hydropsyche dicantha*	1	+
52590	*Hydropsyche venularis*		+
53800	*Hydroptila sp*		+
57400	*Neophylax sp*		+
57900	*Pycnopsyche sp*		+
58505	*Helicopsyche borealis*		+
59110	*Ceraclea ancylus*		+
59140	*Ceraclea maculata*	9	+
65800	*Berosus sp*		+
66500	*Enochrus sp*		+
68075	*Psephenus herricki*		+
68130	*Helichus sp*		+
68601	*Ancyronyx variegata*	8	
68708	*Dubiraphia vittata group*		+
68901	*Macronychus glabratus*	29	+
69400	*Stenelmis sp*	17	+
71900	*Tipula sp*		+
74501	*Ceratopogonidae*		+
77120	*Ablabesmyia mallochi*		+
77500	*Conchapelopia sp*	58	+
77740	*Hayesomyia senata*	97	+
77800	*Helopelopia sp*		+
78401	*Natarsia species A (sensu Roback, 1978)*		+
78450	*Nilotanypus fimbriatus*	32	
78655	*Procladius (Holotanypus) sp*		+
80370	*Corynoneura lobata*	56	
81240	*Nanocladius (N.) distinctus*	19	
82220	*Tvetenia discoloripes group*	10	
82730	*Chironomus (C.) decorus group*		+
82820	*Cryptochironomus sp*		+
82885	*Cryptotendipes pseudotener*		+
83040	*Dicrotendipes neomodestus*	10	+
83300	*Glyptotendipes (G.) sp*		+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	68	+
83840	*Microtendipes pedellus group*		+
84155	*Paralauterborniella nigrohalteralis*		+
84210	*Paratendipes albimanus or P. duplicatus*		+
84450	*Polypedilum (Uresipedilum) flavum*	389	+
84470	*Polypedilum (P.) illinoense*		+
84490	*Polypedilum (Cerobregma) ontario*	10	
84540	*Polypedilum (Tripodura) scalaenum group*		+
85625	*Rheotanytarsus sp*	262	+
85720	*Stempellinella fimbriata*	8	+
85800	*Tanytarsus sp*		+
85821	*Tanytarsus glabrescens group sp 7*	243	+
85840	*Tanytarsus sepp*	78	
87540	*Hemerodromia sp*	1	+
94400	*Fossaria sp*		+
95100	*Physella sp*		+
96900	*Ferrissia sp*		+
98600	*Sphaerium sp*		+

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
adj. Robson Rd.

Collection Date: 08/22/2012 River Code: 20-010 RM: 6.00

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 38 Total Taxa: 84
No. Qualitative Taxa: 73 ICI: **52**
Number of Organisms: 3161 Qual EPT: 25

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Fuller Rd.

Collection Date: 08/22/2012 River Code: 20-010 RM: 3.07

Taxa Code	Taxa	Quant/Qual	
01320	*Hydra sp*	16	
01801	*Turbellaria*	16	+
03360	*Plumatella sp*	33	+
03451	*Urnatella gracilis*	1	
03600	*Oligochaeta*	24	+
05800	*Caecidotea sp*		+
06700	*Crangonyx sp*		+
06810	*Gammarus fasciatus*	45	+
08250	*Orconectes (Procericambarus) rusticus*		+
11120	*Baetis flavistriga*	23	+
11130	*Baetis intercalaris*	57	+
11670	*Procloeon viridoculare*		+
13000	*Leucrocuta sp*		+
13400	*Stenacron sp*	1	+
13521	*Stenonema femoratum*		+
13561	*Maccaffertium pulchellum*	18	+
16700	*Tricorythodes sp*	1	
17200	*Caenis sp*	10	+
22001	*Coenagrionidae*		+
22300	*Argia sp*		+
23909	*Boyeria vinosa*		+
27001	*Corduliidae*		+
43300	*Ranatra sp*		+
45100	*Palmacorixa sp*		+
45300	*Sigara sp*		+
50315	*Chimarra obscura*		+
51206	*Cyrnellus fraternus*	12	
51600	*Polycentropus sp*		+
52200	*Cheumatopsyche sp*	56	+
52430	*Ceratopsyche morosa group*	6	+
53501	*Hydroptilidae*		+
58505	*Helicopsyche borealis*		+
59110	*Ceraclea ancylus*		+
59140	*Ceraclea maculata*	1	
59970	*Petrophila sp*		+
65800	*Berosus sp*		+
68025	*Ectopria sp*		+
68075	*Psephenus herricki*		+
68130	*Helichus sp*	2	+
68901	*Macronychus glabratus*	12	+
69400	*Stenelmis sp*		+
70600	*Antocha sp*	2	
77750	*Hayesomyia senata or Thienemannimyia norena*	28	+
77800	*Helopelopia sp*	56	
78450	*Nilotanypus fimbriatus*	8	
78655	*Procladius (Holotanypus) sp*		+
80310	*Cardiocladius obscurus*		+
80420	*Cricotopus (C.) bicinctus*		+
80430	*Cricotopus (C.) tremulus group*	28	+
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	56	
81240	*Nanocladius (N.) distinctus*	169	
82141	*Thienemanniella xena*	16	
82730	*Chironomus (C.) decorus group*		+
82820	*Cryptochironomus sp*		+
83040	*Dicrotendipes neomodestus*	1128	+
83051	*Dicrotendipes simpsoni*	28	
83310	*Glyptotendipes (Heynotendipes) chelonia*	56	
84210	*Paratendipes albimanus or P. duplicatus*		+
84450	*Polypedilum (Uresipedilum) flavum*	169	+
84470	*Polypedilum (P.) illinoense*	28	
84540	*Polypedilum (Tripodura) scalaenum group*	28	+
85625	*Rheotanytarsus sp*	254	+
85821	*Tanytarsus glabrescens group sp 7*	705	
85840	*Tanytarsus sepp*	56	
95100	*Physella sp*	3	+
96900	*Ferrissia sp*	3	+
98600	*Sphaerium sp*		+

No. Quantitative Taxa: 37 Total Taxa: 67
No. Qualitative Taxa: 51 ICI: **34**
Number of Organisms: 3155 Qual EPT: 15

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Branch Black River
Washington St.

Collection Date: 08/22/2012 River Code: 20-010 RM: 0.36

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
00700	*Radiospongilla crateriformis*	+			
01320	*Hydra sp*	273			
01801	*Turbellaria*	615 +			
03337	*Hyalinella punctata*	1			
03600	*Oligochaeta*	2130 +			
04666	*Helobdella papillata*	+			
04964	*Erpobdella microstoma*	+			
06810	*Gammarus fasciatus*	13 +			
08601	*Hydrachnidia*	+			
11200	*Callibaetis sp*	+			
13400	*Stenacron sp*	1			
13521	*Stenonema femoratum*	1			
17200	*Caenis sp*	+			
22001	*Coenagrionidae*	+			
22300	*Argia sp*	29			
23909	*Boyeria vinosa*	+			
27500	*Somatochlora sp*	+			
49200	*Climacia sp*	+			
51206	*Cyrnellus fraternus*	1			
53800	*Hydroptila sp*	17			
60900	*Peltodytes sp*	+			
65800	*Berosus sp*	1 +			
68130	*Helichus sp*	+			
68601	*Ancyronyx variegata*	1			
69400	*Stenelmis sp*	+			
77120	*Ablabesmyia mallochi*	42			
77130	*Ablabesmyia rhamphe group*	85 +			
78655	*Procladius (Holotanypus) sp*	+			
82820	*Cryptochironomus sp*	+			
83051	*Dicrotendipes simpsoni*	1440 +			
83300	*Glyptotendipes (G.) sp*	2584 +			
84470	*Polypedilum (P.) illinoense*	+			
84520	*Polypedilum (Tripodura) halterale group*	+			
84888	*Xenochironomus xenolabis*	+			
85230	*Cladotanytarsus mancus group*	+			
95100	*Physella sp*	3 +			
96120	*Menetus (Micromenetus) dilatatus*	1			
96900	*Ferrissia sp*	1 +			

No. Quantitative Taxa: 19 Total Taxa: 38
No. Qualitative Taxa: 28 ICI: **8**
Number of Organisms: 7239 Qual EPT: 2

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Salt Creek

Collection Date: 07/23/2012 River Code: 20-011 RM: 0.53

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
04666	*Helobdella papillata*	+
05800	*Caecidotea sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
23909	*Boyeria vinosa*	+
27500	*Somatochlora sp*	+
43205	*Nepa apiculata*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
63300	*Hydroporini*	+
66901	*Helocombus bifidus*	+
68075	*Psephenus herricki*	+
68201	*Scirtidae*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71300	*Limonia sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82822	*Cryptochironomus eminentia*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85800	*Tanytarsus sp*	+
95100	*Physella sp*	+
96264	*Planorbella (Pierosoma) pilsbryi*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 42

No. Qualitative Taxa: 42 ICI:

Number of Organisms: 0 Qual EPT: 6

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Crow Creek
Vermont Rd.

Collection Date: 07/23/2012 River Code: 20-012 RM: 0.80

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04686	*Placobdella papillifera*	+
04935	*Erpobdella punctata punctata*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
23600	*Aeshna sp*	+
27500	*Somatochlora sp*	+
43205	*Nepa apiculata*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
63900	*Laccophilus sp*	+
67500	*Laccobius sp*	+
67700	*Paracymus sp*	+
68201	*Scirtidae*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82824	*Cryptochironomus ponderosus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85720	*Stempellinella fimbriata*	+
86100	*Chrysops sp*	+
94400	*Fossaria sp*	+
95100	*Physella sp*	+
95907	*Gyraulus (Torquis) parvus*	+
96264	*Planorbella (Pierosoma) pilsbryi*	+
96900	*Ferrissia sp*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 39
No. Qualitative Taxa: 39 ICI:
Number of Organisms: 0 Qual EPT: 4

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Coon Creek

Collection Date: 07/23/2012 River Code: 20-013 RM: 0.88

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04686	*Placobdella papillifera*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
18700	*Hexagenia sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
27307	*Epitheca (Epicordulia) princeps*	+
28001	*Libellulidae*	+
43570	*Neoplea sp*	+
45300	*Sigara sp*	+
51600	*Polycentropus sp*	+
59570	*Oecetis nocturna*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	+
68075	*Psephenus herricki*	+
68300	*Cyphon sp*	+
68702	*Dubiraphia bivittata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
83040	*Dicrotendipes neomodestus*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84470	*Polypedilum (P.) illinoense*	+
84750	*Stictochironomus sp*	+
85840	*Tanytarsus sepp*	+
86100	*Chrysops sp*	+
95100	*Physella sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 41

No. Qualitative Taxa: 41 ICI:

Number of Organisms: 0 Qual EPT: 8

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Fork East Branch Black River

Collection Date: 07/24/2012 River Code: 20-014 RM: 5.84

Taxa Code	Taxa	Quant/Qual
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
23909	*Boyeria vinosa*	+
47600	*Sialis sp*	+
50315	*Chimarra obscura*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
58505	*Helicopsyche borealis*	+
59500	*Oecetis sp*	+
59700	*Triaenodes sp*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68707	*Dubiraphia quadrinotata*	+
69400	*Stenelmis sp*	+
71100	*Hexatoma sp*	+
71300	*Limonia sp*	+
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78200	*Larsia sp*	+
78400	*Natarsia sp*	+
78655	*Procladius (Holotanypus) sp*	+
79400	*Zavrelimyia sp*	+
82730	*Chironomus (C.) decorus group*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85800	*Tanytarsus sp*	+
85802	*Tanytarsus n. sp nr. curticornis*	+
86501	*Stratiomyidae*	+
95100	*Physella sp*	+
96002	*Helisoma anceps anceps*	+
96900	*Ferrissia sp*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 53

No. Qualitative Taxa: 53 ICI:

Number of Organisms: 0 Qual EPT: 13

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Fork East Branch Black River

Collection Date: 07/27/2012 River Code: 20-014 RM: 2.67

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
23909	*Boyeria vinosa*	+
24900	*Gomphus sp*	+
33100	*Leuctra sp*	+
47600	*Sialis sp*	+
67500	*Laccobius sp*	+
68075	*Psephenus herricki*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
79400	*Zavrelimyia sp*	+
81650	*Parametriocnemus sp*	+
82820	*Cryptochironomus sp*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84300	*Phaenopsectra obediens group*	+
84480	*Polypedilum (P.) laetum group*	+
84750	*Stictochironomus sp*	+
85625	*Rheotanytarsus sp*	+
86200	*Tabanus sp*	+
86401	*Atherix lantha*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 34

No. Qualitative Taxa: 34 ICI:

Number of Organisms: 0 Qual EPT: 5

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Fork East Branch Black River

Collection Date: 07/27/2012 River Code: 20-014 RM: 1.73

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03040	*Fredericella sp*	+
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
24900	*Gomphus sp*	+
27500	*Somatochlora sp*	+
28955	*Plathemis lydia*	+
43570	*Neoplea sp*	+
47600	*Sialis sp*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
63900	*Laccophilus sp*	+
65700	*Anacaena sp*	+
65800	*Berosus sp*	+
67800	*Tropisternus sp*	+
68130	*Helichus sp*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
70600	*Antocha sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
78400	*Natarsia sp*	+
82730	*Chironomus (C.) decorus group*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84469	*Polypedilum (P.) illinoense group*	+
85201	*Cladotanytarsus species group A*	+
85230	*Cladotanytarsus mancus group*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
86200	*Tabanus sp*	+
95100	*Physella sp*	+
96002	*Helisoma anceps anceps*	+
96120	*Menetus (Micromenetus) dilatatus*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 47

No. Qualitative Taxa: 47 ICI:

Number of Organisms: 0 Qual EPT: 2

299

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Fork East Branch Black River
dst. Lodi WWTP

Collection Date: 07/27/2012 River Code: 20-014 RM: 1.60

Taxa Code	Taxa	Quant/Qual
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
04935	*Erpobdella punctata punctata*	+
04964	*Erpobdella microstoma*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11200	*Callibaetis sp*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
65800	*Berosus sp*	+
66500	*Enochrus sp*	+
67700	*Paracymus sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68700	*Dubiraphia sp*	+
69400	*Stenelmis sp*	+
70600	*Antocha sp*	+
71900	*Tipula sp*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83003	*Dicrotendipes fumidus*	+
83040	*Dicrotendipes neomodestus*	+
84060	*Parachironomus pectinatellae*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84315	*Phaenopsectra flavipes*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85201	*Cladotanytarsus species group A*	+
85625	*Rheotanytarsus sp*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
86200	*Tabanus sp*	+
96002	*Helisoma anceps anceps*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 44
No. Qualitative Taxa: 44 ICI:
Number of Organisms: 0 Qual EPT: 2

300

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: East Fork East Branch Black River

Collection Date: 08/01/2012 River Code: 20-014 RM: 0.15

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04930	*Erpobdella sp*	+
06201	*Hyalella azteca*	+
06810	*Gammarus fasciatus*	+
08601	*Hydrachnidia*	+
11130	*Baetis intercalaris*	+
11200	*Callibaetis sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
23909	*Boyeria vinosa*	+
24900	*Gomphus sp*	+
52200	*Cheumatopsyche sp*	+
59555	*Oecetis inconspicua complex sp F (sensu Floyd, 1995)*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	+
67800	*Tropisternus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71100	*Hexatoma sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
74100	*Simulium sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85201	*Cladotanytarsus species group A*	+
85230	*Cladotanytarsus mancus group*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
86100	*Chrysops sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

No. Quantitative Taxa: 0 Total Taxa: 47

No. Qualitative Taxa: 47 ICI:

Number of Organisms: 0 Qual EPT: 7

301

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River

Collection Date: 07/19/2012 River Code: 20-015 RM: 13.97

Taxa Code	Taxa	Quant/Qual
01320	*Hydra sp*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04686	*Placobdella papillifera*	+
06700	*Crangonyx sp*	+
08601	*Hydrachnidia*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
23600	*Aeshna sp*	+
27500	*Somatochlora sp*	+
28955	*Plathemis lydia*	+
45300	*Sigara sp*	+
45900	*Notonecta sp*	+
59570	*Oecetis nocturna*	+
60900	*Peltodytes sp*	+
67800	*Tropisternus sp*	+
68300	*Cyphon sp*	+
68708	*Dubiraphia vittata group*	+
72340	*Dixella sp*	+
78655	*Procladius (Holotanypus) sp*	+
78702	*Psectrotanypus dyari*	+
82730	*Chironomus (C.) decorus group*	+
83040	*Dicrotendipes neomodestus*	+
84470	*Polypedilum (P.) illinoense*	+
84750	*Stictochironomus sp*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
85814	*Tanytarsus glabrescens group*	+
95100	*Physella sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 34

No. Qualitative Taxa: 34 ICI:

Number of Organisms: 0 Qual EPT: 6

302

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River
St. Rt. 301

Collection Date: 07/23/2012 River Code: 20-015 RM: 8.90

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+			
03600	*Oligochaeta*	+			
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+			
11200	*Callibaetis sp*	+			
13521	*Stenonema femoratum*	+			
17200	*Caenis sp*	+			
22001	*Coenagrionidae*	+			
22300	*Argia sp*	+			
27400	*Neurocordulia sp*	+			
28208	*Erythemis simplicicollis*	+			
28500	*Libellula sp*	+			
28955	*Plathemis lydia*	+			
43300	*Ranatra sp*	+			
44501	*Corixidae*	+			
60900	*Peltodytes sp*	+			
65800	*Berosus sp*	+			
68300	*Cyphon sp*	+			
68708	*Dubiraphia vittata group*	+			
69400	*Stenelmis sp*	+			
72700	*Anopheles sp*	+			
77120	*Ablabesmyia mallochi*	+			
78655	*Procladius (Holotanypus) sp*	+			
82730	*Chironomus (C.) decorus group*	+			
82820	*Cryptochironomus sp*	+			
82885	*Cryptotendipes pseudotener*	+			
83040	*Dicrotendipes neomodestus*	+			
83300	*Glyptotendipes (G.) sp*	+			
83840	*Microtendipes pedellus group*	+			
84210	*Paratendipes albimanus or P. duplicatus*	+			
84520	*Polypedilum (Tripodura) halterale group*	+			
84540	*Polypedilum (Tripodura) scalaenum group*	+			
84750	*Stictochironomus sp*	+			
85800	*Tanytarsus sp*	+			
85840	*Tanytarsus sepp*	+			
95100	*Physella sp*	+			
96280	*Planorbella (Pierosoma) trivolvis*	+			
96900	*Ferrissia sp*	+			
98600	*Sphaerium sp*	+			

No. Quantitative Taxa: 0 Total Taxa: 38
No. Qualitative Taxa: 38 ICI:
Number of Organisms: 0 Qual EPT: 3

303

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River
dst. St. Rt. 421 at RR bridge

Collection Date: 08/20/2012 River Code: 20-015 RM: 2.30

Taxa Code	Taxa	Quant/Qual	
01320	*Hydra sp*	181	+
01801	*Turbellaria*	29	+
03360	*Plumatella sp*	6	+
03451	*Urnatella gracilis*	49	
03600	*Oligochaeta*	193	+
04664	*Helobdella stagnalis*		+
04685	*Placobdella ornata*		+
06201	*Hyalella azteca*		+
08601	*Hydrachnidia*	16	+
11020	*Acerpenna pygmaea*	1	
11120	*Baetis flavistriga*	8	
11130	*Baetis intercalaris*		+
11250	*Centroptilum sp (w/o hindwing pads)*		+
11650	*Procloeon sp (w/ hindwing pads)*		+
11670	*Procloeon viridoculare*		+
13000	*Leucrocuta sp*	1	+
13400	*Stenacron sp*	184	+
13510	*Maccaffertium exiguum*	1	
13521	*Stenonema femoratum*	1	+
17200	*Caenis sp*	37	+
21200	*Calopteryx sp*	1	+
22001	*Coenagrionidae*	4	+
22300	*Argia sp*	3	+
23909	*Boyeria vinosa*		+
27500	*Somatochlora sp*		+
45100	*Palmacorixa sp*		+
45400	*Trichocorixa sp*		+
47600	*Sialis sp*		+
50315	*Chimarra obscura*	203	+
51400	*Nyctiophylax sp*		+
51600	*Polycentropus sp*		+
52200	*Cheumatopsyche sp*	67	+
52430	*Ceratopsyche morosa group*	82	+
52530	*Hydropsyche depravata group*		+
53800	*Hydroptila sp*	20	
54160	*Ochrotrichia sp*	1	+
57900	*Pycnopsyche sp*		+
59300	*Mystacides sp*	35	+
59570	*Oecetis nocturna*	1	
60900	*Peltodytes sp*		+
65800	*Berosus sp*	4	+
68075	*Psephenus herricki*	1	+
68708	*Dubiraphia vittata group*	1	+
68901	*Macronychus glabratus*	18	

Taxa Code	Taxa	Quant/Qual	
69275	*Optioservus trivittatus*	8	
69400	*Stenelmis sp*	42	+
71100	*Hexatoma sp*		+
72700	*Anopheles sp*		+
74100	*Simulium sp*		+
74501	*Ceratopogonidae*		+
77115	*Ablabesmyia janta*		+
77120	*Ablabesmyia mallochi*		+
77130	*Ablabesmyia rhamphe group*		+
77355	*Clinotanypus pinguis*		+
77500	*Conchapelopia sp*	491	+
77800	*Helopelopia sp*	38	
78450	*Nilotanypus fimbriatus*	264	
78655	*Procladius (Holotanypus) sp*		+
80370	*Corynoneura lobata*	36	
81200	*Nanocladius sp*	38	+
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	226	
82121	*Thienemanniella lobapodema*	16	
82730	*Chironomus (C.) decorus group*		+
82820	*Cryptochironomus sp*		+
82885	*Cryptotendipes pseudotener*		+
83040	*Dicrotendipes neomodestus*	453	+
83840	*Microtendipes pedellus group*		+
84000	*Parachironomus sp*		+
84210	*Paratendipes albimanus or P. duplicatus*	189	+
84300	*Phaenopsectra obediens group*	151	
84450	*Polypedilum (Uresipedilum) flavum*	226	
84490	*Polypedilum (Cerobregma) ontario*	38	
84520	*Polypedilum (Tripodura) halterale group*		+
84540	*Polypedilum (Tripodura) scalaenum group*		+
84750	*Stictochironomus sp*		+
84800	*Tribelos jucundum*		+
85230	*Cladotanytarsus mancus group*		+
85625	*Rheotanytarsus sp*	151	
85800	*Tanytarsus sp*	75	
85821	*Tanytarsus glabrescens group sp 7*	679	+
85840	*Tanytarsus sepp*	131	
86100	*Chrysops sp*		+
86200	*Tabanus sp*		+
87540	*Hemerodromia sp*	32	
95100	*Physella sp*	200	+
96900	*Ferrissia sp*	272	
98600	*Sphaerium sp*		+
99100	*Pyganodon grandis*		+

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River
dst. St. Rt. 421 at RR bridge

Collection Date: 08/20/2012 River Code: 20-015 RM: 2.30

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 48 Total Taxa: 88
No. Qualitative Taxa: 67 ICI: **38**
Number of Organisms: 4904 Qual EPT: 17

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River

Collection Date: 08/01/2012 River Code: 20-015 RM: 1.30

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03000	*Ectoprocta*	+
03600	*Oligochaeta*	+
04680	*Placobdella sp*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08601	*Hydrachnidia*	+
11018	*Acerpenna macdunnoughi*	+
11130	*Baetis intercalaris*	+
11200	*Callibaetis sp*	+
11645	*Procloeon sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
21001	*Calopterygidae*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
43300	*Ranatra sp*	+
43570	*Neoplea sp*	+
50315	*Chimarra obscura*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52430	*Ceratopsyche morosa group*	+
52530	*Hydropsyche depravata group*	+
53800	*Hydroptila sp*	+
59310	*Mystacides sepulchralis*	+
59720	*Triaenodes ignitus*	+
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
66500	*Enochrus sp*	+
67000	*Helophorus sp*	+
67300	*Hydrochus sp*	+
68075	*Psephenus herricki*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	+
69400	*Stenelmis sp*	+
77130	*Ablabesmyia rhamphe group*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
78200	*Larsia sp*	+
78402	*Natarsia baltimoreus*	+
78655	*Procladius (Holotanypus) sp*	+
82600	*Axarus sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	+
83158	*Endochironomus nigricans*	+
83300	*Glyptotendipes (G.) sp*	+
83310	*Glyptotendipes (Heynotendipes) chelonia*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
83840	*Microtendipes pedellus group*	+
84315	*Phaenopsectra flavipes*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
84960	*Pseudochironomus sp*	+
85500	*Paratanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 68

No. Qualitative Taxa: 68 ICI:

Number of Organisms: 0 Qual EPT: 17

306

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River
Sanford Rd.

Collection Date: 08/20/2012 River Code: 20-015 RM: 0.34

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	9 +
01801	*Turbellaria*	5 +
03360	*Plumatella sp*	2 +
03600	*Oligochaeta*	17 +
06201	*Hyalella azteca*	+
08601	*Hydrachnidia*	32 +
11020	*Acerpenna pygmaea*	13 +
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
11650	*Procloeon sp (w/ hindwing pads)*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	16
17200	*Caenis sp*	+
18700	*Hexagenia sp*	+
21200	*Calopteryx sp*	5 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	2 +
24900	*Gomphus sp*	+
47600	*Sialis sp*	+
50315	*Chimarra obscura*	55 +
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	97 +
52430	*Ceratopsyche morosa group*	+
52530	*Hydropsyche depravata group*	2 +
53501	*Hydroptilidae*	+
57900	*Pycnopsyche sp*	+
59100	*Ceraclea sp*	8
59310	*Mystacides sepulchralis*	1 +
59500	*Oecetis sp*	+
63300	*Hydroporini*	+
63900	*Laccophilus sp*	+
64050	*Liodessus sp*	+
65800	*Berosus sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68601	*Ancyronyx variegata*	1 +
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	14
69275	*Optioservus trivittatus*	+
69400	*Stenelmis sp*	28 +
71100	*Hexatoma sp*	11
72700	*Anopheles sp*	+
77130	*Ablabesmyia rhamphe group*	+
77500	*Conchapelopia sp*	22
77750	*Hayesomyia senata or Thienemannimyia norena*	75 +
77800	*Helopelopia sp*	22 +
78450	*Nilotanypus fimbriatus*	92 +
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	8
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	7 +
81650	*Parametriocnemus sp*	7
81825	*Rheocricotopus (Psilocricotopus) robacki*	22 +
82121	*Thienemanniella lobapodema*	8
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	134
83840	*Microtendipes pedellus group*	+
83900	*Nilothauma sp*	+
84210	*Paratendipes albimanus or P. duplicatus*	209 +
84300	*Phaenopsectra obediens group*	52 +
84450	*Polypedilum (Uresipedilum) flavum*	37 +
84460	*Polypedilum (P.) fallax group*	15
84490	*Polypedilum (Cerobregma) ontario*	+
84540	*Polypedilum (Tripodura) scalaenum group*	60 +
85625	*Rheotanytarsus sp*	15
85720	*Stempellinella fimbriata*	4
85800	*Tanytarsus sp*	+
85802	*Tanytarsus n. sp nr. curticornis*	7
85821	*Tanytarsus glabrescens group sp 7*	30
85840	*Tanytarsus sepp*	7
86100	*Chrysops sp*	+
95100	*Physella sp*	130 +
96900	*Ferrissia sp*	72 +
98600	*Sphaerium sp*	+
99240	*Lasmigona complanata*	+
99440	*Fusconaia flava*	+

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Fork East Branch Black River
Sanford Rd.

Collection Date: 08/20/2012 River Code: 20-015 RM: 0.34

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 40 Total Taxa: 84
No. Qualitative Taxa: 69 ICI: **36**
Number of Organisms: 1353 Qual EPT: 21

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Clear Creek
Pawnee Rd.

Collection Date: 08/01/2012 River Code: 20-016 RM: 1.80

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
23909	*Boyeria vinosa*	+
45300	*Sigara sp*	+
45900	*Notonecta sp*	+
47600	*Sialis sp*	+
50301	*Chimarra aterrima*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
59730	*Triaenodes melaca*	+
63300	*Hydroporini*	+
66500	*Enochrus sp*	+
68075	*Psephenus herricki*	+
68300	*Cyphon sp*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
82730	*Chironomus (C.) decorus group*	+
83003	*Dicrotendipes fumidus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
86200	*Tabanus sp*	+
86401	*Atherix lantha*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98200	*Pisidium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 42
No. Qualitative Taxa: 42 ICI:
Number of Organisms: 0 Qual EPT: 9

309

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Willow Creek

Collection Date: 07/23/2012 River Code: 20-018 RM: 6.50

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04666	*Helobdella papillata*	+
04935	*Erpobdella punctata punctata*	+
06700	*Crangonyx sp*	+
07800	*Cambarus sp*	+
22001	*Coenagrionidae*	+
60900	*Peltodytes sp*	+
72700	*Anopheles sp*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
78702	*Psectrotanypus dyari*	+
82730	*Chironomus (C.) decorus group*	+
82800	*Cladopelma sp*	+
83051	*Dicrotendipes simpsoni*	+
84520	*Polypedilum (Tripodura) halterale group*	+
92615	*Cipangopaludina japonica*	+
96280	*Planorbella (Pierosoma) trivolvis*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 20

No. Qualitative Taxa: 20 ICI:

Number of Organisms: 0 Qual EPT: 0

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Willow Creek

Collection Date: 07/18/2012 River Code: 20-018 RM: 2.85

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	+
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04935	*Erpobdella punctata punctata*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
28955	*Plathemis lydia*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
65700	*Anacaena sp*	+
65800	*Berosus sp*	+
68075	*Psephenus herricki*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
77800	*Helopelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83002	*Dicrotendipes modestus*	+
83040	*Dicrotendipes neomodestus*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85230	*Cladotanytarsus mancus group*	+
85800	*Tanytarsus sp*	+
95100	*Physella sp*	+
96120	*Menetus (Micromenetus) dilatatus*	+
99160	*Anodontoides ferussacianus*	+

No. Quantitative Taxa: 0 Total Taxa: 39

No. Qualitative Taxa: 39 ICI:

Number of Organisms: 0 Qual EPT: 6

311

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 41.41)

Collection Date: 07/24/2012 River Code: 20-019 RM: 0.35

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11018	*Acerpenna macdunnoughi*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
13590	*Maccaffertium vicarium*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
33100	*Leuctra sp*	+
47600	*Sialis sp*	+
50301	*Chimarra aterrima*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52440	*Ceratopsyche slossonae*	+
52530	*Hydropsyche depravata group*	+
59310	*Mystacides sepulchralis*	+
59730	*Triaenodes melaca*	+
60400	*Gyrinus sp*	+
63300	*Hydroporini*	+
67100	*Hydrobius sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68707	*Dubiraphia quadrinotata*	+
69400	*Stenelmis sp*	+
71100	*Hexatoma sp*	+
71700	*Pilaria sp*	+
71800	*Pseudolimnophila sp*	+
71900	*Tipula sp*	+
72340	*Dixella sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
81825	*Rheocricotopus (Psilocricotopus) robacki*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84315	*Phaenopsectra flavipes*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85500	*Paratanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
86100	*Chrysops sp*	+
87540	*Hemerodromia sp*	+
95100	*Physella sp*	+

No. Quantitative Taxa: 0 Total Taxa: 58

No. Qualitative Taxa: 58 ICI:

Number of Organisms: 0 Qual EPT: 17

312

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
Stewart Rd.

Collection Date: 07/30/2012 River Code: 20-020 RM: 48.10

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
23909	*Boyeria vinosa*	+
26100	*Cordulegaster sp*	+
27500	*Somatochlora sp*	+
45300	*Sigara sp*	+
47600	*Sialis sp*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
67500	*Laccobius sp*	+
67800	*Tropisternus sp*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68702	*Dubiraphia bivittata*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
78140	*Labrundinia pilosella*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85230	*Cladotanytarsus mancus group*	+
85501	*Paratanytarsus longistilus*	+
95100	*Physella sp*	+
95907	*Gyraulus (Torquis) parvus*	+
96002	*Helisoma anceps anceps*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 39
No. Qualitative Taxa: 39 ICI:
Number of Organisms: 0 Qual EPT: 3

313

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River

Collection Date: 07/30/2012 River Code: 20-020 RM: 41.67

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59730	*Triaenodes melaca*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
78101	*Labrundinia becki*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
82820	*Cryptochironomus sp*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
84800	*Tribelos jucundum*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 39

No. Qualitative Taxa: 39 ICI:

Number of Organisms: 0 Qual EPT: 11

314

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
St. Rt. 511

Collection Date: 07/31/2012 River Code: 20-020 RM: 37.30

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03000	*Ectoprocta*	+
04964	*Erpobdella microstoma*	+
05900	*Lirceus sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
18600	*Ephemera sp*	+
18700	*Hexagenia sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
24900	*Gomphus sp*	+
45300	*Sigara sp*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52001	*Hydropsychidae*	+
58505	*Helicopsyche borealis*	+
59730	*Triaenodes melaca*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	+
67300	*Hydrochus sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72340	*Dixella sp*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78402	*Natarsia baltimoreus*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83300	*Glyptotendipes (G.) sp*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85230	*Cladotanytarsus mancus group*	+
86100	*Chrysops sp*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+
99860	*Lampsilis radiata luteola*	+

No. Quantitative Taxa: 0
No. Qualitative Taxa: 49
Number of Organisms: 0

Total Taxa: 49
ICI:
Qual EPT: 11

315

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
Pitts Rd.

Collection Date: 07/31/2012 River Code: 20-020 RM: 28.50

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04686	*Placobdella papillifera*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11020	*Acerpenna pygmaea*	+
11130	*Baetis intercalaris*	+
12200	*Isonychia sp*	+
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
18600	*Ephemera sp*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
49200	*Climacia sp*	+
50315	*Chimarra obscura*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59730	*Triaenodes melaca*	+
60900	*Peltodytes sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	+
69400	*Stenelmis sp*	+
71100	*Hexatoma sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84480	*Polypedilum (P.) laetum group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85230	*Cladotanytarsus mancus group*	+
93900	*Elimia sp*	+
96900	*Ferrissia sp*	+
99860	*Lampsilis radiata luteola*	+

No. Quantitative Taxa: 0 Total Taxa: 50
No. Qualitative Taxa: 50 ICI:
Number of Organisms: 0 Qual EPT: 15

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
dst. St. Rt. 58

Collection Date: 08/29/2012 River Code: 20-020 RM: 25.15

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	195 +
03360	*Plumatella sp*	3
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11120	*Baetis flavistriga*	44 +
11130	*Baetis intercalaris*	36 +
13400	*Stenacron sp*	22 +
13521	*Stenonema femoratum*	5 +
21200	*Calopteryx sp*	12 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	37 +
50315	*Chimarra obscura*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	1147 +
52530	*Hydropsyche depravata group*	1
68075	*Psephenus herricki*	1 +
68601	*Ancyronyx variegata*	1 +
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	9 +
69400	*Stenelmis sp*	99 +
77750	*Hayesomyia senata or Thienemannimyia norena*	81 +
78450	*Nilotanypus fimbriatus*	8
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	56
80430	*Cricotopus (C.) tremulus group*	32
81270	*Nanocladius (N.) spiniplenus*	32
81825	*Rheocricotopus (Psilocricotopus) robacki*	16
82121	*Thienemanniella lobapodema*	64
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	49
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84155	*Paralauterborniella nigrohalteralis*	+
84210	*Paratendipes albimanus or P. duplicatus*	32 +
84450	*Polypedilum (Uresipedilum) flavum*	178 +
84460	*Polypedilum (P.) fallax group*	32
84540	*Polypedilum (Tripodura) scalaenum group*	16 +
85264	*Cladotanytarsus vanderwulpi group sp 4*	+
85500	*Paratanytarsus sp*	16
85625	*Rheotanytarsus sp*	211
85821	*Tanytarsus glabrescens group sp 7*	438 +
85840	*Tanytarsus sepp*	32
95100	*Physella sp*	+
96900	*Ferrissia sp*	259 +
98200	*Pisidium sp*	8
98600	*Sphaerium sp*	1 +

No. Quantitative Taxa: 33 Total Taxa: 53
No. Qualitative Taxa: 39 ICI: **36**
Number of Organisms: 3173 Qual EPT: 7

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
St. Rt. 303

Collection Date: 08/28/2012 River Code: 20-020 RM: 19.60

Taxa Code	Taxa	Quant/Qual
01320	*Hydra sp*	8
01801	*Turbellaria*	3 +
03360	*Plumatella sp*	15 +
03451	*Urnatella gracilis*	1
03600	*Oligochaeta*	36 +
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11020	*Acerpenna pygmaea*	10
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	114 +
11651	*Procloeon sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	215 +
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	2
17200	*Caenis sp*	123 +
21200	*Calopteryx sp*	1 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	8
23909	*Boyeria vinosa*	1 +
44501	*Corixidae*	+
50315	*Chimarra obscura*	2 +
52200	*Cheumatopsyche sp*	874 +
52430	*Ceratopsyche morosa group*	16
52530	*Hydropsyche depravata group*	10
53800	*Hydroptila sp*	51 +
59001	*Leptoceridae*	8
59300	*Mystacides sp*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	1 +
67500	*Laccobius sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	16 +
70600	*Antocha sp*	+
71500	*Ormosia sp*	+
71700	*Pilaria sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	64 +
77750	*Hayesomyia senata or Thienemannimyia norena*	179 +
78450	*Nilotanypus fimbriatus*	4
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	104
80410	*Cricotopus (C.) sp*	13
80430	*Cricotopus (C.) tremulus group*	77
81240	*Nanocladius (N.) distinctus*	25
81250	*Nanocladius (N.) minimus*	13
81270	*Nanocladius (N.) spiniplenus*	13
82121	*Thienemanniella lobapodema*	8
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	166 +
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	345 +
84469	*Polypedilum (P.) illinoense group*	+
84490	*Polypedilum (Cerobregma) ontario*	25
84540	*Polypedilum (Tripodura) scalaenum group*	13
84750	*Stictochironomus sp*	+
85200	*Cladotanytarsus sp*	+
85500	*Paratanytarsus sp*	+
85625	*Rheotanytarsus sp*	128
85800	*Tanytarsus sp*	13
85821	*Tanytarsus glabrescens group sp 7*	281
85840	*Tanytarsus sepp*	25
87601	*Dolichopodidae*	+
93900	*Elimia sp*	+
94201	*Lymnaeidae*	+
95100	*Physella sp*	+
96120	*Menetus (Micromenetus) dilatatus*	+
96900	*Ferrissia sp*	44 +
98600	*Sphaerium sp*	2 +

No. Quantitative Taxa: 41 Total Taxa: 76
No. Qualitative Taxa: 54 ICI: **42**
Number of Organisms: 3057 Qual EPT: 11

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
upst. Kipton Nickel Plate Rd.

Collection Date: 08/28/2012 River Code: 20-020 RM: 16.56

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	56
01801	*Turbellaria*	127 +
03360	*Plumatella sp*	9
03451	*Urnatella gracilis*	1
03600	*Oligochaeta*	4 +
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	1 +
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	1 +
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	73 +
21200	*Calopteryx sp*	1 +
22300	*Argia sp*	43 +
45100	*Palmacorixa sp*	+
52200	*Cheumatopsyche sp*	272 +
52530	*Hydropsyche depravata group*	+
53501	*Hydroptilidae*	+
59001	*Leptoceridae*	20
59310	*Mystacides sepulchralis*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68601	*Ancyronyx variegata*	1 +
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	11 +
69400	*Stenelmis sp*	25 +
71500	*Ormosia sp*	+
71700	*Pilaria sp*	+
71900	*Tipula sp*	+
74501	*Ceratopogonidae*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	221
78450	*Nilotanypus fimbriatus*	8
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	8
81240	*Nanocladius (N.) distinctus*	95
82820	*Cryptochironomus sp*	16 +
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	110 +
83050	*Dicrotendipes lucifer*	95
83300	*Glyptotendipes (G.) sp*	63 +
84060	*Parachironomus pectinatellae*	16
84210	*Paratendipes albimanus or P. duplicatus*	190
84300	*Phaenopsectra obediens group*	16
84450	*Polypedilum (Uresipedilum) flavum*	47
84460	*Polypedilum (P.) fallax group*	16 +
84470	*Polypedilum (P.) illinoense*	+
84520	*Polypedilum (Tripodura) halterale group*	+
85500	*Paratanytarsus sp*	47 +
85625	*Rheotanytarsus sp*	47
85821	*Tanytarsus glabrescens group sp 7*	237 +
86100	*Chrysops sp*	+
86200	*Tabanus sp*	+
87400	*Stratiomys sp*	+
87601	*Dolichopodidae*	+
94400	*Fossaria sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	72
98600	*Sphaerium sp*	2 +

No. Quantitative Taxa: 33 Total Taxa: 60
No. Qualitative Taxa: 45 ICI: **34**
Number of Organisms: 1951 Qual EPT: 10

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
Metropark equestrian area

Collection Date: 08/28/2012 River Code: 20-020 RM: 10.60

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	4
01801	*Turbellaria*	57 +
03360	*Plumatella sp*	+
03451	*Urnatella gracilis*	+
03600	*Oligochaeta*	9 +
05800	*Caecidotea sp*	1 +
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	2 +
11020	*Acerpenna pygmaea*	32 +
11650	*Procloeon sp (w/ hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	62 +
13510	*Maccaffertium exiguum*	1
13521	*Stenonema femoratum*	14 +
13561	*Maccaffertium pulchellum*	18
17200	*Caenis sp*	29 +
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	15 +
23909	*Boyeria vinosa*	+
43300	*Ranatra sp*	+
50315	*Chimarra obscura*	11 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	58 +
53800	*Hydroptila sp*	+
57900	*Pycnopsyche sp*	+
59110	*Ceraclea ancylus*	+
59310	*Mystacides sepulchralis*	+
59500	*Oecetis sp*	2
59970	*Petrophila sp*	+
60900	*Peltodytes sp*	+
65800	*Berosus sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	4 +
69400	*Stenelmis sp*	23 +
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
77130	*Ablabesmyia rhamphe group*	55 +
77500	*Conchapelopia sp*	8
77750	*Hayesomyia senata or Thienemannimyia norena*	27 +
78401	*Natarsia species A (sensu Roback, 1978)*	4 +
78450	*Nilotanypus fimbriatus*	2
80370	*Corynoneura lobata*	26
82121	*Thienemanniella lobapodema*	8
82820	*Cryptochironomus sp*	4 +
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	24
83050	*Dicrotendipes lucifer*	8
83158	*Endochironomus nigricans*	4
83300	*Glyptotendipes (G.) sp*	4 +
84155	*Paralauterborniella nigrohalteralis*	+
84210	*Paratendipes albimanus or P. duplicatus*	20 +
84315	*Phaenopsectra flavipes*	4
84450	*Polypedilum (Uresipedilum) flavum*	12 +
84460	*Polypedilum (P.) fallax group*	4
84470	*Polypedilum (P.) illinoense*	12
84540	*Polypedilum (Tripodura) scalaenum group*	8 +
85200	*Cladotanytarsus sp*	4 +
85500	*Paratanytarsus sp*	4
85625	*Rheotanytarsus sp*	39
85720	*Stempellinella fimbriata*	2
85800	*Tanytarsus sp*	4
85821	*Tanytarsus glabrescens group sp 7*	35
86100	*Chrysops sp*	+
93900	*Elimia sp*	35 +
95100	*Physella sp*	+
96120	*Menetus (Micromenetus) dilatatus*	1
96900	*Ferrissia sp*	1
98600	*Sphaerium sp*	1 +
99100	*Pyganodon grandis*	+
99240	*Lasmigona complanata*	+

No. Quantitative Taxa: 45 Total Taxa: 79
No. Qualitative Taxa: 58 ICI: **42**
Number of Organisms: 702 Qual EPT: 13

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
Butternut Ridge Rd.

Collection Date: 08/22/2012 River Code: 20-020 RM: 7.68

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	57 +
03121	*Paludicella articulata*	+
03360	*Plumatella sp*	+
03451	*Urnatella gracilis*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	8
11020	*Acerpenna pygmaea*	+
11120	*Baetis flavistriga*	19
11130	*Baetis intercalaris*	346 +
11670	*Procloeon viridoculare*	+
12200	*Isonychia sp*	11
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	70 +
13510	*Maccaffertium exiguum*	27 +
13521	*Stenonema femoratum*	2 +
13561	*Maccaffertium pulchellum*	89 +
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
44501	*Corixidae*	+
50315	*Chimarra obscura*	241 +
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	1557 +
52430	*Ceratopsyche morosa group*	13
52530	*Hydropsyche depravata group*	127 +
59110	*Ceraclea ancylus*	+
59310	*Mystacides sepulchralis*	+
60900	*Peltodytes sp*	+
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	35 +
69400	*Stenelmis sp*	29 +
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	10 +
78450	*Nilotanypus fimbriatus*	12
78655	*Procladius (Holotanypus) sp*	+
80204	*Brillia flavifrons group*	10
80370	*Corynoneura lobata*	56
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84118	*Paracladopelma undine*	+
84450	*Polypedilum (Uresipedilum) flavum*	374 +
84490	*Polypedilum (Cerobregma) ontario*	30
84540	*Polypedilum (Tripodura) scalaenum group*	+
85210	*Cladotanytarsus species group B*	+
85264	*Cladotanytarsus vanderwulpi group sp 4*	+
85625	*Rheotanytarsus sp*	506 +
85720	*Stempellinella fimbriata*	+
85821	*Tanytarsus glabrescens group sp 7*	20 +
86100	*Chrysops sp*	+
93900	*Elimia sp*	+
96900	*Ferrissia sp*	+
96930	*Laevapex fuscus*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 23 Total Taxa: 65
No. Qualitative Taxa: 57 ICI: **40**
Number of Organisms: 3649 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
U.S. Rt. 20 (Oberlin-Elyria Rd.)

Collection Date: 08/22/2012 River Code: 20-020 RM: 4.18

Taxa Code	Taxa	Quant/Qual
00700	*Radiospongilla crateriformis*	+
01320	*Hydra sp*	1353
01801	*Turbellaria*	2509 +
03121	*Paludicella articulata*	1 +
03360	*Plumatella sp*	80 +
03451	*Urnatella gracilis*	1
03600	*Oligochaeta*	360 +
05800	*Caecidotea sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	8 +
13521	*Stenonema femoratum*	+
16700	*Tricorythodes sp*	130
17200	*Caenis sp*	+
22300	*Argia sp*	+
28208	*Erythemis simplicicollis*	+
43300	*Ranatra sp*	+
49200	*Climacia sp*	+
50315	*Chimarra obscura*	111 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	232 +
52530	*Hydropsyche depravata group*	38 +
53800	*Hydroptila sp*	1
59110	*Ceraclea ancylus*	+
59140	*Ceraclea maculata*	28 +
59150	*Ceraclea resurgens group*	+
59580	*Oecetis persimilis*	+
65800	*Berosus sp*	1 +
68601	*Ancyronyx variegata*	+
68700	*Dubiraphia sp*	+
68901	*Macronychus glabratus*	+
69400	*Stenelmis sp*	125 +
71900	*Tipula sp*	+
74501	*Ceratopogonidae*	+
77130	*Ablabesmyia rhamphe group*	+
77500	*Conchapelopia sp*	84 +
77750	*Hayesomyia senata or Thienemannimyia norena*	167
77800	*Helopelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
81240	*Nanocladius (N.) distinctus*	+
81250	*Nanocladius (N.) minimus*	84
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83158	*Endochironomus nigricans*	+
83300	*Glyptotendipes (G.) sp*	334
83310	*Glyptotendipes (Heynotendipes) chelonia*	84
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	2923 +
84540	*Polypedilum (Tripodura) scalaenum group*	+
85615	*Rheotanytarsus pellucidus*	+
85625	*Rheotanytarsus sp*	2339 +
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	2255 +
85840	*Tanytarsus sepp*	84
87400	*Stratiomys sp*	+
87540	*Hemerodromia sp*	8 +
96120	*Menetus (Micromenetus) dilatatus*	41
96900	*Ferrissia sp*	+
96930	*Laevapex fuscus*	44
98200	*Pisidium sp*	17 +
98600	*Sphaerium sp*	8 +

No. Quantitative Taxa: 29 Total Taxa: 64
No. Qualitative Taxa: 53 ICI: **32**
Number of Organisms: 13450 Qual EPT: 13

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: West Branch Black River
upst. Third St.

Collection Date: 08/30/2012 River Code: 20-020 RM: 1.20

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01200	*Cordylophora lacustris*	1
01320	*Hydra sp*	224
01801	*Turbellaria*	347 +
03073	*Lophopodella carteri*	1
03121	*Paludicella articulata*	+
03360	*Plumatella sp*	80 +
03451	*Urnatella gracilis*	1 +
03600	*Oligochaeta*	48 +
04935	*Erpobdella punctata punctata*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	16 +
08601	*Hydrachnidia*	64
11020	*Acerpenna pygmaea*	8
11120	*Baetis flavistriga*	1 +
11130	*Baetis intercalaris*	93 +
11670	*Procloeon viridoculare*	+
13400	*Stenacron sp*	48 +
13521	*Stenonema femoratum*	+
13561	*Maccaffertium pulchellum*	48
16700	*Tricorythodes sp*	231 +
17200	*Caenis sp*	40 +
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	4 +
45100	*Palmacorixa sp*	+
45300	*Sigara sp*	+
50315	*Chimarra obscura*	42 +
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	147 +
52430	*Ceratopsyche morosa group*	8
52530	*Hydropsyche depravata group*	1 +
52540	*Hydropsyche dicantha*	+
53800	*Hydroptila sp*	327 +
59110	*Ceraclea ancylus*	+
59160	*Ceraclea spongillovorax*	29 +
59310	*Mystacides sepulchralis*	1 +
59970	*Petrophila sp*	29 +
60900	*Peltodytes sp*	+
65800	*Berosus sp*	14 +
68025	*Ectopria sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	27 +
69400	*Stenelmis sp*	50 +
74100	*Simulium sp*	+
77355	*Clinotanypus pinguis*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	140 +
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
79020	*Tanypus neopunctipennis*	+
81240	*Nanocladius (N.) distinctus*	70
82121	*Thienemanniella lobapodema*	32
82220	*Tvetenia discoloripes group*	+
82820	*Cryptochironomus sp*	+
83300	*Glyptotendipes (G.) sp*	70 +
83310	*Glyptotendipes (Heynotendipes) chelonia*	419
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	419 +
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85230	*Cladotanytarsus mancus group*	+
85625	*Rheotanytarsus sp*	5240 +
85821	*Tanytarsus glabrescens group sp 7*	1258 +
85840	*Tanytarsus sepp*	+
87540	*Hemerodromia sp*	42
96120	*Menetus (Micromenetus) dilatatus*	32
96900	*Ferrissia sp*	8 +
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+
99090	*Anodontinae*	+

No. Quantitative Taxa: 39 Total Taxa: 74
No. Qualitative Taxa: 62 ICI: **46**
Number of Organisms: 9660 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Plum Creek
Morgan St.

Collection Date: 07/24/2012 River Code: 20-021 RM: 5.57

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
08601	*Hydrachnidia*	+
11120	*Baetis flavistriga*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
53800	*Hydroptila sp*	+
59310	*Mystacides sepulchralis*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
72900	*Culex sp*	+
77500	*Conchapelopia sp*	+
77800	*Helopelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84480	*Polypedilum (P.) laetum group*	+
84520	*Polypedilum (Tripodura) halterale group*	+
85625	*Rheotanytarsus sp*	+
85800	*Tanytarsus sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0	Total Taxa: 35
No. Qualitative Taxa: 35	ICI:
Number of Organisms: 0	Qual EPT: 8

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Plum Creek

Collection Date: 07/24/2012 River Code: 20-021 RM: 3.19

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01320	*Hydra sp*	+
01801	*Turbellaria*	+
03040	*Fredericella sp*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
11120	*Baetis flavistriga*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
49200	*Climacia sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
59310	*Mystacides sepulchralis*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
77500	*Conchapelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
83040	*Dicrotendipes neomodestus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
84888	*Xenochironomus xenolabis*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0	Total Taxa: 33
No. Qualitative Taxa: 33	ICI:
Number of Organisms: 0	Qual EPT: 7

325

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Plum Creek
dst. Oberlin WWTP

Collection Date: 07/24/2012 River Code: 20-021 RM: 2.80

Taxa Code	Taxa	Quant/Qual
03000	*Ectoprocta*	+
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
11120	*Baetis flavistriga*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
68130	*Helichus sp*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
82820	*Cryptochironomus sp*	+
82824	*Cryptochironomus ponderosus*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84460	*Polypedilum (P.) fallax group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85201	*Cladotanytarsus species group A*	+
85625	*Rheotanytarsus sp*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
86001	*Tabanidae*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 34
No. Qualitative Taxa: 34 ICI:
Number of Organisms: 0 Qual EPT: 5

326

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Plum Creek

Collection Date: 07/24/2012 River Code: 20-021 RM: 0.83

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03000	*Ectoprocta*	+
03600	*Oligochaeta*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
07860	*Cambarus (Puncticambarus) robustus*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82824	*Cryptochironomus ponderosus*	+
83051	*Dicrotendipes simpsoni*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84700	*Stenochironomus sp*	+
84750	*Stictochironomus sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 36

No. Qualitative Taxa: 36 ICI:

Number of Organisms: 0 Qual EPT: 8

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Elk Creek

Collection Date: 07/24/2012 River Code: 20-022 RM: 0.15

Taxa Code	Taxa	Quant/Qual
00653	*Eunapius fragilis*	+
01320	*Hydra sp*	+
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04662	*Helobdella fusca*	+
04935	*Erpobdella punctata punctata*	+
05800	*Caecidotea sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
50315	*Chimarra obscura*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
57900	*Pycnopsyche sp*	+
59150	*Ceraclea resurgens group*	+
59310	*Mystacides sepulchralis*	+
65700	*Anacaena sp*	+
67300	*Hydrochus sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68201	*Scirtidae*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
83040	*Dicrotendipes neomodestus*	+
83051	*Dicrotendipes simpsoni*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84155	*Paralauterborniella nigrohalteralis*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84300	*Phaenopsectra obediens group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
93900	*Elimia sp*	+
95100	*Physella sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 38

No. Qualitative Taxa: 38 ICI:

Number of Organisms: 0 Qual EPT: 10

328

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Wellington Creek

Collection Date: 07/26/2012 River Code: 20-023 RM: 17.10

Taxa Code	Taxa	Quant/Qual
04964	*Erpobdella microstoma*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
27500	*Somatochlora sp*	+
45300	*Sigara sp*	+
47600	*Sialis sp*	+
51600	*Polycentropus sp*	+
60400	*Gyrinus sp*	+
60900	*Peltodytes sp*	+
68300	*Cyphon sp*	+
68708	*Dubiraphia vittata group*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
78655	*Procladius (Holotanypus) sp*	+
79400	*Zavrelimyia sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
83300	*Glyptotendipes (G.) sp*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85800	*Tanytarsus sp*	+
95100	*Physella sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 30

No. Qualitative Taxa: 30 ICI:

Number of Organisms: 0 Qual EPT: 4

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Wellington Creek

Collection Date: 07/25/2012 River Code: 20-023 RM: 13.09

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
03600	*Oligochaeta*	+
04666	*Helobdella papillata*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
27400	*Neurocordulia sp*	+
27500	*Somatochlora sp*	+
43300	*Ranatra sp*	+
45300	*Sigara sp*	+
47600	*Sialis sp*	+
48200	*Chauliodes sp*	+
59570	*Oecetis nocturna*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
67500	*Laccobius sp*	+
68130	*Helichus sp*	+
68300	*Cyphon sp*	+
68702	*Dubiraphia bivittata*	+
68708	*Dubiraphia vittata group*	+
72900	*Culex sp*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83051	*Dicrotendipes simpsoni*	+
83300	*Glyptotendipes (G.) sp*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84470	*Polypedilum (P.) illinoense*	+
84520	*Polypedilum (Tripodura) halterale group*	+
84750	*Stictochironomus sp*	+
84790	*Tribelos fuscicorne*	+
95100	*Physella sp*	+
96264	*Planorbella (Pierosoma) pilsbryi*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 39

No. Qualitative Taxa: 39 ICI:

Number of Organisms: 0 Qual EPT: 3

330

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Wellington Creek

Collection Date: 07/25/2012 River Code: 20-023 RM: 8.40

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
27500	*Somatochlora sp*	+
29020	*Sympetrum vicinum*	+
44501	*Corixidae*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
59570	*Oecetis nocturna*	+
59730	*Triaenodes melaca*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	+
68300	*Cyphon sp*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
77800	*Helopelopia sp*	+
78101	*Labrundinia becki*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
79400	*Zavrelimyia sp*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85500	*Paratanytarsus sp*	+
93900	*Elimia sp*	+
95100	*Physella sp*	+
96002	*Helisoma anceps anceps*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 42

No. Qualitative Taxa: 42 ICI:

Number of Organisms: 0 Qual EPT: 10

331

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Wellington Creek
upst. Nickel Plate Rd.

Collection Date: 07/25/2012 River Code: 20-023 RM: 0.60

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03040	*Fredericella sp*	+
03600	*Oligochaeta*	+
06201	*Hyalella azteca*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21001	*Calopterygidae*	+
22001	*Coenagrionidae*	+
23909	*Boyeria vinosa*	+
50315	*Chimarra obscura*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
57900	*Pycnopsyche sp*	+
59310	*Mystacides sepulchralis*	+
59730	*Triaenodes melaca*	+
60900	*Peltodytes sp*	+
67800	*Tropisternus sp*	+
68025	*Ectopria sp*	+
68075	*Psephenus herricki*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
70600	*Antocha sp*	+
71300	*Limonia sp*	+
77500	*Conchapelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
80351	*Corynoneura caudicula*	+
80370	*Corynoneura lobata*	+
82730	*Chironomus (C.) decorus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84469	*Polypedilum (P.) illinoense group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
85720	*Stempellinella fimbriata*	+
85840	*Tanytarsus sepp*	+
92516	*Campeloma decisum*	+
93900	*Elimia sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0
No. Qualitative Taxa: 46
Number of Organisms: 0

Total Taxa: 46
ICI:
Qual EPT: 10

332

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Charlemont Creek

Collection Date: 07/30/2012 River Code: 20-024 RM: 8.55

Taxa Code	Taxa	Quant/Qual
03360	*Plumatella sp*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
27400	*Neurocordulia sp*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
63300	*Hydroporini*	+
66500	*Enochrus sp*	+
68130	*Helichus sp*	+
68300	*Cyphon sp*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
72700	*Anopheles sp*	+
74501	*Ceratopogonidae*	+
77120	*Ablabesmyia mallochi*	+
78655	*Procladius (Holotanypus) sp*	+
79400	*Zavrelimyia sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82885	*Cryptotendipes pseudotener*	+
83300	*Glyptotendipes (G.) sp*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84750	*Stictochironomus sp*	+
85800	*Tanytarsus sp*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 33

No. Qualitative Taxa: 33 ICI:

Number of Organisms: 0 Qual EPT: 5

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Charlemont Creek
Pitts Rd.

Collection Date: 07/31/2012 River Code: 20-024 RM: 2.20

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
13000	*Leucrocuta sp*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
18700	*Hexagenia sp*	+
21200	*Calopteryx sp*	+
22300	*Argia sp*	+
23600	*Aeshna sp*	+
23909	*Boyeria vinosa*	+
27500	*Somatochlora sp*	+
45900	*Notonecta sp*	+
48200	*Chauliodes sp*	+
51400	*Nyctiophylax sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59400	*Nectopsyche sp*	+
59730	*Triaenodes melaca*	+
68075	*Psephenus herricki*	+
68300	*Cyphon sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71100	*Hexatoma sp*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78450	*Nilotanypus fimbriatus*	+
78655	*Procladius (Holotanypus) sp*	+
82820	*Cryptochironomus sp*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84480	*Polypedilum (P.) laetum group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84700	*Stenochironomus sp*	+
84750	*Stictochironomus sp*	+
85800	*Tanytarsus sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 53
No. Qualitative Taxa: 53 ICI:
Number of Organisms: 0 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Charlemont Creek

Collection Date: 08/28/2012 River Code: 20-024 RM: 0.39

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	21 +
02600	*Nematomorpha*	10
03600	*Oligochaeta*	28 +
04664	*Helobdella stagnalis*	+
04935	*Erpobdella punctata punctata*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	1 +
21200	*Calopteryx sp*	2 +
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
52200	*Cheumatopsyche sp*	6 +
52530	*Hydropsyche depravata group*	22 +
68075	*Psephenus herricki*	+
68130	*Helichus sp*	+
68601	*Ancyronyx variegata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	1 +
69400	*Stenelmis sp*	4 +
71900	*Tipula sp*	1 +
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	33 +
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
80370	*Corynoneura lobata*	80
80430	*Cricotopus (C.) tremulus group*	33
81825	*Rheocricotopus (Psilocricotopus) robacki*	33 +
82121	*Thienemanniella lobapodema*	24
82730	*Chironomus (C.) decorus group*	17 +
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
83051	*Dicrotendipes simpsoni*	17
84450	*Polypedilum (Uresipedilum) flavum*	33
84460	*Polypedilum (P.) fallax group*	84 +
84470	*Polypedilum (P.) illinoense*	17 +
84540	*Polypedilum (Tripodura) scalaenum group*	+
85500	*Paratanytarsus sp*	301 +
85625	*Rheotanytarsus sp*	1053 +
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	251
87540	*Hemerodromia sp*	1
95100	*Physella sp*	+
96900	*Ferrissia sp*	303 +
98200	*Pisidium sp*	1
98600	*Sphaerium sp*	3 +
99160	*Anodontoides ferussacianus*	+
99860	*Lampsilis radiata luteola*	+

No. Quantitative Taxa: 27 Total Taxa: 47

No. Qualitative Taxa: 38 ICI: **28**

Number of Organisms: 2380 Qual EPT: 3

335

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Buck Creek

Collection Date: 07/26/2012 River Code: 20-025 RM: 0.95

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23804	*Basiaeschna janata*	+
23909	*Boyeria vinosa*	+
45300	*Sigara sp*	+
45900	*Notonecta sp*	+
47600	*Sialis sp*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
59570	*Oecetis nocturna*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
65800	*Berosus sp*	+
66500	*Enochrus sp*	+
67300	*Hydrochus sp*	+
67500	*Laccobius sp*	+
67800	*Tropisternus sp*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
74501	*Ceratopogonidae*	+
78400	*Natarsia sp*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
84800	*Tribelos jucundum*	+
85500	*Paratanytarsus sp*	+
86100	*Chrysops sp*	+
95100	*Physella sp*	+
96002	*Helisoma anceps anceps*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 41

No. Qualitative Taxa: 41 ICI:

Number of Organisms: 0 Qual EPT: 5

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to Charlemont Creek (RM 0.51)
upst. Wellington WWTP

Collection Date: 07/30/2012 River Code: 20-026 RM: 1.00

Taxa Code	Taxa	Quant/Qual	Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+			
03600	*Oligochaeta*	+			
11120	*Baetis flavistriga*	+			
13521	*Stenonema femoratum*	+			
21200	*Calopteryx sp*	+			
22001	*Coenagrionidae*	+			
22300	*Argia sp*	+			
23909	*Boyeria vinosa*	+			
47600	*Sialis sp*	+			
51400	*Nyctiophylax sp*	+			
51600	*Polycentropus sp*	+			
52200	*Cheumatopsyche sp*	+			
52530	*Hydropsyche depravata group*	+			
69400	*Stenelmis sp*	+			
71700	*Pilaria sp*	+			
71900	*Tipula sp*	+			
77120	*Ablabesmyia mallochi*	+			
77500	*Conchapelopia sp*	+			
77800	*Helopelopia sp*	+			
78401	*Natarsia species A (sensu Roback, 1978)*	+			
79400	*Zavrelimyia sp*	+			
81825	*Rheocricotopus (Psilocricotopus) robacki*	+			
82820	*Cryptochironomus sp*	+			
83040	*Dicrotendipes neomodestus*	+			
84210	*Paratendipes albimanus or P. duplicatus*	+			
84450	*Polypedilum (Uresipedilum) flavum*	+			
84460	*Polypedilum (P.) fallax group*	+			
84540	*Polypedilum (Tripodura) scalaenum group*	+			
84700	*Stenochironomus sp*	+			
84750	*Stictochironomus sp*	+			
85625	*Rheotanytarsus sp*	+			
85800	*Tanytarsus sp*	+			
86100	*Chrysops sp*	+			
95100	*Physella sp*	+			

No. Quantitative Taxa: 0 Total Taxa: 34
No. Qualitative Taxa: 34 ICI:
Number of Organisms: 0 Qual EPT: 6

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to Charlemont Creek (RM 0.51)

Collection Date: 07/30/2012 River Code: 20-026 RM: 0.76

Taxa Code	Taxa	Quant/Qual
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04964	*Erpobdella microstoma*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
52530	*Hydropsyche depravata group*	+
60900	*Peltodytes sp*	+
69400	*Stenelmis sp*	+
71900	*Tipula sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78450	*Nilotanypus fimbriatus*	+
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
84300	*Phaenopsectra obediens group*	+
84460	*Polypedilum (P.) fallax group*	+
84470	*Polypedilum (P.) illinoense*	+
87400	*Stratiomys sp*	+
87540	*Hemerodromia sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 26

No. Qualitative Taxa: 26 ICI:

Number of Organisms: 0 Qual EPT: 1

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Kelner Ditch
upst. Parsons Rd.

Collection Date: 07/25/2012 River Code: 20-027 RM: 3.00

Taxa Code	Taxa	Quant/Qual
00556	*Ephydatia fluviatilis*	+
01801	*Turbellaria*	+
03000	*Ectoprocta*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04666	*Helobdella papillata*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23600	*Aeshna sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
74501	*Ceratopogonidae*	+
77750	*Hayesomyia senata or Thienemannimyia norena*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82824	*Cryptochironomus ponderosus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84888	*Xenochironomus xenolabis*	+
85210	*Cladotanytarsus species group B*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
85818	*Tanytarsus glabrescens group sp 4*	+
86100	*Chrysops sp*	+
96801	*Ancylidae*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 39
No. Qualitative Taxa: 39 ICI:
Number of Organisms: 0 Qual EPT: 5

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Kelner Ditch
Nickel Plate Diagonal Rd.

Collection Date: 07/25/2012 River Code: 20-027 RM: 1.00

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03000	*Ectoprocta*	+
03600	*Oligochaeta*	+
04685	*Placobdella ornata*	+
04935	*Erpobdella punctata punctata*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
23909	*Boyeria vinosa*	+
50315	*Chimarra obscura*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
54160	*Ochrotrichia sp*	+
59310	*Mystacides sepulchralis*	+
59570	*Oecetis nocturna*	+
60900	*Peltodytes sp*	+
63900	*Laccophilus sp*	+
67300	*Hydrochus sp*	+
68201	*Scirtidae*	+
68601	*Ancyronyx variegata*	+
68707	*Dubiraphia quadrinotata*	+
68708	*Dubiraphia vittata group*	+
68901	*Macronychus glabratus*	+
69400	*Stenelmis sp*	+
71700	*Pilaria sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
81231	*Nanocladius (N.) crassicornus or N. (N.) "rectinervis"*	+
81825	*Rheocricotopus (Psilocricotopus) robacki*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
82824	*Cryptochironomus ponderosus*	+
82885	*Cryptotendipes pseudotener*	+
83003	*Dicrotendipes fumidus*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
83840	*Microtendipes pedellus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84460	*Polypedilum (P.) fallax group*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84800	*Tribelos jucundum*	+
85210	*Cladotanytarsus species group B*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+
98200	*Pisidium sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0 Total Taxa: 63
No. Qualitative Taxa: 63 ICI:
Number of Organisms: 0 Qual EPT: 12

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 22.65)
dst. Vermont Rd.

Collection Date: 07/23/2012 River Code: 20-030 RM: 0.60

Taxa Code	Taxa	Quant/Qual
00401	*Spongillidae*	+
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
27500	*Somatochlora sp*	+
47600	*Sialis sp*	+
60900	*Peltodytes sp*	+
68708	*Dubiraphia vittata group*	+
72700	*Anopheles sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84315	*Phaenopsectra flavipes*	+
84520	*Polypedilum (Tripodura) halterale group*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
84750	*Stictochironomus sp*	+
84800	*Tribelos jucundum*	+
85800	*Tanytarsus sp*	+
86100	*Chrysops sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 24
No. Qualitative Taxa: 24 ICI:
Number of Organisms: 0 Qual EPT: 2

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 39.06)

Collection Date: 07/23/2012 River Code: 20-031 RM: 2.16

Taxa Code	Taxa	Quant/Qual
03600	*Oligochaeta*	+
07860	*Cambarus (Puncticambarus) robustus*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
11430	*Diphetor hageni*	+
11651	*Procloeon sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
13590	*Maccaffertium vicarium*	+
17200	*Caenis sp*	+
21001	*Calopterygidae*	+
23909	*Boyeria vinosa*	+
24600	*Arigomphus sp*	+
27500	*Somatochlora sp*	+
33100	*Leuctra sp*	+
50301	*Chimarra aterrima*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52440	*Ceratopsyche slossonae*	+
52530	*Hydropsyche depravata group*	+
59730	*Triaenodes melaca*	+
65501	*Hydrophilidae*	+
68075	*Psephenus herricki*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
70700	*Dicranota sp*	+
71800	*Pseudolimnophila sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
77355	*Clinotanypus pinguis*	+
77500	*Conchapelopia sp*	+
77800	*Helopelopia sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84750	*Stictochironomus sp*	+
85201	*Cladotanytarsus species group A*	+
85500	*Paratanytarsus sp*	+
85625	*Rheotanytarsus sp*	+
85800	*Tanytarsus sp*	+
96900	*Ferrissia sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 43

No. Qualitative Taxa: 43 ICI:

Number of Organisms: 0 Qual EPT: 16

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 28.65)
Foster Rd.

Collection Date: 07/31/2012 River Code: 20-038 RM: 1.50

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11250	*Centroptilum sp (w/o hindwing pads)*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
14950	*Leptophlebia sp or Paraleptophlebia sp*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
23600	*Aeshna sp*	+
23909	*Boyeria vinosa*	+
45300	*Sigara sp*	+
45900	*Notonecta sp*	+
47600	*Sialis sp*	+
48200	*Chauliodes sp*	+
51400	*Nyctiophylax sp*	+
52200	*Cheumatopsyche sp*	+
57900	*Pycnopsyche sp*	+
58505	*Helicopsyche borealis*	+
59730	*Triaenodes melaca*	+
60900	*Peltodytes sp*	+
63300	*Hydroporini*	+
65700	*Anacaena sp*	+
68130	*Helichus sp*	+
68201	*Scirtidae*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
70700	*Dicranota sp*	+
71600	*Pedicia sp*	+
71900	*Tipula sp*	+
72340	*Dixella sp*	+
72700	*Anopheles sp*	+
77120	*Ablabesmyia mallochi*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
78680	*Procladius (Psilotanypus) bellus*	+
79400	*Zavrelimyia sp*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83840	*Microtendipes pedellus group*	+
84155	*Paralauterborniella nigrohalteralis*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84480	*Polypedilum (P.) laetum group*	+
84750	*Stictochironomus sp*	+
86100	*Chrysops sp*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
95907	*Gyraulus (Torquis) parvus*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

No. Quantitative Taxa: 0
No. Qualitative Taxa: 52
Number of Organisms: 0

Total Taxa: 52
ICI:
Qual EPT: 10

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 5.89)

Collection Date: 07/18/2012 River Code: 20-052 RM: 1.00

Taxa Code	Taxa	Quant/Qual
01320	*Hydra sp*	+
01801	*Turbellaria*	+
03360	*Plumatella sp*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04680	*Placobdella sp*	+
04935	*Erpobdella punctata punctata*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
22001	*Coenagrionidae*	+
22300	*Argia sp*	+
24900	*Gomphus sp*	+
28955	*Plathemis lydia*	+
51600	*Polycentropus sp*	+
57900	*Pycnopsyche sp*	+
59300	*Mystacides sp*	+
60900	*Peltodytes sp*	+
66500	*Enochrus sp*	+
67700	*Paracymus sp*	+
68300	*Cyphon sp*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
74501	*Ceratopogonidae*	+
77355	*Clinotanypus pinguis*	+
78655	*Procladius (Holotanypus) sp*	+
82730	*Chironomus (C.) decorus group*	+
82885	*Cryptotendipes pseudotener*	+
83040	*Dicrotendipes neomodestus*	+
83051	*Dicrotendipes simpsoni*	+
83300	*Glyptotendipes (G.) sp*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85230	*Cladotanytarsus mancus group*	+
86100	*Chrysops sp*	+
95100	*Physella sp*	+
96930	*Laevapex fuscus*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 41

No. Qualitative Taxa: 41 ICI:

Number of Organisms: 0 Qual EPT: 6

344

Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to E. Br. Black R. (RM 5.89)
Robson Rd.

Collection Date: 07/18/2012 River Code: 20-052 RM: 0.10

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04664	*Helobdella stagnalis*	+
04935	*Erpobdella punctata punctata*	+
05800	*Caecidotea sp*	+
06201	*Hyalella azteca*	+
08601	*Hydrachnidia*	+
11120	*Baetis flavistriga*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
23600	*Aeshna sp*	+
23909	*Boyeria vinosa*	+
51600	*Polycentropus sp*	+
52200	*Cheumatopsyche sp*	+
52530	*Hydropsyche depravata group*	+
58505	*Helicopsyche borealis*	+
59300	*Mystacides sp*	+
59570	*Oecetis nocturna*	+
67500	*Laccobius sp*	+
68025	*Ectopria sp*	+
69400	*Stenelmis sp*	+
71700	*Pilaria sp*	+
71900	*Tipula sp*	+
72900	*Culex sp*	+
74100	*Simulium sp*	+
77500	*Conchapelopia sp*	+
77800	*Helopelopia sp*	+
78401	*Natarsia species A (sensu Roback, 1978)*	+
78655	*Procladius (Holotanypus) sp*	+
81650	*Parametriocnemus sp*	+
82200	*Tvetenia bavarica group*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83051	*Dicrotendipes simpsoni*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84210	*Paratendipes albimanus or P. duplicatus*	+
84750	*Stictochironomus sp*	+
85625	*Rheotanytarsus sp*	+
96900	*Ferrissia sp*	+
98600	*Sphaerium sp*	+

Taxa Code	Taxa	Quant/Qual

No. Quantitative Taxa: 0 Total Taxa: 42
No. Qualitative Taxa: 42 ICI:
Number of Organisms: 0 Qual EPT: 10

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Ohio EPA/DSW Ecological Assessment Section
Macroinvertebrate Collection

Site: Trib. to Black River (RM 10.18)

Collection Date: 07/18/2012 River Code: 20-053 RM: 0.68

Taxa Code	Taxa	Quant/Qual
01801	*Turbellaria*	+
03600	*Oligochaeta*	+
04666	*Helobdella papillata*	+
04935	*Erpobdella punctata punctata*	+
04964	*Erpobdella microstoma*	+
05800	*Caecidotea sp*	+
06700	*Crangonyx sp*	+
08260	*Orconectes (Crokerinus) sanbornii sanbornii*	+
11120	*Baetis flavistriga*	+
11130	*Baetis intercalaris*	+
13400	*Stenacron sp*	+
13521	*Stenonema femoratum*	+
17200	*Caenis sp*	+
21200	*Calopteryx sp*	+
22001	*Coenagrionidae*	+
50301	*Chimarra aterrima*	+
50315	*Chimarra obscura*	+
52200	*Cheumatopsyche sp*	+
52430	*Ceratopsyche morosa group*	+
52530	*Hydropsyche depravata group*	+
53800	*Hydroptila sp*	+
65800	*Berosus sp*	+
66500	*Enochrus sp*	+
68075	*Psephenus herricki*	+
68708	*Dubiraphia vittata group*	+
69400	*Stenelmis sp*	+
71700	*Pilaria sp*	+
71900	*Tipula sp*	+
72700	*Anopheles sp*	+
74100	*Simulium sp*	+
77120	*Ablabesmyia mallochi*	+
77500	*Conchapelopia sp*	+
77800	*Helopelopia sp*	+
78655	*Procladius (Holotanypus) sp*	+
80420	*Cricotopus (C.) bicinctus*	+
80510	*Cricotopus (Isocladius) sylvestris group*	+
82730	*Chironomus (C.) decorus group*	+
82820	*Cryptochironomus sp*	+
83040	*Dicrotendipes neomodestus*	+
83820	*Microtendipes "caelum" (sensu Simpson & Bode, 1980)*	+
84315	*Phaenopsectra flavipes*	+
84450	*Polypedilum (Uresipedilum) flavum*	+
84470	*Polypedilum (P.) illinoense*	+
84540	*Polypedilum (Tripodura) scalaenum group*	+
85230	*Cladotanytarsus mancus group*	+
85500	*Paratanytarsus sp*	+
85800	*Tanytarsus sp*	+
85821	*Tanytarsus glabrescens group sp 7*	+
87400	*Stratiomys sp*	+
95100	*Physella sp*	+
96900	*Ferrissia sp*	+

No. Quantitative Taxa: 0 Total Taxa: 51

No. Qualitative Taxa: 51 ICI:

Number of Organisms: 0 Qual EPT: 11

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Appendix Table 14. Public water system nutrient, herbicide, and cyanotoxin data, 2012-2013.

		Site Location: West Branch Black River East of Oberlin WTP Intake @ Parsons Rd											
PARAMETER	UNITS	7/23/12	8/6/12	9/5/12	9/25/12	1/29/13	4/24/13	5/15/13	5/23/13	5/28/13	6/6/13	6/10/13	
Acetochlor	ug/L	0.26	<0.22	<0.22	<0.2		<0.21	2.69		<0.21	1.86	0.82	
Alachlor	ug/L	<0.21	<0.22	<0.22	<0.2		<0.21	0.23		<0.21	<0.22	<0.21	
Atrazine (525.2 method)	ug/L	0.62	0.5	0.26	<0.2		<0.21	4.53		0.77	5.33	9.11	
Atrazine (ELISA method)	ug/L							4.6		0.97		9.1	
Benzo[a]pyrene	ug/L	<0.53	<0.54	<0.55	<0.51		<0.51	<0.52		<0.53	<0.54	<0.53	
bis(2-Ethylhexyl)adipate	ug/L	<0.53	<0.54	<0.55	<0.51		<0.51	0.6		<0.53	<0.54	<0.53	
bis(2-Ethylhexyl)phthalate	ug/L	0.65	0.61	<0.55	<0.51		<0.51	0.55		0.71	0.7	3.16	
Butachlor	ug/L	<0.21	<0.22	<0.22	<0.2		<0.21	<0.21		<0.21	<0.22	<0.21	
Metolachlor	ug/L	0.32	<0.22	<0.22	<0.2		<0.21	0.42		0.22	0.64	2.25	
Metribuzin	ug/L	<0.21	<0.22	<0.22	<0.2		<0.21	<0.21		<0.21	<0.22	<0.21	
Pentachlorophenol	ug/L	<5.32	<5.38	<5.49	<5.05		6.11	<5.21		<5.32	<5.43	<5.26	
Propachlor	ug/L	<0.21	<0.22	<0.22	<0.2		<0.21	<0.21		<0.21	<0.22	<0.21	
Simazine	ug/L	<0.21	<0.22	<0.22	<0.2		0.34	<0.21		<0.21		0.76	
Ammonia	mg/L	0.051	<0.05	<0.05	<0.05	0.208							
Nitrate + Nitrite	mg/L	0.48	0.23	0.89	3.05	2.9	0.46	1.68	0.89	0.92	8.28	6.73	
Total Phosphorus	mg/L	0.103	0.082	0.036	0.151	0.125							

		Site Location: Charlemont Creek @ Wellington WTP Intake											
PARAMETER	UNITS	7/23/12	8/6/12	9/5/12	9/25/12	1/29/13	4/24/13	5/15/13	5/23/13	5/28/13	6/6/13	6/10/13	
Acetochlor	ug/L	<0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	<0.22	1.1	
Alachlor	ug/L	<0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	<0.22	<0.21	
Atrazine (525.2 method)	ug/L	0.8	0.57	0.34	<0.2		<0.21	<0.21	<0.21	<0.21	14.7	4.3	
Atrazine (ELISA method)	ug/L							0.59	0.34	0.22	9	4.7	
Benzo[a]pyrene	ug/L	<0.53	<0.53	<0.56	<0.51		<0.51	<0.52	<0.53	<0.53	<0.54	<0.53	
bis(2-Ethylhexyl)adipate	ug/L	<0.53	<0.53	<0.56	<0.51		<0.51	0.55	0.53	<0.53	<0.54	<0.53	
bis(2-Ethylhexyl)phthalate	ug/L	1.09	<0.53	<0.56	<0.51		3.21	0.74	<0.53	0.57	0.59	0.64	
Butachlor	ug/L	<0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	<0.22	<0.21	
Metolachlor	ug/L	0.53	0.34	0.23	<0.2		<0.21	<0.21	0.29	<0.21	5.27	0.35	
Metribuzin	ug/L	<0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	2.03	<0.21	
Pentachlorophenol	ug/L	<5.32	<5.32	<5.56	<5.05		<5.13	<5.21	<5.32	<5.26	<5.43	<5.32	
Propachlor	ug/L	<0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	<0.22	<0.21	
Simazine	ug/L	0.21	<0.21	<0.22	<0.2		<0.21	<0.21	<0.21	<0.21	0.9	<0.21	
Ammonia	mg/L	0.058	0.05	<0.05	0.092	0.133							
Nitrate+nitrite	mg/L	0.25	0.32	<0.1	<0.1	1.87	0.21	0.27	0.17	0.28	5.57	3.93	
Total Phosphorus	mg/L	0.031	0.019	0.011	0.026	0.069							

		Site Location: Wellington Village Reservoir							
PARAMETER	UNITS	5/2/12		9/11/12		5/28/13		9/5/13	
Microcystins	ug/L	<0.3		<0.3		<0.3		<0.3	

* Blanks in the data fields indicate that the constituent was not sampled for on that date.