Appendix 1

Descriptions and historic loadings of individual NPDES permit holders.

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***Aeronica, Inc**.-Receiving water-Middletown Hydraulic Canal-RM-2.3 (canal)-52.17-(Great Miami River)*
*Permit #-1IC00003*ED (expires January 31, 2015)*
*001-Lat 39.530833; Long:-84.385*000

Aeronica is located in Butler County at 2320 Wedekind Dr. in Middletown, Ohio. Founded in 1928 as the Aeronautical Corporation of America at Lunken Field in Cincinnati, Aeronica was one of the first U.S. companies to produce and market a truly light airplane for the general aviation market and moved on to manufacture parts for the Apollo space missions as well. Aeronica sits on 18 acres of land adjacent to Middletown's Hook Field. Manufacturing includes shop brazing, bonding and assembly operations using various metals, fiberglass and composite materials. Treated non-contact cooling water constitutes about 89 percent of the discharge. The other 11 percent is treated process wastewater which is discharged to the hydraulic canal at the same location. The current design flow is 0.697 MGD.

The City of Middletown has had numerous complaints along the section of the hydraulic canal that Aeronica discharges to relate to standing water and mosquitos as well as pollutant exposure risks. The situation was amplified with the collapse of the Great Miami River Dam in 1995 which, at one time, deflected water into the hydraulic canal. A Hydraulic Canal Feasibility Study was conducted in 2006 which produced alternatives to flow regimes of current conditions. Various discharge location scenarios were explored in 2011, in an effort to redirect Aeronica's flow away from the canal and over to the Great Miami River however most were cost prohibitive with estimates approaching half a million dollars (EMH&T Consultants, 2006).

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 and 80 violations were reported ending by 2009. Most were metals; copper, silver and zinc. Silver recovery equipment aided in the reductions of silver violations and filter malfunctions have been suspected in violation occurrence. Copper violations were related to effluent pump station backups in lines (as well as silver). Pumps and weather have also been indicated as possible problems. A Compliance Evaluation Inspection (CEI) conducted by OEPA personnel in 2009, noted problems with sampling protocols which were implemented and have yielded no limit violations since 2009.

The Aeronica facility had 80 numeric, and 67 sampling frequency permit limit violations between 2006 and 2010. The numeric violations were copper, silver and zinc. The frequency violations were mostly for metals.

***AK Steel** 011 1ID00001*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1ID00001.fs.pdf

AK Steel discharges to one location on the Great Miami River (outfall 011) at RM 51.4, three locations on Dicks Creek (outfall 002, 003, and 015) at RM 2.92, 3.80, and 4.15, respectively, and one to the North Branch of Dicks Creek (outfall 004) at RM 0.22. The mill produces flat rolled steel and intermediate products of pig iron and coke in addition

to steel finishing and coating. Outfall 011 consists of effluents from the north terminal treatment plant, the blast furnace wastewater treatment system, non-contact cooling water, excess river or ground water, and storm water runoff. The average discharge volume from outfall 011 was 10.02 MGD in 2011.

The north terminal treatment plant (monitored under station 614) was installed in 1979 and was designed for 1.7 MGD. It provides flocculation, clarification, neutralization, and aeration to the wastewaters generated from cold forming, acid pickling, alkaline cleaning, hot coating, metal finishing, coal coating, inorganic chemicals, and oxygen and nitrogen production processes. This treatment plant is also authorized to accept on an emergency basis, process wastewaters from the no. 2 electro-galvanizing line, slag processing wastewater transferred from the above ground storage tank and wastewater from stations 005, 631, 641 and 642. The average discharge volume for station 614 was 0.15 MGD in 2011. The blast furnace wastewater treatment (monitored under station 613) was installed in 1978 and modified in 1986 and 1997. It provides chemical precipitation, flocculation, sedimentation, and biological treatment to the wastewaters generated from the iron making process and was designed for 2.16 MGD. A previous sintering process was discontinued in June, 2003.

DICKS CREEK – AK Steel Corporation signed a consent agreement with U.S. EPA, Ohio EPA, the Sierra Club and Natural Resources Defense Council in 2006. One of the provisions of the consent agreement is the removal of PCB contaminated flood plain soil and sediments in a defined area of Dicks Creek and Monroe Ditch, a tributary of Dicks Creek. One third of the work was completed during 2010. Restoration of the flood plain and creek accompanied the removal activity. Another provision of the consent agreement that was completed was the installation of a phyto barrier in the flood plain of a defined area along Dicks Creek to prevent the seepage of PCB contaminated ground water from entering Dicks Creek in 2007. A ground water and leachate treatment and containment system was installed in a defined area along Monroe ditch in 2010.

Outfall 002 (discharge to Dicks Creek at RM 2.92) consists of untreated coke plant cooling water (river and well water) and storm water runoff. The yearly average discharge volume in 2011 was 1.32 MGD. Outfall 003 (discharge to Dicks Creek at RM 3.80) consists of treated basic oxygen furnace (BOF) effluent, cooling tower blow down, river/well water and storm water runoff. The BOF treatment plant was installed in 1969 and modified in 1979. Treatment consists of flocculation and clarification for the BOF gas cleaning system and was designed to treat 6.48 MGD with 98% recycle. The BOF wastewater treatment system is monitored at station 631 which had a yearly average discharge volume of 0.28 MGD in 2011. The yearly average discharge volume for outfall 003 was 3.33 MGD in 2011.

Outfall 015 (discharge to Dicks Creek at RM 4.15) consists of hot strip mill plant clarification effluent, non-contact cooling water, river/well water and storm water runoff. The treatment system provides flocculation, clarification, and cooling to process wastewater from the hot strip mill, continuous caster, vacuum degassing, slab reheat furnaces, and cold mill cooling tower areas and is monitored under station 005. The hot

strip mill clarification plant was installed in 1968 and was designed to treat 100 MGD with 99.5% recycle. The average discharge volume in 2011 for station 005 was 0.55 MGD. The average discharge volume in 2011 for outfall 015 was 1.52 MGD.

Outfall 004 (discharge to the North Branch of Dicks Creek at RM 0.22) consists of effluents from the south terminal treatment plant, the no. 2 electro-galvanizing treatment plant, non-contact cooling water, river, ground water and storm water runoff. The south terminal treatment plant (monitored under station 641) was installed in 1970 and modified in 1990. It provides lime neutralization, aeration, flocculation, and clarification to the wastewaters generated from hot coating, acid pickling, and cold forming processes and was designed to discharge a volume of 2.89 MGD. The average discharge volume in 2011 for station 641 was 1.64 MGD. The no. 2 electro-galvanizing treatment plant (monitored under station 642) was installed in 1990 and was expanded in 1995. It provides aeration, flocculation and clarification to the wastewater generated from metal finishing processes and was designed to discharge a volume of 0.288 MGD. The average discharge volume in 2011 for station 642 was 0.24 MGD. The total average discharge volume in 2011 for outfall 004 was 2.08 MGD.

Ohio EPA conducted toxicity testing (acute bioassays) at AK Steel WWTP outfall 002 with effluent, upstream, and mixing zone waters. The sampling for the tests was conducted in October of 2007 and July and October of 2000. No toxicity endpoints occurred for any of the test, for either of the test organisms. The July 2000 upstream water was toxic to *Ceriodaphnia dubia.* Outfall 003- was tested in the same timelines as stated. The October 2007 effluents were acutely toxic to Ceriodaphnia. Outfall 004 was tested in the same timelines as stated above. The 2000 effluents were acutely toxic to *P. promelas* and *Ceriodaphnia dubia*. The North Branch of Dicks Creek was acutely toxic to Ceriodaphnia during the 2000 bioassays. Entity-conducted 7-Day Chronic Bioassay toxicity testing in 2007, resulted in no observed effect to the test organism for multiple test reference points at outfalls 002. Outfall 003 was tested on various dates in 2007 resulting in no observed toxicity to Ceriodaphnia. Outfall 011 for this time period revealed toxicity to P. promelas after 48 hours reported to be caused by sodium chloride. Outfall 004 demonstrated similar results to Ceriodaphnia.

Flows from the AK Steel 011 outfall to the GMR averaged 2.78 MGD higher during the 2006-2010 period relative to 1995-1999 (Figure a-0). Loads of TSS increased by 295 lbs/day between the two time periods; however, ammonia nitrogen loads averaged marginally lower by 15.3 lbs/day. Eighteen permit violations (Table 6) of numeric limits were recorded for the period including 2006 through 2010, most (13) were for cyanide, and the remainder for zinc (4) and oil and grease (1). Additionally, 120 sampling frequency violations were noted. Those violations were distributed evenly between copper, lead, cyanide, ammonia, TSS, oil and grease, and pH.

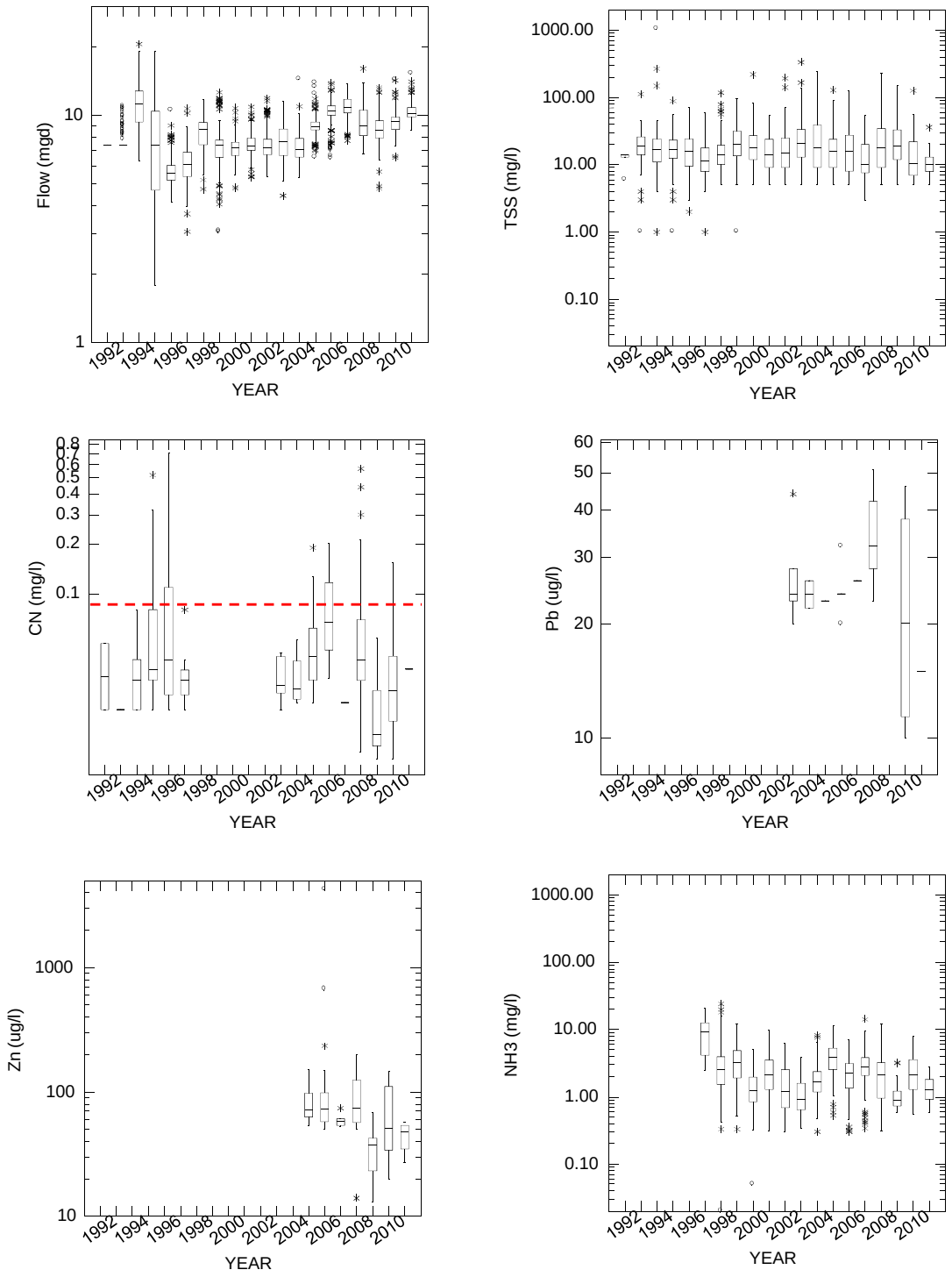

Figure a-0. Distributions of daily flows, and concentrations of total suspended solids (TSS), cyanide (CN), lead (Pb), zinc (Zn) and ammonia nitrogen (NH3) for the AK Steel 011 outfall to the GMR plotted by year.

***Appleton Papers Inc**. West Carrollton Mill-Receiving water-Great Miami River-RM-72.34*
Permit#- 1IA00004 (expires March 31, 2014);
001-Lat:39.682500;Long:--84.251111-Process wastewater
002-West Pond overflow to channel to city storm sewer
003-Storm runoff overflow discharge to Owl Creek
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IA00004.fs.pdf

Appleton Paper's wastewater facility is located in Montgomery County at 4000 Hydraulic Rd in West Carrolton, Ohio. Constructed in the early 1960s, the Appleton Paper wastewater treatment plant is a secondary treatment facility with a current hydraulic design capacity of 6.5 MGD. Appleton Paper produces carbonless copy paper used for invoices and purchase orders using a blend of virgin and recycled fibers. Treatment processes consists of a traveling screen, channel grinder, two primary clarifiers, an aerated lagoon, two secondary clarifiers and a polishing basin. The manufacturing processes used are deinking, bleaching, paper making, coating and blending. Appleton historically used PCB's in the production of carbon paper such as SAS 305, and SAS 310. They have moved to utilizing a more environmentally friendly product which utilizes vegetable soy product microencapsulation in the carbonless paper production. The predominant raw materials used in the production facility include virgin pulp, calcium carbonate, recycled stock, clay and starch. The plant produces an average of 400 tons of paper per day. The dewatered sludge is placed into a holding tank and landfilled or sold as an absorbent material. Conduit flows at outfall 001, averaged 7.59 MGD in 2009.

Appleton Paper's WWTP discharges through three outfall locations. Outfall 001 consists of treated industrial wastewater from the mill production process and power plant, discharging to a side channel of the Great Miami River at RM 72.34. Outfall 002 discharges fire pond water (used for pumping in case of fire) and stormwater into the city stormwater system. Outfall 003 contains storm water runoff from the south part of the facility, building roof runoff, and well water which discharges to Owl Creek. Stormwater, from outfalls 002 and 003, discharge without treatment.

In 2010, an Ohio EPA staff noted a brownish red color to the final effluent at outfall 001 that pooled in a side channel and then discharges to the Great Miami River. The effluent created a defined color contrast line with the Great Miami River when merging with the river. Treatment options to remove color are being explored by Appleton. This color discharge has occurred since at least 2005 and is currently ongoing. The color has been described as related to color paper production, overload of treatment by process materials, and iron backflushing at a wellhead. Screening was added recently in the final outfall area to filter out paper production and processing debris before it reaches the river.

Ohio EPA conducted acute toxicity testing (bioassays) at Appleton Paper outfall 001 screening final effluent, upstream, and mixing zone waters. The sampling events for the bioassays were conducted in December 1999, April 2000 and October 2006. Toxicity

endpoints occurred for *Ceriodaphnia dubia* in 1999 and 2000 but not conclusively for the test in 2006 where mortality occurred in very low numbers. Entity conducted acute toxicity testing in August of 2004 resulted in no mortality in full effluent. In 2005, solvent compound SAS 310 was exposed to rainbow trout under a 96 hour test with no mortalities or signs of toxicity.

Mean flows from the Appleton Papers plant were higher by about 0.3 MGD from 2006-2010 compared to 1995-1999. However, loadings of ammonia-nitrogen and total suspended solids were lower by 25 and 50 percent, respectively, during the recent 5 year period compared to the antecedent period (Table 5), coincident with a decreasing trend in concentrations for both parameters (Figure a-1). No numeric violations of permit limits were recorded for the 2006-2010 time frame. Three sampling frequency violations were noted in 2006, but none from 2007 through 2010 (Table 6).

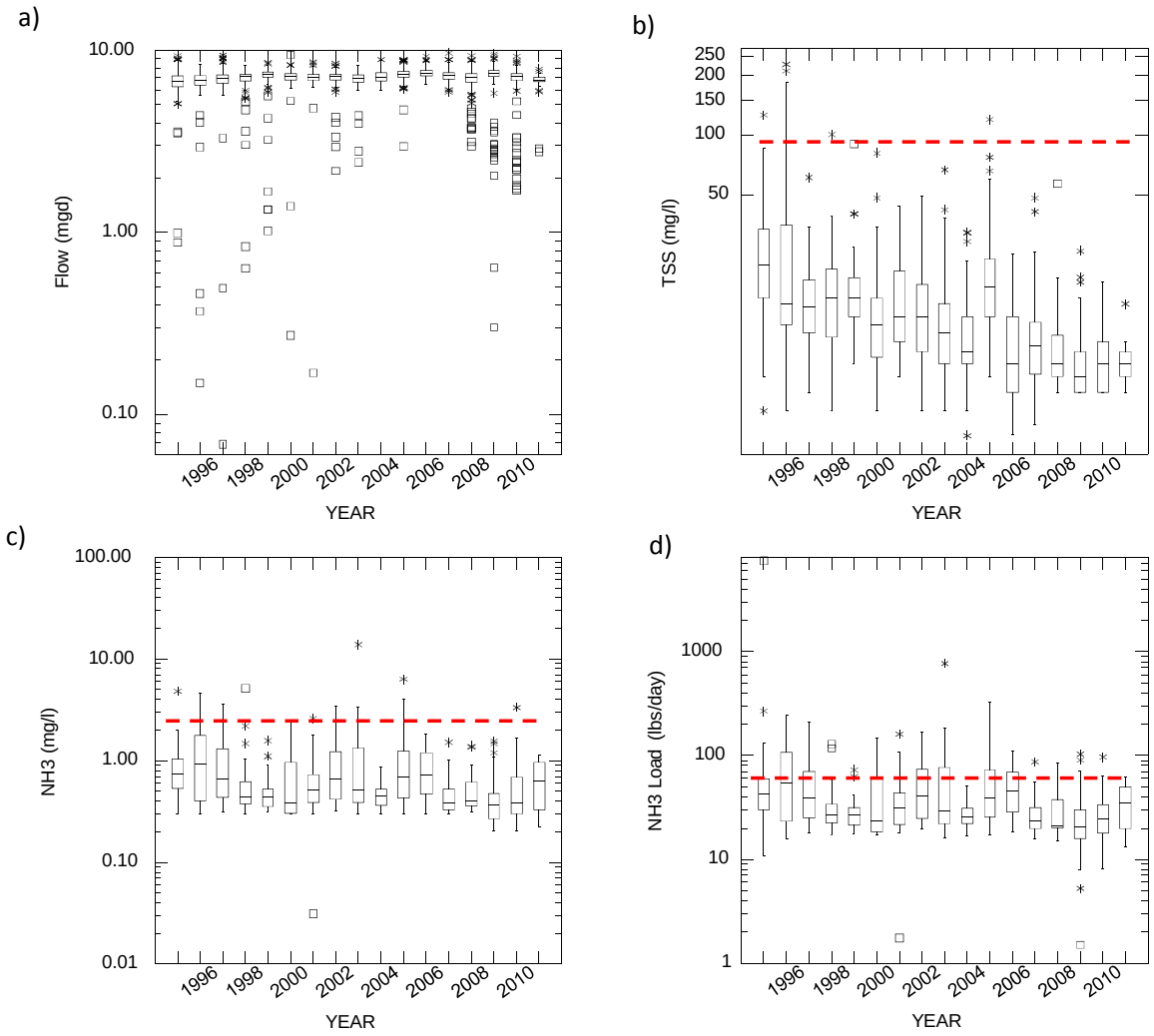

Figure a-1. Distributions of a) annual plant flows, b) concentrations of TSS, c) concentrations of ammonia nitrogen, and d) ammonia nitrogen loads reported by the Appleton Papers Inc. West Carrollton Mill, 1995 through the first quarter of 2011. The red-dashed line depicts the 30-day average limit where applicable.

Brookville WWTP*-Receiving water-Wolf Creek-RM-45.65*
Permit-#1PC00000 (expires May 31, 2013)
Lat:39.826667;Long:--84.411667

Brookville WWTP is located in Montgomery County at 610 S. Wolf Creek Pike, Brookville, Ohio. The facility was built in 1937 and modified in 1998. The Brookville WWTP serves a population of an estimated 5300 and there are no combined sewers in the collection system. Treatment processes consist of fine screening, grit removal, oxidation ditch, secondary clarification, and ultra-violet light disinfection. The facility has backup power generation. The facility has an average design flow of 1.2 MGD and a peak daily flow rate of 5 MGD. By 2008, the facility was approaching the Peak Design Flow Rate with the average daily flow rate approximately 80% of the average design. Inflow and infiltration (I/I) of stormwater and infiltrating groundwater to the sewer system is becoming an issue, indicated by flows at an estimated 1.05 MGD in 2008 and 1.01 MGD in 2007. Since 2006, inflow has increased on an average 0.03 MGD per year.

There are no industrial users contributing flow to the sewer system. Compliance Evaluation Inspections (CEI's) conducted from 2008 until 2010 have indicated marginal areas of performance in the laboratory. There are homes on three to five acre lots near the facility that have on-site sewage treatment systems, however no failing systems have been obvious to OEPA personnel. Ohio EPA personnel report that the facility has admitted to losing solids to the stream resulting from storms causing influent flows to approach average design flow. The city uses Miller Land Application to transport and land apply their bio-solids to two sites. One site is in Perry Township and the other is in Clay Township.

Limit violations of NPDES, were evaluated at outfall 001, from 2006 to 2010 using SWIMS. Eleven violations were reported, occurring in 2007, 2008 and 2010. The two violations in 2010 were for ammonia-N and related to maintenance of tanks offline and reduced aeration times.

Frequency violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Sixteen violations were reported for outfall 001, all in 2006 through 2007 (see Table 6). The City of Brookville conducted a chronic bioassay testing event in October to November of 2008. Both *Ceriodaphnia dubia* and *P. promelas* test organisms displayed toxic endpoints.

Mean annual flows from the Brookville WWTP increased approximately 7 percent in 2006-2010 relative to 1995-1999 (Figure a-2; Table 5). Loadings of cBOD5 were similar between the two periods, ammonia nitrogen loads decreased, and TSS loads increased.

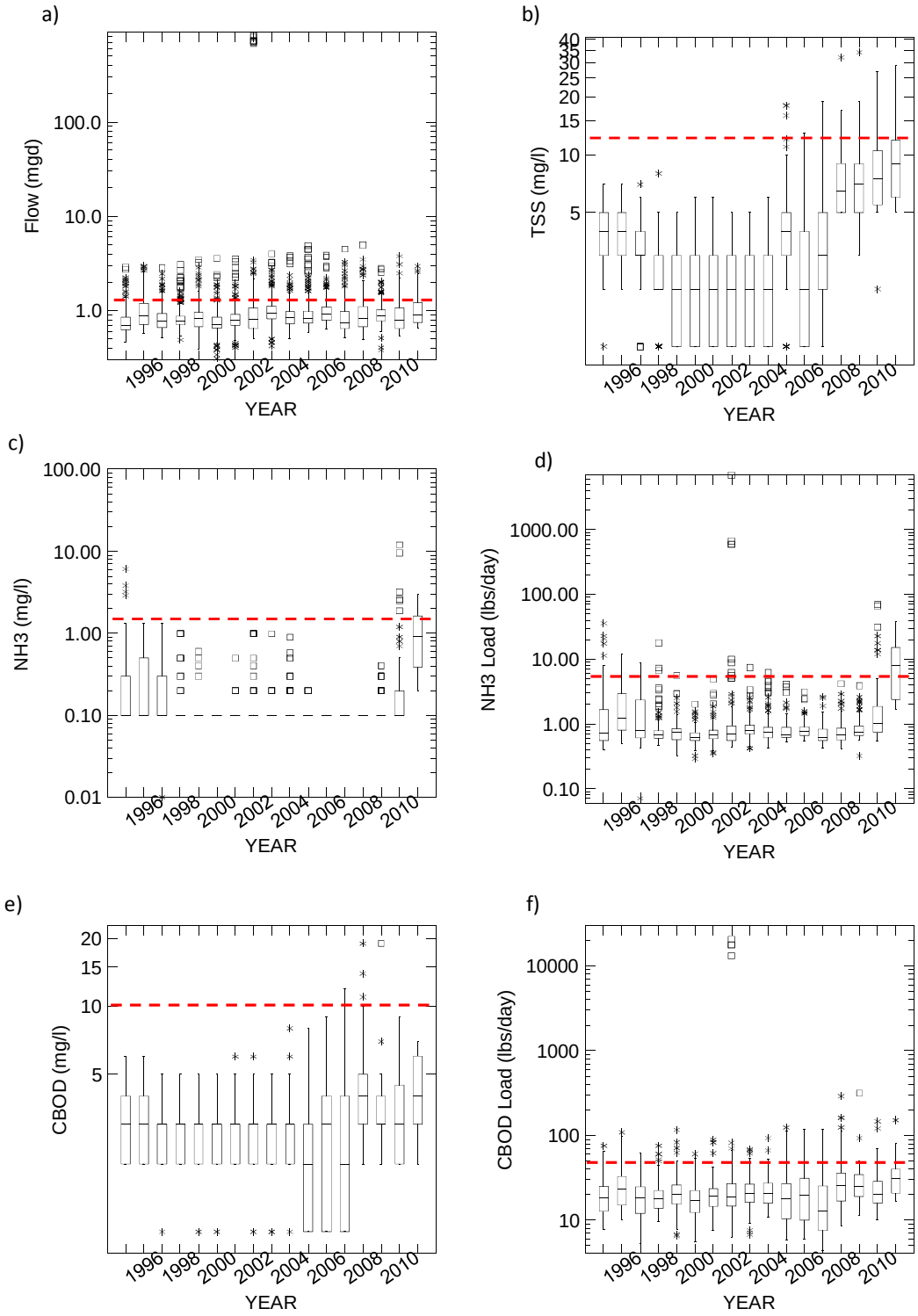

Figure a-2. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Brookville WWTP. Dashed red lines show the applicable 30 average permit limits, and the average daily design flow.

AB-Analytical Data Lost
AD-Automatic analyzer out of service
AF-Sample Site Inaccessible Due to flooding or freezing
AG-
AK-Biological Sample too numerous to Count

***Dayton Power & Light (DP&L) Co OH Hutchings Station** –Receiving water-Great Miami River-RM 64.37-68.85 Permit #-1IB00004*JD*
001-Lat:39.606944;Long:--84.2875-non-contact condenser cooling water
002-Lat:39.613611;Long:-84.294167-ash pond, bearing cooling water pond, coal pile run-off pond
003-Lat:39.61;Long:--84.294167-stormwater run-off from facility
004-Lat:39.610278 Long:--84.4575-sanitary activated sludge package plant
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IB00004.fs.pdf

The Dayton Power and Light (DP&L) Company O.H.Hutchings Electric Generating Station is in Montgomery County at 9200 Chautauqua Rd in Miamisburg, Ohio. The coal fired peaking station was built in 1946 and currently has an average design flow of 2.25 MGD. Formerly a base-load plant, it is now used to provide electricity during times of peak electrical demand primarily during the period of June through August and December through February. Typically, power plants like DP@L discharge contact cooling water by wet sluicing it into large impoundments designed to hold the contact cooling water solids as well as the liquid added for sluicing.

Raw materials used by DP&L are coal, oil, and gas. The majority of the wastewater produced from DP&L is once-through, noncontact condenser cooling water used in the steam surface condenser cooling units. The station also produces wastewater from the fly ash filters and a sanitary wastewater treatment plant. No treatment is provided for the once-through cooling water; the fly ash is settled and filtered. Currently, all three ponds at Hutchings Station are active, the East and West Settling ponds directly receive ash. After settling, water flows by gravity to the Secondary Settling pond. The east and west ponds are not active simultaneously. At the time of the site visit, only the east pond was active. The inactive pond is periodically dredged and the removed ash is taken offsite and used for beneficial reuse. The sanitary wastewater is treated by extended aeration followed by settling, tablet chlorination, and tablet dechlorination. Discussions continued in 2011 on the proper closure of the east ash pond nearest the Great Miami River.

Limit violations of the NPDES were evaluated at outfall 002 and 004, from 2006 to 2010. Three violations of oil and grease were reported.

Frequency violations of the NPDES were evaluated at outfall 002, from 2006 to 2010. Twenty-six violations were reported of mostly pH and TSS primarily in 2007 through 2008.

Mean daily flows from DP&L were similar between the recent 5 year window and the antecedent period (Table 6).

Dayton WWTP *–Receiving water -GMR- RM 76.11;*
Permit # 1PF00000; Lat:39.720000;Long:--84.228333
002-Plant bypass at Westwood Pump Station to GMR
003-Plant Bypass at Broadway Pump Station to GMR
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PF00000.fs.pdf

Dayton WWTP is located in Montgomery County at 2800 Guthrie Rd in Dayton, Ohio. Dayton WWTP is the largest municipal wastewater treatment facility within the basin discharging directly to the Great Miami River. The WWTP was originally constructed in 1929 and has subsequently been upgraded a number of times. Dayton has an advanced wastewater treatment facility with an average design flow of 72 MGD. Wet stream treatment processes include screening and grit removal, primary settling with scum removal, trickling filtration for cBOD removal, intermediate settling, activated sludge aeration for nitrification, final clarification, tertiary filtration, disinfection by chlorination, dechlorination and post aeration.

The Dayton wastewater collection system serves a population of approximately 259,000 collectively from the communities of Dayton, Moraine, Oakwood, Clayton, Trotwood, Riverside, Harrison Township and Wright Patterson Air Force Base (WPAFB). The city is responsible for 13 lift stations within the collection system whereby the Broadway and Westwood pump stations have bypass capabilities. Odor complaints by citizens have plagued the facility. In 2008, the City of Moraine filed a verified complaint for air nuisance violations against the City of Dayton WWTP. In 2010, Ohio EPA issued Director's Final Findings and Orders (DFFO) to Dayton to investigate and maintain odor controls in the sewer system and at the wastewater treatment plant. Odor complaint frequency increases when there is construction related to the odor controls at the wastewater treatment plant. The City of Moraine is kept informed of these construction activities by the City of Dayton (as required in the DFFOs). Recent construction of new biofilters at the City of Dayton's pump station is an effort to reduce the odors from the facility.

There are no combined sewers in the entire collection system. Inflow and infiltration is problematic for the collection system. In April 2011, permit violations at the final effluent for suspended solids were noted due to rain increasing influent flows to 98 MGD, far exceeding the design capacity of 78 MGD. The average and peak daily flow rates can range from 46 MGD to 144 MGD. High flows, effluent filters down due to construction, and the upset of the nitrification aeration system resulted in loss of solids. Sanitary sewer overflows (SSOs) have been reported, many of which are manhole overflows at Mary Ellen Dr. and Ernst St primarily due to roots and grease. Root problems are put on a root control watch and for grease blockages, businesses are required to have an upgraded grease separator. Waterways affected by the overflow locations migrate to Wolf Creek, Great Miami River, Opossum Creek and other watersheds. Capital

improvement projects have involved lining the sewers and replacing sewer lines on various streets.

The City of Dayton has an Ohio EPA approved pretreatment program with fifty-three industrial users discharging to the wastewater plant. Significant industrial contributors include electroplaters, metal finishers, corn processing, foundries, chemical manufacturers, pulp and paper manufacturing, and laundries. Flow to the treatment plant from the industrial users was recorded at approximately 6.55 MGD in 2009.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 from SWIMS. Twelve violations of predominately TSS and chlorine were reported. Most violations occurred in March of 2006, a heavy precipitation year. Frequency Violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Ten violations were reported, comprised mostly of ammonia-N and oil and grease and occurring primarily in 2006 and 2007.

Ohio EPA conducted toxicity testing (acute bioassays) at Dayton WWTP outfall 001 with effluent, upstream, and mixing zone waters. Sampling for the bioassays was generally conducted unannounced at the facility prior to the events. The events were conducted in March and June 2000 and May and July 2007. No toxicity endpoints occurred for most of the tests, except May, 2007 where the composite sample was toxic to *Ceriodaphnia dubia.* These tests do not address the possibility of chronic toxicity.

Mean daily flows from the Dayton WWTP were less during the recent time frame compared to the antecedent period (Table 5), as were ammonia nitrogen loads. Concentrations of ammonia reported by the plant met respective seasonal limits, and were generally less than 0.1 mg/l (Figure a-3a). Loads of cBOD were similar between time periods and TSS loads increased approximately 40%, though concentrations of both parameters generally were well below permit limits (Figures 13b and e).

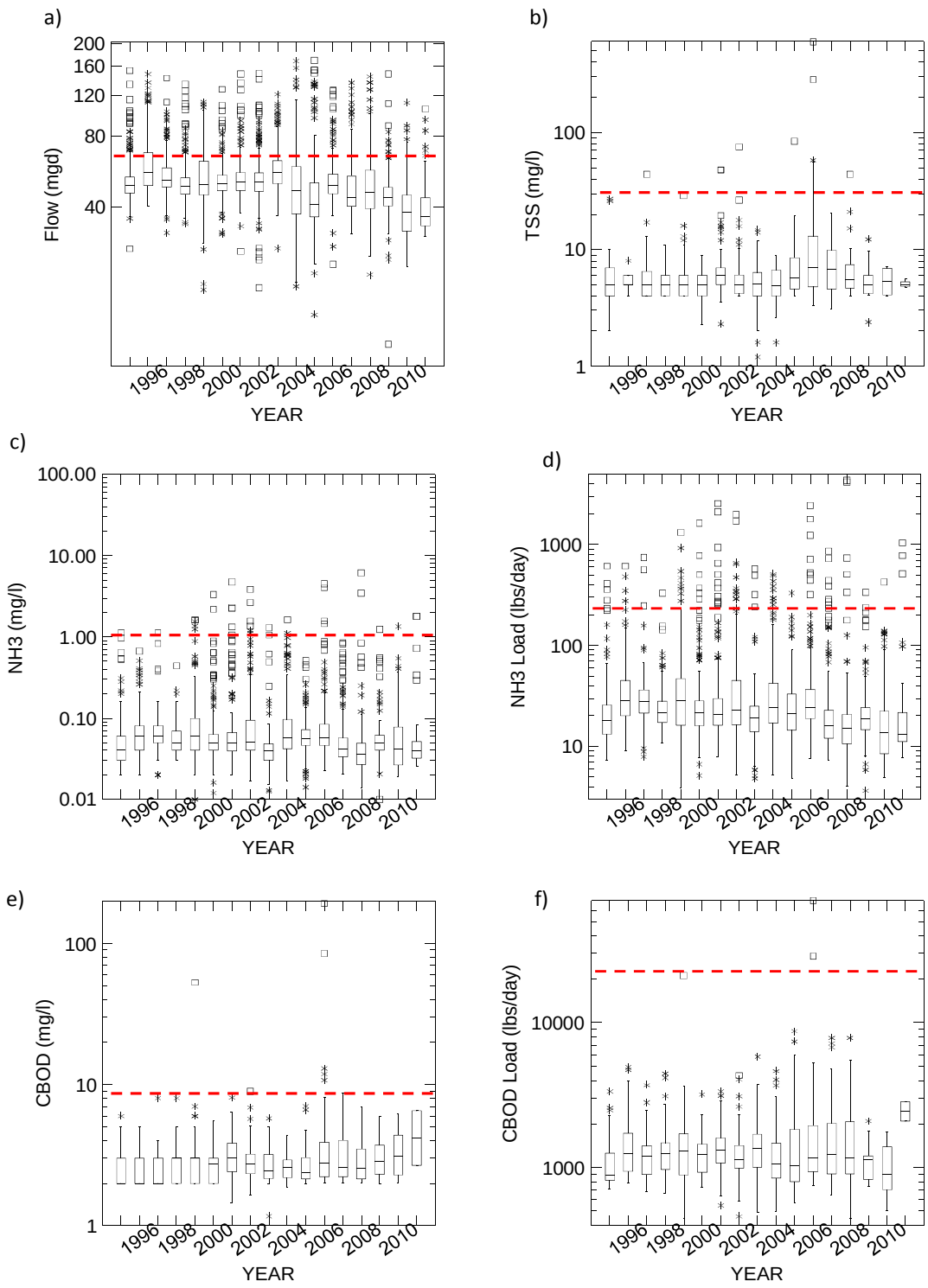

Figure a-3. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Dayton WWTP. Dashed red lines show the applicable 30 average permit limits, and the average daily design flow in the flow plot.

Fairfield WWTP -Receiving water-Great Miami River-RM-32;
Permit-#1PD00003*KD (expires July 31, 2014)
Lat:39.346667;Long:--84.593056
001-to Great Miami River
002-External bypass of facility
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PD00003.fs.pdf

Fairfield WWTP is located in Butler County at 4799 Groh Lane, Fairfield, Ohio. The facility was built in the 1960's with a modification in 2006 to an average design flow of 10 MGD. Fairfield WWTP is a secondary treatment facility, with a collection system of separate sanitary sewers with sanitary sewer overflows (SSOs). The treatment facility serves approximately 45,000 people. Treatment processes include; fine screening, grit removal, primary settling, activated sludge aeration, combined biological nitrification, equalization basins, secondary clarification, UV light disinfection and post aeration. The average daily flow rate for 2011 was 5.112 MGD, 2010 was 5.308 MGD and in 2009 was 5.977 MGD, a steady decline over three years. Fairfield wastewater reports suggest discharges rarely, if ever, occur through the wastewater facility bypass station.

Inflow and infiltration issues have been reported as recently as 2011 and have created operational challenges for the personnel during high precipitation or snow melt events. Annual I/I is estimated at an average of 172,000 gallons per day. In 2010, the Ross Rd. manhole overflowed over an 8 hour period due to heavy rainfall. Over two and half inches of rain inches of rain fell on already saturated ground after a record rainfall in April 2011 promoting the overflow. A three to four inch rain in a 28 hour period can increase peak flows to approximately 23 MGD, more than twice its average design flow capacity. There have been 239 Slip Lining Projects consisting of 55,071 feet of sewer pipe. Six hundred and fifty-one Flex Seal Manhole Rehabilitation Projects will have been completed by 2011. The Rehabilitation Project and Lining Project prevent storm water from infiltrating the collection system.

The City of Fairfield's wastewater is collected by a network of private laterals and main sewers. With the help of 12 lift stations, the waste flows by gravity to the wastewater treatment facility. The sewer collection system contains over 4,300 manholes and over 175 miles of sewer pipe. The City's entire sewer collection system is cleaned once every 5 years and is currently conducting camera work on the collection system, completing video on70,000 to 90,000 feet of sewer pipe each year to be completed by the end of 2012.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Through SWIMS, sixteen violations were reported during this period. Ammonia-N violations in 2009 were attributed to an interruption in the nitrifying process thought to have been caused by a diesel fuel or solvent. Ammonia-N violations in October of 2010 were attributed to too much digested sludge being fed through the press, resulting in an overload of ammonia to the head works of the plant. This was corrected by extending the sludge feed over more days, instead of just one. Facility upsets causing the TSS violations in 2010 were attributed to water intrusion issues of snow melt.

Code Violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010 Twenty-five violations were reported for mostly Flow Rate of which the majority occurred in 2008 (Table 6).

Ohio EPA conducted acute toxicity testing at Fairfield WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling for the tests generally occurred unannounced to the facility prior to the events and were conducted in May of 2001, May and September of 2007. No toxicity endpoints occurred for any of the test organisms. These tests do not address the possibility of chronic toxicity.

Mean effluent flows from the Fairfield WWTP were less over the recent five year period compared to 1995-1999 (Table 5). Loads of cBOD and TSS were similar, while ammonia loads increased by 35 percent. Sixteen numeric permit limit violations were recorded between 2006 and 2010, 10 of which were for ammonia nitrogen (Table 6).

Distributions of daily plant flows, and concentrations and loads of TSS, ammonia and cBOD (Figure a-4) plotted by year and in relation to respective limits suggest that the plant has been consistent in its operation over the last decade.

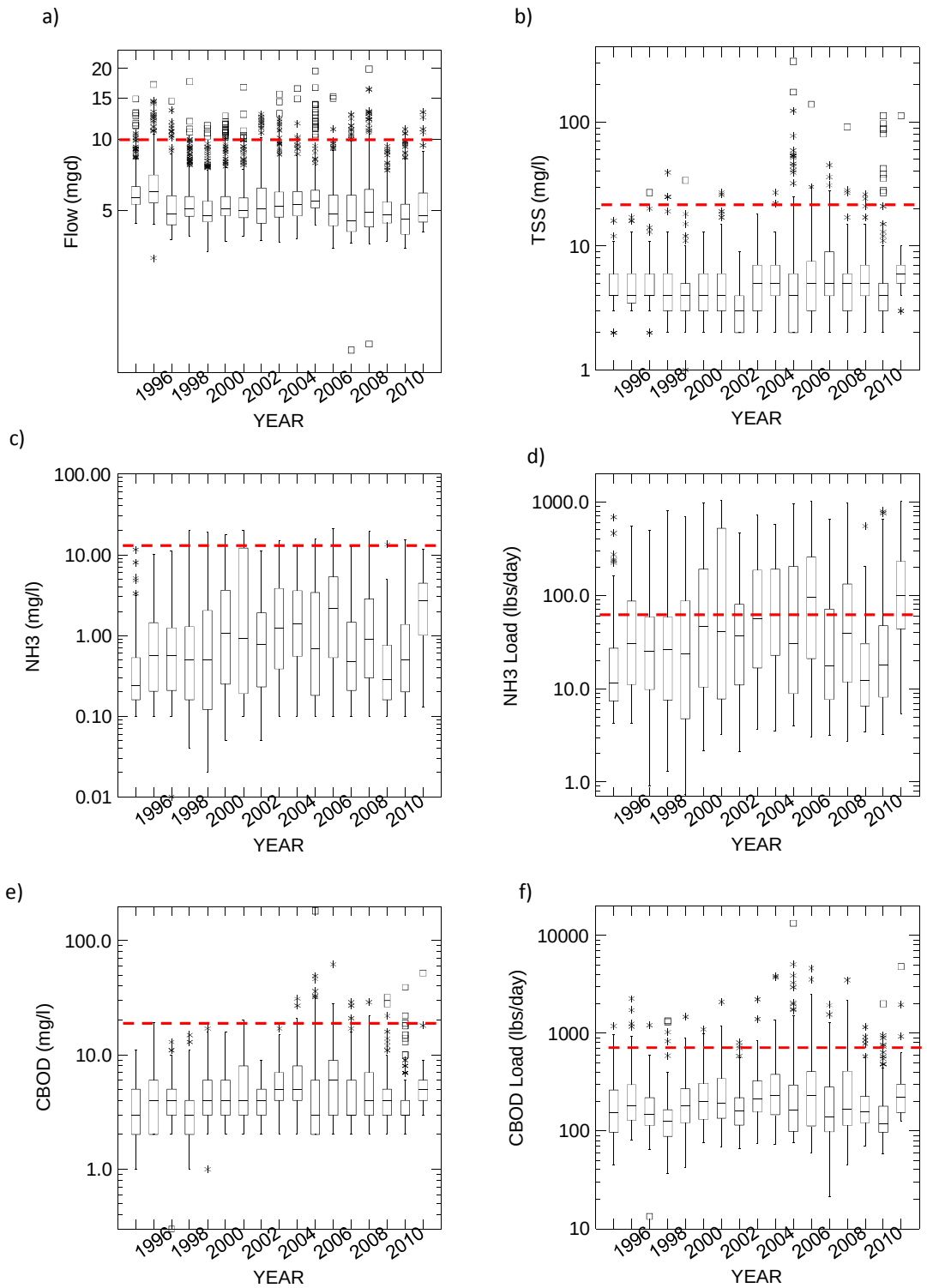

Figure a-4. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Fairfield WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters and the average daily design flow in the flow plot.

Hamilton Municipal Electric Plant-*Receiving water-Great Miami River*
*Permit #-1IB00008*KD*
Outfall 003-Once through cooling water, bearing cooling water and condenser water to Great Miami River-sum of internal stations 607, 608, 609- Lat:39.408333;Long:--84.558333
005-Coal Pile runoff and gas turbine non-contact cooling water to Hamilton Hydraulic Canal- Lat:39.408333;Long:--84.558333

The Hamilton Municipal Electric Plant is located at 960 N. Third St. in Hamilton, Ohio in Butler County. Hamilton Municipal Electric Plant generates electricity from coal, fuel oil and gas and has been operated by the city of Hamilton since July 1895. The power plant maintains six outfalls (003, 005, 006, 007, 008 and 009) which discharge to the Hamilton-Rossville hydraulic canal and the Great Miami River mainstem. The facility extracts its condenser and bearing cooling waters from the Hamilton Hydraulic Canal and other waters from the city. All ash transport wastewater goes to Hamilton WWTP as does the sanitary wastewater. Outfall 003 discharges approximately 33 MGD directly to the Great Miami River at RM 37.1 from several condenser units utilizing once-through cooling water to reduce water temperature to a suitable discharge level. Chlorine is added to control algal growth in the facility distribution lines. Outfall 005 discharges treated, non-contact cooling water to the Hamilton-Rossville hydraulic canal through a submerged pipe, located upstream of the cooling water intake, and is the uppermost electric plant outfall. Outfall 005 receives runoff from a coal pile which drains to a central location and discharges on average, a frequency of one time per month. Treatment of the coal pile runoff is through settling only. The coal pile area water is primarily lost to groundwater. Outfall 006 discharges primarily ash wastewater to the Hamilton-Rossville hydraulic canal downstream from outfall 005. The outfall receives non-contact cooling water from the oil coolers, bearing seal water, and floor drains (annual average 20,000 GPD). Additional annual average discharge quantities for outfall 006 include boiler blow down (2,000 GPD), evaporator blow down (1,500 GPD) and bearing seal water (500 GPD). Outfall 007 discharges non-contact cooling water from turbine unit #5 to the Hamilton-Rossville hydraulic canal downstream from outfall 006. Since the last permit cycle in the late 1990's minor changes have taken place in the effluent discharges. The power plant had to reduce the volume of water discharged to the sanitary sewer system. Non-contact cooling water and boiler blow down water were diverted from the sanitary line and routed to direct discharge points 003 and 007. Outfall 008 has been added since the last permit cycle.

Limit violations of the NPDES were evaluated at three (003, 005, 006) outfalls from 2006 to 2010. Sixteen violations were reported, ending by 2009 for mostly TSS and pH. Most violations were suspended solids and occurred at outfall 005 from the coal pile runoff and gas turbine non-contact cooling water. One water temperature violation was reported in 2006. Frequency Violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Sixty-three violations were reported of predominantly Water Temperature at outfall 008 which ended mostly by 2007 (see Table 6).

Harrison WWTP *–Receiving water-Whitewater River-RM-8.15;*
Permit-#1PC00002 (expires January 31, 2013) Lat:39.245000;Long:--84.809444
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PC00002.fs.pdf

Harrison WWTP is located in Hamilton County at 10999 Campbell Rd in Harrison, Ohio. Harrison wastewater treatment facility is an advanced treatment facility with an average design flow of 2.3 MGD. The facility was built in 1970 and recently upgraded in 2004 with a totally separate collection system and 4 lift stations. This facility serves the City of Harrison as well as West Harrison, Indiana for a total population of approximately 9,270. Wet stream processes include screening and grit and scum removal, oxidation ditch, secondary clarification and ultraviolet disinfection. The facility does not have provisions for bypassing untreated or partially treated wastewater flows. The collection system does not have any bypasses or overflows. There are six industrial users which discharge an estimated 0.035 MGD into the city sewer system. From 2006 to 2008 the facility had an annual average daily flow rate of 0.900 MGD and one MGD in 2010. The collection system has no combined sewers and I/I is estimated to be approximately 2.75 MGD. As of 2008, I/I rehabilitation projects were ongoing, addressing manholes and the collection system conduits.

This facility contracts with Synagro to land apply its biosolids to active farm fields. The farmland is located on Hamilton Scipio Rd in Okeana and south of the town of Newkirk in the southwest corner of N. Wynn Rd at SR 129. This piece of property drains into the tributary headwaters of Buck Run.

In 2009, DFFO's were issued to Harrison for their pretreatment program involving JTM Foods. The Orders required escalated enforcement action against JTM Foods and others to ensure compliance with the City's pretreatment standards. Industrial users contribute approximately 0.036 MGD of industrial flow to the wastewater facility.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 using SWIMS. Twenty-five violations of predominately TSS and oil and grease were reported, increasing in occurrences by 2009. Violations for ammonia-N were related to heavy rains, decanting sludge digesters coupled with low temperatures, and taking clarifiers offline for maintenance. Total suspended solids violations were due to faulty pump components causing flow surges, plant adjustments, food grade oil, grease slugs, and rainfall amounts. Since 2005, JTM Foods has had 57 violations for oil and grease, two violations for pH and three for temperature which have interfered historically with treatment practices at Harrison WWTP.

Ohio EPA conducted toxicity testing (acute screening bioassay) at Harrison WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling for the tests were generally unannounced to the facility prior to the events and were conducted in February 2001, October 2005, May 2006, November 2009 and April and July 2010. The 2005 and 2010 toxicity tests resulted in toxic endpoints. These tests do not address the possibility of chronic toxicity.

Harrison WWTP is required by their NPDES permit to conduct 48-hr static acute bioassay testing. The latest testing for this facility occurred in July of 2011, resulting in no toxicity to *Ceriodaphnia dubia* in effluents and receiving waters. Testing conducted in April and October2010, as well as February of 2009, revealed toxic endpoints. Plant flows from the Harrison WWTP were similar in 2006-2010 compared to 1995-2010, cBOD loadings increased, ammonia nitrogen loads decreased, and TSS loads were similar (Figure a-5, Table 5). Twenty-nine numeric permit limit violations were noted for the period 2006-2010, with most being for TSS (16) and ammonia nitrogen (6) (Table 6).

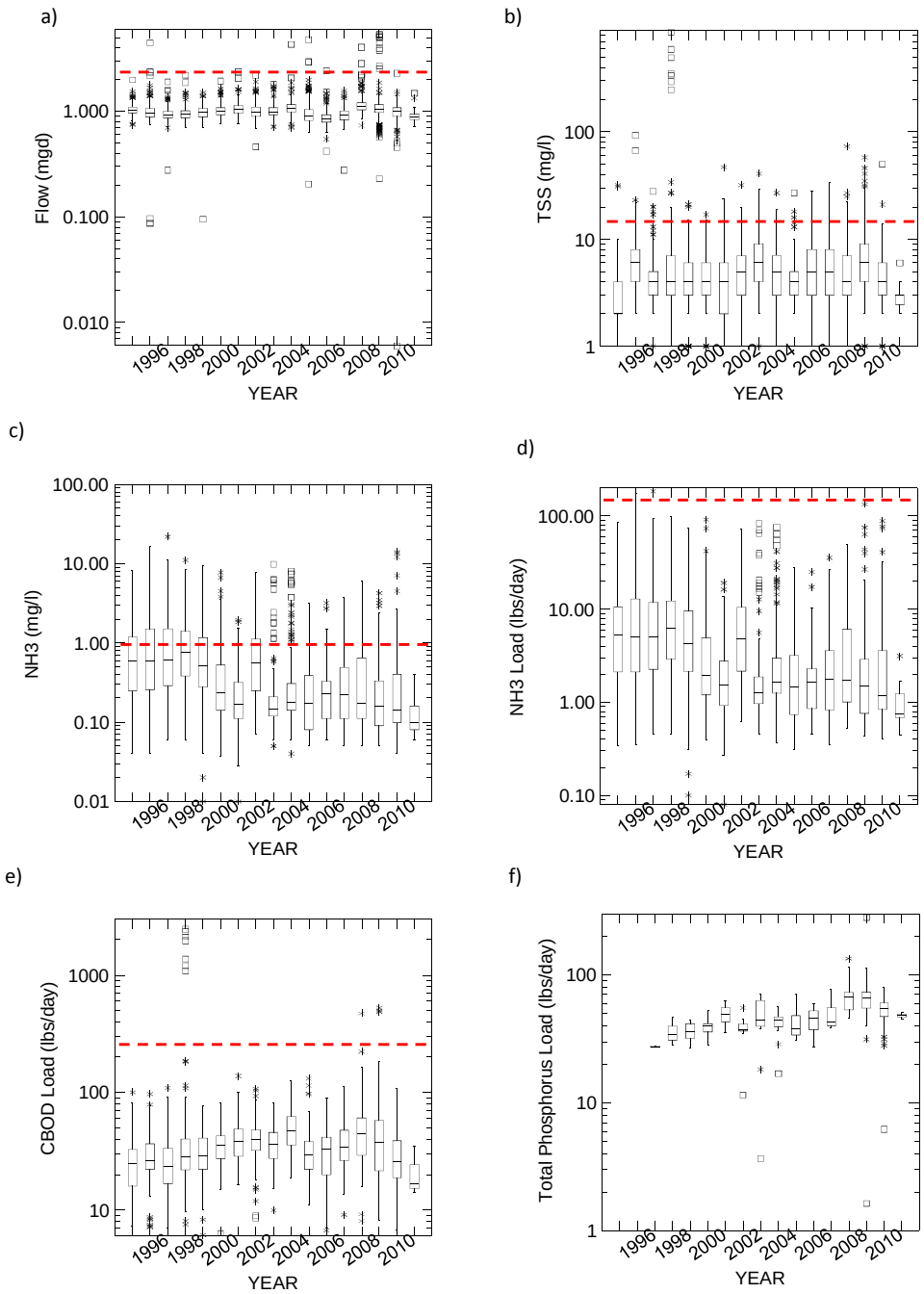

Figure a-5. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) daily loads of 5-day biochemical oxygen demand (cBOD), and f) loads of total phosphorus for 1995 through the first quarter of 2011 for the Fairfield WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters (summer limits for ammonia), and the average daily design flow in the flow plot.

Hamilton Water Reclamation Facility-*Receiving water**- Great Miami River-RM 34*; *Permit-#1PE00002 (expires July 31, 2014) Lat:39.371111:Long--84.570000*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PE00002.fs.pdf

Hamilton Water Reclamation Facility (WRF) is located in Butler County at 2451 River Rd in Hamilton, Ohio. The facility was built in 1958 with a modification in 2000. The facility has an average design flow of 32 MGD with a hydraulic peak flow of 62 MGD. Hamilton wastewater treatment facility is an advanced secondary facility serving approximately 64,000 people. The facility has seven categorical industrial users and three non-categorical industrial users contributing an average of 10.2 MGD. Treatment processes include; bar screening, aerated grit tank, primary and secondary clarifiers, chlorination, dechlorination and post aeration.

Identification or reduction projects involving I/I continued through the public works department in 2010. Public works has currently placed 22 flow meters to locate areas of water intrusion into the collection system. In one calendar quarter, seven complaints from citizens were tied to backups in the sanitary sewer itself as opposed to citizen laterals. Manhole 037 clearly sends the most raw sewage to a waterway and in 2009 alone sent a reported 7 million gallons to the river in one day in June. Manholes 027 and 037 have the potential to release upwards of 100,000 gallons of raw sewage in just three hours. Water intrusion reductions from 2000 until 2010 have resulted in an annual average daily flow declining from 20 MGD to 11.5 MGD.

Ohio EPA conducted acute toxicity testing at Hamilton WRF outfall 001 with effluent, upstream, and mixing zone waters. The sampling events for the tests were generally unannounced and were conducted in June of 2001 and June of 2007. No toxicity endpoints occurred for any of the tests, for either of the test organisms.

Flow from the Hamilton WRF were 37 percent lower in the recent 5 year period compared to 1995-1999. Loadings of cBOD, ammonia nitrogen and TSS followed suit (Figure a-6, Table 5). Numeric permit limit violations were noted on 7 occasions, 5 for chlorine and 2 for pH (Table 6). Although mean flows have decreased, flow variability has increased, likely reflecting on-going I/I in the collection system.

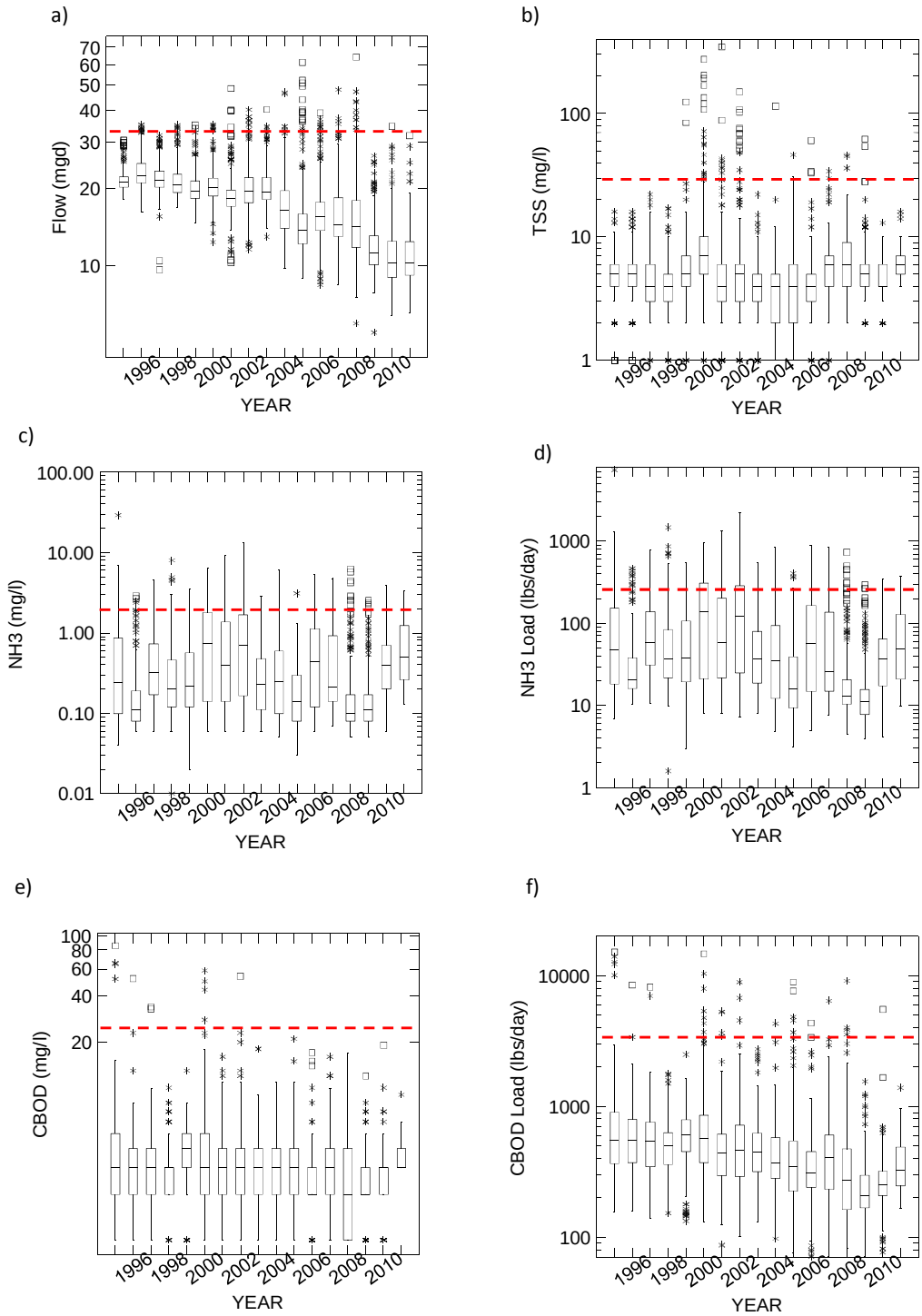

Figure a-6. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Hamilton WRF. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

LeSourdsville Water Reclamation Facility (WRF)-*Receiving water- Great Miami River-RM 45.65;*
*Permit-#1PK00011*KD (expires January 31, 2014) Lat:39.443611:Long:--84.437778*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PK00011.fs.pdf

Lesourdesville WRF is located in Butler County at 5260 Hamilton Middletown Rd in Hamilton, Ohio. The wastewater facility is an advanced treatment facility on separate sewers, serving a population of approximately 63,000 with an average design flow of 12 MGD. Expansion of the facility was underway in 2011 to increase the average design flow to 15 MGD and maintaining its 14 lift stations. Treatment processes include; pumping screening, grit removal, activated sludge aeration utilizing oxidation ditches, final clarification, UV light disinfection and cascade post aeration. Expansion of the facility included a conversion of two oxidation ditches to flow equalization ditches, and a new biological treatment system. The facility serves Liberty and Fairfield townships, the cities of Trenton and Monroe and Lemon Township in Warren County. Lesourdesville has an approved pretreatment program, with ten industrial contributors sending an average flow of 1.01 MGD to the wastewater facility.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. For the five years of data evaluated through SWIMS, five violations were reported, most of them for dissolved oxygen. Violations were related to heavy precipitation and the lack of flow equalization. Flows inundated the facility causing manhole overflows onsite and final effluent surcharging.

Code violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS, 14 violations were reported for mostly Flow Rate, the majority occurring in 2008 (see Table 6).

Ohio EPA conducted toxicity testing (acute bioassays) at Lesourdesville outfall 001 with effluent, upstream, and mixing zone waters. The sampling for the tests were generally unannounced to the facility prior to the events and were conducted in December 1999, July 2000, May 2005, December 2006 and August of 2007. No toxicity endpoints occurred for any of the tests, for either of the test organisms.

Plant flows, and loadings of ammonia nitrogen and TSS from the LeSourdsville WRF were higher in 2006-2010 compared to 1995-1999, whereas cBOD loads were similar (Table 5). Numeric permit violations were noted on 5 occasions, 3 for dissolved oxygen, 1 for ammonia nitrogen, and 1 for oil and grease (Table 6). Distributions of mean daily plant flows, and concentrations and loads of key wastewater constituents suggest that plant performance was consistent over the period of record (Figure a-7). Overflow of onsite manholes has occurred with heavy precipitation overwhelming clarifiers and manholes #3 and #5. Overflows from the manholes and cascade send raw effluent to the Great Miami River and Gregory Creek.

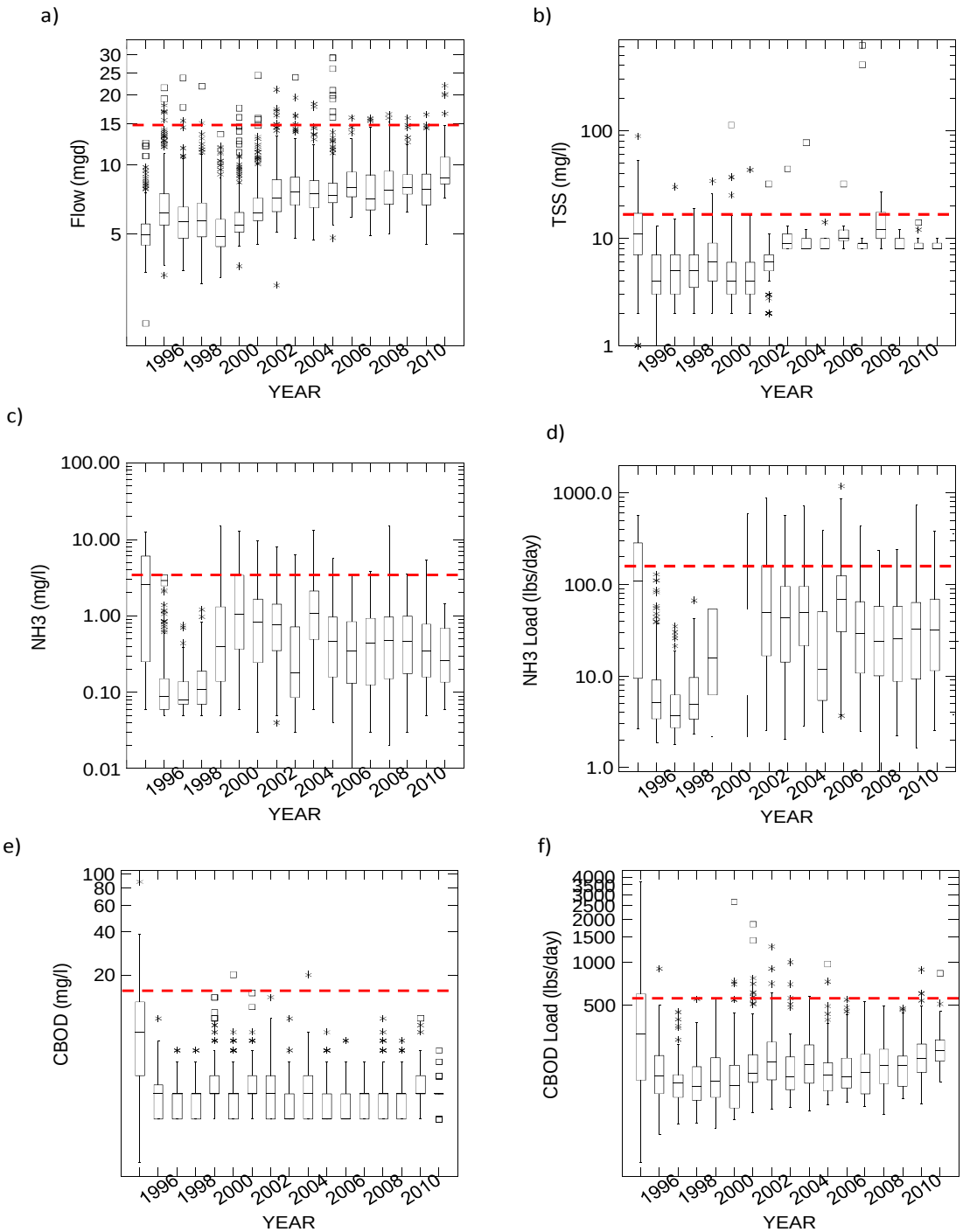

Figure a-7. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the LeSourdsville WRF. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Miamisburg Water Reclamation Facility (WRF)*-Receiving water-Great Miami River-RM 65.05*
*Permit-#1PD000017*KD (expires January 31, 2014)*
Lat:39.615556:Long:--84.293611
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PD00017.fs.pdf

Miamisburg WRF is located in Montgomery County at 9139 Dayton-Cincinnati Pike in Miamisburg, Ohio. The facility was built in 1967 with a modification in 2004 and has an average design flow of 4 MGD. Treatment processes include; screening, primary and secondary clarifiers, chlorination, dechlorination and post aeration. The treatment facility maintains bypass capabilities after primary clarification that routes partially treated sewage directly to disinfection.

The collection system is separate sanitary and storm sewers with no constructed bypasses in the collection system. As of 2009, I/I was estimated at 0.4 MGD. From 2004 until 2008, the annual 50th percentile effluent flow rates averaged 2.80 MGD with a maximum reported at 10.76 MGD. Collection system weaknesses allow water intrusion, prompting overflows on the average of one to two per year. These overflows impact Sycamore Creek and the Great Miami River, creating operational challenges for personnel. Overflow locations include Lyndon and Riverview, Ashley Dr, Pipestone lift station and Hillview Dr, near east side pump station. The facility has 3 industrial users and no Ohio EPA approved pretreatment program. Sludge is disposed of by land application.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS, seven violations were reported, reducing to one violation in 2009 and one in 2010. Code Violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS, five total violations were reported, all occurring in 2008.

Ohio EPA conducted acute toxicity testing at Miamisburg WWTP outfall 001 with effluent, upstream, and mixing zone waters. Sampling events at the facility were generally unannounced and were conducted in May and June of 2007. While the June 2007 revealed no evidence of toxicity, the May composite test was acutely toxic for *Ceriodaphnia dubia* with 90 percent mortality. These tests do not address the possibility of chronic toxicity. Miamisburg has been required to conduct quarterly biomonitoring tests for the duration of the permit cycle.

Plant flows from the Miamisburg WRF were higher in 2006-2010 compared to 1995-1999, but cBOD and TSS were similar between time periods, and ammonia nitrogen loads were lower by 87 percent (Figure a-8). Numeric permit limit violations for mercury were noted on 4 occasions dating from January through March 2006. Distributions of mean daily plant flows for 1995-2010 revealed that 75th percentile plant flows during 2006 and 2007 were at the design average, suggesting that I/I of the collection system has increased over the period of record. However, concentrations and loads of cBOD,

TSS and ammonia nitrogen have remained within permit limits, indicating that treatment efficiency has remained relatively constant.

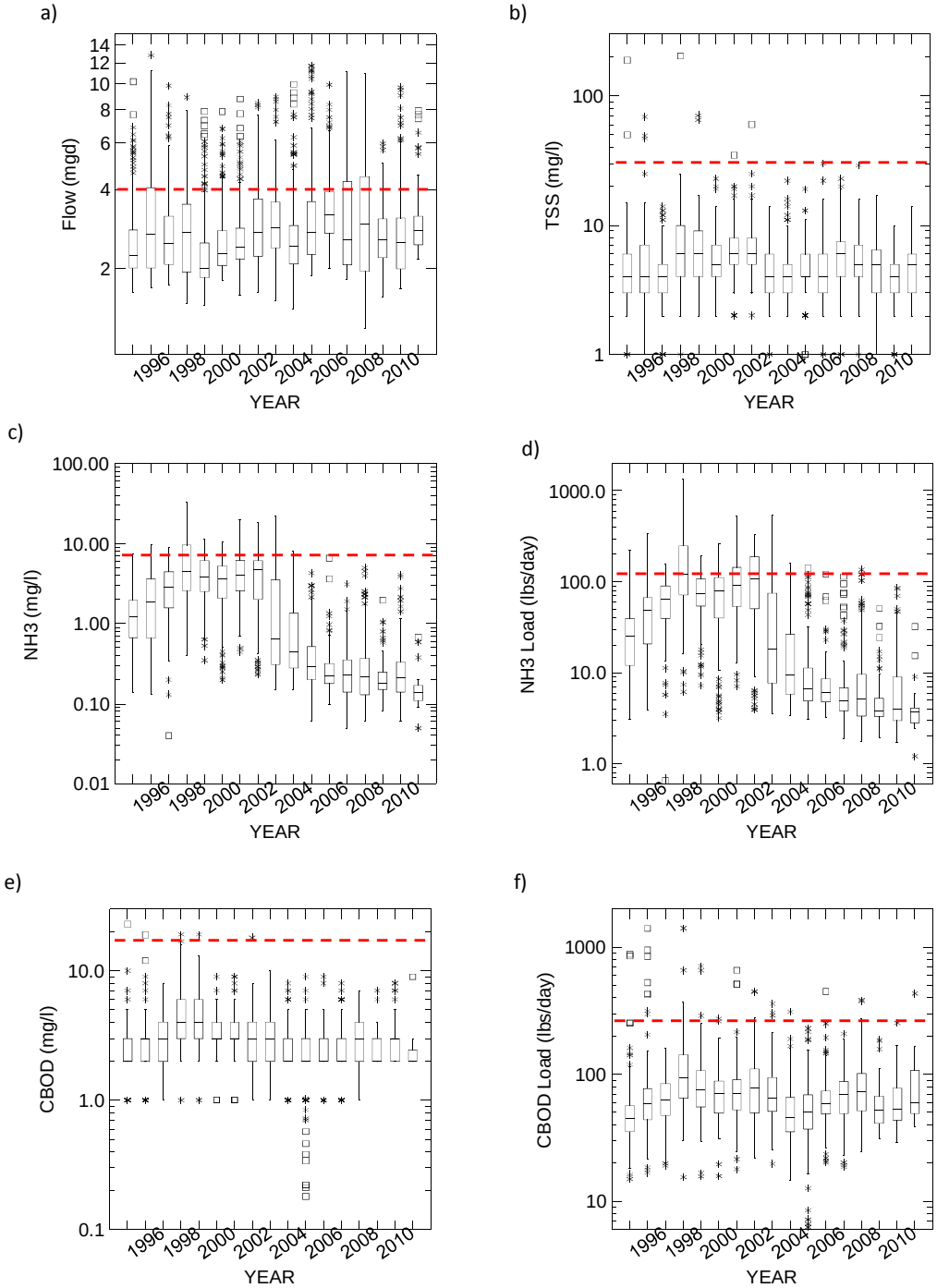

Figure a-8. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Miamisburg WRF. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Middletown Wastewater Treatment Plant *–Receiving water-Great Miami River-RM 48.29*
*Permit-#1PE00003*ND (expires January 31, 2014); Lat:39.478056:Long:--84.427778*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PE00003.fs.pdf

Middletown WWTP is located in Butler County at 300 Oxford State Rd in Middletown, Ohio. The facility was built in 1958 with a modification in 2000 which included; an influent line rehabilitation to reduce groundwater inflow and CSO flap gates at the river replaced with tideflex gate to prevent river intrusion into the system. Treatment processes include; screening, grit and scum removal, primary settling, activated sludge aeration, secondary clarification, chlorination, dechlorination and post aeration. The current average design flow is 26 MGD with a peak flow of 53 MGD. In March of 2008, the average plant inflow was 32 MGD.

Nearly half of the collection system contains eight CSOs. Five of the CSO structures discharge to the Great Miami River between RM's 52.17 and 51 and three CSO structures discharge to the Middletown Hydraulic Canal. Combined sewers convey wastewater during dry weather periods but allow stormwater to enter during storms. In general, this type of collection system can fill quickly, forcing combined sewage and storm water out of manhole covers, lift stations, and any potential exit points along the way. The Middletown collection system has bypasses and overflows specifically constructed as relief points. The CSO structures with the most frequent reported overflows are outfall structures 008, 003 and 007 respectively. In terms of volume, CSO 005 (and 006 secondly) overflowed less frequently, but had greater volumes than others in terms of annual totals.

As of 2010, wastewater back-ups into basements were still being reported in the Middletown area. Basement backups of water and sewage are another avenue for needed relief in an overburdened collection system much like the CSO overflows that occur. The location of backup areas form a quadrangle between Oxford State Rd south to north of Riverview Verity parkway to the west and Dixie Hwy to the east.

The City of Middletown implements an OEPA industrial pretreatment program. Seventeen industrial users discharge an average flow of 4.68 MGD to the wastewater facility. As of 2009, several Middletown industries have closed, including; Sorg Paper in 2000, Square D in 2002 and Middletown Paperboard in 2002. All three facilities had a total combined average daily flow of approximately 2.2 MGD.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Forty-eight total violations were reported, reducing to four violations by 2010. Numerous sampling frequency violations for cBOD and TSS were posted for bypass and CSO monitoring (Table 6). Nearly half of the violations occurred from April through June for any years with TSS violations in the majority. Violations in 2009 were specifically attributed to stormflows exceeding design capacity and a sludge handling project causing plant disruptions. High storm flows are handled by cutting power to aeration tanks for extended periods to allow for settling of biomass. This is performed in order to

avoid overloading the final clarifiers with solids which in turn upsets the biological system causing violations of TSS.

Ohio EPA conducted acute toxicity testing at Middletown WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling events were generally unannounced and were conducted in October of 1999, August of 2000 and April of 2007. Toxicity occurred in the composite effluent to *Ceriodaphnia dubia* in the April of 2007 testing event. These tests do not address the possibility of chronic toxicity.

Plant flows and loadings of cBOD, TSS and ammonia nitrogen from the Middletown WWTP were higher in 2006-2010 compared to 1995-1999 (Table 5). Distributions of mean daily flows, and concentrations and loads of TSS, cBOD and ammonia nitrogen (Figure a-9) show that 75th percentile concentrations to TSS are approaching the 30 day average, and median loads of ammonia nitrogen equaled the 30 average in 2009, coinciding with the numeric violations.

Miller Brewery Company

Miller Coors LLC-Permit #-1IH00011-Receiving water-Great Miami River-RM 43.7
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IH00011.fs.pdf

The Miller Brewing Company discharges directly to the Great Miami River at RM 43.7 on a continuous basis. The plant is located in St. Clair township near the city of Trenton and became operational in 1991. The treatment facility is designed to treat wastewater generated from the production of malt beverages and consists of mechanical screening, grit removal, six aeration basins, four secondary clarifiers, and two polishing lagoons. Solids removed in the treatment process are dewatered with a sludge press and are either land applied or disposed at a sanitary landfill. Sanitary wastewater generated from the employees is treated by the Butler County LeSourdesville WWTP.

Effluent flows from the Miller Coors facility were lower in 2006-2010 compared to 1995-1999, whereas ammonia nitrogen loads were similar, and TSS loads increased (Table 5). Seven numeric permit limit violations were recorded, of which, six were for cBOD. Also, 27 sampling frequency violations were noted, most for TDS and zinc (Table 6). Ohio EPA did two bioassay tests with Miller Coors' effluent in December 2006 and August 2007. The effluents were not acutely toxic.

Distributions of mean daily flows (Figure a-10a) show that flows have remained well within design capacity. Concentrations and loads of TSS and ammonia nitrogen trended higher over the period of record, but were within permit limits (Figure a-10b, 20c, and 20d). Phosphorus concentrations and loads from the plant were generally lower in 2006-2010 compared to 2010, but trended higher over the last several years (Figure a-10e and 20f).

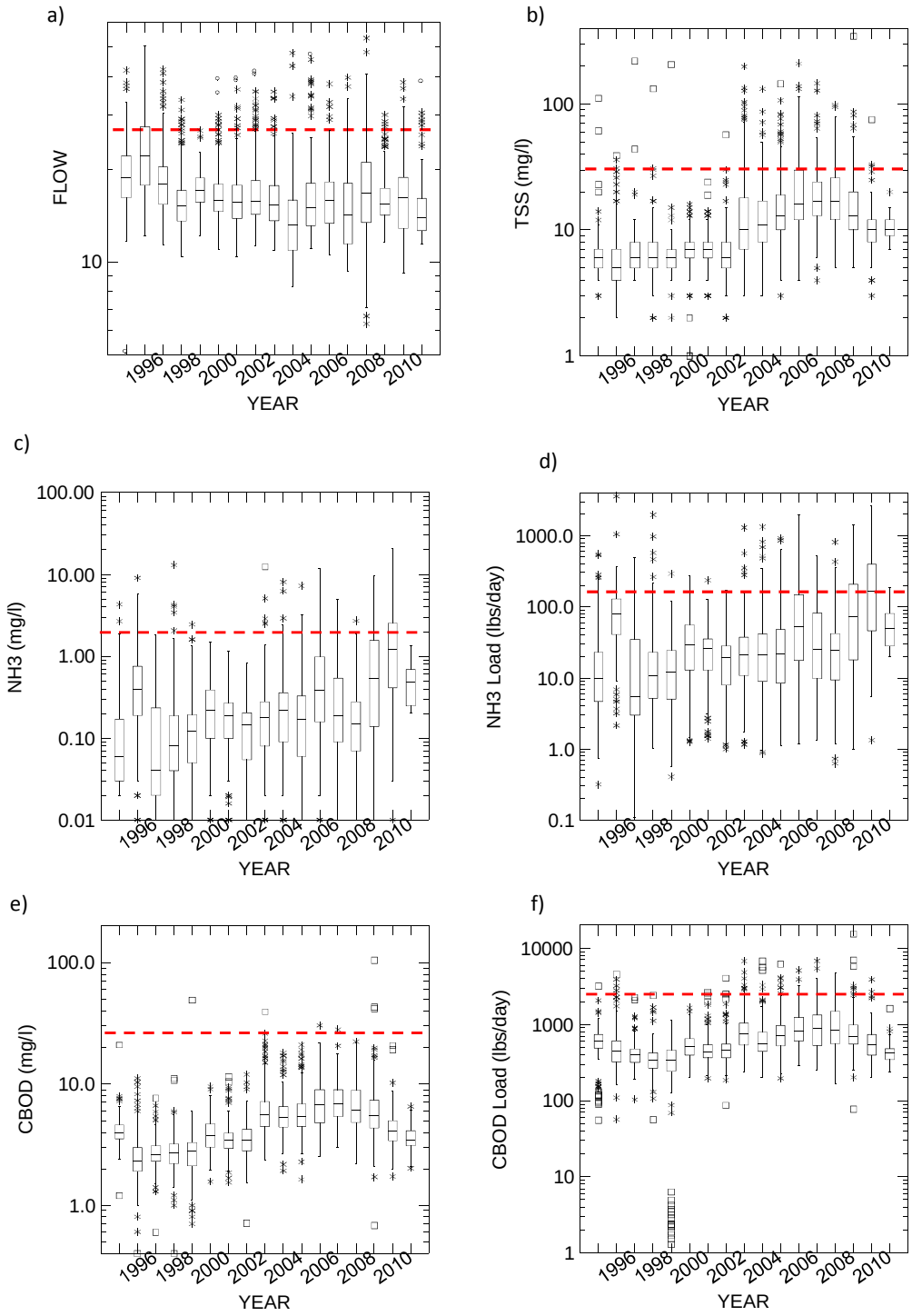

Figure a-9. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Middletown WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

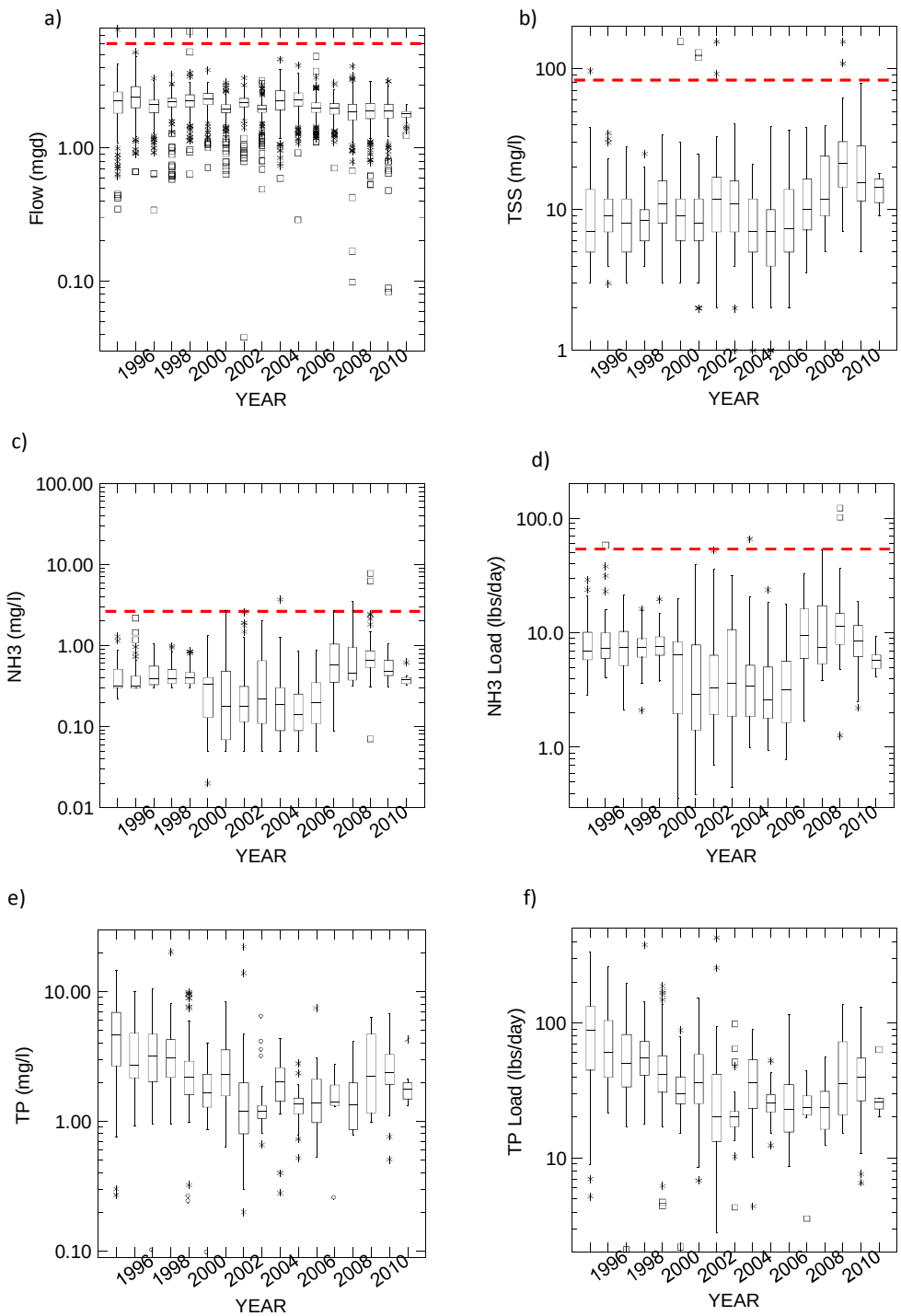

Figure a-10. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of total phosphorus (TP), and f) loads of TP for 1995 through the first quarter of 2011 for the Miller Coors LLC. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Montgomery County Western Regional WWTP*-Receiving water- Great Miami River-RM-71.48*
*Permit-#1PL00002*KD (expires January 31, 2014); Lat:39.683889:Long:-84.252222*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PL00002.fs.pdf

Montgomery County Western Regional Wastewater Treatment Plant is located in Montgomery County at 4111 Hydraulic Rd in West Carrollton, Ohio. Western Regional was built in 1976 and modified in 1988. Its service area is on a separate sewer collection system. Western Regional is a secondary treatment facility with an average design flow of 20 MGD with a peak hourly flow of 60 MGD. The average annual flow rate was 15.25 MGD. The facility provides service to all or part of Moraine, West Carrollton, Kettering, Miamisburg, Centerville, Miami Township and Jefferson Township. Treatment processes include; bar screening, grit removal, activated sludge aeration, intermediate settling, secondary activated sludge aeration, final clarification, tertiary filtration, chlorination and dechlorination. Biosolids are land applied during acceptable seasons and landfilling of the sewage sludge is implemented during winter months. Western Regional has an approved pretreatment program consisting of nine industrial contributors that send an average flow of 1.038 MGD to the facility.

Water intrusion into the collection system is estimated at 500,000 gpd. In 2010, a multi-collection system improvement for Lower Holes Creek Relief Sewer was designed to protect the pump station from loss of use during emergency situations. The elimination of 57 SSOs was completed in 2010.

Ohio EPA conducted acute toxicity testing at Western Regional outfall 001 with effluent, upstream, and mixing zone waters. The sampling events were generally unannounced and were conducted in October and December of 2006. The October 2006 Ohio EPA acute bioassay screening test showed 100 percent mortality to fathead minnows, while the December test revealed no toxicity endpoints for either of the test organisms. These tests do not address the possibility of chronic toxicity. For a period of one year, the entity was required to conduct quarterly toxicity testing from 2009 until 2010.

Effluent flows from the Montgomery County Western Regional WWTP were higher by 1.2 MGD during 2006-2010 compared to 1995-1999 (Table 5), and TSS loads increased by 300 percent. However, loads of cBOD and ammonia remained similar between time periods. Coincidental with the higher TSS loads, 12 numeric permit limit violations were recorded between 2006 and 2010, 7 of which were for TSS. Reasons for exceedences of TSS were related to filter treatment and bypassing of clarifiers around tertiary filters, coupled with higher than normal flows. The facility is having difficulty estimating how much flow is receiving filtered treatment. They are maximizing efforts to capture thickened waste sludge in the remaining gravity thickener. Also, 21 sampling frequency violations were noted, 13 for missed fecal samples, 4 for missed bioassays.

Distributions of mean daily plant flows (Figure a-11a) show 75th percentile plant flows are beginning to approach the average daily design capacity, and 75th percentile TSS

concentrations equaled or exceeded the 30 day limits in 4 of the past 5 years (Figure a-11b). Concentrations and loads of ammonia nitrogen and cBOD remained within permit limits (Figure a-11c, 21d, 21e, and 21f).

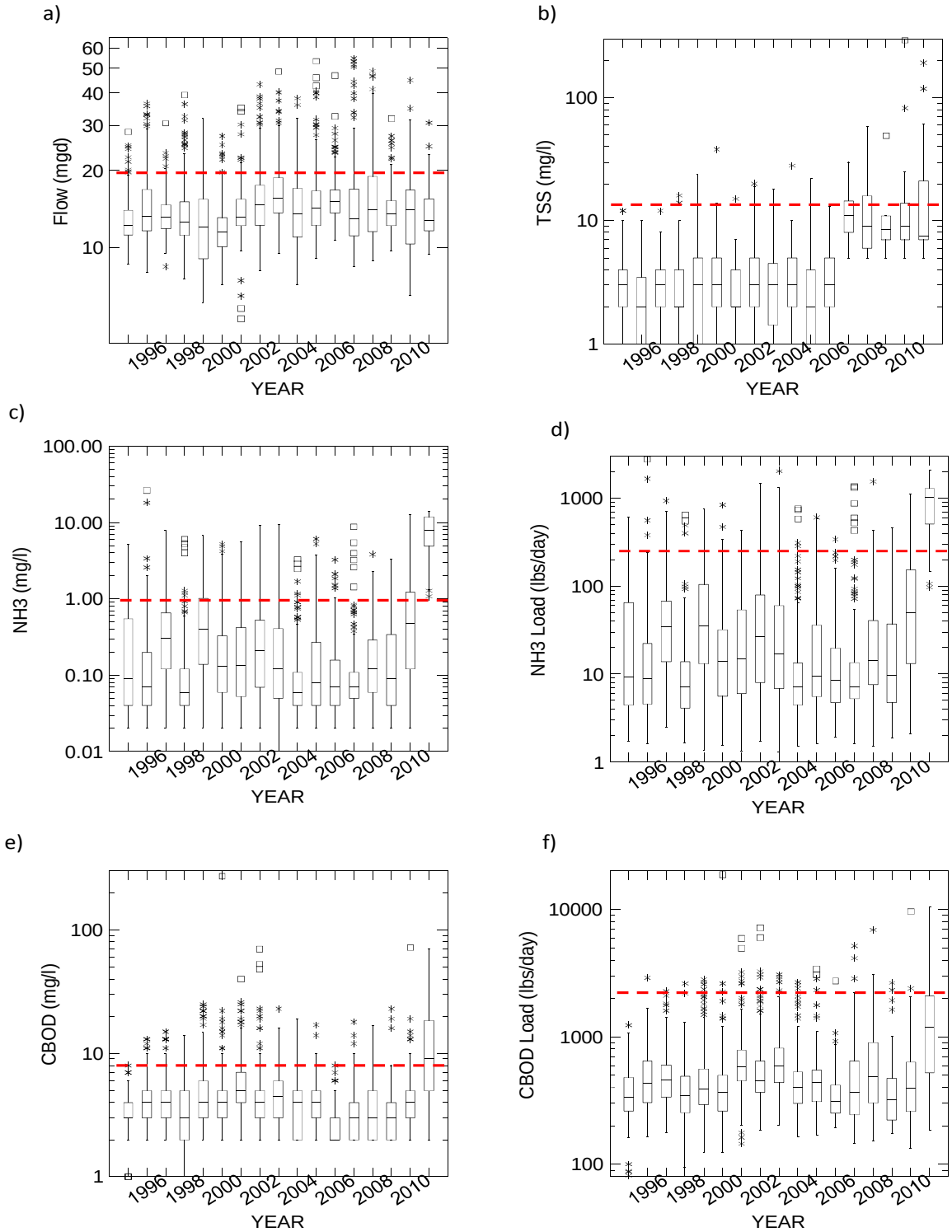

Figure a-11. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Montgomery County Western Regional WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

New Lebanon WastewaterTreatment Plant-*Receiving water**- Bear Creek-RM 10.48*
*Permit-#1PB00021*ID (expires Dec 31, 2015); Lat:39.748333:Long:--84.383333*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PB00021.fs.pdf

The New Lebanon WWTP is located in Montgomery County at 200 Hepner Avenue in New Lebanon, Ohio. The newer facility was built in 1987 (with modifications in 1998 and 2003). The New Lebanon WWTP has an average design flow of 0.800 MGD serving approximately 4500 people. The average daily flow rate for 2010 through 2008 was 0.418 MGD, 0.367 MGD and 0.427 MGD respectively, a decrease from the 1990's of 0.50 to 0.60 MGD. Treatment processes include; bar and fine screening, oxygen ditch, biological nitrification, secondary clarification, chlorination, dechlorination and post aeration. There are 2 lift stations in the totally separate sewer collection system.

Storm and groundwater intrusion into the collection system is estimated at 15,000 gpd. In 2011, two overflow incidences at the treatment plant were reported related to equipment failure and storm surge. In one incident, the aeration tank overflowed losing approximately 5,000 gallons of partially treated sewage to Bear Creek. During another event, the stormwater storage lagoon (EQ Basin) overflowed during a three to four (3-4) inch rainfall, releasing 1.5 million gallons to Bear Creek. In March of 2010, 30,000 gallons of diluted sewage overflowed from the stormwater storage lagoon to Bear Creek due to debris blocking and jamming a valve. New Lebanon has no approved pretreatment program and no industrial users.

Mean daily plant flows, and loads of cBOD and TSS from the New Lebanon STP were lower in 2006-2010 compared to 1995-1999 (Table 5); however ammonia nitrogen loads were marginally higher. No numeric limit violations were recorded for the period of 2006-2010, but 17 sampling frequency violations were noted, mostly for ammonia, cBOD and metals. Distributions of mean daily ammonia loads (Figure a-12d), in contrast to the absence of numeric violations, revealed that median ammonia nitrogen loads approached the 30 day winter average limit of 18.2 lbs/day, and were well in excess of the 30 day summer. Monitoring data from SWIMS appeared incomplete, as data from the 3rd quarter were lacking for 2008 and 2009 and sparse for all years after 2005.

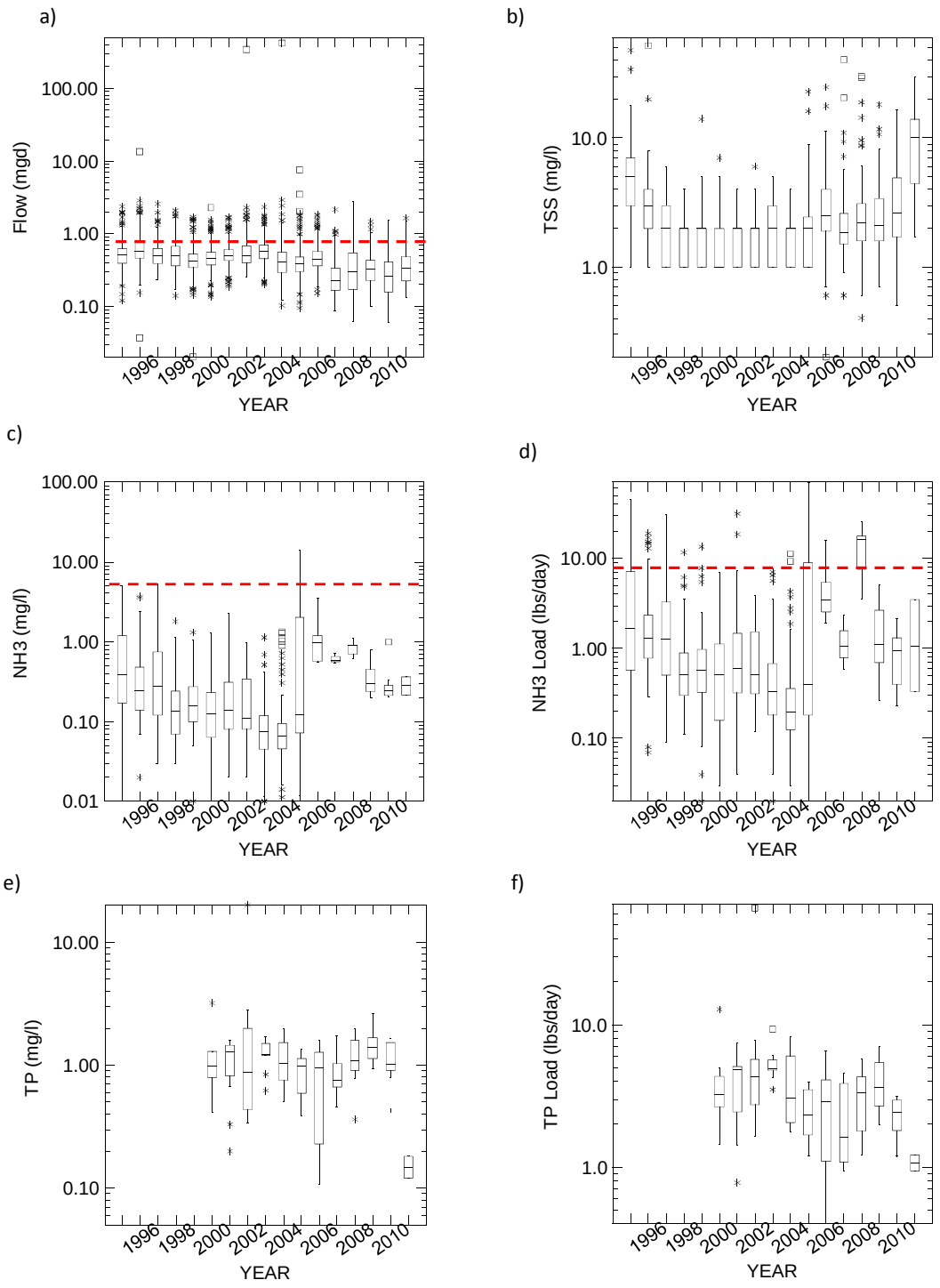

Figure a-12. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of total phosphorus (TP), and f) loads of TP for 1995 through the first quarter of 2011 for the New Lebanon STP. Dashed red lines show the applicable 30 day average permit limits for water quality parameters, and the average daily design flow in the flow plot.

PCS Purified Phosphates *(a.k.a Potash Corp of Saskatchewan-formerly Albright and Wilson)-Receiving water-unnamed tributary of Paddy's Run to GMR*
*Permit-#1IB00001*FD (expires September 30, 2016)*
001-Lat::39.288889 Long:--84.691667

PCS Purified Products herein referred to as PCS, is located in Hamilton County at 10818 Paddy's Run Rd in Harrison, Ohio 45030. PCS is a fertilizer company by capacity, producing the three primary crop nutrients; potash, phosphate and nitrogen. The facility uses acid phosphates, sulfuric acid, hydrated alumina, ammonia, copper sulfate and specialty phosphates to produce phosphate products used for food and agricultural applications. Treatment at outfall 011 consists of diatomaceous earth filtration, carbon adsorption, ion exchange and neutralization. Upgrades include a new 20,000 gallon above ground tank, replacing the in-ground tank, which should stabilize pH fluctuations. Current treatment upgrades include an ion exchange for zinc/copper reduction.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Fourteen violations were reported all in 2009 and 2010. Copper and TSS were the two parameters violated and were reasoned to be caused by Potassium-Pyro-Phosphate (Potassium P-P) which acts as a chelating agent for metal ions binding them up and making them unavailable to the ion-exchange resin. The Potassium-P-P acts as a precipitant for solids. As of 2010, a designated NPDES permitted holding tank is utilized for any effluent not meeting permit limits which will receive further treatment.

Mean daily effluent flows from PCS were less over the recent 5 year period relative to 1995-1999; however, phosphorus loads increased by nearly 1200 percent from 24.86 lbs/day to 293.23 lbs/day (Table 5; Figure a-13). Fourteen numeric permit limit violations were posted between 2006 and 2010, 8 for copper and 6 for TSS.

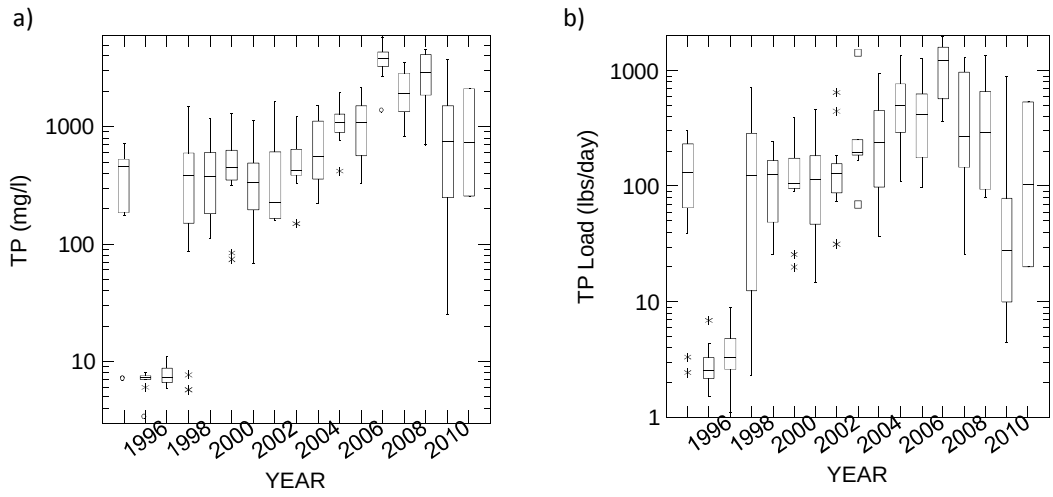

Figure a-13. Distributions of a) phosphorus concentrations and b) loads from the PCS Purified Phosphates facility, 1995-2010.

Springboro Wastewater Treatment Plant*-Receiving water-Unnamed tributary of Clear Ck.*
*Permit-#1PC00007*KD (expires July 31, 2012)*
Lat:39.548889:Long:--84.234722
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PC00007.fs.pdf

The Springboro WWTP is located in Warren County at 275 West Mill St. in Springboro, Ohio. Springboro basically has a new facility that went online in July of 2006 with an average design flow of 4 MGD and an average annual daily flow rate of 2.52 MGD. Treatment processes include; bar screening, grit removal, biological nitrification-separate stage, mechanical filtration and UV light. There are 11 lift stations in the collection system, which is all separate sewers, serving a population of approximately 17,000. There is one categorical industrial user contributing an average daily flow of 0.171 MGD to the wastewater facility. Inflow and infiltration is estimated to be approximately 25,000 gpd. Sludge is land applied and dry tons are sent to the Stony Hollow Landfill in Dayton, Ohio during prohibitive weather.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 through SWIMS. Six violations were reported for ammonia-N, mostly occurring in 2006.

Ohio EPA conducted acute toxicity testing at Springboro WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling events for the tests were generally unannounced to the facility and were conducted in August 2000, November 2005 and May 2006. Toxicity occurred to *Ceriodaphnia dubia* in the final effluent in the 2006 bioassay event.
Entity conducted, Chronic Whole Effluent Toxicity Testing is required by Ohio EPA for this facility. Testing for this facility occurred in 2009 and 2011, resulting in toxicity to the test organism for both years.

Mean plant flows, and loads of cBOD, and ammonia nitrogen were higher between 2006-2010 compared to 1995-1999, whereas TSS loads were lower (Table 5). Numeric permit limit violations were noted 6 times between 2006-2010 for ammonia nitrogen, 5 occurring during 2006, and one in 2010. Distributions of TSS concentrations, and ammonia and cBOD concentrations and loads (Figure a-14) suggest that the plant performance was less than completely efficient between 2002 and 2006. Mean plant flows remain within the average daily design.

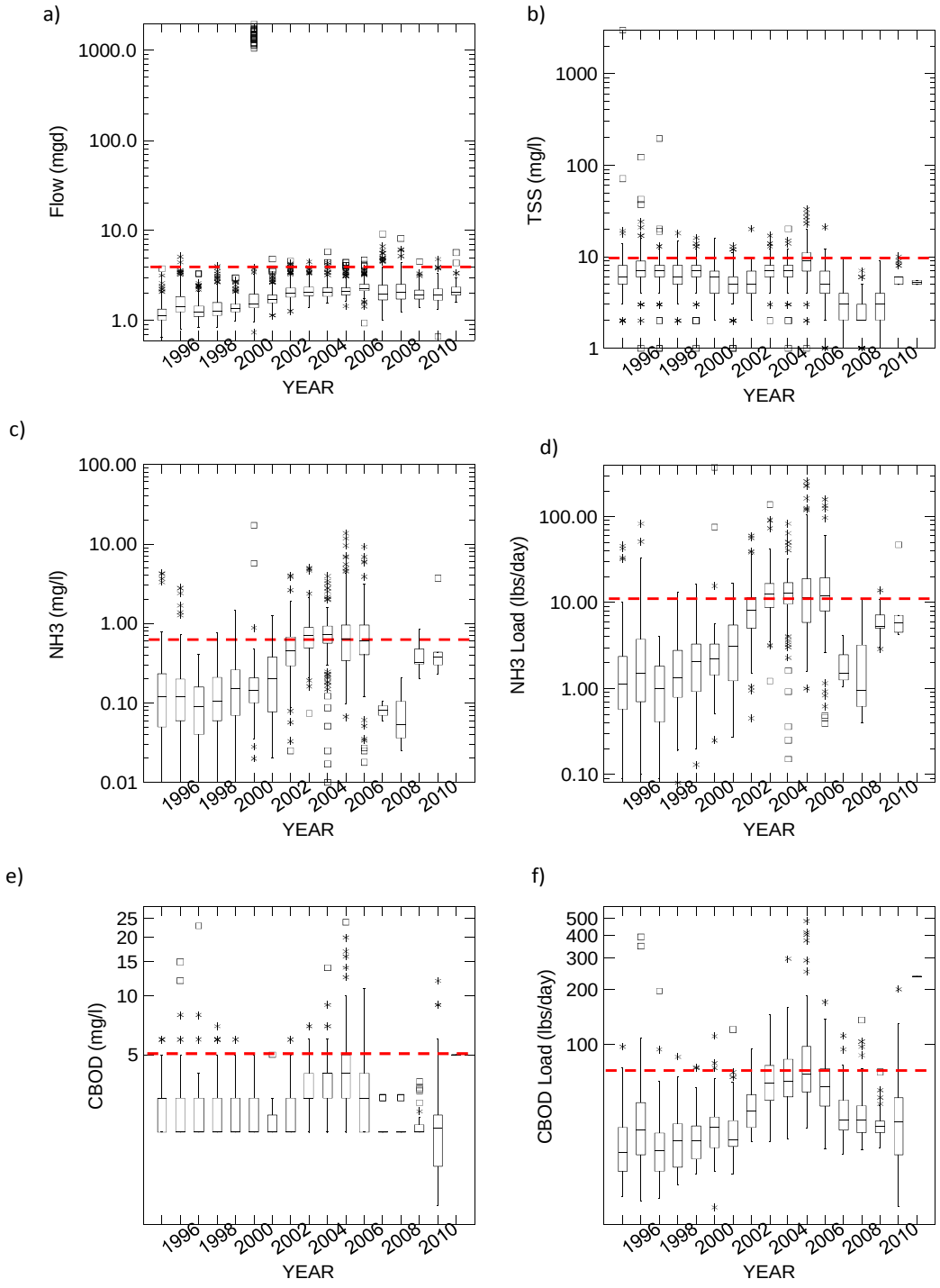

Figure a-14. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Springboro WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Taylor Creek Wastewater Treatment Plant-Receiving stream- *Great Miami River-RM 15.21;*
Permit-#1PK00015 (July 31, 2014) Lat:39.215278;Long:--84.695556*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PK00015.fs.pdf

The Taylor Creek Wastewater Treatment Plant is located in Hamilton County at 6975 East Miami River Road in Cincinnati, Ohio. Taylor Creek is an advanced treatment facility completed in 1993 and online by 1997. The average design flow is 5.5 MGD with an annual average flow in 2010 and 2011 of 2.5 MGD. Treatment processes include; grit and grease removal, extended aeration, final clarification, ultraviolet disinfection and cascade post aeration.

The collection system has completely separate sewers and six lift stations. Collection system water infiltration is estimated at 100,000 gpd. The new facility made it possible to connect a number of small package plants and private wastewater facilities by 1997. As of 2009, Miamitown had been sewered and sends influent flow to Taylor Creek WWTP.

Frequency violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. Fifteen (15) violations of pH were reported, all ending by 2007. Ohio EPA conducted acute toxicity testing at Taylor Creek WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling events were generally unannounced and were conducted in December of 2002 and May of 2008. The test endpoints revealed no evidence of toxicity for any of the events. These tests do not address the possibility of chronic toxicity.

Mean daily plant flows, and loadings of cBOD and ammonia nitrogen were higher between 2006-2010 compared to 1995-1999 (Table 5). Ammonia loads increased from 5.6 lbs/day to 28.8 lbs/day. TSS loads were similar between time periods. No numeric permit limit violations were noted since 2006, but 10 sampling frequency violations were posted, most of which were for pH. Median flows, and ammonia concentrations and loads have risen steadily since 1995 (Figure a-15), such that 75th percentile ammonia concentrations and loads are beginning to approach the 30 day summer permit limits. However, concentrations and loads of TSS and cBOD remain within limits.

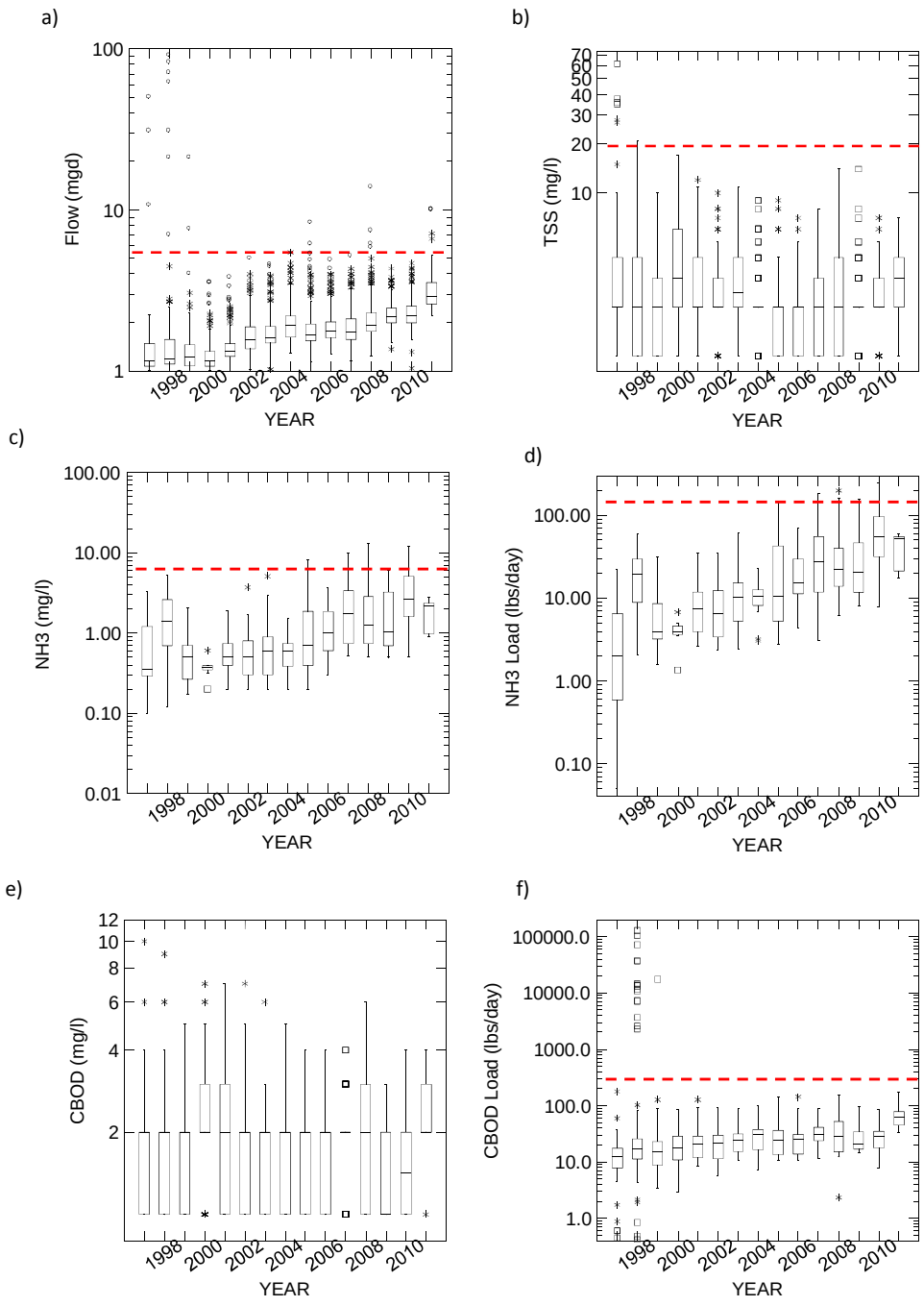

Figure a-15. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the Taylor Creek WWTP. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

US DOE Fernald Closure Project*-Permit #-1IO00004-RM RM 24.73*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IO00004.fs.pdf

The Fernald Closure Project is located in southwest Ohio about 18 miles northwest of Cincinnati. Fernald began operations in 1951 as a uranium ore processing facility that served as a nuclear weapon's production facility. Releases from the Fernald site to the surrounding area resulted in exposure to community residents included ionizing radiation, soluble and insoluble forms of uranium, and various other hazardous chemicals. Production ceased in 1989 and a commitment was made by the U.S. Department of Energy to close it, clean it up, and give it back to the community. The Fernald Closure Project was a program run by the United States Department of Energy to clean up the former uranium processing site. The $4.4-billion cleanup was one of the largest undertaken in the nation's history. The site has been cleaned to the standards as being protective of human health and the environment. From a desire to create a community asset and tell the story of Fernald, the Department of Energy committed to developing the Fernald Preserve.

Fernald has completed the Mixed Waste Stabilization Project. Fernald was the first site within the DOE complex to implement a Site Treatment Plan per the Federal Facilities Compliance Act by using a mobile treatment unit to successfully treat over 1,500 drums of mixed waste.

In August of 2001, to coincide with the recently finalized levels in USEPA's Safe Drinking Water Act, Fernald's OU5 Record of Decision needed an Explanation of Significant Differences (ESD) to change the final remediation level for uranium in drinking water and the discharge limit for uranium to the Great Miami River from 20 mg/L to 30 mg/L. Much of the contamination in this 26-acre area was in direct contact with the Great Miami Aquifer (http://www.lm.doe.gov/cercla/documents/fernald_docs/PROD/6761.pdf). The Fernald Closure Project was completed in 2007. Since then, concentrations and loadings of TSS and ammonia nitrogen have been negligible (Figure a-16).

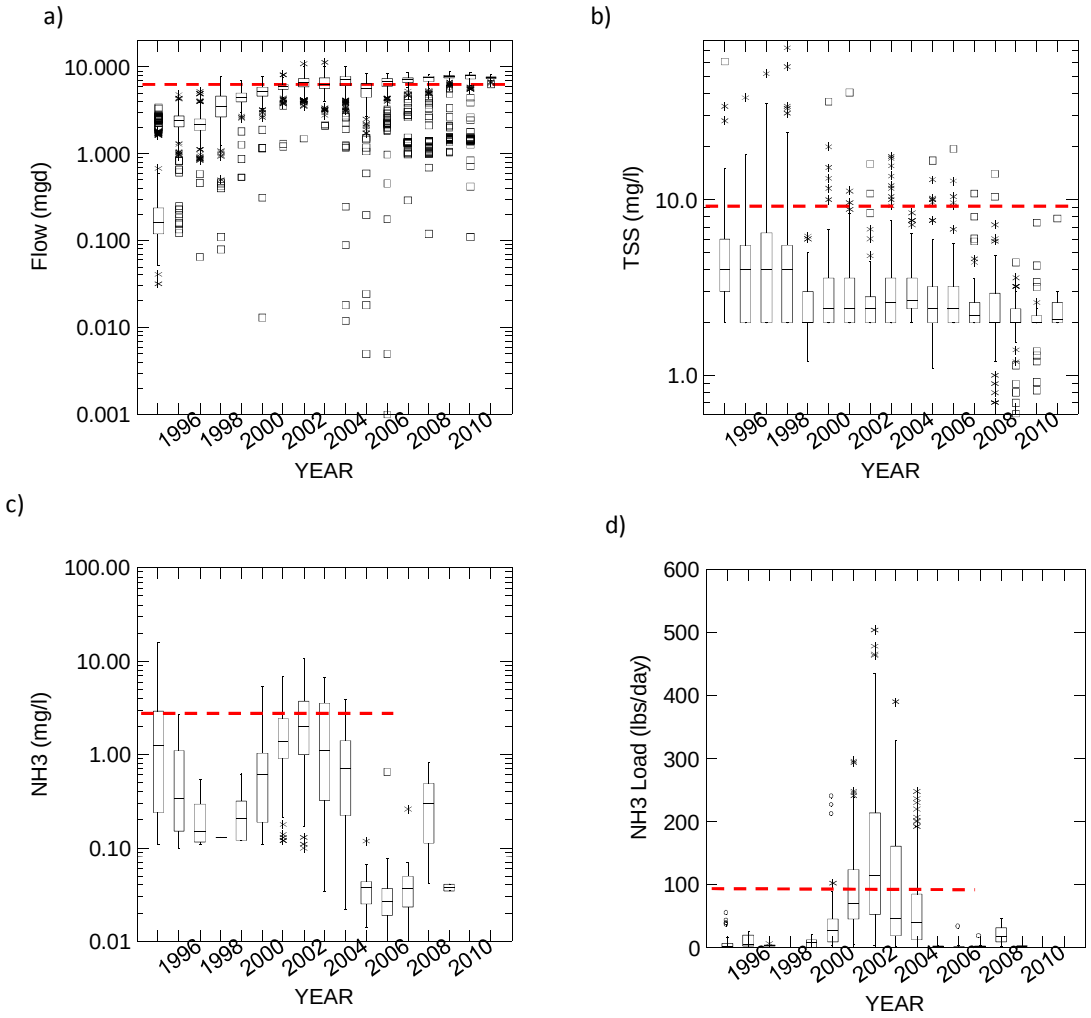

Figure a-16. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, and d) daily loads of ammonia nitrogen for 1995 through the first quarter of 2011 for the Fernald Closure Project. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Ahlstrom West Carrollton Inc. *(formerly West Carrollton Parchment Co.)-Receiving stream-Owl Creek--RM 0.37,*
*Permit-#1IA00010*JD Lat:39.669167;Long:--84.273056*
001-Non-contact cooling water acid removal (washing)-non-contact chiller water
002-003-stormwater
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IA00010.fs.pdf

Ahlstrom is located in Montgomery County at 1 South Elm St in West Carrollton, Ohio 45449. Ahlstrom is a manufacturer of Parchment Paper involving coating, waxing and printing paper. Ahlstrom uses raw materials like paper products, waxes, chemicals for coating, sulfuric acid for parchmentizing, sodium hydroxide to neutralize the acid not recycled. Sanitary wastewater and a few isolated processes discharge to the West Carrollton WWTP.

As of 2010, Directors Findings and Orders were issued for the following reasons; non-compliance with the Compliance Schedule contained in the NPDES permit, numerous effluent limit violations of TDS and water quality violations of excessive biological growth occurring in Owl Creek downstream from Ahlstrom's outfall. The orders require Ahlstrom to comply with the TDS limit, conduct Toxicity Identification and Reduction studies of their effluent with possible treatment or process changes to reduce toxicity and further study the cause of the biological growth affecting Owl Creek.

Ahlstom has a history of permit violations, accruing 463 numeric violations since 2006 (Table 6). Most of these violations are for pH, dissolved solids and copper. Additionally, the effluent is frequently toxic. Ohio EPA conducted toxicity testing (acute bioassays) at Ahlstrom WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling for the tests was conducted in March and May 2000, November 2004, June of 2007 and September of 2007. The March 2000, November 2004, June 2007 and September 2007 effluents were acutely toxic to *Ceriodaphnia dubia*. These tests do not address the possibility of chronic toxicity. Loads of ammonia nitrogen and TSS were, however, lower in 2006-2010 compared to 1995-1999 (Table 5).

Wausau Paper Towel & Tissue LLC *–Receiving water-Great Miami River-RM-52.17; Permit #-1IA00119*GD (expires October 31, 2013); 001-Lat;39.518889;Long:--84.405833002*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IA00119.fs.pdf

Wausau's wastewater facility is located in Butler County at 700 Columbia Ave. in Middletown, Ohio. Wausau produces toilet paper and paper towels mostly from recycled paper and has a current hydraulic design capacity of 4 MGD. Process wastewater treatment consists of a thickener, a primary clarifiers, two aeration basins and two secondary clarifiers which then discharges to the river through a mid-river diffuser Wausau can divert wastewater to the Middletown WWTP in the event of a plant upset or during extreme low flow conditions in the Great Miami River. Most of the water from the process wastewater is recycled and reused in the process. Bleaching of the paper products is performed using hydrogen peroxide. Waste sludge is landfilled at a Kentucky facility.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 where four violations were reported for D.O and BOD5. Frequency Violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. One violation was reported.
Ohio EPA conducted acute toxicity testing screenings (bioassays) at Wausau Paper of outfall 001 final effluent, upstream, and mixing zone waters. The sampling for the bioassays was conducted in November of 1999, April of 2000, October of 2006, July of 2007 and December 2011. No toxicity endpoints occurred for most of the tests, for either of the test organisms except for December 2011 where significant *Ceriodaphnia dubia* mortality was observed. These tests do not address the possibility of chronic toxicity.

Mean daily effluent flows from the Wausau Paper Towel & Tissue facility were higher in 2006-2010 compared to 1995-1999. Despite the higher flows, loadings of TSS, ammonia nitrogen and cBOD were lower during the recent period (Table 5). Distributions of daily flows, and concentrations and loads of TSS, cBOD and NH3 show the upward trend in flows, and lower concentrations and loads of the key wastewater constituents (Figure a-17). Although concentrations and loads of ammonia nitrogen average lower in the recent time period, variability appears to have increased. The coefficient of variation for observations reported between 1995 and 1999 was 86 percent, while that for 2006-2010 was 243 percent.

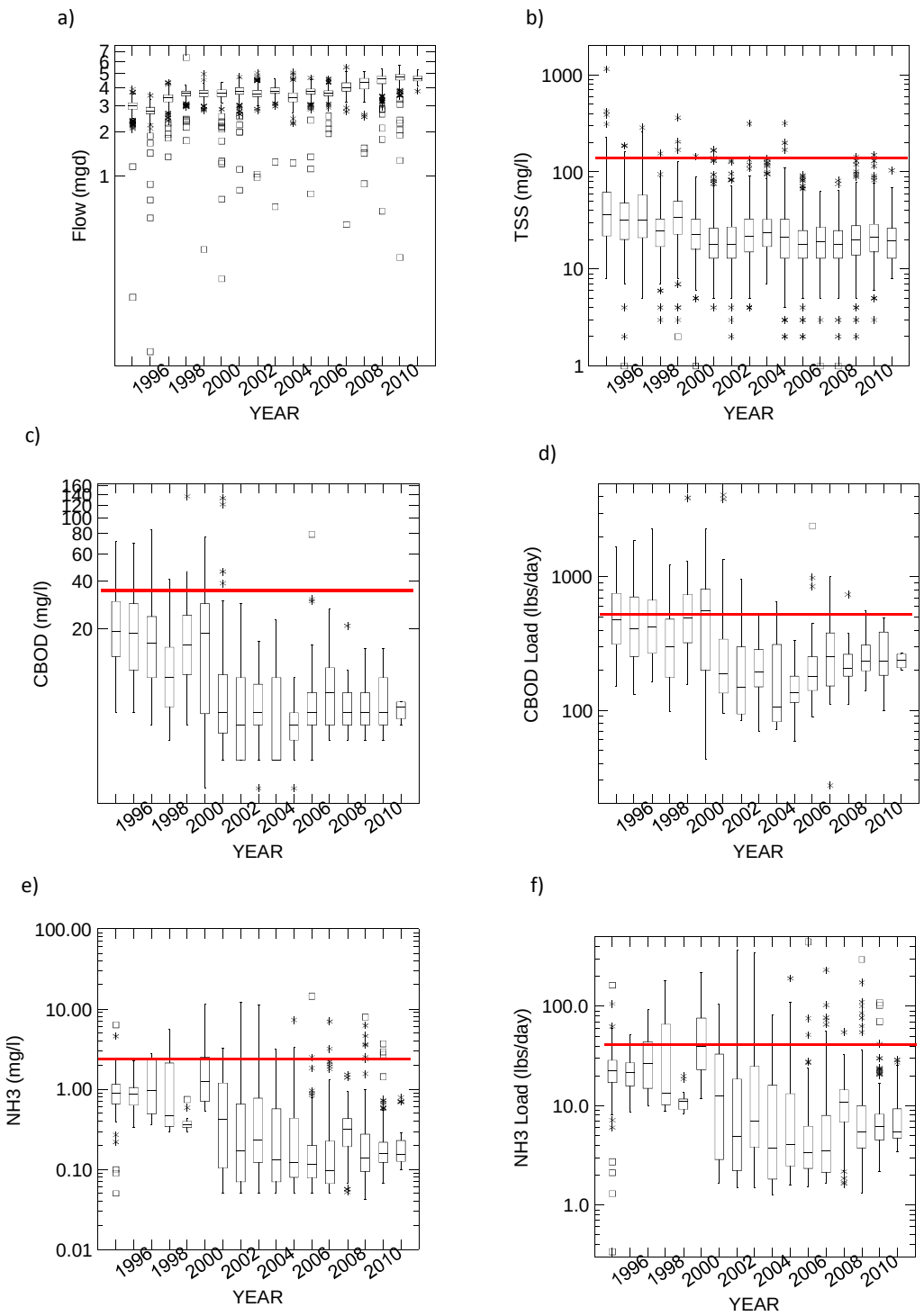

Figure a-17. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of 5-day biochemical oxygen demand (cBOD), d) loads of 5-day cBOD, e) concentrations of ammonia nitrogen, and f) daily loads of ammonia nitrogen, for 1995 through the first quarter of 2011 for Wausau Paper Towel & Tissue. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

West Carrollton Wastewater Treatment Plant*-Receiving water -Great Miami River-RM 68.85*
*Permit-#1PD00014*JD; Lat:39.655833;Long:--84.273056*
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1PD00014.fs.pdf

West Carrollton WWTP is located in Montgomery County at 601 West Central Avenue in West Carrollton, Ohio 45449. The facility is an advanced secondary treatment facility with an average daily design flow of 1.4 million gallons per day (MGD) serving a population of approximately 12,853. Treatment processes include; screening and grit removal, fine screening, flow equalization, activated sludge aeration, final clarification and UV disinfection. The biosolids generated at the facility are land applied according to seasonal criteria. The city implements an Ohio EPA approved industrial pretreatment program. Currently, no significant industrial users discharge wastewater to the sewer system.

West Carrolton is served by separate sanitary and storm sewers with all of the service area in sewers. Inflow and infiltration studies have been conducted since the 1990's and to date approximately 25 manhole lids have been replaced annually with solid lids and some sewer slip-lining projects have been completed. The collection system does have some infrequently reported Sanitary Sewer Overflows caused by debris in the lines as recent as 2010 and 2011. Some of the overflows occurred at Cedar Bark Trail, near Hintermeister Park or across Central Ave from the facility near the railroad tracks.

Daily flows for the period 2006-2010 averaged 1.33 MGD, near the daily design average of 1.4 MGD. Loadings of cBOD and TSS were higher in 2006-2010 compared to 1995-1999, but ammonia nitrogen loads were similar (Table 5). Despite the plant operating near capacity, numerical permit limit violations were rare, and effluent toxicity was not evident in 3 bioassays conducted in 2007. Distributions of daily flows, and concentrations and loads of TSS, ammonia nitrogen and cBOD demonstrate that the plant was operating within permit limits over the period of record, though constituent concentrations appear more variable of late (Figure a-18).

Chevron U.S.A Inc. *Cincinnati Facility-Receiving water-Great Miami River-RM 9.07*

The Chevron U.S.A. Inc. site in Hooven, Ohio is situated on two-hundred and fifty acres of land approximately twenty miles west of Cincinnati near U.S. 50 and SR 128. The site overlies the Great Miami River Buried Valley Aquifer composed primarily of sand, gravel and discontinuous clay lenses. The site operated as a refinery from 1931 until May, 1986. The Ohio EPA first became aware of this site through notification of hazardous waste management issues in 1981. Gasoline had accumulated in the aquifer as a result of previous spills on site. Leaded gasoline (~80% of plume contaminant) and diesel fuel had leached into surrounding soils during the 55 years of refinery operations.

Chevron U.S.A. Inc. installed a hydrocarbon recovery system on January 21, 1985 at the refinery in response to discovery of hydrocarbon seepage into the Great Miami River. Clean-up operations have been overseen by USEPA's region 5 office of hazardous waste. An agreement in 2006 between USEPA and Chevron outlines further plans for mitigation of the hydrocarbon plume.

Clean-up operations continue at the prior refinery site in Hooven. Chevron U.S.A. Inc. currently operates under an Ohio EPA NPDES permit at an estimated average of 4.0 MGD. The extracted groundwater at the site is treated and discharged from outfall 003 to the Great Miami River. Treatment of the wastewater consists of biological treatment, settling, and wetlands filtration. The facility monitors and reports data for 12 NPDES parameters including metals, conventional and organic compounds. Discharge monitoring reports for 2011 revealed no exceedences of permit limits.

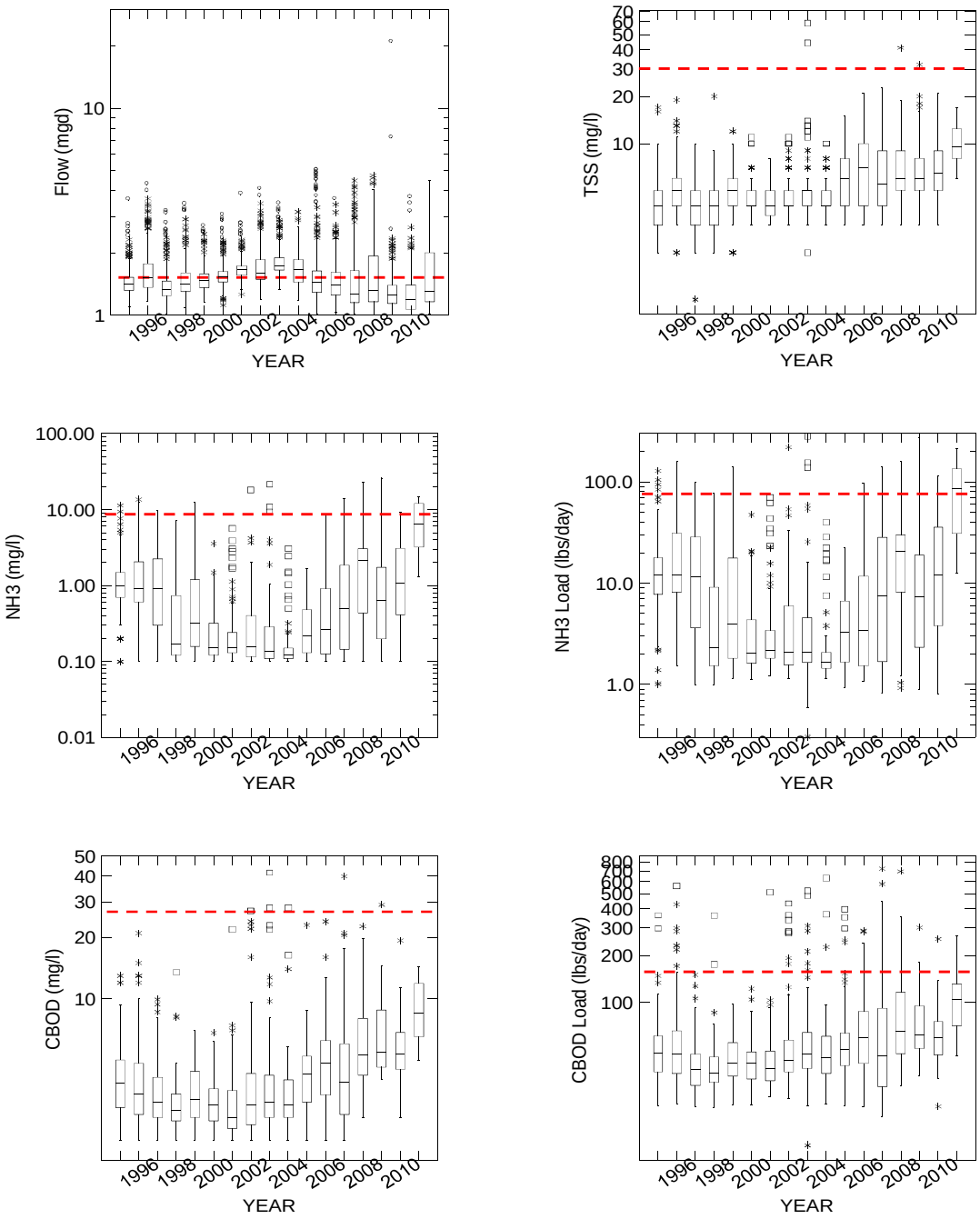

Figure a-18. Distributions of a) daily flows, b) concentrations of total suspended solids, c) concentrations of ammonia nitrogen, d) daily loads of ammonia nitrogen, e) concentrations of 5-day biochemical oxygen demand (cBOD), and f) loads of 5-day cBOD for 1995 through the first quarter of 2011 for the West Carrollton STP. Dashed red lines show the applicable 30 average permit limits for water quality parameters, and the average daily design flow in the flow plot.

Canterbury Row Condos WWTP*; Permit-#1PZ00008*DD; Lat:39.176389;Long -84.640278*

Canterbury Row Condos is located in Hamilton County at 5940 Harrison Ave. in Cincinnati, Ohio. Treatment consists of a trash trap, an aeration tank, a two hopper clarifier, a dosing tank, two slow surface sand filters and chlorination disinfection. Canterbury Row's wastewater facility was designed for 0.0223 MGD. In 2009, Canterbury identified an additional connection to their wastewater facility coming from a carwash owned by a Marathon Service Station and the possibility of a connection to the Cincinnati Metropolitan Sewer District to permanently take their wastewater facility offline. Canterbury is currently obtaining some budgetary quotes for connection.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Data evaluated through SWIMS, reported 24 violations ending mostly by 2007 for dissolved oxygen and TSS. Problems were related to sand beds being bypassed, a lack of rotation of sand filter beds and ponding on the sand filters which have been reported, remedied. Frequency Violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data evaluated through SWIMS, 466 violations were reported for odor, color and turbidity. Omission of recording the values and the absence of oversight of this was reported as the problem. As of 2012, the violations for these requirements have been addressed.

Chateau Lakes Homeowners Association Permit*-#1PW00007*FD Lat:39.188056;Long:-84.643056*

Chateau Lakes is located in Hamilton County at 5158 Clearcreek Dr in Cincinnati, Ohio. Chateau Lakes WWTP serves approximately 60 single family homes . Chateau's wastewater facility was designed for 0.07 MGD. Treatment consists of a comminutor, parallel aeration tanks and clarifiers, two sludge waste tanks, a dosing tank. two slow surface sand filters and UV disinfection. Chateau Lakes has I/I issues and their efforts to reduce it are ongoing. Ohio EPA inspections in 2006 and 2007 found bulking sludge in the sand filters, solids in the clarifiers, sand filters and disinfection tank. Wasting of solids was also reviewed and a pump truck ordered for removal of solids.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Data evaluated through SWIMS, reported 46 violations ending mostly by 2008 for dissolved oxygen, ammonia and TSS. The violations occurred in all months except November and December for any years. Reasons for the violations were uneven flows due to I/I issues. Wasting and decanting approaches were implemented in December of 2007 as well as a modification to the influent splitter box which was installed to equalize flows.

Frequency violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. Five years of data, evaluated through SWIMS, revealed 60 violations occurred from 2006 until 2009. Turbidity, water temperature, color, odor, pH and cBOD were the parameter in violation respectively. Violations of most of these suggest less scrutiny of

the wastewater treatment facility either due to lack of observations or recording of observations.

Code violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS, 12 violations were reported for water temperature half occurring in 2010. Forty-six numeric limit violations were posted between 2006 and 2010. Eighteen were for dissolved oxygen, 15 for ammonia, 9 for TSS, and 2 each for cBOD and pH. Sixty sampling frequency violations were noted. Those were distributed evenly among the commonly monitored parameters.

Chem-Dyne *Settling Defendant Chem-Dyne Remedial Act –*
Permit #-1IN00100

The Chem-Dyne site located in Hamilton, Butler County, lies 1,000 feet east of the Great Miami River. The 21 acre site overlies the prolific Great Miami buried valley aquifer, a U.S. EPA sole source aquifer. Chem-Dyne is one of Ohio's first Superfund sites. It operated as a chemical waste recycling facility from 1974 to 1980. Conditions soon deteriorated, and the site became recognized as a lead environmental priority. Extensive closure operations began, and the site was added to the National Priorities List in 1983. In 1985 a Remedial Action Plan (RAP) was incorporated and both U.S. EPA and Ohio EPA were assigned oversight authority . Remediation included the demolition of abandoned buildings, soil removal, and cap installation. In order to contain and remediate ground water, a pump and treat system was activated.

Ground Water Pump and Treat System
The pump and treat system, deemed fully operational on January 1, 1988, has been active for twenty-two years. It has been successful in maintaining hydraulic capture, and has removed significant volatile organic compounds (VOC) through the end of 2009. Given the steady-state mass removal, and given that wells remain in excess of the 100 ug/L total VOC cleanup criterion, Ohio EPA noted in the last five year review (Sept. 2005), that pump and treat alone would not achieve termination criteria. The agencies recommended residual source identification to target areas in need of remediation.

In October 2007, the contractors conducted vertical aquifer sampling of the southern portion of the site, and installed a SVE system, comprised of two southern zones. The southern SVE system was activated September 30, 2009. By the end of 2009, pump and treat mass removal declined. This decline is coincident with SVE operation and 2009 modifications to the pump and treat system.

No numeric or frequency violations were noted for Chem-Dyne.

Eagles Lake Condo Association Eagles Lake Ltd WWTP*;*
*Permit-#1PW00029*DD*
Lat:39.174722;Long:--84.662778

Eagle Creek Condominium is located in Hamilton County at 5137 Shoreview Run, Cincinnati, Ohio. The condominium wastewater facility was designed for 0.05 MGD. Treatment ongoing during the 2010 survey consisted of extended aeration followed by tertiary slow sand filters and disinfection. The package plant connected to Metropolitan Sewer District's collection system in 2009 and was finally taken offline as a direct discharge to Waters of the State in the Taylor Creek watershed. In latter 2010.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Data evaluated through SWIMS reported 50 violations in 2009 split nearly evenly for chlorine and dissolved oxygen. Reasons for the violations were related to calibration of chlorine meter and dissolved oxygen was blamed on low effluent quality.

Frequency violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS, 867 violations where nearly half were chlorine. Other predominant parameters were water temperature and flow rate. Nearly half of the violations occurred in 2009.

Code violations of the NPDES permit were evaluated at outfall 001, from 2006 to 2010. For the five years of data, evaluated through SWIMS , 23 violations were reported occurring all in 2009.

Franklin Regional WWTP *(a.k.a Veolia Water and U.S Filter)-Receiving water-Great Miami River-RM-59.65*
Permit-#1PD00004 (expires January 31, 2014)
Lat:39.556944;Long:-84.3188891

Franklin WWTP is located in Warren County at 201Baxter Dr. in Franklin, Ohio. The facility was built in 1971, with the last major modification completed in 1988. Franklin WWTP is a secondary treatment facility with an average design flow of 4.5 MGD and a peak hydraulic capacity of 9 MGD. The average flow in March, 2011 was 5.748 MGD, with several days within March having flows up to 8 to 12 MGD. Treatment processes include; influent screening, primary settling, activated sludge aeration (aeration lagoons), secondary clarification, chlorination, dechlorination and post aeration. There are nine industrial users that contribute process water to the collection system. Significant industrial contributors include e paper mills, metal finishers, a pharmaceutical plant and an industrial laundry. Copper levels were problematic in 2010 and related to the industrial users of the collection system.

US Filter owns and operates the Franklin Regional WWTP. The communities of Franklin, Carlisle, Germantown, and a portion of Warren County are members of the Franklin Regional Corporation which owns the Twin Creek and Clear Creek interceptors sewers and lift stations. U.S Filter operates and maintains these for the corporation. Interceptors carry sewage flow from these communities to the Franklin Regional Wastewater Treatment plant for treatment. The Twin Creek interceptor sewer starts at Germantown and goes through Montgomery County, Carlisle, portions of Warren

County, and parts of Franklin, discharging into the Twin Creek lift station which sends sewage to the treatment plant.

Clear Creek interceptor starts on the east side of Franklin, flowing to the west collecting sewage in the remaining part of Franklin and portions of Warren County, discharging into the Clear Creek lift station. Twin Creek and Clear Creek pump stations deliver sewage to the mixing box, located at the Franklin Area wastewater facility. The Franklin service area, Carlisle, Germantown, and portions of Warren and Montgomery Counties including the Twin Creek and Clear Creek interceptors had zero overflows to report during 2009. Warren County reported one wastewater overflow into a basement from an equipment failure at the Dicks Creek Lift Station.

As of 2009, I/I projects included, implementing sewer slip-lining and 12-manhole cover rehabilitations in the west side of Franklin. The Village of Carlisle evaluated its collection system and found no water intrusion issues to its collection system.

The Village of Germantown rehabilitated manhole covers and lifted sewers above surrounding gradients Sanitary sewer overflows continue to be problematic in 2010, at Market St. near Twin Creek and at the manhole at South Butler St. In 2010 and 2011, collection system overflows also occurred at the Clearcreek Lift station migrating directly to Clear Creek. In April of 2011, the pump station at the Twin Creek Lift Station overflowed sending an undetermined amount of raw sewage to the Great Miami River.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010 t hrough SWIMS. Twenty-three violations were reported, most of them TSS and ammonia-N. Eighty-three percent of violations occurred in 2008, all reported from February to June. Factors contributing to the violations were mostly precipitation driven followed by mechanical issues. The facility was above average design flow and peak flows at times, creating decreased detention times, increasing solids inventory and elevating ammonia-N concentrations. Ammonia contributions from industries were also a factor. Frequency violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Twenty-three violations were reported in 2008, mostly for fecal coliform.

Ohio EPA conducted acute toxicity testing (bioassays) at the Franklin Area WWTP outfall 001 with effluent, upstream, and mixing zone waters. The sampling events were generally unannounced. The sampling event conducted in April 2007, resulted in toxicity to fathead minnow while the June 2007 was not toxic to either test organism. These tests do not address the possibility of chronic toxicity.

Mayflower Estates WWTP*; Receiving water-Unnamed tributary of the Great Miami River*
*Permit-#1PG00018*FD;*
Lat:39.288056;Long:-84.581111

Mayflower Estates is located in Hamilton County at 3055 Overdale Dr. in Cincinnati, Ohio. Treatment consists of a comminution, flow equalization, activated sludge and

extended aeration, secondary clarification, post aeration, sand filtration and ultraviolet disinfection. Mayflower's wastewater facility was designed for 0.080 MGD.

Limit violations of the NPDES were evaluated at outfall 001, from 2006 to 2010. Data evaluated through SWIMS reported 12 violations ending by 2009 for TSS and ammonia. Some reasons provided included frozen valves which prevent backwashing causing filter bypassing and clogged lines overflowing then to sand filters.

Procter & Gamble Miami Valley Lab (P@G Lab)*-Receiving water-Great Miami River*
Permit #1IN00010
Lat:39.300000";Long:-84.645833
http://wwwapp.epa.ohio.gov/dsw/permits/doc/1IN00010.pdf

Procter and Gamble is located in Hamilton County at 11810 E Miami River Rd in Cincinnati. Procter and Gamble produces soaps, detergents and industrial chemicals and the lab carries out the technical research for the products.

Ohio EPA conducted acute toxicity testing (bioassays) at P@G Lab at outfall 001 with effluent, upstream, and mixing zone waters. The sampling event was conducted in October 2000 which resulted in no toxicity to either test organism in any of the ambient or effluent waters. These tests do not address the possibility of chronic toxicity.

Plant flows, and effluent concentrations of TSS and total phosphorus from the plant have trended downward since 2002 (Figure a-19).

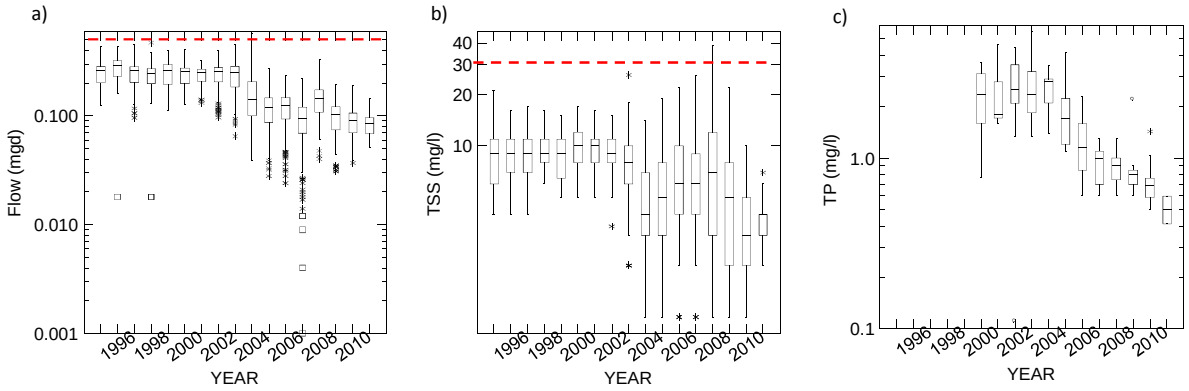

Figure a-19. Distributions of a) daily flows, and b) concentrations of total suspended solids and c) total phosphorus for1995 through the first quarter of 2011 for the Procter & Gamble Miami Valley Lab. Dashed red lines show the applicable 30 day average permit limits for water quality parameters, and the average daily design in the flow plot.

Sycamore Trails WWTP
Permit #-1PG00077

Thy Sycamore Trails WWTP posted 5 numeric cBOD and 3 numeric ammonia nitrogen violations between 2006 and 2010. Additionally, 74 sampling frequency violations were posted, mostly for color/odor/turbidity, chlorine, temperature and pH.

U.S. DOE Mound*-Receiving water -Great Miami River-RM-65.9*
The U.S. DOE Mound Lab has had no Ohio EPA Discharge Permit since 2009. Mound Laboratories in Miamisburg, Ohio was an Atomic Energy Commission (later Department of Energy) facility for nuclear weapon research during the Cold War. The laboratory grew out of the World War II era Dayton Project (a site within the Manhattan Project) where the neutron generating triggers for the first plutonium bombs were developed. The lab also produced plutonium-238-powered thermoelectric heat sources called SNAP or Systems for Nuclear Auxiliary Power for the U.S. space program. Mound was declared a Superfund site and was put on the National Priorities List in 1989. A decision was made to close the plant by 2006. Clean-up of the site began in 1995. Work with Tritium ended in 1997.

The U.S. DOE Mound Lab manufactured components for the nuclear weapons program, stable isotopes, and conducted research for other Department of Energy programs. Industrial and sanitary wastewaters were generated by this facility. The treatment process for sanitary wastewater (outfall 001) consists of bar screening, fine screening, grit removal, aeration, settling, tertiary filtration, chlorination and dechlorination.

The U.S. DOE Mound facility had three wastewater discharge locations. The outfall 001 treatment plant also received wastewater from the metal finishing shop. Outfall 002 was comprised of wastewater from the radioactive waste disposal building (treatment consists of pH adjustment, clarification, carbon addition, sand filtration, bone char column and I micron filtration), non-contact cooling water, boiler blowdown, softener backwash, and storm water runoff treated in retention basins. The Mound facility has three wastewater discharge locations. Outfall 001 discharges sanitary wastewater directly to the Great Miami River at RM 65.9 and outfall 002 and 003 discharges to the Miami-Erie Canal. The Mound Overflow Creek is a small headwater stream (approximately 0.4 miles long) which provides a conveyance for overflow water from the Miami-Erie Canal to the Great Miami River at RM 65.08. The stream flow in the Mound Overflow Creek is comprised partly of effluent from the Mound 002 outfall and 003 outfall which discharges from a pump ant treat groundwater remediation.

Appendix 2

List of parameters included in organic analyses, but not detected at concentrations above analytical limits.

Parameters included in organic analyses, but not detected at concentrations above analytical limits.

1,1,1,2-Tetrachloroethane	4,6-Dinitro-2-methylphenol	Chloroethane	Naphthalene
1,1,1-Trichloroethane	4-Bromophenyl-phenylether	Chloromethane	n-Butylbenzene
1,1,2,2-Tetrachloroethane	4-Chloro-3-methylphenol	Chrysene	Nitrobenzene
1,1,2-Trichloroethane	4-Chlorophenyl-phenylether	cis-1,3-Dichloropropene	N-Nitroso-di-n-propylamine
1,1-Dichloroethane	4-Chlorotoluene	Cyanazine	N-Nitrosodiphenylamine
1,1-Dichloroethene	4-Isopropyltoluene	Dibenz[a,h]anthracene	n-Propylbenzene
1,1-Dichloropropene	4-Nitrophenol	Dibromochloromethane	o-Xylene
1,2,3-Trichlorobenzene	Acenaphthene	Dibromomethane	PCB-1016
1,2,3-Trichloropropane	Acenaphthylene	Dichlorodifluoromethane	PCB-1221
1,2,4-Trichlorobenzene	Alachlor	Diethylphthalate	PCB-1232
1,2,4-Trimethylbenzene	Aldicarb	Dimethylphthalate	PCB-1242
1,2-Dibromo-3-chloropropane	Aldicarb sulfone	Di-n-butylphthalate	PCB-1248
1,2-Dibromoethane	Aldicarb sulfoxide	Di-n-octylphthalate	PCB-1254
1,2-Dichlorobenzene	Aldrin	Endosulfan II	PCB-1260
1,2-Dichloroethane	Anthracene	Endosulfan sulfate	Pentachlorophenol
1,2-Dichloropropane	b-BHC	Endrin aldehyde	Phenanthrene
1,3,5-Trimethylbenzene	Benzene	Ethylbenzene	Phenol
1,3-Dichlorobenzene	Benzo[a]anthracene	Fluoranthene	Propachlor
1,3-Dichloropropane	Benzo[a]pyrene	Fluorene	Propoxur
1,4-Dichlorobenzene	Benzo[b]fluoranthene	Glyphosate	Pyrene
2,2-Dichloropropane	Benzo[g,h,i]perylene	Heptachlor	sec-Butylbenzene
2,4,6-Trichlorophenol	Benzo[k]fluoranthene	Heptachlor epoxide	Styrene
2,4-Dichlorophenol	bis(2-Chloroethoxy)methane	Hexachlorobenzene	tert-Butylbenzene
2,4-Dimethylphenol	bis(2-Chloroethyl)ether	Hexachlorobutadiene	Tetrachloroethene
2,4-Dinitrophenol	bis(2-Chloroisopropyl)ether	Hexachlorocyclopentadiene	Toluene
2,4-Dinitrotoluene	Bromobenzene	Hexachloroethane	Total m&p-xylenes
2,6-Dinitrotoluene	Bromochloromethane	Indeno[1,2,3-cd]pyrene	Toxaphene
2-Chloronaphthalene	Bromoform	Isophorone	trans-1,2-Dichloroethene
2-Chlorophenol	Butachlor	Isopropylbenzene	trans-1,3-Dichloropropene
2-Chlorotoluene	Butylbenzylphthalate	Methiocarb	Trichlorofluoromethane
2-Nitrophenol	Carbaryl	Methomyl	Vinyl chloride
3-Hydroxycarbofuran	Carbofuran	Methoxychlor	y-BHC
4,4'-DDD	Carbon tetrachloride	Methylene chloride	
4,4'-DDE	Chlordane	Metribuzin	
4,4'-DDT	Chlorobenzene	Mirex	

Appendix 3

Sediment and Fish Tissue Sample Results by Site

Sediment Mainstem

The evaluation of land use for each 12 digit watershed assessment unit is in bold italics. The number in italics at the site name reflects the last digits of the watershed assessment unit. Land use discussion and map is available in the study area description section. Five contaminants commonly detected in fish tissue were evaluated at each site in juxtaposition to the sediment contamination.

WAU 05080002-01-05 (94.1% developed) (1% agricultural) (39.9% impervious)

RM 78.85 Stewart Street (05) (ICI=46) (Full Attainment) (WWH)

This site is immediately downstream of Wolf Creek (RM 80.25) which was impacted by a major Polychlorinated Biphenyl (PCB) spill from the closed Dayton Tire facility in 1987. A major bridge replacement was undertaken at Stewart Street in 2009-2010 .Construction activities disrupted the stream and bank area in the sample location.

Mucky sediment was collected upstream (river right) of the Stewart Street bridge on October 10, 2010. All of the sediment collected was fine grained material. The site has a good cobble, gravel and sand substrate with a few pockets of fine grained material.

The ten usually detected Poly Aromatic Hydrocarbons (PAH) were detected in the sediments for a total PAH concentration of 22.81 mg/kg. Six different PAHs are over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

Five metals were detected over the Ohio Sediment Reference Value guidelines. Calcium (154,000 mg/kg) and magnesium (43,800 mg/kg) were over the Ohio SRV. These are major elements in dolomitic limestone found in the stream bed. Cadmium (1.04 mg/kg), copper (38.7 mg/kg) and zinc (182 mg/kg) were documented over the Ohio SRV, above background levels for this ecoregion.

Sediment ammonia (120 mg/kg) was over the Ontario open disposal guidelines. This guideline is developed for harbors and is used only for reference in this document.

In the summer of 2010, contractors working on the I-75 project mined sand and gravel from the vicinity of RM 78.6 on the Great Miami River to use on the highway. The concept for the mining project was initially approved by the Miami Conservancy District. This site is approximately 0.25 miles downstream of the sediment sampling site.

Great Miami River (RM 78.6) in 2010

On September 1, 2010 in- stream sand and gravel mining reached twenty feet deep and ruptured a buried sewage line from the Dayton WWTP. After this accident, Miami Conservancy District put restrictions on the mining activity.

Given the PCB contamination history of the area, buried PCB contaminated sediments could have been released to the Great Miami River because fish tissue samples in the vicinity contained high levels of PCBs. Sediment bed load is constantly shifting and building up sand and gravel at this location. Historically deposited PCBs remain in the ecosystem even though their presence is not always captured in freshly deposited sediments.

No PCBs were detected in the freshly deposited sediment upstream at RM 78.85. This may be due in part to the sediment sample being made up of disturbed soils from the bridge construction activities and not truly representing the actual sediment in the river.

Twenty fish tissue samples taken from 5 species of fish were collected on October 6, 2010, at (RM 78.1). The following table depicts the worst contamination documented in fish tissue on the entire mainstem. PCBs in sediment did not reflect the magnitude of the problem in fish tissue. Sediment DDT was unrelated to the fish tissue contamination. Sediment arsenic (SRV 18,000 µg/kg) and mercury (SRV 120 µg/kg) were considered at reference levels for this ecoregion. Sediment lead (SRV 47,000 µg/kg) was near but below reference levels.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Stewart Street in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 78.85	BRL	76	46600	BRL	6,770
RM 78.1 (fish tissue) dst Stewart Street					
COMMON CARP (5)	9665.95 Do not eat	118 1 meal/wk	BRL	35.5 Unrestricted	194 1 meal/wk
CHANNEL CATFISH (4)	1572.66 Meals/yr	110 1 meal/wk	BRL	28.95 Unrestricted	BRL
FLATHEAD CATFISH (3)	170.61 meal/wk	249 1 meal/mo	BRL	BRL	BRL
ROCK BASS (4)	BRL	252 1 meal/mo	BRL	BRL	51 Unrestricted
SMALLMOUTH BASS (4)	BRL	147 1 meal/wk	146 1 meal/wk	BRL	128 Unrestricted

BRL below reporting limit

RM 77.24 Dryden Road (05) (ICI=42) (Full Attainment) (WWH).
Sediment samples were collected on October 10, 2010 downstream river left of the Broadway Street bridge, upstream of the Tait Station Dam (RM 77.49). Fine grained material was found in 34% of the sediment sample.

The ten characteristic Poly Aromatic Hydrocarbons (PAH) were detected for total PAH concentration of 26.28 mg/kg. This concentration of total PAHs is over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

The pesticide gamma-chlordane (10.1 µg/kg) was detected at levels over the USEPA ESL protective benchmark. No sediment DDT was detected.
Sediment calcium and magnesium were the only metals detected over the Ohio SRV. These are major elements in the dolomitic limestone found in the stream bed. No sediment nutrients were detected over Ontario guidelines.

Eleven fish tissue samples taken from 3 species of fish were collected on August 10, 2010, at (RM 77.9). Total sediment PCBs (234.2 µg/kg) were detected at levels over the USEPA ESL protective benchmark. Sediment DDT and mercury were unrelated to the fish tissue

contamination. Sediment arsenic (SRV 18,000 µg/kg) and lead (SRV 47,000 µg/kg) are considered at background levels for this ecoregion.

Historical fish tissue samples collected in 1993 indicate higher PCB concentrations for common carp but both years were in the 1 meal/ month category. Mercury also was higher in 1993 but both were still in the 1 meal/week category. No smallmouth bass were collected in 2010.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Dryden Road in the Great Miami River.

2010	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 77.24	234.2	<50	30,900	BRL	5430
RM 77.9 (Fish tissue) Dryden Road					
COMMON CARP (4)	325 1 meal/mo	161 1 meal/wk	54 Unrestricted	28.3 Unrestricted	126 Unrestricted
CHANNEL CATFISH (2)	215 1 meal/wk	98.5 2 meal/wk	BRL	23.6 Unrestricted	BRL
ROCK BASS (5)	BRL	168 1 meal/wk	41 Unrestricted	BRL	BRL

BRL below reporting limit

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Dryden Road in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 77.7 (Fish tissue) Dryden Road				
COMMON CARP (1)	509 1 meal/mo	200 1 meal/wk	BRL	BRL
Smallmouth Bass (7)	171 1 meal/wk	112 1 meal/wk	60.5 Unrestricted	BRL

RM 75.70 dst. Dayton WWTP (05) (ICI=50) (Full Attainment) (WWH)
Sediment samples were collected on October 5, 2010 in a sediment pocket about 0.5 miles downstream of the Dayton WWTP outfall, river right and downstream river right of a tributary.

The majority of substrate was cobble, sand and gravel. Only 25% of the sediment sample collected was fine grained material (<63 µm).

Eight characteristic PAHs were detected in sediment samples for a total PAH concentration of 11.86 mg/kg. Four of the PAHs were detected over the MacDonald Probable Effect Concentration (PEC) adverse effects usually occur in benthic organisms. None of the metal or nutrient parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines.

Fourteen fish tissue samples taken from 6 species of fish collected on July 7, 2009 at RM 73.75 ust Kreitzer Road approximately 1.95 miles downstream of the Dayton WWTP. Total sediment PCBs were detected at 41.8 µg/kg which was the below the U.S. EPA ESL protective benchmark. Sediment DDT and mercury were unrelated to the fish tissue contamination. Sediment arsenic (SRV 18,000 µg/kg) and lead (SRV 47,000 µg/kg) are considered at background levels for this ecoregion.

Historical fish tissue comparisons for PCBs indicate that both largemouth and smallmouth bass were below the detection limit in 2009 and in the 1 meal/week category in 2003. Smallmouth bass and largemouth bass fish tissue mercury levels were higher in 2009 going from 1 meal/ week in 2003 to 1 meal / month in 2009 for both species.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Dayton WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 75.70	41.8	BRL	15,100	BRL	4,210
RM 73.75 (Fish tissue)					
COMMON CARP (5)	272 1 meal/mo	101 2 meal/wk	BDL	30.7 Unrestricted	131 Unrestricted
Largemouth Bass (1)	BRL	350 1 meal/mo	BRL	BRL	BRL
FLATHEAD CATFISH (3)	425 1 meal/mo	355 1 meal/mo	BRL	49.7 Unrestricted	BRL
ROCK BASS (2)	BRL	129 1 meal/wk	BRL	BRL	BRL
SMALLMOUTH BASS (2)	BRL	296 1 meal/mo	BRL	BRL	BRL
Black Crappie (1)	BRL	139 1 meal/wk	76 Unrestricted	BRL	BRL

BRL below reporting limit

Concentrations of contaminates in sediment and fish tissue
(average concentrations by species) samples collected downstream from the Dayton WWTP in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 73.5 (Fish tissue)				
Channel Catfish (2)	433 1 meal/mo	300 1 meal/mo`	BRL	25.2 Unrestric ted
Largemouth Bass (4)	100 1 meal/wk	202 1 meal/wk	BRL	BRL
Smallmouth Bass (2)	122 1 meal/wk	220 1 meal/wk	BRL	BRL

WAU 05080002-01-06 (94.1%% developed) (1.0% agricultural) (39.9% impervious)

RM 72.4 Upstream Appleton paper (06) (ICI=E) (Full Attainment) (WWH)
Sediment samples were collected on October 10, 2010 in the bend of the river upstream of the Appleton Paper outfall. Fine grained material made up 46% of the sample. Two PAHs were detected in sediment samples for a total PAH concentration of 3.41 mg/kg. Pyrene (1.54 mg/kg) was over the MacDonald Probable Effect Concentration (PEC). The wood preservative 3&4 methyl phenol (Cresol) (7.33 µg/kg) was below the U.S. EPA ESL protective benchmark. The pesticide hexachlorobenzene (30.5 µg/kg) was over the U.S. EPA ESL protective benchmark. Sediment barium, calcium, cadmium, copper, manganese, strontium and zinc were all over the Ohio SRV. Sediment ammonia (710 mg/kg) was above was detected over Ontario open water disposal guidelines and the highest sediment level detected in the survey.

Nine fish tissue samples were collected from 4 species of fish on July 9, 2009 at RM 73.2 downstream of Holes Creek and upstream of Appleton Paper. Total sediment PCBs were detected at 125 µg/kg which was the below the U.S. EPA ESL protective benchmark. Sediment DDT and mercury were unrelated to the fish tissue contamination. Sediment arsenic (SRV 18,000 µg/kg) is considered at a background level for this ecoregion. Sediment lead was just below the Ohio SRV (47,000 µg/kg.). Historical fish tissue samples taken from five largemouth bass in 2003 indicate lower fish tissue levels of PCB and mercury when compared to 2009 levels, but both years were in the 1 meal/ week for fish tissue PCB and 1 meal / month for fish tissue mercury.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected upstream from Appleton Paper in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 72.4	125	BRL	46,400	BRL	9220
RM 73.2 (fish tissue) Dst Holes Ck					
COMMON CARP (5)	274 1 meal/mo	242 1 meal/mo	43 Unrestricted	29.6 Unrestricted	141 Unrestricted
Largemouth Bass (1)	209 1 meal/wk	404 1 meal/mo	BRL	BRL	BRL
SMALLMOUTH BASS (2)	BRL	438 1 meal/mo	BRL	BRL	117 Unrestricted
BLACK CRAPPIE (1)	BRL	306 1 meal/mo	BRL	BRL	BRL

BRL below reporting limit

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected upstream from Appleton Paper in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 73.3 (Fish tissue)				
Largemouth Bass (5)	64 1 meal/wk	319 1 meal/mo	BRL	BRL

RM 71.7 Downstream Appleton Paper (06) (ICI=48) (Full Attainment) (WWH)
Coarse sand gravel and cobble substrate allowed for only 5% fine grained material to be collected in the sample. Samples containing more than the 30% fine grained material are set as a collection goal. The metals calcium and magnesium were over the Ohio SRV. No nutrients were over the Ontario guidelines. Ten Poly Aromatic Hydrocarbons (PAH) compounds were detected for a total concentration of 26.75 mg/kg. Six of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms. No SAS 305 or SAS 310 was detected in the sediment samples taken downstream of Appleton Paper.

Seventeen fish tissue samples were collected from 4 species on July 7, 2009, downstream of the Appleton Paper outfall. Total sediment PCBs were detected at 58.6 µg/kg which was the below the USEPA ESL protective benchmark. Sediment DDT was unrelated to the fish tissue contamination. Sediment arsenic (SRV 18,000 µg/kg), lead (SRV 47,000 µg/kg) and mercury (SRV 120 µg/kg) are considered at background levels for this ecoregion. Historical PCB levels in channel catfish and smallmouth bass were below the reporting limit for fish tissue PCBs in 2003 and elevated to the 1 meal/week level in 2009. Fish tissue mercury levels were elevated in

2009 for smallmouth bass (1 meal/month) Channel catfish fish tissue mercury levels were higher in 2003 but both years were in the 1 meal/week category. Fish tissue lead in smallmouth bass was significantly higher in 2003 being in the 1 meal/month category. Channel catfish fish tissue analysis detected lead in the unrestricted category in 2003 and below the reporting limit in 2009.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream Appleton Paper in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 71.7	58.6	44	26,700	BRL	7040
RM 71.7 (fish tissue) Dst Appleton Paper					
COMMON CARP (5)	227 1 meal/mo	137 1 meal/wk	BRL	20.4 Unrestricted	160 1 meal/wk
Sauger X Walleye (3)	176 1 meal/wk	210 1 meal/wk	BRL	BRL	BRL
Smallmouth Bass(2)	112 1 meal/wk	303 1 meal/mo	87 Unrestricted	BRL	84 Unrestricted
Channel Catfish (7)	145 1 meal/wk	103 1 meal/wk	BRL	BRL	BRL

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream Appleton Paper in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 70.0 (Fish tissue)				
Smallmouth Bass (9)	BRL	181 1 meal/wk	583 1 meal/mo	BRL
Channel Catfish (3)	BR	220 1 meal/wk	81 Unrestricted	BRL

BRL below reporting limit

RM 69.9 Farmersville-West Carrollton Road (06) (ICI=VG) (Full Attainment) (WWH)

Sediment samples consisting of some muck and mostly gravel were collected on October 10, 2010. Only 7% fine grained material was collected in the sample which is below the goal of at least 30% fine grained material. All samples were collected upstream of the Farmersville-West Carrollton Road.

Two Poly Aromatic Hydrocarbons (PAH) compounds were detected above the USEPA ESL protective benchmark.Total sediment PCBs were (49.8 µg/kg) were detected below the USEPA

ESL protective benchmark. The PCB replacement in carbonless paper, SAS305-310 (p-sec-Butyl 1,1 diphenylmethane) was detected at 63 µg/kg. Sediment metals were above the Ohio Sediment Reference Value (SRV) for calcium (320,000 mg/kg), magnesium (180,000 mg/kg), arsenic (18.8 mg/kg), and cadmium (1.03 mg/kg). Sediment ammonia (190 mg/kg) was above the Ontario open water disposal guidelines.

RM 69.3 Downstream Owl Creek (06) (Full Attainment) (ICI=MG) (WWH)
This sampling site is downstream of Owl Creek and upstream of the West Carrollton WWTP. The sample contained only 16% fine grained material due to the substrate being mostly sand and gravel with some silt.

One PAH (pyrene) was detected in sediment below the USEPA ESL protective benchmark. Total sediment PCB was 205 µg/kg above the USEPA ESL protective benchmark. Sediment metals were above the Ohio Sediment Reference Value (SRV) for calcium (170,000 mg/kg), magnesium (62400 mg/kg), cadmium (1.30 mg/kg), and mercury (1.21 mg/kg). Sediment arsenic (17.6 mg.kg) was detected just below the arsenic SRV (18 mg/kg).

RM 68.7 Dst. W. Carrollton WWTP (06)(Full Attainment) (ICI=52) (WWH)
Sediment samples were collected on September 28, 2010 downstream of the West Carrollton WWTP river right . The flow of the Great Miami River was down making it easier to access some of the deeper pools even though 1 inch of rain had fallen the night before. Substrate was mostly cobble, sand and gravel with pockets of dark black and grey sediments . A fine tanish sediment covered many of the rocks but was only obtainable in significant quantities at one site. Fine grained material was 41 percent.

Seven different PAH chemicals were detected in sediments with four detected above the USEPA ESL protective benchmark. None were detected above the MacDonald PEC. The only metal detected above the Ohio SRV was mercury (140 µg/kg).

Thirteen fish tissue samples were collected from 4 species on July 5, 2009, upstream of Bear Creek. Total sediment PCB was 174.1 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Sediment mercury was above the Ohio SRV, considered above background for this ecoregion. Sediment arsenic (SRV 18,000 µg/kg) and lead (SRV 47,000 µg/kg) are considered at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream West Carrollton WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 68.7	174.1	140	27900	BDL	4800
RM 68.0 (fish tissue) Ust. Bear Creek					
COMMON CARP (4)	427 1 meal/mo	288 1 meal/mo	BRL	35.5 Unrestricted	141 Unrestricted
Rock Bass (2)	BRL	173 1 meal/wk	BRL	BRL	BRL
SMALLMOUTH BASS (2)	BRL	185 1 meal/wk	BRL	BRL	BRL
Channel Catfish (5)	299 1 meal/mo	254 1 meal/mo	BRL	17.96 Unrestricted	BRL

BRL below reporting limi

WAU 05080002-04-04 (40.1% developed) (39.2% agricultural) (12.37% impervious)
RM 66.9 Linden Avenue (04) (Full Attainment) (ICI=50) (WWH)

Sediments were collected upstream of the Linden Avenue bridge and upstream of a large storm culvert, river left. The substrate was mostly cobble, sand and gravel. Pockets of sediment could be found upstream of the stormwater culvert and in a cluster macrophytes approximately 150 yards upstream of the bridge. Fine grained material comprised 43% of the sediment sample.

Sediment metals were below Ohio EPA, MacDonald, or Ontario guidelines. Sediment ammonia (110 mg/kg) was above the Ontario open water disposal sediment guidelines.

The ten usually detected Poly Aromatic Hydrocarbons (PAH) were present for total PAH concentration of 16.23 mg/kg. Five of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

Fifteen fish tissue samples were collected from five species on July 9, 2009, near the confluence with Bear Creek. Total sediment PCB was 130.7 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Sediment arsenic (SRV 18,000 µg/kg) and lead (SRV 47,000 µg/kg) are considered at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Linden Avenue in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 66.9	130.7	<47	30700	BRL	4580
RM 67.5 (fish tissue) @ Bear Creek					
COMMON CARP (2)	409 1 meal/mo	217 1 meal/wk	56 Unrestricted	BRL	BRL
CHANNEL CATFISH (7)	183 1 Meal/wk	193 1 meal/wk	BDL	BRL	BRL
FLATHEAD CATFISH (3)	196 1 meal/wk	123 1 meal/wk	106 1 meal/wk	20.9 Unrestricted	BRL
Sauger X Walleye (2)	BDL	225 1 meal/mo	BRL	BRL	BRL
SMALLMOUTH BASS (1)	144 1 meal/wk	503 1 meal/mo	BRL	BRL	BRL

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Linden Avenue in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 67.5 (Fish tissue)				
Smallmouth Bass (6)	BRL	192 1 meal/wk	299 1 meal/wk	BRL
Channel Catfish (4)	209 1 Meal/wk	249 1 meal/mo	BRL	21.2

BRL below reporting limit

RM 64.8 Chautauqua Road (04) (Partial Attainment) (ICI=32) (WWH)
This site was located in the dam pool of the DP&L Hutching Station power generation station.Fine grained material was detected in 32% of the sample analyzed.

The pesticide gamma-chlordane was detected in sediment at 8.3 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Two sediment metals were above the Ohio

Sediment Reference Value (SRV), calcium (135,000 mg/kg) and magnesium (39600 mg/kg). Sediment ammonia (150 mg/kg) was above the Ontario open water disposal sediment guidelines.

The ten characteristic Poly Aromatic Hydrocarbons (PAH) were present for total PAH concentration of 16.87 mg/kg. Six of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

Thirteen fish tissue samples were collected from 4 species on September 7, 2010. Total sediment PCB was 280 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Sediment arsenic (SRV 18,000 µg/kg) and lead (SRV 47,000 µg/kg) are considered at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Chautauqua Road in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 64.8	280	BRL	34,800	BRL	6410
RM 64.8(fish tissue) Chautauqua Rd.					
COMMON CARP (5)	1667 6 meals/yr	124 1 meal/wk	BRL	44.8 Unrestricted	147 Unrestricted
CHANNEL CATFISH (5)	148 1 Meal/wk	172 1 meal/wk	BRL	BRL	BRL
FLATHEAD CATFISH (2)	BRL	266 1 meal/mo	BRL	BRL	BRL
SMALLMOUTH BASS (1)	BRL	148 1 meal/wk	BRL	BRL	334 1 meal/wk

BRL below reporting limit

RM 60.58 SR 123 (04) (Full Attainment) (ICI=not done) (WWH)
Sediment samples were taken downstream of the DP&L Hutchings power generation station on State Route 123. Only 7% fine grained material was detected in the sediment sample. Six sediment metals were above the Ohio Sediment Reference Value (SRV) , calcium (153,000 mg/kg), magnesium (51800 mg/kg), arsenic (23.2 mg/kg), cadmium (2.5 mg/kg), lead (58.5 mg/kg) and selenium (18.9 mg/kg). The sediment selenium was the only selenium detection seen in the entire survey. Selenium is associated with coal power plant emissions.

Six Poly Aromatic Hydrocarbons (PAH) were present for total PAH concentration of 4.21 mg/kg. Five of the PAHs detected were above the USEPA ESL protective benchmark for

benthic organisms. Total sediment PCBs were detected at 89.1 µg/kg, above the USEPA ESL protective benchmark for benthic organisms.

RM 59.1 Dst. Franklin WWTP (04) (Full Attainment) (ICI=44) (WWH)
Sediment samples were collected on September 28, 2010 approximately 200 yards downstream from the Franklin WWTP outfall. The substrate was comprised of cobble, sand and gravel. Pockets of sediment were collected in three locations for an average fine grained material of 27%, below the guideline of 30% fine grained material.

Four sediment metals were above the Ohio Sediment Reference Value (SRV), cadmium (1,930 µg/kg), copper (54,700 µg/kg), mercury (174 µg/kg) and lead (56,8oo µg/kg) .
The ten usually detected Poly Aromatic Hydrocarbons (PAH) were present for total PAH concentration of 16.45 mg/kg. Five of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

Nineteen fish tissue samples were collected from four species on September 7, 2010. Total sediment PCB was 702 µg/kg, were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms. This was the highest sediment PCB detected on the mainstem and second highest sediment PCB detected on the entire survey. This site is downstream of the abandoned Systech Franklin Waste Treatment Center. Sediment lead (56,800 µg /kg) (SRV 47,000 µg/kg) and sediment mercury (174 µg/kg) (SRV 120 µg/kg) are above the Ohio SRV and considered above background levels for this ecoregion. Sediment arsenic (SRV 18,000 µg/kg) was considered at background level for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Franklin WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 59.1	702	174	56,800	BRL	5850
RM 59.1(fish tissue)					
COMMON CARP (5)	299 1 meal/mo	177 1 meal/wk	BRL	24.6 Unrestricted	115 Unrestricted
CHANNEL CATFISH (8)	126 1 Meal/wk	177 1 meal/wk	BRL	BRL	BRL
FLATHEAD CATFISH (2)	422 1 meal/mo	413 1 meal/mo	BRL	36.2 Unrestricted	BRL
SMALLMOUTH BASS (4)	BRL	225 1 meal/mo	BRL	BRL	111 Unrestricted

BRL below reporting limit

WAU 05080002-07-02 (35.7% developed) (33.9% agricultural) (12.07% impervious)

RM 52.64 Central Ave (SR122) (02) (Partial Attainment) (ICI=40) (WWH)

Sediment was collected upstream of the Central Avenue bridge above a sand bar splitting the flow on the Great Miami River. Samples were collected, river left, at growth of macrophytes and upstream in a backwater inlet that had black sandy sediment. Fine grained material was found in only 18% of the composite sample collected.

Five PAHs were detected in the sediment sample for a total PAH concentration of 5.86 mg/kg. Four of the PAH samples were above the USEPA ESL protective benchmark for benthic organisms. Total sediment PCBs were 117 µg/kg which was above the USEPA ESL protective benchmark for benthic organisms.

Two sediment metals were above the Ohio Sediment Reference Value (SRV), calcium (154,000 mg/kg) and magnesium (43300 mg/kg). Sediment ammonia (100 mg/kg) was above the Ontario open water disposal sediment guidelines.
No fish tissue samples were collected at this location.

RM 51.6 Dst. New Middletown Dam (02) (Full Attainment) (ICI=44) (WWH)
Downstream of the dam was an isthmus like structure that collected a tan gelatinous material appearing to be dead algal deposits. Beneath the tan sediment was black sand. The majority of the substrate in the Great Miami River is cobble, sand and gravel. Flow in the river was down. Only 9% of the composited sample was fine grained material.

No PAHs or pesticides were detected in the sediment sample. Sediment PCBs were 45.2 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. Two sediment metals were above the Ohio Sediment Reference Value (SRV), calcium (254,000 mg/kg) and magnesium (78100 mg/kg). Sediment ammonia (210 mg/kg) and sediment phosphorus (2100 mg/kg) were above the Ontario open water disposal sediment guidelines.

No fish samples were collected at this location.

RM 51.44 Dst. Verity CSO (02) (Full Attainment) (ICI=42) (WWH)
Sediment was collected on October 13, 2010, behind a set of old bridge piers river right.. This is a difficult site to collect sediment samples and only 7% of the sediment was fine grained material. The majority of substrate was cobble, sand and gravel.

No PAHs or pesticides were detected in the sediment sample. No sediment metals or nutrients were found to be above Ohio EPA, MacDonald, or Ontario guidelines.

Sixteen fish tissue samples were collected from four species on September 9, 2010. Sediment PCBs were 44.5 µg/kg, below the USEPA ESL protective benchmark for benthic organisms.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Verity CSO in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 51.44	44.5	BRL	11,400	BRL	2450
RM 51.4(fish tissue)					
COMMON CARP (5)	241 1 meal/mo	151 1 meal/wk	40 Unrestricted	27.6 Unrestricted	121 Unrestricted
CHANNEL CATFISH (5)	115 1 Meal/wk	65 1 meal/wk	BRL	BRL	BRL
FLATHEAD CATFISH (2)	92 1 meal/mo	183 1 meal/mo	BRL	BRL	BRL
SMALLMOUTH BASS (4)	122 1 Meal/wk	254 1 meal/mo	BRL	BRL	99 Unrestricted

BRL below reporting limit

RM 51.24 Dst. AK Steel outfall 011 (02) (Full Attainment) (ICI=na) (WWH)
Sediment was collected between the AK Steel 011 outfall and the Middletown 15th Avenue CSO. Macrophytes growing along the river bank, river left, had black petroleum smelling sediment anchoring their roots. The gravel was stained with an iron color along the banks. Only 12% of the sediment collected contained fine grained material. This site was difficult to collect enough fine grained material to be considered a good sediment sample.

Twelve PAHs were detected in the sediment sample for a total PAH concentration of 15.52 mg/kg. Acenaphthene and fluorene were detected in addition to the ten usually detected Poly Aromatic Hydrocarbons (PAH). Five of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

Seven sediment metals were above the Ohio Sediment Reference Value (SRV). They were calcium (142,000,000 µg/kg), magnesium (41,300,000 µg/kg), cadmium (1090 µg/kg), copper (26,700 µg/kg), mercury (156 µg/kg), lead (66,000 µg/kg), and zinc (354,000 µg/kg).

No sediment nutrients were found to be above Ontario guidelines.

Ten fish tissue samples were collected from four species on September 9, 2010. It was unusual for flathead catfish to be more contaminated than common carp. Total sediment PCBs were detected at 49.4 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. Sediment lead (66,000 µg /kg) (SRV 47,000 µg/kg) and sediment mercury (156 µg/kg) (SRV 120 µg/kg) are above the Ohio SRV and considered above background levels for this ecoregion. Sediment arsenic (SRV 18,000 µg/kg) was considered at background level for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the AK Steel 011 outfall in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 51.24	49.4	156	66,000	BRL	7,770
RM 51.2 (fish tissue)					
COMMON CARP (5)	143 1 meal/wk	108 2 meals/wk	BRL	BRL	168 1 Meal/wk
Sauger X Walleye (1)	BRL	255 1 meal/mo	BRL	BRL	62 Unrestricted
FLATHEAD CATFISH (3)	1284 6 meals/yr	637 1 meal/mo	BRL	56.8 Unrestricted	BRL
SMALLMOUTH BASS (1)	BRL	257 1 meal/mo	BRL	BRL	113 Unrestricted

BRL below reporting limit

WAU 05080002-07-06 (38.8% developed) (43.9% agricultural) (11.71% impervious)

RM 49.1 SR 73 (06) (Full Attainment) (ICI=50) (WWH)
Sediment was collected upstream of the SR 73 bridge, on both sides of the boat launch. Sediment was a black sandy muck that was at least 1 foot thick in places. Only 18% of the composite sample was fine grained material.

Three different PAHs were detected in the sample for a total of 2.59 mg/kg. All PAHs were above the USEPA ESL protective benchmark for benthic organisms.

Total sediment PCBs were detected at 71.3 µg/kg, above the USEPA ESL protective benchmark for benthic organisms.

No sediment metals or nutrients were found to be above Ohio EPA, MacDonald, or Ontario guidelines.

RM 48.0 0.3 mi Upstream of Dicks Creek (06) (Full Attainment) (ICI=36) (WWH)
Sediment was collected downstream of the Middletown WWTP at an outside bend in the Great Miami River. Concrete rip rap and fly ash was placed along the river's edge. Sediment collected was grey/black/tan and trapped among the concrete slabs. Fine grained material consisted of 35% of the sediment sample.

No nutrient parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines. No organic compounds were detected in the sediment sample. Two sediment metals were above the Ohio Sediment Reference Value (SRV), calcium (172,000 mg/kg) and magnesium (57400 mg/kg.)

Eighteen fish tissue samples were collected from four species on September 8, 2010. All sediment metals were either below detection limit or in the background range. No PCBs or DDTs were detected in sediment.

Historical fish tissue samples indicate that PCB levels in channel catfish, smallmouth bass, and sauger were higher in 1993 than in 2010. The sauger in 1993 was in the 1 meal/month level, while the 2010 PCB concentration was below the reporting limit. Channel catfish PCB levels were in the 1 meal/month category for both years. Smallmouth bass PCB levels were in the 1 meal/week category in 1993 and below the reporting limit in 2010.

Mercury fish tissue levels were in the 1 meal/month category for sauger, channel catfish and smallmouth bass in both years. Mercury levels in fish tissue increased in 2010 for smallmouth bass and sauger.

Lead fish tissue samples were noticeably elevated in the 1993 sauger. Sauger levels were in the 1 meal / month category. All other lead levels in the were below the reporting limit or in the unrestricted category.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected upstream from Dicks Creek in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 48.0	BRL	BRL	15600	BRL	9500
RM 48.0 (fish tissue)					
COMMON CARP (5)	261 1 meal/mo	86 2 meals/wk	56 unrestricted	BRL	112 unrestricted
CHANNEL CATFISH (7)	244 1 Meal/mo	123 1 meal/mo	BRL	BRL	BRL
FLATHEAD CATFISH (3)	BRL	152 1 meal/mo	BRL	BRL	127 Unrestricted
Sauger X Walleye (1)	BRL	250 1 meal/mo	43 Unrestricted	BRL	121 Unrestricted
SMALLMOUTH BASS (2)	BRL	271 1 meal/mo	BRL	BRL	BDL

Concentrations of contaminates in sediment and fish tissue
(average concentrations by species) samples collected upstream from
Dicks Creek in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 49.2 (Fish tissue)				
Smallmouth Bass (6)	68 1 meal/wk	190 1 meal/mo	BRL	BRL
Channel Catfish (3)	288 1 meal/mo	124 1 meal/mo	31 Unrestricted	BRL
Sauger (3)	232 1 meal/mo	185 1 meal/mo	702 1 meal/mo	BRL

BRL below reporting limit

RM 47.1 Downstream of Dicks Creek (06) (Full Attainment) (ICI=VG) (WWH)
Sediment was collected on November 2, 2010 downstream of Dicks Creek, river left. The substrate was cobble, sand and gravel. Fine grained material comprised 34% of the composite sample.

Two PAHs were detected in the sample for a total of 1.78 mg/kg., both PAHs were above the USEPA ESL protective benchmark for benthic organisms.
The pesticide gamma-chlordane (15.3 µg/kg,) was above the USEPA ESL protective benchmark for benthic organisms. Two sediment metals were above the Ohio Sediment Reference Value (SRV), calcium (162,000 mg/kg) and magnesium (38700 mg/kg).

Twelve fish tissue samples were collected from four species on September 8, 2010. Total sediment PCBs were detected at 513.2 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. This was the second highest sediment PCB detected on the mainstem and third highest sediment PCB detected on the entire survey. The site at Dicks Creek RM 0.93 had the highest PCB concentration documented on the entire survey (1863 µg/kg). The remediation of Dicks Creek for PCB contamination is ongoing but does not include any contamination documented in the Great Miami River.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from Dicks Creek in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 47.1	513.2	49	13300	BRL	7,900
RM 47.1 (fish tissue)					
COMMON CARP (5)	341 1 meal/mo	141 1meal/wk	57 Unrestricted	23.6 Unrestricted	204 1 Meal/wk
Channel Catfish (5)	191 1meal/wk	199 1 meal/mo	BRL	17.28 Unrestricted	54 Unrestricted
FLATHEAD CATFISH (1)	356 1 meal/mo	446 1 meal/mo	BRL	22.5 Unrestricted	BRL
SMALLMOUTH BASS (1)	109 1meal/wk	381 1 meal/mo	BRL	BRL	124 Unrestricted

BRL below reporting limit

RM 45.3 Dst. Lesourdsville WWTP (06) (Full Attainment) (ICI=40) (WWH)
Fine grained material was found in 24% the composite sample.

Sediment organic analysis found the plasticizer bis (2-Ethylhexyl)phthalate (2.86 mg/kg) at a level above the USEPA ESL protective benchmark for benthic organisms. No other organic compounds were detected in the sample. Four sediment metals were above the Ohio Sediment Reference Value (SRV). They are calcium (344,000 mg/kg), magnesium (75600 mg/kg), manganese (1190 mg/kg) and strontium 562 mg/kg). Sediment ammonia (520 mg/kg) and phosphorus (2860 mg/kg) were above the Ontario open water disposal sediment guidelines.

Seventeen fish tissue samples were collected from three species on September 8, 2010. Total PCBs, DDTs, and mercury were below the detection limit. Lead and arsenic were considered to be at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Lesourdsville WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 45.3	BRL	BRL	18,600	BRL	8380
RM 45.3(fish tissue)					
COMMON CARP (5)	387 1 meal/mo	103 2meals/wk	57 Unrestricted	26.8 Unrestricted	178 1 Meal/wk
Channel Catfish (6)	124 1 meal/wk	137 1 meal/wk	BRL	17.8 Unrestricted	BRL
FLATHEAD CATFISH (6)	286 1 meal/mo	326 1 meal/mo	BRL	28 Unrestricted	BRL

BRL below reporting limit

RM 43.23 Liberty-Fairfield Road (06) (Full Attainment) (ICI=46) (WWH)
Sediment was collected on October 19, 2010 downstream of Liberty Fairfield Road and approximately 100 yards downstream of the Rail Road bridge. The water level was deep making sediment collection difficult and limited in scope. Fine grained material was found in only 12% of the composite sample. No nutrient or metal parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines. Seventeen fish tissue samples were collected from three species on September 9, 2010. Total sediment PCBs were detected at 48.8 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. No other organic compounds were detected in the sample. Lead and arsenic were considered to be at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Liberty-Fairfield Road in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 43.2	48.8	BRL	8,850	BRL	2,460
RM 43.2 (fish tissue)					
COMMON CARP (5)	252 1 meal/mo	87 2meals/wk	BRL	BRL	204 1 Meal/wk
Channel Catfish (8)	142 1 meal/wk	185 1 meal/wk	BRL	BRL	43 Unrestricted
FLATHEAD CATFISH (4)	363 1 meal/mo	176 1 meal/wk	BRL	28.8 Unrestricted	BRL

BRL below reporting limit

WAU 05080002-09-02 (56% developed) (18.1% agricultural) (4.0% impervious)
RM 34.2 Downstream Hamilton Dam (02) (Full Attainment) (ICI=32) (WWH)
Sediment samples collected on October 19, 2010 had only 8% fine grained material. Two PAHs were detected in the sample for a total of 1.75 mg/kg. Both PAHs were above the USEPA ESL protective benchmark for benthic organisms. Total sediment PCBs were detected at 42.9 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. No other organic compounds were detected in the sample. Sediment phosphorus (3040 mg/kg) was above the Ontario sediment guideline. No metal parameters were found to be above Ohio EPA guidelines

RM 33.85 Dst. Hamilton WWTP (02) (Partial Attainment) (ICI=26) (WWH)

Sediment samples collected on October 19, 2010 had only 13% fine grained material. The ten usually detected Poly Aromatic Hydrocarbons (PAH) were present for total PAH concentration of 15.78 mg/kg. Five of the PAHs were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms at this level. No metal parameters were found to be above Ohio EPA guidelines Seventeen fish tissue samples were collected from seven species on October 21, 2010. Total sediment PCBs were detected at 128.9 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Lead and arsenic were considered to be at background levels for this ecoregion BRL below reporting limit

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Hamilton WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results (RM 33.85)	128.9	BRL	19,200	BRL	3,230
RM 33.6 (fish tissue)					
COMMON CARP (4)	234 1 meal/mo	188 1meal/wk	BRL	21.4 Unrestricted	109 Unrestricted
Channel Catfish(2)	201 1meal/wk	80 2 meals/wk	BRL	BRL	BRL
FLATHEAD CATFISH (1)	1492 6 meals/yr	692 1 meal/mo	BRL	107.4 Unrestricted	BRL
Freshwater Drum (3)	BRL	247 1 meal/mo	BRL	BRL	82 Unrestricted
Sauger (3)	BRL	118 1 meal/wk	BRL	BRL	BRL
White BASS (3)	132 1 meal/wk	161 1 meal/wk	BRL	BRL	155 1 meal/wk
Smallmouth Bass (1)	BRL	248 1 meal/mo	BRL	BRL	65 Unrestricted

RM 31.2 Dst. Fairfield WWTP (02) (Partial Attainment) (ICI=44) (WWH)
Sediment samples collected on October 19, 2010 had only 13% fine grained material.

Nine of the 10 commonly observed PAHs were detected in the sediment sample for a total PAH of 9.32 mg/kg. Two of the PAHs were above the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms.

No nutrient or metal parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines. Mercury, lead and arsenic were considered at background levels for this ecoregion. Twenty-six fish tissue samples were collected from eight species on October 21, 2010. Total sediment PCBs were detected at 59.7 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. Lead, mercury and arsenic were considered to be at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from the Fairfield WWTP in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 31.2	59.7	36	13,000	BRL	2,680
RM 31.4(fish tissue)					
COMMON CARP (4)	100 1meal/wk	147 1meal/wk	BRL	BRL	127 Unrestricted
Channel Catfish(7)	180 1meal/wk	116 1 meal/wk	BRL	18 Unrestricted	BRL
FLATHEAD CATFISH (1)	1875 6 meals/yr	588 1 meal/mo	BRL	144 Unrestricted	BRL
Freshwater Drum (5)	BRL	155 1 meal/wk	BRL	BRL	94 Unrestricted
Sauger (2)	BRL	279 1 meal/mo	BRL	BRL	BRL
Sauger X Walleye (1)	299 1 meal/mo	537 1 meal/mo	BRL	22.7 Unrestricted	BRL
White Bass (5)	BRL	226 1 meal/mo	BRL	BRL	136 Unrestricted
Smallmouth Bass (1)	BRL	160 1 meal/wk	BRL	BRL	79 Unrestricted

BRL below reporting limit

WAU 05080002-09-04 (22% developed) (23.7% agricultural) (5.93% impervious)

RM 26.1 SR 126 (04) (Full Attainment) (ICI=38) (WWH)
Sediment was collected on September 29, 2010 upstream of the State Route 126 bridge from the river left bank. Fine grained material was found in 16% of the combined sample. This is below the goal of 30% or more fine grained material used as a guideline for sediment samples. Eight of the 10 commonly observed PAHs were detected in the sediment sample for a total PAH of 7.87 mg/kg. Seven of the PAHs were above the USEPA ESL protective benchmark for benthic organisms. The pesticide gamma-chlordane was detected in sediment at 8.1 µg/kg. This was above the USEPA ESL protective benchmark for benthic organisms. No nutrient or metal parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines.

Twenty-one fish tissue samples were collected from six species on October 20, 2010. Total sediment PCBs were detected at 143.1 µg/kg, above the USEPA ESL protective benchmark for benthic organisms. Sediment lead, mercury and arsenic were considered to be at background levels for this ecoregion. Channel catfish was the only species comparable in both years. PCB levels were identical in both years , in the 1 meal/week category. Channel catfish tissue mercury levels were higher in 1993 being in the 1 meal/week category. The 1993 fish tissue lead levels were in the 1 meal/ week category versus being in the below reporting limit in 2010.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near SR 126 in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 26.1	143.1	109	20,900	BRL	4,280
RM 26.0 (fish tissue)					
COMMON CARP (4)	327 1 meal/mo	232 1meal/mo	103 1meal/wk	22.1 Unrestricted	160 Unrestricted
Channel Catfish(8)	174 1meal/wk	97 2 meals/wk	BRL	BRL	BRL
FLATHEAD CATFISH (1)	384 1 meal/mo	272 1 meal/mo	BRL	BRL	BRL
Freshwater Drum (4)	BRL	346 1 meal/mo	BRL	BRL	105 Unrestricted
Sauger X Walleye (1)	108 1 meal/wk	238 1 meal/mo	BRL	BRL	BRL
Spotted Bass (3)	BRL	183 1 meal/wk	BRL	BRL	57 Unrestricted

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near SR 126 in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 27.0 (Fish tissue)				
White Bass (9)	395 1 meal/mo	104 2 meals/wk	94 1 meal/wk	BRL
Channel Catfish (3)	174 1 meal/wk	126 1 meal/wk	194 1 meal/wk	BRL

BRL below reporting limit

WAU 05080002-09-06 (22% developed) (23.7% agricultural) (5.93% impervious)

RM 19.6 downstream Paddy's Run (06) (Full Attainment) (ICI=na) (WWH)
Sediment was difficult to collect. It was found along a rail road track, river right, on September 29, 2010. The substrate was cobble, sand and gravel and the sample was only 20% fine grained material. No sediment organics were detected in the sample. This site is downstream of the PCS phosphorus facility. The sediment phosphorus was detected at (4190 mg/kg), above the Ontario nutrient guidelines. Only Taylor Creek at Wesselman Rd. (RM 0.2) (8980 mg/kg) was higher sediment phosphorus levels for the entire survey. Five sediment metals were above the Ohio Sediment Reference Value (SRV). They were calcium (265,000 mg/kg), magnesium (68,200 mg/kg), cadmium (1.03 mg/kg), manganese (906 mg/kg), and strontium (394 mg/kg). Nineteen fish tissue samples were collected from six species on October 20, 2010. No sediment organics were detected in the sample. Sediment lead and arsenic were considered to be at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from Paddy's Run in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 19.6	BRL	BRL	28,600	BRL	8600
RM 20.0 (fish tissue)					
COMMON CARP (3)	218 1 meal/wk	146 1meal/wk	BRL	BDL	183 Unrestricted
Channel Catfish(4)	270 1meal/mo	84 2 meals/wk	BRL	16.43 Unrestricted	BRL
FLATHEAD CATFISH (1)	440 1 meal/mo	260 1 meal/mo	BRL	25.9 Unrestricted	BRL
Freshwater Drum (4)	152 1 meal/wk	195 1 meal/wk	BRL	BRL	116 Unrestricted
Sauger (4)	131 1 meal/wk	230 1 meal/mo	BRL	BRL	BDL
White Bass (3)	219 1 meal/wk	268 1 meal/wk	BRL	BRL	106 Unrestricted

BRL below reporting limit

RM 15.49 Harrison Road (06) (Full Attainment) (ICI=G) (WWH)
Sediment was collected upstream of the Harrison bridge on October 19, 2010. The substrate was cobble, sand and gravel. Sandy tan sediment was collected off of rocks and black darker sediment was present in the slower shallow bends along the bank with fine grained material making up 26% of the composite sample. All samples were collected on river left.

No sediment organics were detected in the composite sediment sample.One sediment metals was above the Ohio Sediment Reference Value (SRV), calcium (162,000 mg/kg). Sediment ammonia (190 mg/kg) was above the Ontario open disposal guideline.

Seventeen fish tissue samples were collected from five species on July 27, 2010. No PCBs or DDTs were detected. Sediment lead and arsenic were considered to be at background levels for this ecoregion.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected near Harrison Road in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 15.49	BRL	BRL	18,700	BRL	4,830
RM 15.5 (fish tissue)					
COMMON CARP (2)	241 1 meal/mo	138 1meal/wk	BRL	24.4 Unrestricted	135 Unrestricted
Channel Catfish(3)	195 1meal/wk	94 2 meals/wk	BRL	BRL	BRL
FLATHEAD CATFISH (1)	BRL	292 1 meal/mo	BRL	BRL	BRL
Freshwater Drum (8)	125 1 meal/wk	210 1 meal/wk	BRL	BRL	105 Unrestricted
White Bass (3)	BRL	355 1 meal/mo	BRL	BRL	307 1 meal/wk

BRL below reporting limit

RM 14.93 Dst. Taylor Creek (06) (Partial Attainment) (ICI=42) (WWH)
All samples collected were downstream of the I-275 bridge, taken river right. Black and tan sediment was found with a great deal of sand present in sample. Only 21% of the composite sample contained fine grained material. The sand, gravel and cobble substrate made collection of sediment difficult.

The legacy pesticide 4,4'-DDT was detected at 17.2 µg/kg, which is below the USEPA ESL protective benchmark.

Total sediment PCBs were detected at 38.6 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. No nutrient or metal parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines. No fish tissue samples taken at this site.

RM 8.2 Dst. US 50 (06) (Full Attainment) (ICI=42) (WWH)
Sediment was collected upstream of the SR 50 bridge on October 19, 2010. Fine grained material made up 11% of the composite sample. All samples were collected on river right.

No nutrient or metal parameters were found to be above Ohio EPA, MacDonald, or Ontario guidelines.

Ten fish tissue samples were collected from five species on July 27, 2010. Total sediment PCBs were detected at 24 µg/kg, below the USEPA ESL protective benchmark for benthic organisms. Sediment lead and arsenic were considered to be at background levels for this ecoregion.

Historical fish tissue samples indicate that PCB levels were higher in 1993 with the channel catfish and white bass PCB levels dropping from the 1meal/month category in 1993 to the 1 meal/week category in 2010. Fish tissue mercury levels did not change much from 1993 to 2010. White bass mercury levels were in the 1 meal/month category for both years and channel catfish levels remained in 2 meal/week category for both years. White bass lead levels dropped significantly from 1993 (1 meal/month) to
unlimited use in 2010.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected downstream from US50 in the Great Miami River.

	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)	Arsenic (µg/kg)
Sediment results RM 8.2	24.0	BRL	7990	BRL	2170
RM 8.2 (fish tissue)					
COMMON CARP (3)	218 1 meal/wk	223 1meal/mo	BRL	22.9 Unrestricted	75 Unrestricted
Channel Catfish(2)	156 1meal/wk	84 2 meals/wk	BRL	BRL	82
FLATHEAD CATFISH (1)	190 1meal/wk	473 1 meal/mo	BRL	BRL	BRL
Freshwater Drum (3)	85 1 meal/wk	264 1 meal/mo	BRL	BRL	209 1 meal/wk
White Bass (1)	171 1 meal/wk	182 1 meal/mo	46 Unrestricted	BRL	BRL

Concentrations of contaminates in sediment and fish tissue
(average concentrations by species) samples collected downstream from
US 50 in the Great Miami River, 1993.

1993 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 8.5 (Fish tissue)				
White Bass (7)	375 1 meal/mo	189 1 meal/mo	466 1 meal/mo	15.5 Unrestricted
Channel Catfish (3)	407 1 meal/mo	82 2 meals/wk	102 1 meal/wk	BRL

BRL below reporting limit

Sediment and Fish Tissue - Tributaries
No fish tissue samples collected in tributaries.
WAU 05080002-01-02 (22.4% developed) (64.4% agricultural) (5.06% impervious)
Wolf Creek RM 14.14 Dst. Brookville WWTP (Partial Attainment) (ICI=F) (WWH)
Sediment samples were collected on September 29, 2010 near the Air Hill bridge. The substrate was sand, gravel cobble on hardpan. Only 13% of the sediment sample was fine grained material.

Three sediment metals were above the Ohio Sediment Reference Value (SRV). They are calcium (185,000 mg/kg), magnesium (71100 mg/kg), and cadmium (0.996 mg/kg).

Sediment phosphorus was elevated (1740 mg/kg) but below the Ontario nutrient guideline (2000 mg/ kg). Sediment ammonia (90 mg/kg) was elevated but below the Ontario open disposal guidelines (100 mg/l).

Three PAH compounds were detected in sediment for a total of 2.65 mg/kg. Two of the PAH compounds were above the USEPA ESL protective benchmark for benthic organisms.

WAU 05080002-01-03 (74.2% developed) (16.8% agricultural) (21.9% impervious)
Wolf Creek RM 2.49 Wesley Nature Center (Full Attainment) (ICI=52) (WWH)

Sediment was collected on October 5, 2010 downstream of the foot bridge, river right. Collection was difficult with most of the substrate being sandy resulting in only 8% of the sample being fine grained material.

No sediment metals were above the Ohio SRV guidelines.
Sediment ammonia (450 mg/kg) was above the Ontario open disposal guidelines.

Eight of the commonly observed PAHs were detected in sediments for a total of 8.47 mg/kg. One PAH was over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms at this level. No other organic compounds were detected.

WAU 05080002-01-04 (86.6% developed) (2.3% agricultural) (27.03% impervious)
Holes Creek RM 2.49 Mad River Road (Full Attainment) (ICI=G) (WWH)

Sediment was collected on October 12, 2010 upstream of the Mad River Road bridge, on both sides of the creek. Substrate was dominated by gravel and cobble with only 24% of the sample being fine grained material.

Sediment calcium (128,000 mg/kg), magnesium (41400 mg/kg), were above the Ohio Sediment Reference Value (SRV).

The ten characteristic PAHs were present in the sediment sample for a total PAH value of 11.82 mg/kg. One PAH was over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms at this level. No other organic compounds were detected.

WAU 05080002-01-06 (61.4% developed) (23.7% agricultural) (18.95% impervious)

Owl Creek RM 0.2 Central Ave. (no biological evaluation)

Sediment was collected between Central Avenue and the bike path bridge on both sides of the creek. Only 20% of the sample was fine grained material.

Sediment mercury (0.238 mg/kg) and magnesium (41500 mg/kg), were above the Ohio Sediment Reference Value (SRV).

The ten characteristic PAHs were present in the sediment sample for a total PAH value of 20.48 mg/kg. Six PAH compounds were over the MacDonald Probable Effect Concentration (PEC), adverse effects usually occur in benthic organisms at this level. No other organic compounds were detected.

PCB-1242 was documented in sediment at 66.2 µg/kg. This was above the USEPA ESL protective benchmark for benthic organisms. The demolished Frazier Paper facility was upstream of the sample location. Fraiser paper had a chronic discharge of paper solids to Owl Creek that caused numerous water quality violations. On March 23, 1991 Fraizer Paper documented an effluent discharge of 0.55 µg/l PCB-1242 to Owl Creek. No analysis was made of the PCB content paper solids in Owl Creek.

Opossum Creek RM 1.4 Pinnacle Road (no biological evaluation)
Sediment was collected upstream of the low head dam on October 19, 2010. Fine grained material was found in 24% of the sample.

Seven metals were detected above the Ohio Sediment Reference Value (SRV). They were calcium (136,000 mg/kg), magnesium (44800 mg/kg), barium (827 mg/kg), potassium(17300 mg/kg), manganese (1070 mg/kg), strontium (892 mg/kg) and zinc (1010 mg/kg). Zinc was the only metal on the entire survey to exceeded the MacDonald PEC.

No sediment organic compounds were detected. Sediment nutrients were detected below the Ontario guidelines.

WAU 05080002-04-02 (10.1% developed) (76.5% agricultural) (1.96% impervious)

Bear Creek RM 0.24 Miamisburg-Soldiers Home Rd. (Full Attainment) (ICI=54) (WWH)
This is the location of the 1986 Miamisburg train derailment that spilled fuming white phosphorus into Bear Creek causing a massive phosphorus air plume. All sediment samples were collected on October 5, 2010, upstream of the Rail Road Bridge. The majority of the valley is sand and gravel and only 22% of the sample was fine grained material.

Sediment calcium (303,000 mg/kg) and magnesium (111000 mg/kg) were above the Ohio Sediment Reference Value (SRV).
No organic compounds were detected in the sediment sample. None of the nutrients were above the Ontario guidelines.

WAU 05080002-04-03 (33.5% developed) (42.3% agricultural) (8.8% impervious)

Clear Creek RM 0.77 Baxter Road (Full Attainment) (ICI=44) (WWH)
Sediments were collected on September 28, 2010 upstream of the Baxter Street Bridge on both sides of the creek. The Springboro WWTP discharges to Clear Creek approximately 6.5 miles upstream. Fine grained material was detected in 10% of the sample.

Sediment calcium (175,000 mg/kg), magnesium (45600 mg/kg) was above the Ohio Sediment Reference Value (SRV). Sediment ammonia (130 mg/kg) was above the Ontario open water disposal guideline.

No organic compounds were detected in the sediment sample.

WAU 05080002-07-01 (7.2% developed) (64.9% agricultural) (1.1% impervious)
Elk Creek RM 1.49 Howe Road (Partial Attainment) (ICI=46) (EWH)
Sediment samples were collected on October 13, 2010 on both sides of Howe Road on both sides of Elk Creek. Fine grained material was found in 100% of the sample collected.

Sediment calcium (155,000 mg/kg) and magnesium (36200 mg/kg) were above the Ohio Sediment Reference Value (SRV). Sediment ammonia (130 mg/kg) was above the Ontario open water disposal guideline.

The only organic compound detected in sediment was acetone (0.117 mg/kg) which was above the USEPA ESL protective benchmark for benthic organisms.

WAU 05080002-07-04 (64.7% developed) (27.8% agricultural) (23.46% impervious)
Dicks Creek RM 0.93 Main Street (Partial Attainment) (ICI=G) (WWH)
This site is downstream of the A.K Steel (RCRA) Corrective Action remediation of PCBs in Dicks Creek. Clean up of this section of the creek is scheduled for year three of the project. Mucky black sediment was taken river right 1000 feet upstream of the Main Street bridge near a sand and gravel island. A large amount of dead corbicula littered the stream bed. Fine grained material was detected in 33% of the sample, meeting the collection criteria.

Sediment zinc (209 mg/kg) was above the Ohio Sediment Reference Value (SRV). Sediment ammonia (160 mg/kg) was above the Ontario open water disposal guideline.

The pesticide gamma-chlordane was detected in sediment at 36.9 µg/kg. This was above the MacDonald Probable Effect Concentration (PEC), indicating adverse effects are likely to occur in benthic sediments.

Total sediment PCBs were detected at 1863 µg/kg, above the MacDonald Probable Effect Concentration (PEC) indicating adverse effects are likely to occur in benthic sediments. This site had the highest PCB concentration detected in the entire survey. One sediment PAH (fluoranthene (0.60 mg/kg) was detected above the USEPA ESL protective benchmark for benthic organisms.

No fish tissue samples were collected in Dicks Creek in 2010. Fish tissue samples collected in 1996 documented PCBs in the 1 meal/month category for channel catfish and 1 meal/week for common carp. Common carp also had tissue mercury in the 1 meal/week category and tissue lead in the 1 meal/ month category.

Concentrations of contaminates in sediment and fish tissue (average concentrations by species) samples collected from Dicks Creek near Main Street.

1996 Fish Tissue	PCB (µg/kg)	Mercury (µg/kg)	Lead (µg/kg)	DDT (µg/kg)
RM 1.4 (Fish tissue)				
Common Carp (1)	220 1 meal/wk	153 1 meal/wk	466 1 meal/mo	BRL
Channel Catfish (1)	620 1 meal/mo	50 2 meals/wk	BRL	26 Unrestricted

WAU 05080002-07-05 (55% developed) (34.1% agricultural) (13.71% impervious)

Gregory Creek RM 0.98 Lesourdsville Westchester Rd (Full Attainment) (ICI=42) (WWH)
Sediment was collected on October 13, 2010 approximately 200 yards upstream of the Lesourdsville-West Chester bridge. A pocket of fine grained sediment was sampled river right. The sediment sample had 100% fine grained material.

Sediment manganese (966 mg/kg) and calcium (228000 mg/kg) were above the Ohio Sediment Reference Value (SRV). Sediment phosphorus (2990 mg/kg) was above the Ontario nutrient guideline. No organic compounds were detected in the sediment sample.

WAU 05080002-02-09 (53.9% developed) (4.1% agricultural) (11.37% impervious)

Taylor Creek RM 0.82 Wesselman Road Rd (Full Attainment) (ICI=44) (WWH)
This is an urban site with metal and plastic debris scattered along the steep bank leading to the creek. Sand and gravel scattered among slabs of limestone made the substrate of the creek. Only 21% fine grained material could be found in the sample.

Sediment manganese (1630mg/kg) , calcium (136000 mg/kg) and iron(138400 mg/kg) were above the Ohio Sediment Reference Value (SRV). Sediment phosphorus (8980mg/kg) was above the Ontario nutrient guideline. This was the highest sediment phosphorus detected in the entire survey. The ten commonly observed PAHs were detected in the sediment sample for a total PAH of 12.41 mg/kg. Three of the PAHs were above the USEPA ESL protective benchmark for benthic organisms. Total sediment PCBs were detected at 28.7 µg/kg, below the USEPA ESL protective benchmark for benthic organisms.

Appendix A-1. Raw chemistry results.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT DAYTON @ STEWART ST.** SWDO Map # 1

River Mile: 78.85 Storet ID: H09W02 WAU: 050800020105

Latitude/Longitude: 39.7400 / -84.1933 Drainage Area (mi2): 2587 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton South

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:15	10:10	9:40	10:10	10:15	10:15
Temp (C)	22.17	24.31	25.21	25.58	22.99	23.77
D.O. (mg/l) / (% sat)	9.17 / 105.4	9.61 / 115.1	7.79 / 94.8	8.96 / 109.8	8.6 / 100.4	8.59 / 101.8
pH (fld) SU	8.12	8.31	8.14	8.16	8.16	8.18
SpCond fld/lab (umhos/cm)	509 / 509	716 / 680	713.7 / 727	754 / 769	781 / 809	800 / 803
BOD5 (mg/l)	< 2	< 2	3.1	2.8	< 2	< 2
CBOD20 (mg/l)	3.4	5.2	8.2	6.3	3.2	5.4
Oil & Grease (mg/l)						
TDS (mg/l)	316	394	420	440	468	474
TSS (mg/l)	49	19	27	27	17	14
TOC (mg/l)	6.6	3.9	3.2	3.6	2.7	2.4
Arsenic-T (ug/l)	2.1	< 2	< 2	2	< 2	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.8	2	2.2	2.5	2.4	2
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.7	2.4	2.3	2.4	2.6	2.4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	1090	207	295	292	208	< 200
Barium-T (ug/l)	77	91	106	119	120	117
Calcium-T (mg/l)	62	68	70	76	80	78
Hardness (mg/l)	155	170	307	326	332	335
Iron-T (ug/l)	1640	352	505	472	368	317
Magnesium-T (mg/l)	22	29	32	33	32	
Manganese-T (ug/l)	64	62	90	84	82	
Potassium-T (mg/l)	4	3	3	4	4	3
Sodium-T (mg/l)	14	26	29	36	34	35
Strontium-T (ug/l)	615	845	813	995	927	
Zinc-T (ug/l)	< 10	< 10	< 10	15	20	
Alkalinity (mg/l)	189	241	248	250	268	275
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	
Chloride (mg/l)	30.8	52.5	57.5	65.4	67	68.1
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	
Nitrate-nitrite-N (mg/l)	5.48	1.84	1.01	1.04	1.23	1.08
Nitrite-N (mg/l)	0.027	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.075	0.037	0.076	0.116	0.096
Phenolics (ug/l)						
Sulfate (mg/l)	27.9	43.3	48.9	56.4	55.1	52.4
TKN (mg/l)	0.5	0.53	0.25	0.45	0.49	0.56
Phosphorus-T (mg/l)	0.2	0.099	0.125	0.104	0.134	0.149

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT DAYTON @ BROADWAY ST.** SWDO Map # 2

River Mile: 77.24 Storet ID: H09W67 WAU: 050800020105

Latitude/Longitude: 39.7311 / -84.2158 Drainage Area (mi2): 2591 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton South

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:00	10:30	10:15	10:40	10:45	10:40
Temp (C)	21.22	23.78	25.58	25.6	23.29	24.03
D.O. (mg/l) / (% sat)	9.16 / 103.4	9.34 / 110.7	7.76 / 95.1	8.52 / 104.5	8.42 / 98.9	8.28 / 98.6
pH (fld) SU	8.18	8.36	8.36	8.27	8.32	8.35
SpCond fld/lab (umhos/cm)	554 / 557	683 / 643	683.6 / 703	736 / 757	676 / 787	780 / 801
BOD5 (mg/l)	< 2	< 2	3.4	3.7	2	2.1
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	366	382	414	528	462	468
TSS (mg/l)	43	14	36	41	29	35
TOC (mg/l)	5.6	3.9	3.7	3.5	3.4	2.8
Arsenic-T (ug/l)	< 2	< 2	2.2	2.3	2.2	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.2	< 2	2.5	2.7	2.8	3.8
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	3.1
Nickel-T (ug/l)	3.3	2.2	2.5	2.5	2.8	3.2
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	948	< 200	376	390	332	450
Barium-T (ug/l)	90	93	106	122	122	117
Calcium-T (mg/l)	69	69	68	75	80	78
Hardness (mg/l)	172	172	297	323	332	331
Iron-T (ug/l)	1470	330	643	659	573	761
Magnesium-T (mg/l)	26	28	31	33	32	
Manganese-T (ug/l)	51	30	63	54	49	
Potassium-T (mg/l)	4	3	3	4	4	4
Sodium-T (mg/l)	15	21	27	34	33	34
Strontium-T (ug/l)	621	673	754	922	875	
Zinc-T (ug/l)	< 10	< 10	< 10	17	26	
Alkalinity (mg/l)	203	245	241	247	248	262
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	
Chloride (mg/l)	33.4	44.4	54.3	62.6	65.4	68.9
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.81	1.92	1.23	1.4	1.51	1.33
Nitrite-N (mg/l)	0.023	0.029	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.358	0.041	0.088	0.134	0.106
Phenolics (ug/l)						
Sulfate (mg/l)	33.2	49.3	46.6	54.8	52	50.4
TKN (mg/l)	0.34	0.53	0.33	0.46	0.53	0.44
Phosphorus-T (mg/l)	0.193	0.099	0.108	0.128	0.188	0.146

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. 0.25 MI. DST. DAYTON WWTP, ADJ. WEST RIVER RD** SWDO Map # 3

River Mile: 75.86 Storet ID: H09W73 WAU: 050800020105

Latitude/Longitude: 39.7161 / -84.2283 Drainage Area (mi2): 2595 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton South

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:20	11:10	10:40	11:05	11:10	11:05
Temp (C)	22.19	24.67	25.92	26.76	24.95	25.99
D.O. (mg/l) / (% sat)	9.09 / 104.6	10.9 / 131.5	8.11 / 100.1	9.57 / 119.9	10.57 / 128.2	9.81 / 121.3
pH (fld) SU	8.05	8.37	8.22	8.19	8.26	8.29
SpCond fld/lab (umhos/cm)	746 / 749	815 / 807	962 / 985	1030 / 1080	1128 / 1160	1228 / 1240
BOD5 (mg/l)	< 2	2.2	2.7	2.9	< 2	< 2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	474	470	572	624	656	714
TSS (mg/l)	42	10	26	28	17	17
TOC (mg/l)	6	4	4.5	4.1	3.9	4.1
Arsenic-T (ug/l)	2.5	2	2.5	2.6	2.3	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	4.3	2.2	3.4	4	3.9	4.4
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.3	2.9	3.3	4	4.2	4.9
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	975	< 200	288	311	< 200	217
Barium-T (ug/l)	71	81	92	106	93	86
Calcium-T (mg/l)	69	74	76	85	80	85
Hardness (mg/l)	172	185	322	348	332	344
Iron-T (ug/l)	1490	166	512	531	342	355
Magnesium-T (mg/l)	24	29	32	33	32	
Manganese-T (ug/l)	46	24	50	44	33	
Potassium-T (mg/l)	6	4	6	7	7	8
Sodium-T (mg/l)	54	52	73	89	95	109
Strontium-T (ug/l)	569	692	692	860	734	
Zinc-T (ug/l)	10	< 10	< 10	17	22	
Alkalinity (mg/l)	195	243	251	249	228	264
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	0.063	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	
Chloride (mg/l)	82.2	81.9	113	129	146	163
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	7.99	4.91	6.29	7.86	9.71	9.09
Nitrite-N (mg/l)	0.022	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.064	0.613	0.96	1.16	1.27
Phenolics (ug/l)						
Sulfate (mg/l)	43.5	52.6	64.8	74.9	81.9	81.9
TKN (mg/l)	0.82	0.63	0.85	0.95	0.87	1.03
Phosphorus-T (mg/l)	0.59	0.354	0.699	1.01	1.08	1.17

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R @ WEST END OF MORAINE AIRPARK, UPST APPLETON** SWDO Map # 5

River Mile: 72.48 Storet ID: H09W56 WAU: 050800020106

Latitude/Longitude: 39.6805 / -84.2483 Drainage Area (mi2): 2636 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton South

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:00	12:25	10:00	8:30	9:45	11:10
Temp (C)	21.76	24.45	27.26	27.11	24.55	25.96
D.O. (mg/l) / (% sat)	8.35 / 95.2	9.51 / 114.1	8.24 / 104.1	7.78 / 98.1	7.86 / 94.6	8.49 / 104.8
pH (fld) SU	8.05	8.4	8.3	8.43	8.37	8.59
SpCond fld/lab (umhos/cm)	513.1 / 517	646.5 / 649	706.6 / 732	810.6 / 828	849.4 / 871	895.2 / 923
BOD5 (mg/l)	< 2	2.4	5.2	4	2.7	4.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	324	374	402	476	532	530
TSS (mg/l)	40	13	30	34	26	24
TOC (mg/l)	6.5	4.6	5	4.2	3.6	4.3
Arsenic-T (ug/l)	2.1	< 2	2.1	2.3	2.4	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.5	< 2	2.6	2.8	3.1	3.3
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.6	2.3	2.5	2.8	3.1	3.3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	990	< 200	319	390	333	273
Barium-T (ug/l)	81	90	95	118	109	104
Calcium-T (mg/l)	63	68	61	77	78	77
Hardness (mg/l)	157	170	284	328	327	328
Iron-T (ug/l)	1460	236	538	650	549	420
Magnesium-T (mg/l)	23	28	32	33	32	
Manganese-T (ug/l)	46	36	56	57	43	
Potassium-T (mg/l)	4	3	4	4	5	5
Sodium-T (mg/l)	14	24	38	47	49	56
Strontium-T (ug/l)	581	663	721	857	803	
Zinc-T (ug/l)	10	< 10	< 10	14	25	
Alkalinity (mg/l)	191	239	203	253	248	259
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	42	< 20	< 20	< 20	
Chloride (mg/l)	29.9	46.7	67.5	81.1	86.3	97.1
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.13	2.17	1.71	2.58	3.8	3.18
Nitrite-N (mg/l)	0.027	0.027	0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.095	0.08	0.245	0.348	0.314
Phenolics (ug/l)						
Sulfate (mg/l)	30.2	42.3	49	57.8	59.3	59.2
TKN (mg/l)	0.56	0.4	0.36	0.61	0.96	0.74
Phosphorus-T (mg/l)	0.062	0.05	0.153	0.328	0.456	0.382

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. UPST. MONTGOMERY CO. W. REGIONAL WWTP** SWDO Map # 6

River Mile: 71.6 Storet ID: H09K15 WAU: 050800020106

Latitude/Longitude: 39.6897 / -84.2544 Drainage Area (mi2): 2637 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	1:00	1:00	10:35	8:10	9:00	10:40
Temp (C)	22.43	25.01	27.44	27.16	24.39	26.37
D.O. (mg/l) / (% sat)	8.26 / 95.4	9.53 / 115.5	9.36 / 118.6	8.17 / 103.1	8.31 / 99.7	9.88 / 122.9
pH (fld) SU	8.06	8.42	8.38	8.4	8.36	8.64
SpCond fld/lab (umhos/cm)	588.2 / 596	679.4 / 682	743.6 / 775	890.2 / 916	867.9 / 981	959 / 1010
BOD5 (mg/l)	< 2	2.6	5.2	4.9 J	3.2	7.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	388	394	446	554	596	568
TSS (mg/l)	62	13	32	32	20	41
TOC (mg/l)	7.4	4.7	5.4	5.2	4.8	5.8
Arsenic-T (ug/l)	2.1	< 2	2.2	2.4	2.4	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.6	2.1	2.8	3	2.5	3.4
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.5	2.6	2.4	2.8	3	3.3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	977	291	335	370	< 200	303
Barium-T (ug/l)	77	93	94	115	117	109
Calcium-T (mg/l)	62	73	62	76	85	82
Hardness (mg/l)	155	182	282	322	344	341
Iron-T (ug/l)	1450	497	567	588	409	532
Magnesium-T (mg/l)	22	28	31	32	32	
Manganese-T (ug/l)	47	43	57	55	128	
Potassium-T (mg/l)	4	3	4	4	4	5
Sodium-T (mg/l)	26	29	46	61	62	70
Strontium-T (ug/l)	548	675	700	830	822	
Zinc-T (ug/l)	< 10	< 10	< 10	15	21	
Alkalinity (mg/l)	189	241	206	251	262	261
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	20	< 20	< 20	23	< 20	
Chloride (mg/l)	48.8	53.5	142	98.7	101	116
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.14	2.25	1.67	2.49	2.9	2.42
Nitrite-N (mg/l)	0.026	0.028	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.111	0.134	0.244	0.315	0.249
Phenolics (ug/l)						
Sulfate (mg/l)	39	44.9	1410	68.8	69.1	71.5
TKN (mg/l)	0.76	0.36	0.45	0.7	0.92	1.02
Phosphorus-T (mg/l)	0.084	0.055	0.216	0.321	0.419	0.38

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. @ FARMERSVILLE-WEST CARROLLTON RD.** SWDO Map # 7

River Mile: 69.87 Storet ID: 600070 WAU: 050800020106

Latitude/Longitude: 39.6744 / -84.2617 Drainage Area (mi2): 2647 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:30	10:15	9:35	9:00	8:30	9:25
Temp (C)	21.93	24.28	26.95	26.66	23.67	24.53
D.O. (mg/l) / (% sat)	7.92 / 90.6	8.58 / 102.7	7.43 / 93.4	6.84 / 85.5	7.38 / 87.3	5.72 / 68.8
pH (fld) SU	8.06	8.32	8.31	8.32	8.25	8.42
SpCond fld/lab (umhos/cm)	534 / 541	669.1 / 672	742.9 / 762	845.2 / 874	893.2 / 922	948.4 / 981
BOD5 (mg/l)	< 2	2.1	5	4.9 J	2.5	4.1
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	342	394	426	532	552	692
TSS (mg/l)	52	9	33	35	25	30
TOC (mg/l)	7.2	4.7	6.1	5	4.1	5.5
Arsenic-T (ug/l)	2.2	< 2	2.1	2.3	2.2	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.9	< 2	2.6	2.9	2.8	3.3
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.8	2.2	2.6	2.9	3.1	3.4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	1180	< 200	351	420	317	410
Barium-T (ug/l)	79	92	98	113	108	106
Calcium-T (mg/l)	61	72	65	75	79	80
Hardness (mg/l)	152	180	294	319	329	336
Iron-T (ug/l)	1750	197	626	711	532	639
Magnesium-T (mg/l)	22	29	32	32	32	
Manganese-T (ug/l)	54	31	66	64	45	
Potassium-T (mg/l)	4	4	4	5	5	5
Sodium-T (mg/l)	19	30	45	57	56	65
Strontium-T (ug/l)	547	689	729	840	802	
Zinc-T (ug/l)	< 10	< 10	< 10	24	28	
Alkalinity (mg/l)	186	238	207	244	244	267
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	23	< 20	< 20	< 20	< 20	
Chloride (mg/l)	37.2	52.7	75.4	92.4	95.7	109
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.24	2.22	1.66	2.55	3.09	2.8
Nitrite-N (mg/l)	0.028	0.025	< 0.02	< 0.02	< 0.02	0.024
Orthophosphate, D (mg/l)		0.145	0.151	0.304	0.368	0.462
Phenolics (ug/l)						
Sulfate (mg/l)	31.1	43.5	50.2	62.3	64.5	66.8
TKN (mg/l)	0.63	0.56	0.54	0.63	1.12	0.82
Phosphorus-T (mg/l)	0.145	0.12	0.269	0.408	0.471	0.561

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT WEST CARROLLTON, UPST WWTP, DST OWL CREEK** SWDO Map # 8

River Mile: 69.3 Storet ID: 201902 WAU: 050800020106

Latitude/Longitude: 39.6675 / -84.2661 Drainage Area (mi2): 2654 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	8:30	8:30	11:05	9:30	11:10	10:15
Temp (C)	21.88	24.2	26.94	26.58	23.75	24.14
D.O. (mg/l) / (% sat)	7.61 / 87	7.49 / 89.4	8.13 / 102.1	6.47 / 80.8	6.61 / 78.3	5.56 / 66.4
pH (fld) SU	7.94	8.24	8.29	8.28	8.29	8.32
SpCond fld/lab (umhos/cm)	524.9 / 529	665.3 / 667	748.7 / 775	848.1 / 866	907.8 / 928	955.4 / 977
BOD5 (mg/l)	< 2	< 2	5.1	5.3 J	2.2	4.8
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	332	388	430	530	554	552
TSS (mg/l)	52	21	33	38	24	25
TOC (mg/l)	6.6	4.4	4.6	4.7	3.9	5
Arsenic-T (ug/l)	2.2	< 2	2.2	2.4	2.4	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.9	< 2	2.4	2.9	2.9	3.6
Lead-T (ug/l)	< 2	< 2	< 2	< 2	< 2	4.4
Nickel-T (ug/l)	3.7	2.3	2.4	2.8	3.1	3.4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	1190	< 200	316	390	296	259
Barium-T (ug/l)	78	90	97	117	112	105
Calcium-T (mg/l)	60	70	65	78	81	79
Hardness (mg/l)	150	175	294	335	334	333
Iron-T (ug/l)	1770	260	551	656	514	439
Magnesium-T (mg/l)	21	28	32	34	32	
Manganese-T (ug/l)	53	35	63	63	46	
Potassium-T (mg/l)	4	3	4	5	5	5
Sodium-T (mg/l)	18	28	45	59	57	65
Strontium-T (ug/l)	532	661	725	873	811	
Zinc-T (ug/l)	11	< 10	< 10	20	26	
Alkalinity (mg/l)	182	234	206	244	242	249
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	20	< 20	27	< 20	< 20	
Chloride (mg/l)	35.9	51.4	74.4	90.9	96	108
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.35	2.41	1.63	2.86	3.33	2.82
Nitrite-N (mg/l)	0.031	0.022	< 0.02	< 0.02	< 0.02	0.023
Orthophosphate, D (mg/l)		0.118	0.129	0.284	0.351	0.386
Phenolics (ug/l)						
Sulfate (mg/l)	31.6	44.4	53.2	63.7	67.1	66.8
TKN (mg/l)	0.61	0.49	0.43	0.67	0.78	0.89
Phosphorus-T (mg/l)	0.119	0.063	0.2	0.369	0.401	0.48

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST. WEST CARROLLTON WWTP** SWDO Map # 9

River Mile: 68.6 Storet ID: H09K21 WAU: 050800020106

Latitude/Longitude: 39.6664 / -84.2681 Drainage Area (mi2): 2654 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	1:00	12:15	12:00	1:45	12:55	11:50
Temp (C)	22.24	24.61	27.04	27.55	23.98	23.15
D.O. (mg/l) / (% sat)	7.67 / 88.2	9.35 / 112.5	9.77 / 122.9	11.05 / 140.3	7.53 / 89.6	6.84 / 80.1
pH (fld) SU	8.27	8.5	8.69	8.5	8.32	8.32
SpCond fld/lab (umhos/cm)	534.7 / 538	672.9 / 677	746.2 / 766	850.4 / 868	898.9 / 920	936 / 973
BOD5 (mg/l)	< 2	2.2	5.5	5.7	3.4	4.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	338	382	458	522	534	534
TSS (mg/l)	49	13	46	38	33	25
TOC (mg/l)	6.5	4.2	5.8	6	3.9	5
Arsenic-T (ug/l)	2.2	< 2	2.4	2.5	2.4	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	3.9	2	3.3	3.6	3.4	3.9
Lead-T (ug/l)	2	< 2	2.1	< 2	< 2	2.4
Nickel-T (ug/l)	3.6	2.3	2.9	3.1	3.3	3.7
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	999	< 200	429	423	358	412
Barium-T (ug/l)	79	89	97	117	110	107
Calcium-T (mg/l)	62	70	65	76	80	78
Hardness (mg/l)	155	175	290	326	332	331
Iron-T (ug/l)	1540	296	705	707	584	643
Magnesium-T (mg/l)	23	28	31	33	32	
Manganese-T (ug/l)	49	33	68	63	46	
Potassium-T (mg/l)	4	3	4	5	5	5
Sodium-T (mg/l)	18	29	44	56	57	65
Strontium-T (ug/l)	557	662	695	838	812	
Zinc-T (ug/l)	< 10	< 10	10	24	31	
Alkalinity (mg/l)	188	236	230	261	243	251
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06
COD (mg/l)	21	< 20	< 20	< 20	< 20	
Chloride (mg/l)	36.1	52.6	76.2	91	95.7	109
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.99	2.3	1.76	2.4	3	2.41
Nitrite-N (mg/l)	0.026	0.026	0.02	0.02	< 0.02	0.034
Orthophosphate, D (mg/l)		0.134	0.146	0.27	0.386	0.425
Phenolics (ug/l)						
Sulfate (mg/l)	31.7	44.3	52	63.5	65.9	66.7
TKN (mg/l)	0.52	0.45	0.5	0.85	0.71	1.01
Phosphorus-T (mg/l)	0.229	0.162	0.208	0.33	0.43	0.5

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R @ LINDEN AVE AT MIAMISBURG** SWDO Map # 10

River Mile: 66.9 Storet ID: H09S13 WAU: 050800020404

Latitude/Longitude: 39.6406 / -84.2922 Drainage Area (mi2): 2711 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	1:20	12:00	11:40	1:20	12:30	11:30
Temp (C)	23.78	25.34	27.19	28.22	26.05	26.21
D.O. (mg/l) / (% sat)	7.36 / 87.2	9.73 / 118.7	11.46 / 144.5	12.23 / 157.2	12.34 / 152.6	11.43 / 141.7
pH (fld) SU	8.18	8.5	8.75	8.61	8.55	8.72
SpCond fld/lab (umhos/cm)	534.4 / 537	662.7 / 666	748.1 / 769	843.4 / 864	892.7 / 914	931.2 / 968
BOD5 (mg/l)	< 2	4.2	6.1	6.2	3.1	6.4
CBOD20 (mg/l)	3.8	7.9	12	11	5.7	9.6
Oil & Grease (mg/l)						
TDS (mg/l)	330	378	456	510	534	538
TSS (mg/l)	28	15	39	39	17	26
TOC (mg/l)	6.9	5.7	5	6	3.9	5.8
Arsenic-T (ug/l)	2.5	2.7	2.3	2.4	2.3	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	4.2	< 2	3	3.4	2.7	3.3
Lead-T (ug/l)	< 2	< 2	< 2	2.4	< 2	< 2
Nickel-T (ug/l)	3.9	2.3	2.9	3	3	3.5
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	
Aluminum-T (ug/l)	938	< 200	423	463	203	300
Barium-T (ug/l)	78	87	98	114	108	103
Calcium-T (mg/l)	63	68	66	76	80	77
Hardness (mg/l)	157	170	292	326	336	328
Iron-T (ug/l)	1500	404	680	750	344	474
Magnesium-T (mg/l)	22	28	31	33	33	
Manganese-T (ug/l)	69	95	70	66	38	
Potassium-T (mg/l)	5	3	4	5	5	5
Sodium-T (mg/l)	19	29	43	56	58	65
Strontium-T (ug/l)	556	622	689	828	814	
Zinc-T (ug/l)	10	< 10	< 10	17	28	
Alkalinity (mg/l)	183	239	245	240	253	250
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	20	28	< 20	21	< 20	
Chloride (mg/l)	37.1	52.9	75.6	91.8	96.2	109
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.81	1.75	1.73	2.1	3.22	2.61
Nitrite-N (mg/l)	0.032	0.027	< 0.02	0.021	< 0.02	0.025
Orthophosphate, D (mg/l)		0.131	0.129	0.272	0.375	0.394
Phenolics (ug/l)						
Sulfate (mg/l)	30.8	39.3	51.7	62.5	65.6	66.9
TKN (mg/l)	0.57	0.64	0.65	0.85	1.11	1.58
Phosphorus-T (mg/l)	0.247	0.195	0.117	0.349	0.467	0.53

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. S OF MIAMISBURG @ CHAUTAUQUA RD.** SWDO Map # 11

River Mile: 64.72 Storet ID: 600050 WAU: 050800020404

Latitude/Longitude: 39.6110 / -84.2907 Drainage Area (mi2): 2715 County: Montgomery Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:30	1:30	12:05	10:50	11:50	10:55
Temp (C)	22.59	23.93	27.04	27.89	25.11	26.11
D.O. (mg/l) / (% sat)	7.68 / 88.9	8.8 / 104.6	8.29 / 104.3	9.09 / 116.1	6.19 / 75.2	13.35 / 165.3
pH (fld) SU	7.89	8.07	8.14	8.42	8.33	8.72
SpCond fld/lab (umhos/cm)	452 / 457	585 / 581	727 / 752	820 / 843	896 / 923	918 / 942
BOD5 (mg/l)	4.9	< 2	7.4	8.8	4.3	5.3
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	304	350	474	488	526	600
TSS (mg/l)	92	13	39	29	27	23
TOC (mg/l)	8.1	4.4	6	6.7	3.8	6
Arsenic-T (ug/l)	2.6	< 2	2.2	2.9	2.5	2.2
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.8	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.7	2.7	2.6	2.7	2.9	2.8
Lead-T (ug/l)	3.7	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.2	2.4	2.6	2.6	3	3.2
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2290	381	426	281	280	231
Barium-T (ug/l)	78	74	101	114	115	106
Calcium-T (mg/l)	52	57	69	73	80	81
Hardness (mg/l)	130	142	300	314	332	338
Iron-T (ug/l)	3310	593	611	487	477	369
Magnesium-T (mg/l)	18	22	31	32	32	33
Manganese-T (ug/l)	87	36	68	66	42	41
Potassium-T (mg/l)	5	3	4	5	5	5
Sodium-T (mg/l)	14	31	42	53	60	65
Strontium-T (ug/l)	447	514	743	842	821	819
Zinc-T (ug/l)	19	< 10	< 10	26	20	< 10
Alkalinity (mg/l)	150	185	206	239	245	259
Ammonia-N (mg/l)	0.086	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	27	< 20	< 20	20	< 20	< 20
Chloride (mg/l)	30.3	56.1	69.9	87.2	97.7	104
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.05	2.11	1.5	2	3.82	2.58
Nitrite-N (mg/l)	0.045	< 0.02	< 0.02	0.024	0.029	< 0.02
Orthophosphate, D (mg/l)		0.155	0.122	0.289	0.392	0.297
Phenolics (ug/l)						
Sulfate (mg/l)	27.1	34.6	49.6	62.3	65.6	65.9
TKN (mg/l)	0.63	0.25	0.58	0.86	0.76	0.6
Phosphorus-T (mg/l)	0.324	0.165	0.201	0.448	0.513	0.378

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. N OF FRANKLIN @ CHAUTAUQUA DAM** SWDO Map # 13

River Mile: 62.58 Storet ID: H09W68 WAU: 050800020404

Latitude/Longitude: 39.5875 / -84.2883 Drainage Area (mi2): 2723 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	1:00	1:05	11:45	10:35	11:35	10:45
Temp (C)	22.76	24.61	28.03	29.23	25.63	25.46
D.O. (mg/l) / (% sat)	8.24 / 95.7	9.28 / 111.7	10.84 / 138.8	10.21 / 133.5	10.72 / 131.6	10.89 / 133.2
pH (fld) SU	7.93	8.18	8.66	8.7	8.58	8.56
SpCond fld/lab (umhos/cm)	438 / 441	544 / 542	727 / 745	814 / 836	872 / 899	907 / 925
BOD5 (mg/l)	5.8	< 2	7.3	6.1	5.3	3.8
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	296	334	458	480	544	586
TSS (mg/l)	119	24	48	44	28	31
TOC (mg/l)	8.3	4.1	5.7	7.2	4.4	4.9
Arsenic-T (ug/l)	2.7	< 2	2.5	2.7	2.5	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.1	3.2	3.8	3.9	3.4	3.5
Lead-T (ug/l)	4.3	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.6	2.3	2.7	2.8	3.1	3.3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2610	442	462	362	371	349
Barium-T (ug/l)	84	72	104	113	118	109
Calcium-T (mg/l)	54	54	70	73	80	81
Hardness (mg/l)	135	135	307	310	336	338
Iron-T (ug/l)	3830	663	734	579	590	536
Magnesium-T (mg/l)	19	21	32	31	33	33
Manganese-T (ug/l)	107	34	75	63	47	47
Potassium-T (mg/l)	5	3	4	4	5	5
Sodium-T (mg/l)	13	25	42	51	57	61
Strontium-T (ug/l)	462	503	757	830	834	814
Zinc-T (ug/l)	23	20	< 10	26	21	< 10
Alkalinity (mg/l)	146	181	214	233	249	262
Ammonia-N (mg/l)	0.079	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	23	24	< 20	< 20	< 20	< 20
Chloride (mg/l)	26.9	46.1	69.5	85.9	93.1	101
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	< 5
Nitrate-nitrite-N (mg/l)	4.83	1.89	1.43	1.87	3.46	2.36
Nitrite-N (mg/l)	0.045	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	26	33.3	52.7	63	64.3	62.6
TKN (mg/l)	0.6	0.46	0.59	0.93	0.69	0.55
Phosphorus-T (mg/l)	0.279	0.137	0.209	0.328	0.444	0.357

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT FRANKLIN @ OLD ST. RT. 123** SWDO Map # 14

River Mile: 60.58 Storet ID: H09S31 WAU: 050800020404

Latitude/Longitude: 39.5631 / -84.3050 Drainage Area (mi2): 2728 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:00	12:30	11:15	10:10	11:10	10:20
Temp (C)	22.72	24.13	27.68	28.51	24.47	25.51
D.O. (mg/l) / (% sat)	8.12 / 94.3	9.5 / 113.3	10.86 / 138.3	8.58 / 110.8	8.67 / 104.2	8.52 / 104.4
pH (fld) SU	7.94	8.22	8.69	8.66	8.43	8.46
SpCond fld/lab (umhos/cm)	424 / 439	520 / 520	727 / 748	818 / 837	869 / 887	905 / 921
BOD5 (mg/l)	5.2	< 2	7.7	5.6	4.2	3.3
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	294	306	454	494	532	580
TSS (mg/l)	99	14	43	37	29	27
TOC (mg/l)	8.5	4.3	6.1	6.7	4	4.6
Arsenic-T (ug/l)	2.7	< 2	2.3	2.7	2.4	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.3	3.1	2.7	3.3	3.2	3.6
Lead-T (ug/l)	4	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.5	2.2	2.5	2.7	3	3.6
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2690	322	314	334	375	410
Barium-T (ug/l)	84	69	98	115	118	111
Calcium-T (mg/l)	53	52	66	75	81	81
Hardness (mg/l)	132	130	292	319	334	338
Iron-T (ug/l)	3940	498	499	542	570	644
Magnesium-T (mg/l)	19	20	31	32	32	33
Manganese-T (ug/l)	101	29	67	63	49	53
Potassium-T (mg/l)	5	3	4	4	5	5
Sodium-T (mg/l)	12	23	43	51	56	60
Strontium-T (ug/l)	464	485	742	835	837	813
Zinc-T (ug/l)	22	< 10	< 10	25	23	< 10
Alkalinity (mg/l)	152	173	208	238	246	253
Ammonia-N (mg/l)	0.079	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	25.9	42.6	70.5	85.7	91.8	99.8
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.57	1.89	1.36	1.91	3.25	2.31
Nitrite-N (mg/l)	0.046	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.113	0.114	0.203	0.314	0.261
Phenolics (ug/l)						
Sulfate (mg/l)	25.9	31.2	50.8	62.2	63.6	62
TKN (mg/l)	0.74	0.33	0.96	0.86	0.7	0.78
Phosphorus-T (mg/l)	0.35	0.053	0.206	0.313	0.428	0.334

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST. FRANKLIN WWTP** SWDO Map # 15

River Mile: 59.5 Storet ID: H09K07 WAU: 050800020404

Latitude/Longitude: 39.5575 / -84.3231 Drainage Area (mi2): 2728 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	2:15	12:45	9:45	9:10	9:45	10:05
Temp (C)	22.87	23.81	27.69	28.09	24.14	26.4
D.O. (mg/l) / (% sat)	8.31 / 96.8	8.91 / 105.6	8.68 / 110.5	7.01 / 89.9	7.48 / 89.2	6.77 / 84.3
pH (fld) SU	7.99	8.25	8.72	8.58	8.39	8.48
SpCond fld/lab (umhos/cm)	450 / 444	543 / 521	725.5 / 755	833 / 850	891 / 913	919 / 960
BOD5 (mg/l)	5.1	2.1	7.6	4.6	4.1	3.8
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	298	314	448	532	516	590
TSS (mg/l)	117	18	46	32	22	26
TOC (mg/l)	9.1	4.3	5.9	6.4	4.3	4.5
Arsenic-T (ug/l)	2.7	< 2	2.3	3.1	2.3	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.1	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.5	3.7	4.3	4.5	3.4	4.8
Lead-T (ug/l)	4	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.5	2.3	2.5	2.6	3	3.4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2600	383	328	292	276	328
Barium-T (ug/l)	82	66	86	113	116	109
Calcium-T (mg/l)	53	50	59	76	79	81
Hardness (mg/l)	132	125	263	322	329	338
Iron-T (ug/l)	3820	603	524	479	433	514
Magnesium-T (mg/l)	19	20	28	32	32	33
Manganese-T (ug/l)	100	30	64	61	44	49
Potassium-T (mg/l)	5	3	4	5	5	5
Sodium-T (mg/l)	13	24	41	54	58	63
Strontium-T (ug/l)	463	470	668	850	810	810
Zinc-T (ug/l)	37	< 10	< 10	38	22	< 10
Alkalinity (mg/l)	150	170	208	244	246	262
Ammonia-N (mg/l)	0.066	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	22	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	27.6	43.7	73.7	86.8	93.4	102
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.9	2.3	1.48	1.76	3.25	2.43
Nitrite-N (mg/l)	0.043	< 0.02	0.443	< 0.02	0.02	0.021
Orthophosphate, D (mg/l)		0.124	0.116	0.188	0.338	0.256
Phenolics (ug/l)						
Sulfate (mg/l)	26.9	31.5	53.9	63.1	65	64.2
TKN (mg/l)	0.82	0.41	0.71	0.85	0.72	0.7
Phosphorus-T (mg/l)	0.328	0.151	0.15	0.284	0.439	0.32

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. BETWEEN TWIN CREEK AND CLEAR CREEK** SWDO Map # 16

River Mile: 58 Storet ID: H09W77 WAU: 050800020404

Latitude/Longitude: 39.5467 / -84.3408 Drainage Area (mi2): 2794 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	1:30	11:50	10:10	9:40	10:20	10:35
Temp (C)	22.63	23.31	28.48	28.33	23.74	26.5
D.O. (mg/l) / (% sat)	8.21 / 95.2	7.8 / 91.6	10.98 / 141.7	8.28 / 106.6	9.83 / 116.5	10.02 / 124.9
pH (fld) SU	7.99	8.01	8.75	8.52	8.37	8.55
SpCond fld/lab (umhos/cm)	457 / 456	523 / 494	724.8 / 752	815 / 826	839 / 890	890 / 931
BOD5 (mg/l)	6	2.1	8.5	4.7	3	5
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	304	298	442	492	506	572
TSS (mg/l)	158	40	37	26	21	28
TOC (mg/l)	9.6	5.1	6.6	5.8	3.6	4.8
Arsenic-T (ug/l)	2.8	< 2	2.4	2.7	2.2	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.6	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.8	3.6	4	4.1	2.9	4.2
Lead-T (ug/l)	5.3	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	6.2	2.7	2.6	2.5	2.9	3.3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2880	815	341	256	246	273
Barium-T (ug/l)	88	65	95	107	107	105
Calcium-T (mg/l)	57	50	64	72	76	78
Hardness (mg/l)	142	125	292	307	317	327
Iron-T (ug/l)	4350	1300	541	425	416	445
Magnesium-T (mg/l)	20	19	32	31	31	32
Manganese-T (ug/l)	128	71	76	58	46	51
Potassium-T (mg/l)	5	4	4	4	5	5
Sodium-T (mg/l)	14	25	46	51	55	60
Strontium-T (ug/l)	467	382	728	808	769	782
Zinc-T (ug/l)	24	< 10	< 10	28	22	< 10
Alkalinity (mg/l)	152	160	206	241	244	261
Ammonia-N (mg/l)	0.079	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	36	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	28.9	44.8	75.1	84.6	92.2	99.8
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5	1.65	1.18	1.5	1.99	2.08
Nitrite-N (mg/l)	0.045	< 0.02	0.02	0.025	0.024	0.025
Orthophosphate, D (mg/l)		0.119	0.082	0.166	0.252	0.223
Phenolics (ug/l)						
Sulfate (mg/l)	26.7	29.2	52.8	60	62.2	62.2
TKN (mg/l)	0.65	0.39	0.62	0.89	0.65	0.84
Phosphorus-T (mg/l)	0.159	0.169	0.162	0.252	0.311	0.298

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT MIDDLETOWN @ CENTRAL AVE. (SR 122)** SWDO Map # 17

River Mile: 52.64 Storet ID: 600040 WAU: 050800020702

Latitude/Longitude: 39.5201 / -84.4126 Drainage Area (mi2): 3134 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/12/2010	8/24/2010	8/31/2010
Time	:	12:10	1:30	10:00	12:20	11:45
Temp (C)	23.22	24.02	29.01	28.66	24.76	26.63
D.O. (mg/l) / (% sat)	7.47 / 87.6	7.34 / 87.3	13.9 / 181.1	6.94 / 89.8	9.79 / 118.2	9.49 / 118.5
pH (fld) SU	8.15	8.15	8.95	8.5	8.66	8.72
SpCond fld/lab (umhos/cm)	439.9 / 444	447.7 / 447	708.3 / 728	832.5 / 849	873.4 / 897	903 / 941
BOD5 (mg/l)	4.9	2.7	8.4	4.2	5.3	4.5
CBOD20 (mg/l)	4.1	6	15	8.5	8.7	10
Oil & Grease (mg/l)						
TDS (mg/l)	290	256	432	486	534	588
TSS (mg/l)	126	113	61	27	32	26
TOC (mg/l)	8.7	< 2	8	4.8	5.1	5.5
Arsenic-T (ug/l)	2.7	2	2.4	2.6	2.4	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.2	2.1	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6	4.9	4.2	4.2	4.2	4.6
Lead-T (ug/l)	4.1	3.2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.7	3.5	2.5	2.6	3.5	3.4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2930 J	1250	414	262	329	229
Barium-T (ug/l)	88	67	99	115	116	104
Calcium-T (mg/l)	56	48	67	74	80	79
Hardness (mg/l)	140	120	295	317	332	329
Iron-T (ug/l)	4180	1950	650	435	532	359
Magnesium-T (mg/l)	20	18	31	32	32	32
Manganese-T (ug/l)	107	73	73	56	47	43
Potassium-T (mg/l)	5	3	4	5	5	5
Sodium-T (mg/l)	13	20	44	54	60	60
Strontium-T (ug/l)	505	391	756	867	824	802
Zinc-T (ug/l)	41	14	< 10	19	25	< 10
Alkalinity (mg/l)	154	149	190	250	249	258
Ammonia-N (mg/l)	0.078	0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	20	24	20	< 20	< 20	< 20
Chloride (mg/l)	27.4	38.2	74.3	89.1	94.1	101
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.24	1.53	1.09	1.74	2.95	2.19
Nitrite-N (mg/l)	0.044	< 0.02	0.023	0.021	0.02	< 0.02
Orthophosphate, D (mg/l)		0.121	0.066	0.269	0.31	0.251
Phenolics (ug/l)						
Sulfate (mg/l)	26.6	25.9	53.2	62.2	64.4	63.2
TKN (mg/l)	0.78	0.43	1.16	0.83	0.64	0.7
Phosphorus-T (mg/l)	0.317	0.179	0.195	0.351	0.374	0.276

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST MIDDLETOWN DAM** SWDO Map # 18

River Mile: 51.56 Storet ID: 300940 WAU: 050800020702

Latitude/Longitude: 39.5058 / -84.4172 Drainage Area (mi2): 3137 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:25	11:25	12:55	11:30	12:00	11:25
Temp (C)	23.48	23.86	28.86	29.14	25.39	25.82
D.O. (mg/l) / (% sat)	7.86 / 92.5	8.18 / 97	11.08 / 143.9	8.74 / 114.1	8.6 / 105	9.14 / 112.6
pH (fld) SU	8.13	8.35	8.87	8.7	8.68	8.7
SpCond fld/lab (umhos/cm)	443.1 / 450	433.4 / 436	718 / 738	781.6 / 797	870.5 / 900	885.6 / 936
BOD5 (mg/l)	5	2.7	9.9	8.2	4.8	5.5
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	300	256	434	464	530	580
TSS (mg/l)	132	89	61	47	33	25
TOC (mg/l)	9.1	5.7	7	7	5.5	5.4
Arsenic-T (ug/l)	2.7	2.1	2.5	2.7	2.5	2.3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.3	2.4	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.3	5.2	4.2	3.8	5	4.2
Lead-T (ug/l)	4.3	3.9	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.7	3.5	2.6	2.6	3.2	3.2
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2740	1460	352	347	469	253
Barium-T (ug/l)	87	68	99	111	119	107
Calcium-T (mg/l)	55	46	67	71	81	81
Hardness (mg/l)	137	115	295	309	334	338
Iron-T (ug/l)	4080	2330	559	568	734	394
Magnesium-T (mg/l)	19	17	31	32	32	33
Manganese-T (ug/l)	108	86	72	71	55	43
Potassium-T (mg/l)	5	3	4	4	5	5
Sodium-T (mg/l)	13	19	43	51	60	61
Strontium-T (ug/l)	510	379	766	862	823	819
Zinc-T (ug/l)	23	17	< 10	31	21	< 10
Alkalinity (mg/l)	150	144	201	231	250	261
Ammonia-N (mg/l)	0.079	0.055	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	27.7	36.6	73.5	81.9	94.2	99.8
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	< 5
Nitrate-nitrite-N (mg/l)	4.97	1.58	1.04	1.23	2.61	1.96
Nitrite-N (mg/l)	0.046	< 0.02	0.021	< 0.02	0.021	< 0.02
Orthophosphate, D (mg/l)		0.119	0.048	0.096	0.285	0.197
Phenolics (ug/l)						
Sulfate (mg/l)	27.4	25.2	53.5	61.3	65.8	63.4
TKN (mg/l)	0.59	0.38	0.67	0.91	0.78	0.64
Phosphorus-T (mg/l)	0.292	0.197	0.152	0.225	0.358	0.26

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. NEAR MIDDLETOWN, DST VERITY RELIEF OVERFLOW** SWDO Map # 19

River Mile: 51.44 Storet ID: H09G01 WAU: 050800020702

Latitude/Longitude: 39.5042 / -84.4176 Drainage Area (mi2): 3137 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:35	11:40	12:35	11:00	11:40	11:15
Temp (C)	23.2	23.51	28.54	29.01	24.85	25.74
D.O. (mg/l) / (% sat)	7.77 / 91	8.07 / 95.1	10.71 / 138.4	8.68 / 113.1	8.46 / 102.4	8.47 / 104.2
pH (fld) SU	8.12	8.14	8.83	8.66	8.63	8.69
SpCond fld/lab (umhos/cm)	444.5 / 449	433 / 437	725.1 / 747	783.4 / 799	875.7 / 897	896.1 / 938
BOD5 (mg/l)	< 2	2.5	8.5	8.3	4.8	5.5
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	< 2
TDS (mg/l)	302	258	452	480	548	592
TSS (mg/l)	151	86	52	43	32	49
TOC (mg/l)	8	< 2	6.8	6.9	5.1	5.9
Arsenic-T (ug/l)	2.8	2.1	2.4	2.7	2.3	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.4	2.3	< 2	< 2	< 2	< 2
Copper-T (ug/l)	7.6	5	4.2	3.9	3.6	4.2
Lead-T (ug/l)	4.7	3.6	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.9	3.4	2.6	2.6	2.9	3.2
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	3060	1270	355	321	334	216
Barium-T (ug/l)	90	67	103	108	116	103
Calcium-T (mg/l)	57	46	70	70	80	78
Hardness (mg/l)	142	115	311	307	332	327
Iron-T (ug/l)	4430	2050	568	531	534	329
Magnesium-T (mg/l)	20	17	33	32	32	32
Manganese-T (ug/l)	118	78	76	68	51	39
Potassium-T (mg/l)	5	3	4	4	5	5
Sodium-T (mg/l)	13	19	44	50	59	59
Strontium-T (ug/l)	516	374	787	848	809	787
Zinc-T (ug/l)	25	15	< 10	29	25	< 10
Alkalinity (mg/l)	153	144	211	226	246	253
Ammonia-N (mg/l)	0.079	0.06	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	136
Chloride (mg/l)	27.8	37.1	73.6	82.2	94.8	100
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	5
Nitrate-nitrite-N (mg/l)	4.94	1.76	1.13	1.26	2.73	2.23
Nitrite-N (mg/l)	0.063	< 0.02	0.022	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)		< 10	< 10	< 10	< 10	< 10
Sulfate (mg/l)	27.6	25.7	53.8	61.5	66.7	68.7
TKN (mg/l)	0.78	0.35	0.62	0.79	0.79	0.84
Phosphorus-T (mg/l)	0.339	0.205	0.164	0.173	0.393	0.29

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST AK STEEL 011, BETWEEN CSO'S** SWDO Map # 20

River Mile: 51.24 Storet ID: H09W78 WAU: 050800020702

Latitude/Longitude: 39.5015 / -84.4192 Drainage Area (mi2): 3137 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	11:45	11:50	11:35	10:35	11:25	11:05
Temp (C)	23.18	24.94	27.87	29.22	25.48	26.11
D.O. (mg/l) / (% sat)	7.74 / 90.7	6.85 / 82.9	8.82 / 112.6	7.31 / 95.7	7.3 / 89.4	7.42 / 91.9
pH (fld) SU	8.11	7.88	8.6	8.15	8.14	8.32
SpCond fld/lab (umhos/cm)	510.1 / 540	769.8 / 769	826.2 / 990	1080.3 / 1080	1198.5 / 1240	1309.5 / 1400
BOD5 (mg/l)	8.1	11	11	13	23	15
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	5.1
TDS (mg/l)	348	442	602	656	730	838
TSS (mg/l)	118	55	28	29	68	46
TOC (mg/l)	8.8	< 2	5.2	5.6	5	4.9
Arsenic-T (ug/l)	2.8	2.8	2.9	3.3	3.4	
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.1	< 2	< 2	< 2	< 2	
Copper-T (ug/l)	6	3.8	3.4	3.1	4	4.4
Lead-T (ug/l)	6	9.3	5.8	9.2	18.2	
Nickel-T (ug/l)	6.1	4	3.6	3.4	4.4	
Selenium-T (ug/l)	< 2	2.3	2.6	3.5	4	
Aluminum-T (ug/l)	2590	886	263	279	394	289
Barium-T (ug/l)	89	75	94	96	111	
Calcium-T (mg/l)	61	60	72	80	83	89
Hardness (mg/l)	152	150	328	356	364	391
Iron-T (ug/l)	3910	1630	673	840	1130	987
Magnesium-T (mg/l)	22	25	36	38	38	
Manganese-T (ug/l)	113	94	79	87	75	
Potassium-T (mg/l)	9	23	22	28	39	22
Sodium-T (mg/l)	19	36	52	65	76	107
Strontium-T (ug/l)	549	449	690	806	723	
Zinc-T (ug/l)	42	37	25	59	72	
Alkalinity (mg/l)	167	189	224	233	251	
Ammonia-N (mg/l)	0.499	1.99	1.17	2.39	3.61	2.7
COD (mg/l)	< 20	< 20	< 20	< 20	28	
Chloride (mg/l)	42.7	83.6	101	120	144	218
Cyanide (free) (ug/l)		20	21	21	24	
Nitrate-nitrite-N (mg/l)	4.73	2.49	2.15	2.8	4.87	4.3
Nitrite-N (mg/l)	0.133	0.426	0.672	0.601	0.934	0.83
Orthophosphate, D (mg/l)						0.183
Phenolics (ug/l)		< 10	< 10	< 10	< 10	< 10
Sulfate (mg/l)	37.9	64.1	84.4	113	115	
TKN (mg/l)	1.35	2.95	1.97	3.46	4.59	3.36
Phosphorus-T (mg/l)	0.316	0.168	0.142	0.211	0.419	

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. NEAR MIDDLETOWN @ ST. RT. 73** SWDO Map # 21

River Mile: 49.27 Storet ID: 600330 WAU: 050800020706

Latitude/Longitude: 39.4814 / -84.4428 Drainage Area (mi2): 3189 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/12/2010	8/24/2010	8/31/2010
Time	11:10	11:00	10:40	9:00	10:50	10:30
Temp (C)	22.84	23.57	27.93	28.41	25.21	25.83
D.O. (mg/l) / (% sat)	7.63 / 88.7	8.02 / 94.6	9.57 / 122.4	6.87 / 88.6	8.35 / 101.6	7.91 / 97.4
pH (fld) SU	8.18	8.16	8.61	8.67	8.65	8.74
SpCond fld/lab (umhos/cm)	455.3 / 460	451 / 452	728.4 / 756	806.2 / 827	876.4 / 903	896.9 / 939
BOD5 (mg/l)	5.2	2.3	7	6.3	5	5.6
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	< 2
TDS (mg/l)	300	262	438	472	544	582
TSS (mg/l)	115	49	53	58	38	32
TOC (mg/l)	8.5	4.8	6.5	6.8	5.6	7
Arsenic-T (ug/l)	2.6	< 2	2.4	2.9	2.6	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.8	4.1	3.7	4.7	4.5	4.7
Lead-T (ug/l)	4.2	2.6	< 2	< 2	< 2	2.5
Nickel-T (ug/l)	5.4	3	2.5	3.1	3.5	4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2720	1210	371	462	452	755
Barium-T (ug/l)	89	68	100	113	122	114
Calcium-T (mg/l)	58	48	66	73	83	85
Hardness (mg/l)	145	120	301	314	343	348
Iron-T (ug/l)	3980	1880	620	729	719	1190
Magnesium-T (mg/l)	20	18	33	32	33	33
Manganese-T (ug/l)	106	72	77	72	57	66
Potassium-T (mg/l)	5	4	5	5	6	5
Sodium-T (mg/l)	14	20	44	54	62	62
Strontium-T (ug/l)	554	409	767	856	847	828
Zinc-T (ug/l)	25	13	< 10	20	25	13
Alkalinity (mg/l)	157	150	205	231	240	250
Ammonia-N (mg/l)	0.098	0.078	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	25	26	< 20
Chloride (mg/l)	29.4	37.9	74.8	89	96.4	102
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	< 5
Nitrate-nitrite-N (mg/l)	4.71	1.69	1.16	1.25	2.27	1.85
Nitrite-N (mg/l)	0.046	< 0.02	0.032	0.03	0.022	0.034
Orthophosphate, D (mg/l)		0.121	0.03	0.127	0.247	0.195
Phenolics (ug/l)		< 10	< 10	< 10	< 10	< 10
Sulfate (mg/l)	28.7	27.5	53.2	62.4	65.8	63.8
TKN (mg/l)	0.62	0.35	0.67	1.05	1.58	1.69
Phosphorus-T (mg/l)	0.306	0.21	0.118	0.268	0.435	0.408

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST MIDDLETOWN WWTP, UPST DICKS CR** SWDO Map # 22

River Mile: 47.91 Storet ID: H09W79 WAU: 050800020706

Latitude/Longitude: 39.4739 / -84.4256 Drainage Area (mi2): 3191 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:30	10:10	9:45	9:20	10:10	9:50
Temp (C)	22.71	23.09	27.49	28.45	25.1	25.6
D.O. (mg/l) / (% sat)	8.58 / 99.6	7.72 / 90.3	7.82 / 99.2	7.21 / 93.1	6.29 / 76.4	6.23 / 76.4
pH (fld) SU	8.12	8.29	8.39	8.1	8.53	8.63
SpCond fld/lab (umhos/cm)	461.4 / 468	473.6 / 476	725.3 / 749	750 / 760	870.6 / 901	925 / 976
BOD5 (mg/l)	6.3	3	6.5	7.4	5.4	5.5
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	< 2
TDS (mg/l)	314	276	442	432	546	600
TSS (mg/l)	129	82	49	45	69	46
TOC (mg/l)	9.3	4.7	6	7.6	5.1	6.1
Arsenic-T (ug/l)	2.8	2.1	2.5	2.4	2.7	2.4
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.3	2.1	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.1	4.9	3.6	3.3	5.1	4.3
Lead-T (ug/l)	4.6	3	< 2	< 2	2.5	< 2
Nickel-T (ug/l)	5.8	3.7	2.8	2.5	4	6.3
Selenium-T (ug/l)	< 2	< 2	2.5	< 2	< 2	< 2
Aluminum-T (ug/l)	3020	1460	319	291	788	260
Barium-T (ug/l)	92	73	97	94	127	104
Calcium-T (mg/l)	58	50	65	55	86	80
Hardness (mg/l)	145	125	294	265	351	332
Iron-T (ug/l)	4350	2290	502	465	1220	415
Magnesium-T (mg/l)	21	19	32	31	33	32
Manganese-T (ug/l)	117	81	71	65	85	44
Potassium-T (mg/l)	5	4	5	5	6	5
Sodium-T (mg/l)	14	21	44	52	60	66
Strontium-T (ug/l)	559	430	748	758	850	782
Zinc-T (ug/l)	26	15	27	33	29	11
Alkalinity (mg/l)	162	154	203	190	247	260
Ammonia-N (mg/l)	0.098	0.07	< 0.05	< 0.05	< 0.05	0.05
COD (mg/l)	< 20	20	< 20	< 20	< 20	< 20
Chloride (mg/l)	29.6	40.6	74.7	85.3	93.3	108
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.41	1.62	1.26	1.16	2.1	1.95
Nitrite-N (mg/l)	0.045	< 0.02	0.027	0.026	0.027	0.029
Orthophosphate, D (mg/l)		0.127	0.017	0.01	0.264	0.201
Phenolics (ug/l)		< 10	< 10	< 10	< 10	< 10
Sulfate (mg/l)	29.5	28.6	54.2	64.3	66.3	67.8
TKN (mg/l)	1.36	0.42	0.6	1.3	1.14	1.53
Phosphorus-T (mg/l)	0.464	0.193	0.096	0.152	0.399	0.444

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. UPST. LESOURDSVILLE WWTP, DST DICKS CR** SWDO Map # 23

River Mile: 46.8 Storet ID: 201888 WAU: 050800020706

Latitude/Longitude: 39.4558 / -84.4317 Drainage Area (mi2): 3241 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	2:45	1:30	8:30	9:45	9:30	10:00
Temp (C)	23.58	24.22	27.31	28.34	24.31	25.26
D.O. (mg/l) / (% sat)	7.93 / 93.6	8.61 / 102.8	7.35 / 93	6.56 / 84.5	5.61 / 67.2	5.67 / 69.1
pH (fld) SU	7.89	8.05	8.19	8.13	8.47	8.55
SpCond fld/lab (umhos/cm)	451.9 / 454	453.4 / 459	816.2 / 822	900.7 / 923	1009.4 / 1040	1064 / 1080
BOD5 (mg/l)	5.2	2	6.3	9.7	4.3	4.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	< 2
TDS (mg/l)	300	272	508	518	594	648
TSS (mg/l)	137	41	40	39	36	26
TOC (mg/l)	8.9	5.1	6.6	9.2	5.2	5.6
Arsenic-T (ug/l)	2.7	< 2	2.4	2.8	2.8	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.4	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.2	3.2	3.4	3.9	3.3	3.8
Lead-T (ug/l)	4.6	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.8	2.8	3	3.3	3.2	6.3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2840	856	371	357	400	279
Barium-T (ug/l)	89	64	93	98	112	105
Calcium-T (mg/l)	57	47	64	64	84	89
Hardness (mg/l)	142	117	304	308	358	379
Iron-T (ug/l)	4230	1280	590	590	676	455
Magnesium-T (mg/l)	20	18	35	36	36	38
Manganese-T (ug/l)	115	61	80	74	60	49
Potassium-T (mg/l)	5	3	6	6	5	7
Sodium-T (mg/l)	14	20	51	65	70	77
Strontium-T (ug/l)	512	398	717	771	820	822
Zinc-T (ug/l)	24	10	< 10	27	32	10
Alkalinity (mg/l)	153	151	189	192	236	239
Ammonia-N (mg/l)	0.088	0.064	< 0.05	< 0.05	< 0.05	0.053
COD (mg/l)	< 20	< 20	24	27	< 20	< 20
Chloride (mg/l)	28.2	37.6	94.1	121	127	142
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5 R	
Nitrate-nitrite-N (mg/l)	4.72	1.58	1.16	1.16	2.27	1.94
Nitrite-N (mg/l)	0.042	< 0.02	0.026	0.025	0.024	0.028
Orthophosphate, D (mg/l)						
Phenolics (ug/l)		< 10	< 10	< 10	< 10	< 10
Sulfate (mg/l)	26.9	27.5	66.8	84.6	89.1	85.6
TKN (mg/l)	0.72	0.4	0.75	2.08	1.12	0.99
Phosphorus-T (mg/l)	0.337	0.155	0.075	0.155	0.308	0.287

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST. LESOURDSVILLE WWTP** SWDO Map # 24

River Mile: 45.2 Storet ID: H09K02 WAU: 050800020706

Latitude/Longitude: 39.4441 / -84.4462 Drainage Area (mi2): 3271 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:40	10:45	10:30	8:30	8:30	8:45
Temp (C)	22.37	23.1	27.14	26.28	23.24	24.27
D.O. (mg/l) / (% sat)	7.54 / 86.9	8.52 / 99.7	20.4 / 257.3	7.51 / 93.3	7.79 / 91.5	6.52 / 78.1
pH (fld) SU	7.95	7.92	8.84	8.03	8.24	8.3
SpCond fld/lab (umhos/cm)	539.7 / 543	593.6 / 595	1054.5 / 1020	964.9 / 966	1079.7 / 1050	1091.5 / 916
BOD5 (mg/l)	5.5	2.4	13	7.7	4.6	11
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	344	342	596	540	588	552
TSS (mg/l)	80	57	32	20	14	47
TOC (mg/l)	8	5.5	14	7.9	5.8	12
Arsenic-T (ug/l)	2.5	2.4	2.2	2.6	2.6	3
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.4	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.8	3.7	3.5	2.8	2.9	13.7
Lead-T (ug/l)	2.8	2.1	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.6	3.3	2.2	2.3	2.3	5.7
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1880	1180	< 200	< 200	< 200	219
Barium-T (ug/l)	79	66	76	99	99	117
Calcium-T (mg/l)	59	53	72	69	80	144
Hardness (mg/l)	147	132	295	296	319	487
Iron-T (ug/l)	2720	1830	134	105	186	435
Magnesium-T (mg/l)	21	19	28	30	29	31
Manganese-T (ug/l)	72	74	52	95	90	226
Potassium-T (mg/l)	5	5	8	7	6	7
Sodium-T (mg/l)	24	38	96	79	85	87
Strontium-T (ug/l)	557	422	647	726	667	832
Zinc-T (ug/l)	17	16	29	31	32	32
Alkalinity (mg/l)	169	166	218	244	252	255
Ammonia-N (mg/l)	0.092	0.094	< 0.05	< 0.05	0.188	0.1
COD (mg/l)	< 20	21	40	22	< 20	< 20
Chloride (mg/l)	45.7	68.2	137	122	132	92.4
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.51	1.83	0.25	0.53	1.09	0.6
Nitrite-N (mg/l)	0.048	0.029	0.049	0.058	0.188	0.087
Orthophosphate, D (mg/l)		0.185	0.663	0.513	0.46	0.574
Phenolics (ug/l)						
Sulfate (mg/l)	35.4	37.2	69.2	70	72.9	61.1
TKN (mg/l)	1.18	0.58	1.73	1.43	1.69	1.59
Phosphorus-T (mg/l)	0.425	0.381	4.61	0.564	0.587	0.952

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. @ LIBERTY-FAIRFIELD RD.** SWDO Map # 25

River Mile: 43.23 Storet ID: 610090 WAU: 050800020706

Latitude/Longitude: 39.4293 / -84.4764 Drainage Area (mi2): 3280 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	9:25	10:00	11:30	11:10	10:50	11:15
Temp (C)	22.86	23.47	28.22	28.89	24.99	25.93
D.O. (mg/l) / (% sat)	7.38 / 85.9	8.09 / 95.3	10.53 / 135.3	10.18 / 132.3	6.87 / 83.3	7.88 / 97.2
pH (fld) SU	8.03	7.99	8.5	8.55	8.62	8.7
SpCond fld/lab (umhos/cm)	478.2 / 492	484.6 / 489	728 / 742	787.5 / 812	917.9 / 943	940.7 / 988
BOD5 (mg/l)	5.2	2.6	7.5	13	6	6.9
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	310	292	444	452	550	606
TSS (mg/l)	130	88	50	47	33	31
TOC (mg/l)	9	6	8.2	11	6.1	6.7
Arsenic-T (ug/l)	2.8	2.2	2.3	2.6	2.8	2.4
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.5	2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.3	4.3	3.7	3.4	3.7	3.7
Lead-T (ug/l)	4.7	2.9	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	5.8	3.8	3	2.7	3.1	6.7
Selenium-T (ug/l)	< 2	< 2	2.4	< 2	< 2	< 2
Aluminum-T (ug/l)	2790	1720	446	231	302	256
Barium-T (ug/l)	90	75	91	100	111	104
Calcium-T (mg/l)	59	53	59	60	78	82
Hardness (mg/l)	147	132	279	277	327	341
Iron-T (ug/l)	4180	2670	700	387	526	411
Magnesium-T (mg/l)	21	20	32	31	32	33
Manganese-T (ug/l)	117	90	79	63	52	45
Potassium-T (mg/l)	5	4	5	5	5	6
Sodium-T (mg/l)	15	22	47	55	67	69
Strontium-T (ug/l)	579	456	689	758	805	797
Zinc-T (ug/l)	25	17	10	27	26	11
Alkalinity (mg/l)	160	164	189	211	246	261
Ammonia-N (mg/l)	0.107	0.069	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	38	< 20	< 20
Chloride (mg/l)	31.8	40.4	78.6	93.2	103	111
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.49	1.58	1.06	0.97	2.27	1.94
Nitrite-N (mg/l)	0.044	< 0.02	0.031	0.026	0.031	0.03
Orthophosphate, D (mg/l)		0.132	0.024	0.012	0.259	0.217
Phenolics (ug/l)						
Sulfate (mg/l)	30.7	30.9	55.4	67.3	72.3	72.5
TKN (mg/l)	0.71	0.42	1.27	1.41	1.06	1.8
Phosphorus-T (mg/l)	0.321	0.22	0.162	0.193	0.37	0.4

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT HAMILTON @ BLACK ST, DST DAM, DST CANAL** SWDO Map # 26

River Mile: 36.95 Storet ID: H11W47 WAU: 050800020902

Latitude/Longitude: 39.4094 / -84.5589 Drainage Area (mi2): 3629 County: Butler Ecoregion: ECBP USGS Quad: Hamilton

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:45	11:25	12:20	12:05	12:30	12:50
Temp (C)	26.37	26.81	28.77	29.7	28.01	27.84
D.O. (mg/l) / (% sat)	7.91 / 98.3	6.38 / 79.9	10.3 / 133.7	9.88 / 130.3	8.65 / 110.8	9.97 / 127.3
pH (fld) SU	8.29	7.96	8.07	8.09	8.46	8.41
SpCond fld/lab (umhos/cm)	676 / 674	597 /	748 / 751	763 / 769	885 / 911	929 / 954
BOD5 (mg/l)	3.4	3.8	5.5	7.7	5.1	4
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	388	346	450	422	548	598
TSS (mg/l)	69	93	86	53	24	21
TOC (mg/l)	4.5		5.7	7.7	5.4	4.3
Arsenic-T (ug/l)	2.1	2.4	2.5	2.4	3	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	2.1	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.4	6.3	4.9	4.1	4.9	3.6
Lead-T (ug/l)	2.6	3.5	2.4	< 2	< 2	< 2
Nickel-T (ug/l)	3.7	4	4.2	2.9	3.3	4.5
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1230	1330	866	510	425	232
Barium-T (ug/l)	92	94	108	116	122	124
Calcium-T (mg/l)	71	62	62	63	80	84
Hardness (mg/l)	177	155	287	289	332	342
Iron-T (ug/l)	1890	2240	1460	858	804	453
Magnesium-T (mg/l)	26	24	32	32	32	32
Manganese-T (ug/l)	78	100	124	107	95	68
Potassium-T (mg/l)	4	3	5	5	5	5
Sodium-T (mg/l)	31	27	44	50	59	61
Strontium-T (ug/l)	618	582	664	748	785	739
Zinc-T (ug/l)	13	15	10	23	30	15
Alkalinity (mg/l)	227		203	199	229	254
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	0.085
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	56.3	51.3	81.8	87.3	97.9	105
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.73		0.88	0.42	1.41	1.94
Nitrite-N (mg/l)	< 0.02	< 0.02	0.025	0.023	0.039	0.04
Orthophosphate, D (mg/l)		0.105	0.01	0.01	0.18	0.493
Phenolics (ug/l)						
Sulfate (mg/l)	41.2	40.7	56	64.6	67.7	72.7
TKN (mg/l)	0.58		0.62	0.69	0.89	0.74
Phosphorus-T (mg/l)	0.17		0.137	0.112	0.221	0.323

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. 0.1 MI. UPST. HAMILTON WWTP** SWDO Map # 27

River Mile: 34.1 Storet ID: H11W35 WAU: 050800020902

Latitude/Longitude: 39.3718 / -84.5702 Drainage Area (mi2): 3636 County: Butler Ecoregion: ECBP USGS Quad: Hamilton

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:15	10:55	11:55	11:05	12:05	11:55
Temp (C)	26.2	26.53	28.38	28.12	26.51	26.57
D.O. (mg/l) / (% sat)	7.96 / 98.7	7.23 / 90.1	10.22 / 131.7	8.99 / 115.3	8.57 / 106.8	10.22 / 127.6
pH (fld) SU	8.23	8.17	8.22	8.17	8.46	8.49
SpCond fld/lab (umhos/cm)	681 / 677	632 /	727 / 730	728 / 741	875 / 907	902 / 956
BOD5 (mg/l)	4.2	3.7	5.3	6.9	4.1	4.8
CBOD20 (mg/l)	5.2	7.1	13	14	6.5	8.6
Oil & Grease (mg/l)						
TDS (mg/l)	384	374	430	400	518	586
TSS (mg/l)	163	89	67	52	32	35
TOC (mg/l)	5.2	4.8	7.2	7.7	4.5	4.7
Arsenic-T (ug/l)	2.5	2.4	2.4	2.5	3	2.6
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	3.1	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	6.7	5.5	3.7	3.4	4.4	3.7
Lead-T (ug/l)	5.3	3.2	2	< 2	< 2	< 2
Nickel-T (ug/l)	5.2	3.8	3.8	2.8	3.6	4
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	2080	1240	677	522	353	399
Barium-T (ug/l)	106	95	96	101	112	118
Calcium-T (mg/l)	78	66	56	55	79	82
Hardness (mg/l)	195	165	272	265	329	341
Iron-T (ug/l)	3330	1970	1130	828	637	679
Magnesium-T (mg/l)	28	26	32	31	32	33
Manganese-T (ug/l)	134	89	105	88	61	58
Potassium-T (mg/l)	4	3	4	5	5	6
Sodium-T (mg/l)	31	30	44	51	59	66
Strontium-T (ug/l)	633	607	641	700	811	776
Zinc-T (ug/l)	25	14	< 10	23	24	14
Alkalinity (mg/l)	226		194	179	228	250
Ammonia-N (mg/l)	< 0.05		< 0.05	0.055	< 0.05	0.05
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	56.2	56.8	81.5	88.3	96	108
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	< 5
Nitrate-nitrite-N (mg/l)	2.61		0.77	0.35	1.39	1.97
Nitrite-N (mg/l)	< 0.02	< 0.02	0.021	0.022	0.045	0.041
Orthophosphate, D (mg/l)		0.118	< 0.01	< 0.01	0.182	0.211
Phenolics (ug/l)						
Sulfate (mg/l)	42.1	41.7	55.6	63.3	68.8	72.8
TKN (mg/l)	0.7		0.55	0.69	0.73	0.62
Phosphorus-T (mg/l)	0.259		0.147	0.103	0.242	0.287

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST. HAMILTON WWTP** SWDO Map # 28

River Mile: 33.5 Storet ID: H11K18 WAU: 050800020902

Latitude/Longitude: 39.3644 / -84.5761 Drainage Area (mi2): 3639 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	11:20	10:30	10:55	10:35	11:10	11:25
Temp (C)	25.8	26.35	28.24	27.74	26.34	26.72
D.O. (mg/l) / (% sat)	7.79 / 95.9	7.14 / 88.7	11.42 / 146.7	9.33 / 118.9	8.87 / 110.3	11.48 / 143.7
pH (fld) SU	8.2	8.17	8.35	8.14	8.46	8.43
SpCond fld/lab (umhos/cm)	709 / 708	670 /	753 / 755	763 / 777	897 / 923	939 / 974
BOD5 (mg/l)	4.1	4.3	6.5	6.5	4.1	4.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	410	408	448	430	558	610
TSS (mg/l)	135	100	61	54	30	19
TOC (mg/l)	4.5		7.2	7.6	5.3	5.4
Arsenic-T (ug/l)	2.3	2.4	2.5	2.6	3.1	2.8
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.4	2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.8	5.9	3.9	4.1	4.4	4
Lead-T (ug/l)	4.4	3.6	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.6	4.2	3.7	3.2	5.4	4.2
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1780	1210	510	488	354	265
Barium-T (ug/l)	98	90	88	97	98	101
Calcium-T (mg/l)	80	66	56	58	74	79
Hardness (mg/l)	200	165	267	272	308	325
Iron-T (ug/l)	2830	2010	868	777	591	493
Magnesium-T (mg/l)	29	26	31	31	30	31
Manganese-T (ug/l)	124	93	95	90	68	66
Potassium-T (mg/l)	4	4	5	6	5	6
Sodium-T (mg/l)	36	34	49	55	63	72
Strontium-T (ug/l)	600	566	605	645	703	641
Zinc-T (ug/l)	24	16	< 10	26	34	27
Alkalinity (mg/l)	225		198	175	229	226
Ammonia-N (mg/l)	0.083		< 0.05	< 0.05	< 0.05	0.064
COD (mg/l)	< 20		< 20	< 20	< 20	28
Chloride (mg/l)	61.7	65.3	87.4	94	104	117
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.42		0.9	0.65	1.74	1.96
Nitrite-N (mg/l)	< 0.02	< 0.02	0.021	0.02	0.035	0.028
Orthophosphate, D (mg/l)		0.132	0.115	0.044	0.213	0.265
Phenolics (ug/l)						
Sulfate (mg/l)	45.7	50.8	60.8	71	75.3	81.2
TKN (mg/l)	0.85		0.77	0.59	0.76	0.82
Phosphorus-T (mg/l)	0.362		0.207	0.145	0.222	0.351

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. 0.7 MI. UPST. FAIRFIELD WWTP** SWDO Map # 29

River Mile: 32.7 Storet ID: 201881 WAU: 050800020902

Latitude/Longitude: 39.3558 / -84.5869 Drainage Area (mi2): 3641 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	10:50	10:10	10:30	10:15	10:45	11:05
Temp (C)	25.85	26.5	27.94	27.62	25.93	26.29
D.O. (mg/l) / (% sat)	7.8 / 96.1	7.07 / 88	9.74 / 124.5	7.92 / 100.7	7.85 / 96.9	10.38 / 128.9
pH (fld) SU	8.29	8.24	8.18	8.19	8.53	8.49
SpCond fld/lab (umhos/cm)	681 / 678	646 /	718 / 724	734 / 745	864 / 902	934 / 957
BOD5 (mg/l)	2.6	4.4	5.5	7	6.9	5.1
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	392	398	426	416	512	584
TSS (mg/l)	90	78	41	46	24	22
TOC (mg/l)	4.6		6.5	8	5.6	4.6
Arsenic-T (ug/l)	2.1	2.3	2.2	2.5	2.8	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.9	5.7	3	3.6	3.8	3.4
Lead-T (ug/l)	3.2	3.3	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.1	4	3.2	2.8	3.5	3.7
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1350	1180	322	399	247	238
Barium-T (ug/l)	93	94	88	100	108	123
Calcium-T (mg/l)	74	67	52	57	78	87
Hardness (mg/l)	185	167	262	266	322	357
Iron-T (ug/l)	2130	1920	555	641	432	432
Magnesium-T (mg/l)	27	26	32	30	31	34
Manganese-T (ug/l)	86	84	79	77	51	49
Potassium-T (mg/l)	4	4	5	5	5	6
Sodium-T (mg/l)	32	31	45	51	57	66
Strontium-T (ug/l)	615	613	633	689	801	775
Zinc-T (ug/l)	20	13	< 10	24	27	18
Alkalinity (mg/l)	230		188	180	237	257
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		23	< 20	< 20	< 20
Chloride (mg/l)	56.3	59.1	83.3	88.3	94	108
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.79		0.58	0.49	1.42	1.98
Nitrite-N (mg/l)	< 0.02	< 0.02	0.022	0.021	0.036	0.031
Orthophosphate, D (mg/l)		0.12	< 0.01	< 0.01	0.174	0.225
Phenolics (ug/l)						
Sulfate (mg/l)	41.5	42.9	56	63.8	68.3	73.5
TKN (mg/l)	0.74		0.59	0.5	0.85	1.35
Phosphorus-T (mg/l)	0.21		0.054	0.11	0.193	0.363

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. DST. FAIRFIELD WWTP, DST PLEASANT RUN** SWDO Map # 30

River Mile: 31.4 Storet ID: 201879 WAU: 050800020902

Latitude/Longitude: 39.3403 / -84.5928 Drainage Area (mi2): 3662 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	10:05	9:40	10:10	9:40	10:10	10:35
Temp (C)	25.88	26.61	28.11	27.62	26.39	26.26
D.O. (mg/l) / (% sat)	7.87 / 97	7.23 / 90.2	10.22 / 131	8.02 / 101.9	8.68 / 107.9	8.7 / 107.9
pH (fld) SU	8.4	8.32	8.3	8.28	8.58	8.49
SpCond fld/lab (umhos/cm)	691 / 690	672 /	718 / 725	737 / 744	844 / 905	937 / 958
BOD5 (mg/l)	2.7	4.4	6.6	7	5.2	3.4
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	408	404	446	418	516	592
TSS (mg/l)	95	98	63	54	29	24
TOC (mg/l)	5.5	5.1	6.4	8.8	4.8	4.4
Arsenic-T (ug/l)	2.2	2.3	2.4	2.5	3	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.8	5.7	3.3	3.4	4.3	3.7
Lead-T (ug/l)	3.1	3.3	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4	4	3.5	2.8	3.7	3.9
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1350	1230	442	460	338	254
Barium-T (ug/l)	95	98	87	101	110	117
Calcium-T (mg/l)	76	72	53	60	80	84
Hardness (mg/l)	190	180	264	277	327	346
Iron-T (ug/l)	2200	1970	731	738	576	434
Magnesium-T (mg/l)	29	28	32	31	31	33
Manganese-T (ug/l)	90	87	87	84	58	50
Potassium-T (mg/l)	4	4	5	5	5	6
Sodium-T (mg/l)	31	32	45	51	57	66
Strontium-T (ug/l)	623	655	626	695	807	760
Zinc-T (ug/l)	< 10	15	< 10	26	30	18
Alkalinity (mg/l)	231		185	182	243	246
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		20	< 20	< 20	< 20
Chloride (mg/l)	56.7	61.2	84.1	89.1	94	108
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.41		0.7	0.58	1.54	2.08
Nitrite-N (mg/l)	< 0.02	< 0.02	0.025	0.023	0.04	0.031
Orthophosphate, D (mg/l)		0.126	< 0.01	0.013	0.183	0.252
Phenolics (ug/l)						
Sulfate (mg/l)	41.7	45.1	55.8	63.4	68	73
TKN (mg/l)	0.62		0.92	0.69	1.5	0.66
Phosphorus-T (mg/l)	0.246		0.044	0.137	0.33	0.458

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. UPST. BANKLICK CREEK, ADJ. EAST RIVER RD.** SWDO Map # 31

River Mile: 28.82 Storet ID: H11W51 WAU: 050800020902

Latitude/Longitude: 39.3172 / -84.6083 Drainage Area (mi2): 3670 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	2:10	9:50	8:55	9:25	9:40	9:40
Temp (C)	25.95	26.5	27.65	27.58	25.87	25.94
D.O. (mg/l) / (% sat)	8.44 / 104.1	7.34 / 91.5	6.99 / 88.9	7.53 / 95.6	6.4 / 78.9	6.67 / 82.3
pH (fld) SU	8.29	8.34	8.15	8.22	8.46	8.53
SpCond fld/lab (umhos/cm)	664 / 668	703 / 692	714 / 726	738 / 742	859 / 886	939 / 958
BOD5 (mg/l)	2.8	4.4	7.3	6.7	4.4	3.3
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	380	430	406	408	496	584
TSS (mg/l)	143	94	58	58	37	27
TOC (mg/l)	5.3	4.9	6.4	7.5	4.6	4.9
Arsenic-T (ug/l)	2.2	2.3	2.2	2.5	2.9	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.6	2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.8	5.1	3.3	3.4	4	4.1
Lead-T (ug/l)	4.5	3.2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.7	4.3	3.6	3	4	3.8
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1810	1240	450	498	388	281
Barium-T (ug/l)	97	101	87	101	119	121
Calcium-T (mg/l)	74	74	52	60	81	84
Hardness (mg/l)	185	185	258	273	334	346
Iron-T (ug/l)	2950	1940	739	779	685	467
Magnesium-T (mg/l)	28	29	31	30	32	33
Manganese-T (ug/l)	116	90	93	86	67	51
Potassium-T (mg/l)	4	4	4	5	6	6
Sodium-T (mg/l)	30	34	45	51	58	67
Strontium-T (ug/l)	613	690	630	673	823	770
Zinc-T (ug/l)	11	14	< 10	24	21	15
Alkalinity (mg/l)	218	225	189	185	240	262
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	27	< 20	< 20	< 20
Chloride (mg/l)	55.2	62.3	83.4	88.7	91.8	109
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.66	1.96	0.59	0.52	1.64	2.1
Nitrite-N (mg/l)	< 0.02	0.02	0.021	< 0.02	0.031	0.029
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	40.5	47.3	54.9	63.2	66.5	74.7
TKN (mg/l)	0.57	0.7	0.63	1.28	0.75	0.23
Phosphorus-T (mg/l)	0.253	0.222	0.093	0.161	0.25	0.094

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT ROSS @ ST. RT. 126** SWDO Map # 32

River Mile: 26.21 Storet ID: H11W14 WAU: 050800020904

Latitude/Longitude: 39.3033 / -84.6431 Drainage Area (mi2): 3789 County: Hamilton Ecoregion: IP USGS Quad: Shandon

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	1:45	10:05	9:10	9:50	10:05	10:00
Temp (C)	26.27	26.57	27.39	27.45	25.61	25.57
D.O. (mg/l) / (% sat)	8.52 / 105.8	7.36 / 91.8	7.01 / 88.7	7.44 / 94.3	6.55 / 80.4	6.85 / 84
pH (fld) SU	8.34	8.37	8.16	8.2	8.45	8.54
SpCond fld/lab (umhos/cm)	672 / 669	710 / 693	697 / 732	721 / 736	855 / 876	934 / 958
BOD5 (mg/l)	3	5.1	6.2	6.7	4	4
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	390	438	416	418	498	584
TSS (mg/l)	141	102	49	52	27	24
TOC (mg/l)	5.3	4.1	6.5	8.1	4.6	4.9
Arsenic-T (ug/l)	2.3	2.3	2.2	2.5	3	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.5	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.4	4.8	2.9	3.2	3.8	3.8
Lead-T (ug/l)	4	2.9	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.6	4	3.4	2.9	3.7	3.9
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1690	1160	344	439	297	283
Barium-T (ug/l)	98	102	87	103	110	115
Calcium-T (mg/l)	78	76	52	61	76	82
Hardness (mg/l)	195	190	262	280	313	337
Iron-T (ug/l)	2750	1850	586	703	522	484
Magnesium-T (mg/l)	29	30	32	31	30	32
Manganese-T (ug/l)	112	91	88	89	61	57
Potassium-T (mg/l)	4	4	5	5	5	6
Sodium-T (mg/l)	31	34	47	52	54	64
Strontium-T (ug/l)	614	702	641	670	768	740
Zinc-T (ug/l)	10	12	< 10	21	19	20
Alkalinity (mg/l)	251	225	189	183	231	258
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	56	62.8	85.1	88.4	91.3	108
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.74	1.92	0.67	0.45	1.64	2.07
Nitrite-N (mg/l)	< 0.02	< 0.02	0.021	< 0.02	0.028	0.029
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	40.4	45.1	55.9	62.1	66.5	73.6
TKN (mg/l)	0.56	0.69	0.68	1.18	0.72	1.29
Phosphorus-T (mg/l)	0.298	0.253	0.117	0.189	0.256	0.384

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. 0.2 MI. DST. DUNLAP RUN, ADJ EAST RIVER RD.** SWDO Map # 33

River Mile: 23.65 Storet ID: H11W54 WAU: 050800020904

Latitude/Longitude: 39.2856 / -84.6547 Drainage Area (mi2): 3803 County: Hamilton Ecoregion: IP USGS Quad: Shandon

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	1:20	10:20	9:25	10:20	10:40	10:25
Temp (C)	26.2	26.52	27.3	27.64	26.25	26.1
D.O. (mg/l) / (% sat)	8.71 / 107.9	7.27 / 90.7	7.21 / 91.1	8.08 / 102.7	7.46 / 92.6	8.14 / 100.8
pH (fld) SU	8.37	8.39	8.17	8.26	8.52	8.62
SpCond fld/lab (umhos/cm)	687 / 683	717 / 708	717 / 728	723 / 729	820 / 869	924 / 947
BOD5 (mg/l)	2.8	5.1	5.8	7.4	4.4	4.1
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	402	438	402	404	512	560
TSS (mg/l)	138	89	38	59	30	30
TOC (mg/l)	5.3	4.6	6.4	7.9	4.4	4.7
Arsenic-T (ug/l)	2.3	2.4	2.1	2.4	2.9	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.4	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	5.8	5.1	3	3.8	4.2	4.2
Lead-T (ug/l)	3.9	2.8	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.7	4.1	3.3	3	3.8	3.8
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1680	1020	240	485	318	301
Barium-T (ug/l)	97	96	86	99	113	115
Calcium-T (mg/l)	78	73	52	60	80	84
Hardness (mg/l)	195	182	262	273	327	342
Iron-T (ug/l)	2760	1660	392	777	571	521
Magnesium-T (mg/l)	29	28	32	30	31	32
Manganese-T (ug/l)	113	84	78	89	57	54
Potassium-T (mg/l)	4	4	5	5	5	6
Sodium-T (mg/l)	30	33	47	49	56	64
Strontium-T (ug/l)	605	678	641	636	797	742
Zinc-T (ug/l)	11	10	< 10	23	14	16
Alkalinity (mg/l)	248	222	189	180	237	254
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.083
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	56	63.4	82.9	86.9	89.4	107
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.86	1.82	0.62	0.44	1.61	2
Nitrite-N (mg/l)	< 0.02	< 0.02	0.021	< 0.02	0.025	0.024
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	41.3	48.9	57.1	61.5	66.7	73.5
TKN (mg/l)	0.58	0.7	0.69	1.06	0.74	0.57
Phosphorus-T (mg/l)	0.271	0.215	0.04	0.138 J - PT	0.24	0.267

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. W OF NEW BALTIMORE, DST. PADDYS RUN** SWDO Map # 34

River Mile: 19.9 Storet ID: H11S29 WAU: 050800020906

Latitude/Longitude: 39.2628 / -84.6956 Drainage Area (mi2): 3831 County: Hamilton Ecoregion: IP USGS Quad: Shandon

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	11:00	10:55	10:00	11:00	11:10	11:00
Temp (C)	25.56	26.75	27.79	28.19	26.38	25.98
D.O. (mg/l) / (% sat)	8.28 / 101.4	7.35 / 92	9.15 / 116.6	10.66 / 136.9	8.74 / 108.7	8.57 / 105.9
pH (fld) SU	8.38	8.46	8.39	8.38	8.54	8.66
SpCond fld/lab (umhos/cm)	684 / 682	732 / 714	711 / 714	698 / 705	842 / 862	910 / 932
BOD5 (mg/l)	2.7	5.3	7.8	7.7	5	4.6
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	410	430	408	384	494	582
TSS (mg/l)	91	74	46	45	26	25
TOC (mg/l)	4.8	3.9	6.2	8.2	4.5	5.2
Arsenic-T (ug/l)	2.1	2.2	2.1	2.2	3	2.6
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.8	4.6	2.9	3	3.9	3.6
Lead-T (ug/l)	2.4	2.6	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.8	3.8	3.3	2.6	3.8	3.9
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1120	1020	340	294	257	247
Barium-T (ug/l)	89	101	84	87	110	115
Calcium-T (mg/l)	76	78	50	50	77	84
Hardness (mg/l)	190	195	257	248	316	346
Iron-T (ug/l)	1840	1550	549	472	465	434
Magnesium-T (mg/l)	27	30	32	30	30	33
Manganese-T (ug/l)	80	84	82	76	51	51
Potassium-T (mg/l)	4	4	5	5	5	6
Sodium-T (mg/l)	30	35	46	49	54	63
Strontium-T (ug/l)	588	712	638	594	769	746
Zinc-T (ug/l)	< 10	< 10	< 10	37	12	16
Alkalinity (mg/l)	240	230	186	166	228	244
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	54.8	65.3	82.8	85	89	105
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.74	1.72	0.51	0.25	1.48	1.83
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	0.021	< 0.02
Orthophosphate, D (mg/l)		0.106	< 0.01	< 0.01	0.164	0.187
Phenolics (ug/l)						
Sulfate (mg/l)	42.2	51.3	57.8	60.5	65.5	71.6
TKN (mg/l)	0.62	0.72	1.03	1.66	0.71	0.81
Phosphorus-T (mg/l)	0.208	0.186	0.156	0.166	0.238	0.26

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT MIAMITOWN @ HARRISON RD.** SWDO Map # 35

River Mile: 15.49 Storet ID: H11W20 WAU: 050800020906

Latitude/Longitude: 39.2161 / -84.7035 Drainage Area (mi2): 3838 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:45	11:30	9:45	9:20	11:05	10:45
Temp (C)	25.98	27.2	28.3	27.88	26.9	25.8
D.O. (mg/l) / (% sat)	8.15 / 100.6	6.71 / 84.7	8.42 / 108.3	7.79 / 99.5	6.86 / 86.2	8.89 / 109.4
pH (fld) SU	8.32	8.5	8.38	8.2	8.49	8.67
SpCond fld/lab (umhos/cm)	669.9 / 680	717.7 / 719	671.9 / 692	690.8 / 702	822.6 / 842	892.7 / 929
BOD5 (mg/l)	3.5	5.4	7.5	10	3.6	5.4
CBOD20 (mg/l)	4.9	9.7	15		6.9	10
Oil & Grease (mg/l)						
TDS (mg/l)	396	442	398	390	476	574
TSS (mg/l)	82	54	33	65	22	28
TOC (mg/l)	4.9	4.6	5.9	9.3	4.7	5.5
Arsenic-T (ug/l)	2.1	2.2	2	2.6	2.9	2.6
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.2	3.8	2.8	3.9	3.4	3.5
Lead-T (ug/l)	2.3	< 2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	3.9	3.4	2.9	3.2	3.8	3.5
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1200	560	230	527	277	238
Barium-T (ug/l)	91	96	78	93	109	113
Calcium-T (mg/l)	77	75	43	52	76	82
Hardness (mg/l)	192	187	235	253	313	337
Iron-T (ug/l)	1950	871	390	825	509	417
Magnesium-T (mg/l)	28	30	31	30	30	32
Manganese-T (ug/l)	83	60	77	102	60	55
Potassium-T (mg/l)	4	4	4	5	5	6
Sodium-T (mg/l)	30	37	45	49	52	62
Strontium-T (ug/l)	597	711	587	605	751	740
Zinc-T (ug/l)	< 10	< 10	< 10	23	13	14
Alkalinity (mg/l)	231	231	167	167	238	249
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	85	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	54.6	67.2	83.4	86.2	85.9	103
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.64	1.99	0.34	0.21	1.71	1.44
Nitrite-N (mg/l)	< 0.02	0.022	< 0.02	< 0.02	0.02	0.024
Orthophosphate, D (mg/l)		0.1	< 0.01	< 0.01	0.155	0.163
Phenolics (ug/l)						
Sulfate (mg/l)	41.4	51.4	57.5	61.3	63.2	71.3
TKN (mg/l)	0.64	0.91	0.66	0.73	0.6	< 0.2
Phosphorus-T (mg/l)	0.211	0.174	0.026	0.113	0.241	< 0.01

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. @ I-74/I-275/NEW U.S. RT. 52** SWDO Map # 36

River Mile: 14.93 Storet ID: H11W55 WAU: 050800020906

Latitude/Longitude: 39.2097 / -84.6972 Drainage Area (mi2): 3865 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	1:15	11:05	9:10	10:15	11:45	10:00
Temp (C)	26.12	27.24	28.39	28.53	27.21	26.07
D.O. (mg/l) / (% sat)	8.37 / 103.6	7.49 / 94.5	9.32 / 120	9.41 / 121.5	10.31 / 130.2	8.97 / 110.9
pH (fld) SU	8.38	8.5	8.36	8.43	8.61	8.71
SpCond fld/lab (umhos/cm)	671.8 / 682	719 / 719	665.8 / 688	688 / 703	809.9 / 844	841.5 / 930
BOD5 (mg/l)	3.1	6	7.3	8.9	3.4	4.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	396	458	402	388	478	574
TSS (mg/l)	122	102	48	63	25	27
TOC (mg/l)	4.9	4.7	5.8	7.8	4.7	5.6
Arsenic-T (ug/l)	2.2	2.3	2.1	2.4	2.8	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2.2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.6	4.7	3	3.6	3.2	3.7
Lead-T (ug/l)	3	2.2	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.3	3.6	3.2	3	3.7	3.5
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1480	844	353	316	280	212
Barium-T (ug/l)	93	94	79	86	111	113
Calcium-T (mg/l)	78	73	44	48	78	81
Hardness (mg/l)	195	182	238	239	322	334
Iron-T (ug/l)	2420	1340	605	510	524	376
Magnesium-T (mg/l)	28	28	31	29	31	32
Manganese-T (ug/l)	103	77	86	87	57	54
Potassium-T (mg/l)	4	4	4	5	5	6
Sodium-T (mg/l)	30	35	44	48	53	62
Strontium-T (ug/l)	587	664	573	583	769	730
Zinc-T (ug/l)	< 10	< 10	< 10	29	13	13
Alkalinity (mg/l)	236	226	164	166	228	254
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	54.5	67.5	83.1	86.7	85.9	104
Cyanide (free) (ug/l)		< 5	< 5	6	< 5	< 5
Nitrate-nitrite-N (mg/l)	2.8	1.46	0.35	0.17	1.23	1.67
Nitrite-N (mg/l)	< 0.02	0.021	< 0.02	< 0.02	< 0.02	0.023
Orthophosphate, D (mg/l)		0.098	< 0.01	< 0.01	0.153	0.166
Phenolics (ug/l)						
Sulfate (mg/l)	41.5	50	56.9	60.7	63.6	71.8
TKN (mg/l)	0.62	0.9	0.63	0.78	0.7	1.41
Phosphorus-T (mg/l)	0.259	0.202	0.046	0.104	0.262	0.3

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. AT HOOVEN @ U.S. RT. 50** SWDO Map # 37

River Mile: 8.52 Storet ID: H11W57 WAU: 050800020906

Latitude/Longitude: 39.1700 / -84.7581 Drainage Area (mi2): 3878 County: Hamilton Ecoregion: IP USGS Quad: Hooven

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	10:45	10:00	10:45	9:45	10:40	10:00
Temp (C)	26.05	27.58	28.66	27.54	25.88	25.49
D.O. (mg/l) / (% sat)	8.09 / 99.9	6.53 / 82.9	9.93 / 128.6	6.78 / 86	6.47 / 79.7	7.55 / 92.4
pH (fld) SU	8.31	8.49	8.4	7.41	8.43	8.58
SpCond fld/lab (umhos/cm)	633.2 / 675	705 /	677.9 / 688	685.2 / 697	758 / 840	866.1 / 886
BOD5 (mg/l)	2.8	7.3	7.9	8.3	9.1	6.2
CBOD20 (mg/l)						
Oil & Grease (mg/l)		< 2	< 2	< 2	< 2	< 2
TDS (mg/l)	400	438	380	398	508	558
TSS (mg/l)	83	115	51	60	39	33
TOC (mg/l)	5.2		5.9	8.3	6.2	6.4
Arsenic-T (ug/l)	2	2.5	2.2	2.5	3	2.7
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.3	5.3	3.6	3.2	3.7	3.2
Lead-T (ug/l)	2.2	2.8	2	< 2	< 2	< 2
Nickel-T (ug/l)	3.9	4.1	4	3	3.5	3.1
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1200	1070	833	437	308	229
Barium-T (ug/l)	86	101	86	90	111	113
Calcium-T (mg/l)	75	78	49	52	77	76
Hardness (mg/l)	187	195	250	249	316	326
Iron-T (ug/l)	1860	1740	1340	703	539	421
Magnesium-T (mg/l)	26	29	31	29	30	33
Manganese-T (ug/l)	83	104	122	97	60	58
Potassium-T (mg/l)	4	4	5	5	5	5
Sodium-T (mg/l)	29	37	45	48	51	58
Strontium-T (ug/l)	565	659	610	574	737	676
Zinc-T (ug/l)	34	13	< 10	28	27	18
Alkalinity (mg/l)	223		168	169	233	233
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	54.9	69.7	82	89.5	84.5	102
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.45		0.27	0.24	1.28	1.32
Nitrite-N (mg/l)	< 0.02	0.02	< 0.02	< 0.02	< 0.02	0.022
Orthophosphate, D (mg/l)		0.051	< 0.01	< 0.01	0.15	0.118
Phenolics (ug/l)						
Sulfate (mg/l)	41.5	49.9	56.5	71.3	62.5	70.7
TKN (mg/l)	0.62		0.74	1.34	0.76	0.94
Phosphorus-T (mg/l)	0.244		0.078	0.188	0.192	0.232

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREAT MIAMI R. NEAR. SHAWNEE BOAT RAMP** SWDO Map # 38

River Mile: 4 Storet ID: 610070 WAU: 050800020907

Latitude/Longitude: 39.1392 / -84.8050 Drainage Area (mi2): 5357 County: Hamilton Ecoregion: IP USGS Quad: Hooven

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	10:00	9:00	11:10	9:00	9:30	9:00
Temp (C)	25.59	27.81	27.54	27.26	25.16	25.09
D.O. (mg/l) / (% sat)	8.22 / 100.8	7.37 / 94	9.12 / 115.8	5.45 / 68.8	6.93 / 84.3	6.98 / 84.8
pH (fld) SU	8.27	8.4	8.34	8.11	8.37	8.24
SpCond fld/lab (umhos/cm)	605.9 / 643	671.7 /	650 / 661	648.1 / 660	705.1 / 778	785.8 / 808
BOD5 (mg/l)	3	6.1	7	7.7	3.2	4.6
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	378	400	358	378	452	498
TSS (mg/l)	93	103	58	61	27	34
TOC (mg/l)	10		5.2	8.1	4.3	5.2
Arsenic-T (ug/l)	2.1	2.4	< 2	2.1	2.6	2.5
Cadmium-T (ug/l)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium-T (ug/l)	2	< 2	< 2	< 2	< 2	< 2
Copper-T (ug/l)	4.5	4.9	2.7	2.9	3.8	3
Lead-T (ug/l)	2.5	2.4	< 2	< 2	< 2	< 2
Nickel-T (ug/l)	4.2	3.8	3.3	2.7	3	3
Selenium-T (ug/l)	< 2	< 2	< 2	< 2	< 2	< 2
Aluminum-T (ug/l)	1350	985	550	495	273	239
Barium-T (ug/l)	82	92	81	89	99	103
Calcium-T (mg/l)	73	70	51	57	74	75
Hardness (mg/l)	182	175	251	258	304	315
Iron-T (ug/l)	2130	1580	876	704	477	421
Magnesium-T (mg/l)	25	28	30	28	29	31
Manganese-T (ug/l)	96	102	96	91	55	62
Potassium-T (mg/l)	4	4	4	4	4	5
Sodium-T (mg/l)	27	36	39	39	41	49
Strontium-T (ug/l)	509	619	535	510	609	589
Zinc-T (ug/l)	< 10	18	< 10	44	26	13
Alkalinity (mg/l)	225		184	187	235	218
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	0.057
COD (mg/l)	27		< 20	< 20	< 20	< 20
Chloride (mg/l)	52.2	68.2	71.1	70.9	72.4	85.2
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	3.04		0.49	0.47	1.27	1.07
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.021
Orthophosphate, D (mg/l)		0.026	< 0.01	< 0.01	0.111	0.074
Phenolics (ug/l)						
Sulfate (mg/l)	39	48.5	50.1	51	53.8	60.7
TKN (mg/l)	0.5		0.67	1.29	0.52	0.62
Phosphorus-T (mg/l)	0.214		0.093	0.159	0.096	0.521

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CREEK UPST. BROOKVILLE @ LEWISBURG-SALEM RD.** SWDO Map # 39

River Mile: 16.61 Storet ID: H09W81 WAU: 050800020102

Latitude/Longitude: 39.8460 / -84.4240 Drainage Area (mi2): 4.6 County: Montgomery Ecoregion: ECBP USGS Quad: Brookville

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:25	12:40	11:55	11:35	11:55	11:05
Temp (C)	18.35	22.22	22.71	22.86	20.74	23.1
D.O. (mg/l) / (% sat)	9.82 / 104.7	9.09 / 104.6	4.25 / 49.4	3.75 / 43.7	5.7 / 63.8	5.71 / 66.9
pH (fld) SU	8.02	7.96	7.52	7.4	7.43	7.39
SpCond fld/lab (umhos/cm)	782 / 786	733 / 727	918 / 946	1056 / 1080	1057 / 1090	1095 / 1240
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	476	428	538	614	618	704
TSS (mg/l)	7	< 5	5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		6.4		4.8	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		2.3		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		228		< 200	
Barium-T (ug/l)	81		116		146	
Calcium-T (mg/l)	86		81		93	
Hardness (mg/l)	215		342		385	
Iron-T (ug/l)	379		1140		599	
Magnesium-T (mg/l)	34		34		37	
Manganese-T (ug/l)	25		366		176	
Potassium-T (mg/l)	< 2		2		3	
Sodium-T (mg/l)	32		55		65	
Strontium-T (ug/l)	1730		4560		6900	
Zinc-T (ug/l)	< 10		< 10		16	
Alkalinity (mg/l)	283	274	266	291	282	311
Ammonia-N (mg/l)	< 0.05	< 0.05	0.107	0.121	0.114	0.082
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	65.7	57.8	111	145	133	159
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	6.67	3.91	< 0.1	< 0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	0.021	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	27.9	24.8	47	55.8	61.3	68
TKN (mg/l)	0.5	0.57	0.56	0.73	0.66	0.62
Phosphorus-T (mg/l)	0.041	0.072	0.048	0.065	0.052	0.042

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CREEK UPST. BROOKVILLE WWTP @ WESTBROOK RD.** SWDO Map # 40

River Mile: 15.32 Storet ID: H09W82 WAU: 050800020102

Latitude/Longitude: 39.8317 / -84.4119 Drainage Area (mi2): 7.4 County: Montgomery Ecoregion: ECBP USGS Quad: Brookville

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:05	12:15	11:35	11:10	11:40	10:50
Temp (C)	18.03	22.27	22.51	22.58	20.76	20.97
D.O. (mg/l) / (% sat)	8.29 / 87.8	8.16 / 94	6.65 / 77	5.69 / 65.9	6.42 / 71.9	6.73 / 75.6
pH (fld) SU	8.14	8.08	7.99	7.86	7.92	7.96
SpCond fld/lab (umhos/cm)	808 / 815	725 / 723	764 / 778	742 / 750	673 / 694	663 / 675
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	484	416	440	440	416	378
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2.3		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.1		2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.1		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	76		83		79	
Calcium-T (mg/l)	80		61		50	
Hardness (mg/l)	200		268		236	
Iron-T (ug/l)	189		273		172	
Magnesium-T (mg/l)	32		28		27	
Manganese-T (ug/l)	11		42		28	
Potassium-T (mg/l)	2		3		3	
Sodium-T (mg/l)	44		49		40	
Strontium-T (ug/l)	2260		3760		3640	
Zinc-T (ug/l)	< 10		< 10		26	
Alkalinity (mg/l)	261	258	183	190	162	156
Ammonia-N (mg/l)	0.054	< 0.05	< 0.05	< 0.05	< 0.05	0.074
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	84.2	67.4	93.6	93.5	82	78.9
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	3.05	2.69	0.35	0.29	0.25	0.48
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.028
Orthophosphate, D (mg/l)		0.04	0.05	0.057	0.054	0.052
Phenolics (ug/l)						
Sulfate (mg/l)	35.7	28	51.9	58.4	57.3	58
TKN (mg/l)	0.42	0.72	0.3	0.37	0.46	0.36
Phosphorus-T (mg/l)	0.06	0.044	0.068 PT	0.058	0.059	0.071

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CREEK DST. BROOKVILLE WWTP @ AIRHILL RD.** SWDO Map # 41

River Mile: 14.14 Storet ID: H09W83 WAU: 050800020102

Latitude/Longitude: 39.8178 / -84.4069 Drainage Area (mi2): 8.6 County: Montgomery Ecoregion: ECBP USGS Quad: Brookville

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:40	11:35	11:10	10:45	11:10	10:20
Temp (C)	17.85	22.06	22.34	22.37	20.75	20.76
D.O. (mg/l) / (% sat)	7.77 / 82	7.69 / 88.2	6.75 / 77.8	5.59 / 64.5	7.21 / 80.7	6.53 / 73
pH (fld) SU	7.91	8	7.83	7.71	7.8	7.79
SpCond fld/lab (umhos/cm)	854 / 862	766 / 765	825 / 836	831 / 842	821 / 849	828 / 857
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	508	440	516	494	514	490
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.1		2.4		2.5	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.8		2.5		3	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		2.2		2.7	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	69		61		62	
Calcium-T (mg/l)	78		60		54	
Hardness (mg/l)	195		257		242	
Iron-T (ug/l)	195		201		183	
Magnesium-T (mg/l)	32		26		26	
Manganese-T (ug/l)	21		23		22	
Potassium-T (mg/l)	4		6		8	
Sodium-T (mg/l)	56		61		64	
Strontium-T (ug/l)	2180		2530		2420	
Zinc-T (ug/l)	16		19		39	
Alkalinity (mg/l)	247	243	181	187	164	167
Ammonia-N (mg/l)	0.07	< 0.05	< 0.05	1.21	< 0.05	0.061
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	97	78.9	103	108	108	112
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.33	3.47	3.63	1.55	3.45	3.07
Nitrite-N (mg/l)	0.138	< 0.02	< 0.02	0.103	< 0.02	0.02
Orthophosphate, D (mg/l)		0.058	0.859	1.83	1.87	1.44
Phenolics (ug/l)						
Sulfate (mg/l)	44.5	35.2	58.9	64.9	68.1	65.7
TKN (mg/l)	0.71	0.77	0.6	2.07	0.8	0.9
Phosphorus-T (mg/l)	0.818	0.334 J	0.787	2	1.89	1.37

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CREEK W OF TROTWOOD UPST. NOLAN RD.** SWDO Map # 42

River Mile: 10.4 Storet ID: 203503 WAU: 050800020102

Latitude/Longitude: 39.8014 / -84.3592 Drainage Area (mi2): 13.9 County: Montgomery Ecoregion: ECBP USGS Quad: Trotwood

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:20	11:10	10:50	10:25	10:55	10:00
Temp (C)	17.24	21.34	22.15	22.05	19.98	19.63
D.O. (mg/l) / (% sat)	9.57 / 99.7	8.41 / 95.1	8.16 / 93.8	7.01 / 80.5	8.91 / 98.2	7.78 / 85.1
pH (fld) SU	8.16	8.12	8.09	8	8.11	7.98
SpCond fld/lab (umhos/cm)	759 / 819	740 / 733	818 / 836	812 / 822	809 / 830	829 / 838
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	470	424	488	474	492	470
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.2		2.8		2.8	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.4		2.5		2.6	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.5		2.8		3.2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	74		79		84	
Calcium-T (mg/l)	81		73		71	
Hardness (mg/l)	202		302		297	
Iron-T (ug/l)	162		197		186	
Magnesium-T (mg/l)	32		29		29	
Manganese-T (ug/l)	14		26		29	
Potassium-T (mg/l)	3		4		5	
Sodium-T (mg/l)	45		49		48	
Strontium-T (ug/l)	2040		2690		3010	
Zinc-T (ug/l)	< 10		< 10		21	
Alkalinity (mg/l)	273	255	239	246	248	238
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	80.1	67.7	84.5	87.8	84.6	86.2
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	3.25	2.39	0.79	0.82	0.54	0.67
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	37.7	31.2	46	51.4	53	50.6
TKN (mg/l)	0.47	0.41	0.55	0.48	0.49	0.54
Phosphorus-T (mg/l)	0.38	0.083	0.384	0.437	0.436	0.387

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CK @ DAYTON @ WESLEYAN NATURE CENT PEDESTRIAN BRIDGE** SWDO Map # 43

River Mile: 2.49 Storet ID: 300818 WAU: 050800020103

Latitude/Longitude: 39.7704 / -84.2473 Drainage Area (mi2): 66.6 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton North

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	9:15	9:30	9:05	9:40	9:35	9:40
Temp (C)	17.24	20.89	22.68	22.4	20.06	20.72
D.O. (mg/l) / (% sat)	9.45 / 98.5	8.38 / 94	7.49 / 87	7.71 / 89.1	8.84 / 97.6	7.76 / 86.7
pH (fld) SU	8.04	8.09	8.12	7.95	8.02	7.97
SpCond fld/lab (umhos/cm)	770 / 772	746 / 711	793.2 / 810	739 / 801	788 / 811	785 / 806
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	3.1	4.4	< 3	< 3	3.3
Oil & Grease (mg/l)						
TDS (mg/l)	460	418	468	470	462	444
TSS (mg/l)	< 5	5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		2.1	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		2		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	91		100		107	
Calcium-T (mg/l)	82		76		76	
Hardness (mg/l)	205		317		317	
Iron-T (ug/l)	158		160		176	
Magnesium-T (mg/l)	32		31		31	
Manganese-T (ug/l)	20		25		26	
Potassium-T (mg/l)	2		3		3	
Sodium-T (mg/l)	38		38		36	
Strontium-T (ug/l)	995		1110		1130	
Zinc-T (ug/l)	< 10		< 10		18	
Alkalinity (mg/l)	275	260	279	261	258	255
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	0.061	< 0.05	0.055
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	70.7	62.5	73.2	74.7	73.6	73.1
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.38	1.65	0.52	0.49	0.25	0.22
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.021	0.019	0.017	0.015	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	37.3	34.5	43.5	47	47.8	46.6
TKN (mg/l)	0.29	0.5	0.21	0.34	0.44	0.38
Phosphorus-T (mg/l)	0.022	0.077	0.01	0.018	0.026	0.017

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WOLF CREEK AT DAYTON @ SUNRISE AVE.** SWDO Map # 44

River Mile: 0.04 Storet ID: H09W01 WAU: 050800020103

Latitude/Longitude: 39.7586 / -84.2078 Drainage Area (mi2): 70.4 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton North

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	8:55	9:00	8:45	9:20	9:15	9:20
Temp (C)	18.85	22.32	24.29	25	21.73	22.77
D.O. (mg/l) / (% sat)	13.68 / 147.3	8.46 / 97.5	9.42 / 112.7	8.88 / 107.7	9.89 / 112.8	9.56 / 111.2
pH (fld) SU	8.41	8.19	8.31	8.18	8.23	8.19
SpCond fld/lab (umhos/cm)	757 / 756	762 / 729	786.2 / 806	768 / 778	794 / 815	788 / 820
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	452	418	466	474	468	448
TSS (mg/l)	5	< 5	12	6	< 5	7
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		2.1	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		< 2		2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	91		101		105	
Calcium-T (mg/l)	80		74		74	
Hardness (mg/l)	200		317		312	
Iron-T (ug/l)	131		158		113	
Magnesium-T (mg/l)	33		32		31	
Manganese-T (ug/l)	17		20		12	
Potassium-T (mg/l)	2		3		3	
Sodium-T (mg/l)	41		41		38	
Strontium-T (ug/l)	982		1060		1080	
Zinc-T (ug/l)	< 10		< 10		16	
Alkalinity (mg/l)	260	252	263	244	259	260
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	75.2	70.7	78.5	77.2	77.8	79.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.96	1.44	0.21	0.22	0.12	0.13
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	38.6	34.7	45.3	49.4	49.4	49.3
TKN (mg/l)	0.31	0.38	0.28	0.36	0.37	0.38
Phosphorus-T (mg/l)	< 0.01	0.073	< 0.01	0.026	0.017	0.018

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **N. BR. WOLF CREEK @ WESTBROOK RD** SWDO Map # 45

River Mile: 3.97 Storet ID: 301022 WAU: 050800020101

Latitude/Longitude: 39.8325 / -84.3360 Drainage Area (mi2): 13.9 County: Montgomery Ecoregion: ECBP USGS Quad: Trotwood

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:50	10:45	10:25	10:00	10:25	9:40
Temp (C)	17.21	21.54	23.46	23.1	20.68	20.37
D.O. (mg/l) / (% sat)	9.09 / 94.7	8.37 / 95.1	7.42 / 87.5	6.39 / 74.8	7.87 / 88	6.6 / 73.3
pH (fld) SU	8.09	8.11	8.12	8.07	8.15	8.01
SpCond fld/lab (umhos/cm)	819 / 827	757 / 751	815 / 831	795 / 800	819 / 841	822 / 839
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	484	440	472	480	492	508
TSS (mg/l)	10	5	< 5	9	< 5	5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.7		2		2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	258		< 200		< 200	
Barium-T (ug/l)	80		73		77	
Calcium-T (mg/l)	84		72		74	
Hardness (mg/l)	210		328		366	
Iron-T (ug/l)	482		187		151	
Magnesium-T (mg/l)	38		36		44	
Manganese-T (ug/l)	18		17		13	
Potassium-T (mg/l)	2		2		3	
Sodium-T (mg/l)	34		28		27	
Strontium-T (ug/l)	459		399		333	
Zinc-T (ug/l)	59		< 10		16	
Alkalinity (mg/l)	293	252	259	269	248	249
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	71.5	62.3	68.7	66.4	70.7	69.6
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	3.1	2.81	2	2.15	3.11	2.67
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	45.4	52.3	51.6	66.5	77.7	74
TKN (mg/l)	0.39	0.3	0.26	0.33	0.42	0.61
Phosphorus-T (mg/l)	0.039	< 0.01	0.04	0.041	0.042	0.039

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **N. BR. WOLF CREEK AT TROTWOOD @ UNION RD.** SWDO Map # 46

River Mile: 0.69 Storet ID: 600230 WAU: 050800020101

Latitude/Longitude: 39.8041 / -84.3112 Drainage Area (mi2): 23.4 County: Montgomery Ecoregion: ECBP USGS Quad: Trotwood

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:15	10:15	9:50	9:25	9:55	9:15
Temp (C)	17.64	21.46	22.82	22.85	20.25	20.4
D.O. (mg/l) / (% sat)	9.18 / 96.4	8.41 / 95.3	7.77 / 90.4	6.21 / 72.3	7.41 / 82.1	7.91 / 87.9
pH (fld) SU	8.06	8.08	8.04	7.96	7.95	7.88
SpCond fld/lab (umhos/cm)	766 / 770	730 / 729	771 / 777	768 / 773	774 / 792	802 / 811
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	478	418	450	452	462	480
TSS (mg/l)	< 5	10	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	3.3		< 2		2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	81		90		99	
Calcium-T (mg/l)	82		78		79	
Hardness (mg/l)	205		347		354	
Iron-T (ug/l)	268		222		203	
Magnesium-T (mg/l)	36		37		38	
Manganese-T (ug/l)	19		20		23	
Potassium-T (mg/l)	2		3		3	
Sodium-T (mg/l)	31		29		26	
Strontium-T (ug/l)	953		1310		1510	
Zinc-T (ug/l)	< 10		< 10		18	
Alkalinity (mg/l)	288	265	259	268	279	284
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	63.7	58.6	60.5	62.1	60	61.8
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.56	2.21	1.58	1.29	0.72	0.88
Nitrite-N (mg/l)	0.112	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.278	0.019	0.017	0.016	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	38.4	39.7	46.5	53.3	53.1	57.8
TKN (mg/l)	0.28	0.26	< 0.2	0.3	0.4	0.42
Phosphorus-T (mg/l)	0.026	0.05	0.015	0.048	0.022	0.023

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **TRIB TO N. BR. WOLF CREEK (RM 1.77) @ SHILOH SPRINGS RD** SWDO Map # 47

River Mile: 0.42 Storet ID: 301025 WAU: 050800020101

Latitude/Longitude: 39.8180 / -84.3252 Drainage Area (mi2): 6.3 County: Montgomery Ecoregion: ECBP USGS Quad: Trotwood

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:30	10:30	10:10	9:45	10:15	9:25
Temp (C)	17.81	21.81	24.14	23.42	20.69	20.19
D.O. (mg/l) / (% sat)	9.51 / 100.3	8.62 / 98.4	8.24 / 98.4	7.12 / 83.9	8.73 / 97.5	8.47 / 93.7
pH (fld) SU	8.2	8.17	8.28	8.2	8.29	8.19
SpCond fld/lab (umhos/cm)	752 / 761	713 / 717	762 / 779	741 / 740	758 / 783	756 / 788
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	450	420	444	434	450	474
TSS (mg/l)	10	9	9	12	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		2.4	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		3.6	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		< 2		5.4	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	237		< 200		< 200	
Barium-T (ug/l)	73		72		78	
Calcium-T (mg/l)	81		74		76	
Hardness (mg/l)	202		325		334	
Iron-T (ug/l)	390		295		220	
Magnesium-T (mg/l)	33		34		35	
Manganese-T (ug/l)	21		16		13	
Potassium-T (mg/l)	2		2		3	
Sodium-T (mg/l)	32		31		28	
Strontium-T (ug/l)	346		348		360	
Zinc-T (ug/l)	< 10		< 10		16	
Alkalinity (mg/l)	275	265	275	261	274	275
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	66.8	60.1	66.4	67.3	64.2	63.6
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	3.67	2.83	3.5	2.35	2.58	2.47
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	29.4	27.3	32.7	35.2	36.1	36
TKN (mg/l)	0.34	0.34	0.23	0.32	0.45	0.46
Phosphorus-T (mg/l)	0.029	0.022	0.02	0.034	0.036	0.033

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **DRY RUN E OF TROTWOOD @ FREE PIKE** SWDO Map # 48

River Mile: 0.2 Storet ID: 203504 WAU: 050800020103

Latitude/Longitude: 39.7981 / -84.2817 Drainage Area (mi2): 7.8 County: Montgomery Ecoregion: ECBP USGS Quad: Trotwood

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	9:55	9:40	8:55	9:00	9:25	8:50
Temp (C)	18.92	23.6	23.71	24.26	21.44	21.68
D.O. (mg/l) / (% sat)	9.11 / 98.2	8.46 / 99.9	7.46 / 88.3	7.95 / 95.1	9.45 / 107.1	9.09 / 103.4
pH (fld) SU	7.97	8.06	8.05	8.11	8.24	8.09
SpCond fld/lab (umhos/cm)	625 / 617	622 / 585	721 / 665	542 / 552	526 / 543	520 / 532
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	344	320	384	326	322	306
TSS (mg/l)	< 5	< 5	120	12	13	27
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		3		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		2.7		< 2	
Copper-T (ug/l)	< 2		5.1		2.7	
Lead-T (ug/l)	< 2		4.2		< 2	
Nickel-T (ug/l)	< 2		5.9		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		2450		303	
Barium-T (ug/l)	74		96		71	
Calcium-T (mg/l)	52		53		37	
Hardness (mg/l)	130		235		179	
Iron-T (ug/l)	180		4380		483	
Magnesium-T (mg/l)	23		25		21	
Manganese-T (ug/l)	12		120		31	
Potassium-T (mg/l)	2		3		3	
Sodium-T (mg/l)	41		48		32	
Strontium-T (ug/l)	398		470		576	
Zinc-T (ug/l)	< 10		20		20	
Alkalinity (mg/l)	165	168	139	113	98.8	95.4
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	76.5	70.8	91.6	70.4	67.4	66.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.61	0.4	0.52	0.34	0.27	0.21
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	38.7	28.9	51.2	57.9	59.9	58.4
TKN (mg/l)	0.2	0.3	0.24	0.22	0.37	0.44
Phosphorus-T (mg/l)	< 0.01	< 0.01	0.05	0.038	0.042	0.045

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **HOLES CREEK @ LYONS RD** SWDO Map # 49

River Mile: 8.59 Storet ID: 301027 WAU: 050800020104

Latitude/Longitude: 39.6257 / -84.2014 Drainage Area (mi2): 7.3 County: Montgomery Ecoregion: ECBP USGS Quad: Springboro

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:10	1:35	12:40	12:05	12:25	12:10
Temp (C)	19.78	25.45	25.06	25.75	21.88	22.08
D.O. (mg/l) / (% sat)	7.45 / 81.8	7.57 / 92.5	5.83 / 70.8	5.81 / 71.4	7.64 / 87.4	6.13 / 70.4
pH (fld) SU	7.83	7.86	8.24	7.72	7.83	7.72
SpCond fld/lab (umhos/cm)	634 / 635	565 / 506	934.4 / 952	641 / 647	960 / 984	1015 / 1060
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	378	300	532	376	524	556
TSS (mg/l)	10	7	< 5	< 5	17	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.7		3.1		2.6	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	8.4		3.3		3.4	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		2		2.4	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	331		< 200		< 200	
Barium-T (ug/l)	76		98		107	
Calcium-T (mg/l)	61		60		60	
Hardness (mg/l)	235		245		245	
Iron-T (ug/l)	592		267		207	
Magnesium-T (mg/l)	20		23		23	
Manganese-T (ug/l)	53		87		118	
Potassium-T (mg/l)	4		3		3	
Sodium-T (mg/l)	41		89		87	
Strontium-T (ug/l)	168		240		275	
Zinc-T (ug/l)	< 10		< 10		19	
Alkalinity (mg/l)	200	143	181	151	174	173
Ammonia-N (mg/l)	0.053	0.061	0.068	0.084	0.059	0.113
COD (mg/l)	22	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	74.5	60	167	96.9	170	188
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.39	0.42	0.42	0.14	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	25.5	24.7	35.4	27.2	39.5	40.1
TKN (mg/l)	0.63	0.72	0.71	0.67	0.78	0.87
Phosphorus-T (mg/l)	0.057	0.064 J	< 0.01	0.034	0.318	0.045

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **HOLES CREEK @ MAD RIVER RD** SWDO Map # 50

River Mile: 3.37 Storet ID: 300652 WAU: 050800020104

Latitude/Longitude: 39.6544 / -84.1956 Drainage Area (mi2): 18.7 County: Montgomery Ecoregion: ECBP USGS Quad: Dayton South

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:35	1:00	1:05	12:25	12:50	12:35
Temp (C)	18.6	24.69	23.91	25.58	20.75	21.29
D.O. (mg/l) / (% sat)	9.41 / 100.8	8.93 / 107.6	9.36 / 111.3	8.59 / 105.2	9.91 / 110.8	9.68 / 109.5
pH (fld) SU	8.2	8.27	8.47	8.14	8.29	8.24
SpCond fld/lab (umhos/cm)	734 / 738	641 / 589	816.9 / 838	582 / 581	834 / 854	846 / 874
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	3.2	5.2	3.6	< 3	3.4
Oil & Grease (mg/l)						
TDS (mg/l)	442	346	466	342	472	472
TSS (mg/l)	< 5	< 5	< 5	27	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.1		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.6		< 2		2.1	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	86		93		106	
Calcium-T (mg/l)	65		64		70	
Hardness (mg/l)	162		263		290	
Iron-T (ug/l)	321		184		236	
Magnesium-T (mg/l)	23		25		28	
Manganese-T (ug/l)	19		17		18	
Potassium-T (mg/l)	3		2		2	
Sodium-T (mg/l)	53		57		54	
Strontium-T (ug/l)	320		418		461	
Zinc-T (ug/l)	< 10		< 10		18	
Alkalinity (mg/l)	210	165	217	142	225	227
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	99.1	78.1	113	84.4	112	111
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.92	0.65	0.98	0.57	1.04	1.12
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.067	0.011	0.014	0.012	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	28.1	25.1	32.4	23.7	35.8	34.8
TKN (mg/l)	0.53	0.6	0.36	0.39	0.41	0.46
Phosphorus-T (mg/l)	0.032	0.049	< 0.01	0.028	0.015	0.013

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **OWL CR ADJ W. GIBBONS RD, UPST WC PARCH(and old Miami Paper)** SWDO Map # 51

River Mile: 0.55 Storet ID: H09S11 WAU: 050800020106

Latitude/Longitude: 39.6681 / -84.2547 Drainage Area (mi2): 4.2 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	9:00	9:15	12:40	10:50	2:15	11:20
Temp (C)	18.94	24.24	24.13	25.75	23.94	24.09
D.O. (mg/l) / (% sat)	8.8 / 94.9	6.82 / 81.6	4.88 / 58.2	5.36 / 65.8	7.57 / 89.9	6.26 / 74.5
pH (fld) SU	8.45	8.29	8.06	8.03	8.5	8.48
SpCond fld/lab (umhos/cm)	862.1 / 871	884.5 / 884	428.8 / 407	305.7 / 310	352.2 / 361	368.1 / 374
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	484	482	228	236	194	196
TSS (mg/l)	< 5	< 5	< 5	10	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.5		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.5		3.7		3.4	
Lead-T (ug/l)	< 2		< 2		2.5	
Nickel-T (ug/l)	2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	70		43		40	
Calcium-T (mg/l)	74		35		31	
Hardness (mg/l)	185		129		110	
Iron-T (ug/l)	283		263		134	
Magnesium-T (mg/l)	25		10		8	
Manganese-T (ug/l)	16		20		41	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	76		30		25	
Strontium-T (ug/l)	309		157		149	
Zinc-T (ug/l)	< 10		< 10		24	
Alkalinity (mg/l)	243	216	113	76.1	95.1	108
Ammonia-N (mg/l)	< 0.05	< 0.05	0.06	< 0.05	< 0.05	0.067
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	125	130	42.5	39.8	41.8	44.2
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.4	0.63	0.22	0.65	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	0.027	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	20.8	39.3	20.8	18.3	14.7	13.1
TKN (mg/l)	0.59	0.73	0.21	0.37	0.54	0.47
Phosphorus-T (mg/l)	< 0.01	< 0.01	0.017	0.027	0.03	0.034

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **OWL CREEK AT WEST CARROLLTON @ W CENTRAL AVE.** SWDO Map # 52

River Mile: 0.17 Storet ID: H09S07 WAU: 050800020106

Latitude/Longitude: 39.6681 / -84.2612 Drainage Area (mi2): 4.4 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	8:00	8:15	12:15	10:00	2:50	9:00
Temp (C)	19.89	19.06	19.04	22.56	18.68	17.74
D.O. (mg/l) / (% sat)	6.18 / 68.3	7.89 / 85.8	7.59 / 82.7	6.79 / 79.4	8.22 / 88.9	8.37 / 88.6
pH (fld) SU	7.79	7.79	7.65	7.67	7.78	7.87
SpCond fld/lab (umhos/cm)	2655 / 2670	2603.5 / 2580	3307.7 / 3460	3545.1 / 3650	3310.3 / 3400	2473.3 / 2550
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	1860	1750	2380	2570	2340	1710
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	10.6		< 2		< 2	
Copper-T (ug/l)	5.3		16.2		14.3	
Lead-T (ug/l)	5.4		6		2.8	
Nickel-T (ug/l)	3.7		5.3		5.1	
Selenium-T (ug/l)	2.2		< 2		< 2	
Aluminum-T (ug/l)	256		212		289	
Barium-T (ug/l)	112		111		123	
Calcium-T (mg/l)	103		99		102	
Hardness (mg/l)	257		387		395	
Iron-T (ug/l)	107		172		109	
Magnesium-T (mg/l)	35		34		34	
Manganese-T (ug/l)	53		37		27	
Potassium-T (mg/l)	4		5		4	
Sodium-T (mg/l)	464		593		601	
Strontium-T (ug/l)	553		534		524	
Zinc-T (ug/l)	< 10		< 10		26	
Alkalinity (mg/l)	312	223	196	230	177	174
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	139	138	78.1	138	171	159
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.44	0.62	0.68	0.4	0.68	0.29
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.012	< 0.01	0.011	0.03	0.078
Phenolics (ug/l)						
Sulfate (mg/l)	953	973	51.8	1490	1370	876
TKN (mg/l)	0.58	0.43	0.28	0.36	0.44	0.33
Phosphorus-T (mg/l)	< 0.01	< 0.01	< 0.01	0.024	0.045	0.118

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **OPOSSUM CREEK @ PINNACLE RD** SWDO Map # 53

River Mile: 1.4 Storet ID: 300942 WAU: 050800020106

Latitude/Longitude: 39.6952 / -84.2703 Drainage Area (mi2): 7 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	1:50	10:40	8:15	1:00	2:00	9:50
Temp (C)	22.22	20.84	21.16	24.51	22.69	19.46
D.O. (mg/l) / (% sat)	10.74 / 123.6	9 / 100.9	7.4 / 83.5	8.94 / 107.4	8.04 / 93.4	7.24 / 78.9
pH (fld) SU	8.15	7.94	7.83	8.01	7.97	7.82
SpCond fld/lab (umhos/cm)	776.5 / 767	757.5 / 744	783.8 / 801	767.4 / 784	776.8 / 787	771.2 / 812
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	446	428	448	464	444	442
TSS (mg/l)	< 5	28	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	< 2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	142		149		146	
Calcium-T (mg/l)	84		85		82	
Hardness (mg/l)	210		348		341	
Iron-T (ug/l)	61		66		< 50	
Magnesium-T (mg/l)	32		33		33	
Manganese-T (ug/l)	10		13		< 10	
Potassium-T (mg/l)	2		2		2	
Sodium-T (mg/l)	35		32		30	
Strontium-T (ug/l)	444		466		457	
Zinc-T (ug/l)	< 10		< 10		15	
Alkalinity (mg/l)	295	286	286	295	294	291
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	66.6	67.4	61.1	61.6	61.5	62.8
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	< 0.1	0.16	0.22	< 0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	30.7	28.9	33	35.1	36.6	36.1
TKN (mg/l)	< 0.2	0.21	< 0.2	< 0.2	0.28	0.23
Phosphorus-T (mg/l)	< 0.01	< 0.01	< 0.01	< 0.01	0.022	0.022

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **OPOSSUM CREEK @ SOLDIERS HOME RD (W. CARROLLTON)** SWDO Map # 54

River Mile: 0.1 Storet ID: 300943 WAU: 050800020106

Latitude/Longitude: 39.6816 / -84.2708 Drainage Area (mi2): 8.7 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	2:05	11:00	9:20	12:30	1:50	9:40
Temp (C)	20.42	22.13	19.18	19.52	18.26	18.19
D.O. (mg/l) / (% sat)	6.74 / 74.9	4.58 / 52.6	4.16 / 45.1	3.16 / 34.5	7.79 / 82.9	3.61 / 38.4
pH (fld) SU	7.74	7.58	7.35	7.24	7.65	7.44
SpCond fld/lab (umhos/cm)	737 / 757	660.9 / 683	769.6 / 799	821.5 / 823	840.4 / 859	849.9 / 863
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	412	382	440	466	484	474
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		2.2		2.3	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	< 2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	119		128		126	
Calcium-T (mg/l)	75		85		86	
Hardness (mg/l)	187		340		347	
Iron-T (ug/l)	< 50		217		77	
Magnesium-T (mg/l)	29		31		32	
Manganese-T (ug/l)	11		15		13	
Potassium-T (mg/l)	2		3		2	
Sodium-T (mg/l)	37		37		39	
Strontium-T (ug/l)	355		394		394	
Zinc-T (ug/l)	< 10		< 10		19	
Alkalinity (mg/l)	271	254	282	321	309	339
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	68.1	63.5	65.4	67.7	68.2	69.3
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	< 0.1	0.29	0.17	0.15	0.26	0.37
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	24.6	24.9	24.8	25.7	25.8	24.2
TKN (mg/l)	0.22	< 0.2	< 0.2	< 0.2	0.35	0.3
Phosphorus-T (mg/l)	0.033	< 0.01	0.089	0.071	0.118	0.121

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BEAR CREEK N OF NEW LEBANON @ CLAYTON RD.** SWDO Map # 55

River Mile: 12.09 Storet ID: H09W88 WAU: 050800020401

Latitude/Longitude: 39.7639 / -84.3950 Drainage Area (mi2): 5.6 County: Montgomery Ecoregion: ECBP USGS Quad: Brookville

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:10	10:40	9:35	11:30	10:40	10:05
Temp (C)	17.48	21.25	22.55	23.12	20.33	19.74
D.O. (mg/l) / (% sat)	9.66 / 101.1	8.06 / 91	5.54 / 64.1	6.15 / 72	7.56 / 83.9	5.95 / 65.2
pH (fld) SU	8.45	8.42	8.29	8.09	8.18	8.08
SpCond fld/lab (umhos/cm)	729.2 / 743	747.5 / 745	744.7 / 763	781.7 / 796	792 / 807	810.1 / 833
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	452	414	492	488	502	508
TSS (mg/l)	5	20	6	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		5.1		4.9	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		2.2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		< 2		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	70		95		110	
Calcium-T (mg/l)	87		79		86	
Hardness (mg/l)	217		354		392	
Iron-T (ug/l)	242		305		82	
Magnesium-T (mg/l)	37		38		43	
Manganese-T (ug/l)	10		65		36	
Potassium-T (mg/l)	2		2		2	
Sodium-T (mg/l)	19		17		16	
Strontium-T (ug/l)	1320		9860		19700	
Zinc-T (ug/l)	< 10		< 10		25	
Alkalinity (mg/l)	295	305	307	322	321	323
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	22	< 20	< 20	< 20	< 20
Chloride (mg/l)	48.6	50.7	41.3	35.5	34	36
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	5.65	4.39	0.21	0.11	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.06	0.048	0.05	0.059	0.041
Phenolics (ug/l)						
Sulfate (mg/l)	28.9	27.2	51.7	73.9	77	77.4
TKN (mg/l)	0.35	0.43	0.21	< 0.2	0.44	0.26
Phosphorus-T (mg/l)	0.046	0.047	0.019	0.046	0.052	0.054

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BEAR CREEK E OF NEW LEBANON @ U.S. RT. 35** SWDO Map # 56

River Mile: 9.75 Storet ID: H09P06 WAU: 050800020401

Latitude/Longitude: 39.7458 / -84.3697 Drainage Area (mi2): 11.2 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	10:50	10:20	9:10	10:50	10:20	9:50
Temp (C)	18.08	21.61	23.85	23.9	21.43	21.15
D.O. (mg/l) / (% sat)	8.63 / 91.6	8.16 / 92.9	6.09 / 72.4	6.02 / 71.7	7.23 / 82.1	5.38 / 60.7
pH (fld) SU	8.16	8.38	8.31	8.13	8.14	8.1
SpCond fld/lab (umhos/cm)	884.1 / 886	857.1 / 852	1363 / 1400	1462.1 / 1490	1518.5 / 1590	1537.8 / 1620
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	534	508	906	904	968	966
TSS (mg/l)	< 5	< 5	16	< 5	< 5	28
TOC (mg/l)						
Arsenic-T (ug/l)	2.7		5.7		5.4	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.2		5.1		6.3	
Lead-T (ug/l)	< 2		< 2		3.6	
Nickel-T (ug/l)	2.3		2.9		3.2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	74		85		86	
Calcium-T (mg/l)	92		102		110	
Hardness (mg/l)	230		432		460	
Iron-T (ug/l)	234		218		132	
Magnesium-T (mg/l)	38		43		45	
Manganese-T (ug/l)	22		31		26	
Potassium-T (mg/l)	3		7		8	
Sodium-T (mg/l)	47		116		147	
Strontium-T (ug/l)	3470		8560		13200	
Zinc-T (ug/l)	< 10		18		38	
Alkalinity (mg/l)	303	292	321	312	298	316
Ammonia-N (mg/l)	< 0.05	< 0.05	0.052	0.061	< 0.05	0.062
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	76.1	70	160	182	172	186
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.72	4.43	3.31	2.47	2.64	5.15
Nitrite-N (mg/l)	< 0.02	0.023	0.042	0.032	0.022	0.053
Orthophosphate, D (mg/l)		0.283	0.873	1.13	0.956	0.958
Phenolics (ug/l)						
Sulfate (mg/l)	63.5	61.3	161	195	238	213
TKN (mg/l)	0.5	0.6	0.96	0.99	0.9	1.03
Phosphorus-T (mg/l)	0.254	0.175	0.841	1.17	0.984	0.919

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BEAR CREEK W OF LIBERTY @ HUFFMAN RD.** SWDO Map # 57

River Mile: 7.08 Storet ID: H09S04 WAU: 050800020401

Latitude/Longitude: 39.7142 / -84.3578 Drainage Area (mi2): 20.2 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	11:00	10:10	12:00	11:20	10:45
Temp (C)	22.69	24.47	24.68	21.77	21.61
D.O. (mg/l) / (% sat)	8.19 / 95.1	7.22 / 86.7	7.98 / 96.3	9.08 / 103.8	7.33 / 83.5
pH (fld) SU	8.37	8.41	8.25	8.3	8.17
SpCond fld/lab (umhos/cm)	769.7 / 770	1022.3 / 1050	1097.9 / 1120	1234.5 / 1280	1304.5 / 1340
BOD5 (mg/l)					
CBOD20 (mg/l)					
Oil & Grease (mg/l)					
TDS (mg/l)	450	644	660	766	810
TSS (mg/l)	5	5	< 5	< 5	< 5
TOC (mg/l)					
Arsenic-T (ug/l)		4.3		4.3	
Cadmium-T (ug/l)		< 0.2		< 0.2	
Chromium-T (ug/l)		< 2		< 2	
Copper-T (ug/l)		3.2		4.4	
Lead-T (ug/l)		< 2		< 2	
Nickel-T (ug/l)		3.1		4.3	
Selenium-T (ug/l)		< 2		< 2	
Aluminum-T (ug/l)		< 200		< 200	
Barium-T (ug/l)		93		114	
Calcium-T (mg/l)		84		98	
Hardness (mg/l)		362		422	
Iron-T (ug/l)		254		154	
Magnesium-T (mg/l)		37		43	
Manganese-T (ug/l)		34		25	
Potassium-T (mg/l)		5		6	
Sodium-T (mg/l)		65		97	
Strontium-T (ug/l)		6190		10000	
Zinc-T (ug/l)		< 10		26	
Alkalinity (mg/l)	275	304	302	294	285
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	59.2	99.5	111	123	142
Cyanide (free) (ug/l)					
Nitrate-nitrite-N (mg/l)	3.1	0.41	0.23	0.13	0.13
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)					
Phenolics (ug/l)					
Sulfate (mg/l)	48.6	110	122	179	178
TKN (mg/l)	0.47	0.5	0.61	0.65	0.53
Phosphorus-T (mg/l)	0.182	0.139	0.249	0.263	0.21

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BEAR CREEK NEAR MIAMISBURG @ SOLDIERS HOME-MIAMISBURG RD.** SWDO Map # 58

River Mile: 0.24 Storet ID: H09S01 WAU: 050800020402

Latitude/Longitude: 39.6531 / -84.2894 Drainage Area (mi2): 53.3 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:20	11:35	11:00	12:45	12:05	11:10
Temp (C)	20.21	22.9	24.36	25.91	22.56	22.54
D.O. (mg/l) / (% sat)	13.71 / 151.7	8.33 / 97.1	9.39 / 112.6	11.03 / 136	11.82 / 136.9	9.54 / 110.5
pH (fld) SU	8.44	8.25	8.35	8.17	8.27	8.08
SpCond fld/lab (umhos/cm)	729.8 / 720	705.4 / 702	775.4 / 791	759.4 / 775	765.8 / 775	776.7 / 792
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	< 3	5.3	< 3	< 3	3.2
Oil & Grease (mg/l)						
TDS (mg/l)	436	408	484	464	464	446
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)	2.4					
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.1		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	90		103		107	
Calcium-T (mg/l)	84		85		86	
Hardness (mg/l)	210		356		367	
Iron-T (ug/l)	72		85		64	
Magnesium-T (mg/l)	35		35		37	
Manganese-T (ug/l)	< 10		< 10		< 10	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	25		23		24	
Strontium-T (ug/l)	1820		1930		2020	
Zinc-T (ug/l)	< 10		< 10		18	
Alkalinity (mg/l)	283	275	310	290	273	280
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	49.9	42.9	47.8	47.8	46.6	45.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.78	1.97	0.9	0.74	0.59	0.63
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.069	0.018	0.012	0.012	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	45.7	41.9	58.4	61.5	65	63
TKN (mg/l)	0.24	0.37	< 0.2	0.32	0.34	0.37
Phosphorus-T (mg/l)	< 0.01	0.022	< 0.01	< 0.01	0.015	0.015

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **L. BEAR CREEK W OF LIBERTY @ HUFFMAN RD.** SWDO Map # 59

River Mile: 1.01 Storet ID: H09P07 WAU: 050800020401

Latitude/Longitude: 39.7203 / -84.3350 Drainage Area (mi2): 10 County: Montgomery Ecoregion: ECBP USGS Quad: Miamisburg

Date Collected	7/1/2010	7/15/2010	7/29/2010	8/12/2010	8/25/2010	9/1/2010
Time	12:00	11:10	10:30	12:15	11:05	10:30
Temp (C)	17.38	20.67	19.78	19.77	17.22	17.67
D.O. (mg/l) / (% sat)	9.05 / 94.6	7.75 / 86.6	6.17 / 67.7	7.26 / 79.7	5.99 / 62.3	6.48 / 68.2
pH (fld) SU	8.15	8.27	8.12	7.75	7.65	7.6
SpCond fld/lab (umhos/cm)	736 / 743	713.2 / 713	730.9 / 749	731.4 / 747	732 / 755	733.2 / 753
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	442	410	458	446	434	632
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		< 2		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	99		120		128	
Calcium-T (mg/l)	88		86		89	
Hardness (mg/l)	220		359		366	
Iron-T (ug/l)	197		132		159	
Magnesium-T (mg/l)	35		35		35	
Manganese-T (ug/l)	21		54		65	
Potassium-T (mg/l)	3		3		2	
Sodium-T (mg/l)	21		17		14	
Strontium-T (ug/l)	1630		2480		2990	
Zinc-T (ug/l)	< 10		< 10		23	
Alkalinity (mg/l)	306	294	299	297	291	294
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	47.6	42.3	40.8	39.2	35.1	35
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.49	1.82	1.6	1.09	1.16	1.16
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	34.7	31.9	44.3	46.3	46.1	43.6
TKN (mg/l)	0.22	0.32	< 0.2	< 0.2	0.27	0.25
Phosphorus-T (mg/l)	0.048	0.088	< 0.01	0.013	0.019	0.021

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **CLEAR CREEK W OF RIDGEVILLE, DST ST. RT. 48** SWDO Map # 60

River Mile: 11.1 Storet ID: 203516 WAU: 050800020403

Latitude/Longitude: 39.5289 / -84.1853 Drainage Area (mi2): 8.7 County: Warren Ecoregion: ECBP USGS Quad: Springboro

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	9:30	9:10	9:10	8:25	9:20	8:45
Temp (C)	18.35	20.6	23.09	24.03	19.69	20.52
D.O. (mg/l) / (% sat)	8.81 / 93.9	8.62 / 96.1	4.95 / 57.9	2.95 / 35.1	8.55 / 93.7	4.52 / 50.3
pH (fld) SU	8.05	8.13	7.63	7.71	7.93	7.82
SpCond fld/lab (umhos/cm)	705 / 715	553 / 572	731 / 759	726 / 726	730 / 743	740 / 749
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	428	386	424	422	440	446
TSS (mg/l)	< 5	13	< 5	< 5	< 5	7
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		2.2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2		< 2		2.5	
Selenium-T (ug/l)	< 2		2.6		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	71		79		89	
Calcium-T (mg/l)	92		80		82	
Hardness (mg/l)	230		307		312	
Iron-T (ug/l)	216		137		304	
Magnesium-T (mg/l)	26		26		26	
Manganese-T (ug/l)	20		197		215	
Potassium-T (mg/l)	2		3		4	
Sodium-T (mg/l)	24		33		34	
Strontium-T (ug/l)	177		226		229	
Zinc-T (ug/l)	< 10		< 10		21	
Alkalinity (mg/l)	286	213	250	252	253	265
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	24	< 20	< 20	< 20	< 20
Chloride (mg/l)	52.1	46.1	69.4	72.2	71.5	74.3
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.52	1.74	0.43	< 0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	20.1	23.7	21.1	22.4	21.3	21.6
TKN (mg/l)	0.27	0.66	0.49	0.56	0.35	0.27
Phosphorus-T (mg/l)	0.065	0.124	0.038	0.067	0.048	0.051

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **CLEAR CREEK S OF SPRINGBORO, UPST. WWTP TRIB. @ ST. RT. 741** SWDO Map # 61

River Mile: 7.57 Storet ID: H09W49 WAU: 050800020403

Latitude/Longitude: 39.5420 / -84.2346 Drainage Area (mi2): 30 County: Warren Ecoregion: ECBP USGS Quad: Springboro

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:00	9:40	9:40	9:00	9:50	9:10
Temp (C)	18.63	20.98	22.35	23.23	19.75	20.26
D.O. (mg/l) / (% sat)	8.83 / 94.6	8.21 / 92.2	6.63 / 76.5	4.77 / 56	6.11 / 67.1	5.42 / 60
pH (fld) SU	8.03	8.05	7.63	7.49	7.54	7.45
SpCond fld/lab (umhos/cm)	756 / 765	569 / 569	847 / 868	888 / 880	895 / 920	920 / 925
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	452	356	494	496	510	550
TSS (mg/l)	< 5	26	< 5	< 5	5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		< 2		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	84		103		117	
Calcium-T (mg/l)	87		91		98	
Hardness (mg/l)	217		343		364	
Iron-T (ug/l)	188		149		262	
Magnesium-T (mg/l)	26		28		29	
Manganese-T (ug/l)	29		92		149	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	33		45		47	
Strontium-T (ug/l)	195		244		261	
Zinc-T (ug/l)	< 10		< 10		22	
Alkalinity (mg/l)	285	198	254	274	279	280
Ammonia-N (mg/l)	0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.052
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	70.5	52.6	85.6	95.6	96.1	101
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.18	1.5	0.52	0.44	0.33	0.31
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.074	0.011	0.012	0.012	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	26	24.5	32.6	34	34.2	32.3
TKN (mg/l)	0.56	0.54	0.44	0.57	0.42	0.23
Phosphorus-T (mg/l)	0.05	0.073	0.024	0.012	0.025	0.021

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **CLEAR CREEK S OF SPRINGBORO, DST. WWTP TRIB @ WEIDNER RD.** SWDO Map # 62

River Mile: 6.9 Storet ID: H09W50 WAU: 050800020403

Latitude/Longitude: 39.5449 / -84.2447 Drainage Area (mi2): 38 County: Warren Ecoregion: ECBP USGS Quad: Springboro

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:20	10:30	10:25	9:30	10:25	9:35
Temp (C)	19.29	21.19	23.35	23.87	21.77	21.87
D.O. (mg/l) / (% sat)	9.36 / 101.7	8.21 / 92.6	9.15 / 107.7	7.39 / 87.9	9.43 / 107.8	9.36 / 107.3
pH (fld) SU	8.12	8.08	8.05	8.03	8.11	8.09
SpCond fld/lab (umhos/cm)	825 / 839	585 / 586	1148 / 1190	1360 / 1350	1474 / 1510	1501 / 1480
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	452	356	672	758	842	878
TSS (mg/l)	< 5	23	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		4.4		7.9	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.3		2.7		3.8	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	83		101		119	
Calcium-T (mg/l)	87		86		94	
Hardness (mg/l)	217		330		362	
Iron-T (ug/l)	212		108		137	
Magnesium-T (mg/l)	26		28		31	
Manganese-T (ug/l)	25		21		19	
Potassium-T (mg/l)	3		7		11	
Sodium-T (mg/l)	47		101		158	
Strontium-T (ug/l)	216		335		455	
Zinc-T (ug/l)	< 10		11		33	
Alkalinity (mg/l)	275	197	244	265	271	278
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05 UJ	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	22	< 20	< 20	< 20	< 20
Chloride (mg/l)	92.7	57.1	157	232	266	270
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.77	0.98	4.41 J	6.79	7.17	6.62
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.112	1.36	2.32	1.71	1.86
Phenolics (ug/l)						
Sulfate (mg/l)	30.2	25.6	44.6	48.4	51.1	49.5
TKN (mg/l)	0.44	0.56	0.56 J	0.97	0.88	0.54
Phosphorus-T (mg/l)	0.348	0.076	1.46 J, PT	2.58	1.89	1.47

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **CLEAR CREEK AT FRANKLIN @ END OF LANE, AT MUNICIPAL PARK** SWDO Map # 63

River Mile: 2.5 Storet ID: 203513 WAU: 050800020403

Latitude/Longitude: 39.5511 / -84.2950 Drainage Area (mi2): 46 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:45	11:20	10:50	9:50	10:50	10:00
Temp (C)	19.65	21.75	23.67	25.11	21.8	22.5
D.O. (mg/l) / (% sat)	8.61 / 94.3	7.84 / 89.3	7.81 / 92.5	6.3 / 76.7	8.45 / 96.6	8.54 / 99
pH (fld) SU	8.08	7.99	7.9	7.87	7.94	7.9
SpCond fld/lab (umhos/cm)	871 / 881	602 / 602	1081 / 1120	1193 / 1210	1227 / 1280	1340 / 1360
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	494	364	630	680	736	788
TSS (mg/l)	8	71	6	8	7	9
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2.1		2.4	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.1		3.2		4.8	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.4		2.6		3.6	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	216		< 200		< 200	
Barium-T (ug/l)	85		110		122	
Calcium-T (mg/l)	87		94		99	
Hardness (mg/l)	217		358		379	
Iron-T (ug/l)	353		280		341	
Magnesium-T (mg/l)	26		30		32	
Manganese-T (ug/l)	25		43		35	
Potassium-T (mg/l)	4		6		7	
Sodium-T (mg/l)	55		88		110	
Strontium-T (ug/l)	251		380		447	
Zinc-T (ug/l)	< 10		< 10		19	
Alkalinity (mg/l)	277	188	259	290	282	291
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	0.057	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	105	65.5	141	175	186	227
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.6	1.21	2.03	2.96	3.36	3.64
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	0.032	0.02	0.028
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	32.5	28.8	41.4	45.7	46.5	47.8
TKN (mg/l)	0.52	0.49	0.79	0.77	0.57	0.37
Phosphorus-T (mg/l)	0.386	0.218	0.72	0.802	0.723	0.753

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **CLEAR CK @ BAXTER DR. IN FRANKLIN** SWDO Map # 64

River Mile: 0.77 Storet ID: 300812 WAU: 050800020403

Latitude/Longitude: 39.5503 / -84.3175 Drainage Area (mi2): 52.2 County: Warren Ecoregion: ECBP USGS Quad: Franklin

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	1:45	12:15	9:20	8:50	9:30	9:45
Temp (C)	22	22.08	24.16	25.46	21.81	22.82
D.O. (mg/l) / (% sat)	9.87 / 113.2	8.09 / 92.9	7.63 / 91.2	7.18 / 87.8	8.22 / 94	8.31 / 96.9
pH (fld) SU	8.3	8.09	8.29	8.14	8.2	8.19
SpCond fld/lab (umhos/cm)	880 / 892	629 / 610	1040.7 / 1070	1186 / 1200	1234 / 1260	1295 / 1360
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	5.1	< 3	3	< 3	3.6
Oil & Grease (mg/l)						
TDS (mg/l)	522	370	598	676	692	770
TSS (mg/l)	8	51	< 5	8	< 5	8
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2		2.2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.2		3.5		4.6	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.4		2.6		3.5	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	85		111		120	
Calcium-T (mg/l)	85		95		97	
Hardness (mg/l)	212		365		374	
Iron-T (ug/l)	295		91		149	
Magnesium-T (mg/l)	26		31		32	
Manganese-T (ug/l)	22		22		15	
Potassium-T (mg/l)	4		5		7	
Sodium-T (mg/l)	56		87		109	
Strontium-T (ug/l)	262		389		449	
Zinc-T (ug/l)	< 10		< 10		20	
Alkalinity (mg/l)	270	195	262	285	282	287
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	23	< 20
Chloride (mg/l)	105	66.7	133	172	181	222
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.53	1.23	1.82	2.46	2.96	2.99
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	0.024	< 0.02	0.024
Orthophosphate, D (mg/l)		0.168	0.502	0.639	0.613	0.585
Phenolics (ug/l)						
Sulfate (mg/l)	33	29.1	41.2	45.1	47	47.6
TKN (mg/l)	0.47	0.6	0.81	0.85	0.66	0.62
Phosphorus-T (mg/l)	0.276	0.22	0.519	0.621	0.613	0.573

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **ELK CREEK @ SHURTZ RD** SWDO Map # 65

River Mile: 10.1 Storet ID: 300944 WAU: 050800020701

Latitude/Longitude: 39.5638 / -84.5203 Drainage Area (mi2): 15 County: Butler Ecoregion: ECBP USGS Quad: West Elkton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:35	10:25	11:50	10:55	11:50	11:55
Temp (C)	18.62	20.81	25.73	26.73	22.38	23.97
D.O. (mg/l) / (% sat)	10.3 / 110.4	8.99 / 100.7	8.23 / 101.1	10.5 / 131.4	11.03 / 127.3	8.86 / 105.3
pH (fld) SU	8.41	8.45	8.55	8.47	8.47	8.3
SpCond fld/lab (umhos/cm)	696 / 700	689 / 673	617.8 / 639	609 / 630	618 / 639	607 / 632
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	438	406	382	372	376	394
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	89		91		94	
Calcium-T (mg/l)	88		73		70	
Hardness (mg/l)	220		318		319	
Iron-T (ug/l)	106		138		151	
Magnesium-T (mg/l)	33		33		35	
Manganese-T (ug/l)	< 10		12		15	
Potassium-T (mg/l)	2		4		4	
Sodium-T (mg/l)	14		14		15	
Strontium-T (ug/l)	384		439		491	
Zinc-T (ug/l)	< 10		< 10		14	
Alkalinity (mg/l)	288	293	243	257	239	235
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	32.2	28.7	32.5	33.2	33.9	34.1
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	4.05	2.56	1.14	0.6	0.32	0.17
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	37.2	36.6	37.5	39.8	40.5	39.7
TKN (mg/l)	0.23	0.25	0.31	0.32	0.27	0.32
Phosphorus-T (mg/l)	0.037	0.067	0.048	0.027	0.044	0.038

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **ELK CREEK N OF TRENTON, UPST. DRY RUN** SWDO Map # 66

River Mile: 3.7 Storet ID: H09W89 WAU: 050800020701

Latitude/Longitude: 39.5275 / -84.4675 Drainage Area (mi2): 37 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:05	10:00	12:15	11:15	12:30	12:15
Temp (C)	18.21	20.76	24.53	25.88	22.99	25.37
D.O. (mg/l) / (% sat)	10.33 / 109.8	9.04 / 101.1	9.33 / 112.1	9.65 / 118.9	10.17 / 118.8	10.75 / 131.2
pH (fld) SU	8.27	8.28	8.25	8.12	8.11	8.09
SpCond fld/lab (umhos/cm)	675 / 681	604 / 582	643.6 / 663	662 / 667	648 / 674	654 / 676
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	408	348	390	390	378	400
TSS (mg/l)	< 5	19	< 5	7	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	< 2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	87		97		95	
Calcium-T (mg/l)	83		77		74	
Hardness (mg/l)	207		324		312	
Iron-T (ug/l)	84		125		137	
Magnesium-T (mg/l)	31		32		31	
Manganese-T (ug/l)	< 10		13		< 10	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	16		19		20	
Strontium-T (ug/l)	437		480		454	
Zinc-T (ug/l)	< 10		< 10		14	
Alkalinity (mg/l)	295	243	246	259	260	256
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	34.1	31.3	36.4	40.1	40.1	40.9
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.21	1.08	0.87	0.69	0.58	0.51
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	31.8	25.5	34.4	34.6	34	32.8
TKN (mg/l)	0.23	0.27	< 0.2	< 0.2	< 0.2	0.24
Phosphorus-T (mg/l)	0.023	0.064	0.017	< 0.01	0.01	0.014

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **ELK CREEK AT MILTONVILLE @ HOWE RD.** SWDO Map # 67

River Mile: 1.49 Storet ID: H09P01 WAU: 050800020701

Latitude/Longitude: 39.5011 / -84.4594 Drainage Area (mi2): 46 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	9:40	9:35	12:45	12:20	12:50	12:35
Temp (C)	18.13	20.66	29.07	28.35	22.13	24.75
D.O. (mg/l) / (% sat)	9.64 / 102.3	8.97 / 100.1	9.54 / 124.3	12.01 / 154.5	10.45 / 120	11.31 / 136.4
pH (fld) SU	8.24	8.25	8.43	8.28	7.97	8.09
SpCond fld/lab (umhos/cm)	664 / 673	579 / 558	592.8 / 612	441 / 597	653 / 605	624 / 636
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	3.9	3.1	3.6	< 3	4
Oil & Grease (mg/l)						
TDS (mg/l)	408	322	356	362	352	390
TSS (mg/l)	< 5	22	5	< 5	5	12
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	81		87		83	
Calcium-T (mg/l)	82		73		69	
Hardness (mg/l)	205		310		292	
Iron-T (ug/l)	132		174		139	
Magnesium-T (mg/l)	30		31		29	
Manganese-T (ug/l)	< 10		18		12	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	16		18		17	
Strontium-T (ug/l)	398		431		390	
Zinc-T (ug/l)	< 10		< 10		17	
Alkalinity (mg/l)	282	236	222	229	228	245
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	116	249	< 20	< 20	< 20
Chloride (mg/l)	34.3	31	34.6	34.4	34.8	35.1
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.85	0.9	0.31	0.12	0.13	0.2
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.033	< 0.01	< 0.01	< 0.01	< 0.01
Phenolics (ug/l)						
Sulfate (mg/l)	31	25.3	34	33.3	33.6	32.9
TKN (mg/l)	0.32	0.31	0.24	0.29	< 0.2	0.24
Phosphorus-T (mg/l)	0.013	0.08	0.019	< 0.01	0.013	0.025

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BROWNS RUN @ MEYERS RD** SWDO Map # 68
River Mile: 2.7 Storet ID: 300945 WAU: 050800020702
Latitude/Longitude: 39.5703 / -84.4132 Drainage Area (mi2): 8.6 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	1:00	11:25	11:05	10:20	11:05	11:20
Temp (C)	21.25	20.38	22.15	22.7	19.47	21.24
D.O. (mg/l) / (% sat)	11.31 / 127.7	8.5 / 94.4	8.47 / 97.4	9.31 / 108	9.55 / 104.1	9.91 / 111.9
pH (fld) SU	8.23	8.2	8.34	8.16	8.19	8.16
SpCond fld/lab (umhos/cm)	673 / 656	643 / 623	666.6 / 663	665 / 659	663 / 646	656 / 666
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	402	372	408	388	394	420
TSS (mg/l)	< 5	13	< 5	< 5	5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	< 2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	115		130		139	
Calcium-T (mg/l)	80		79		79	
Hardness (mg/l)	200		346		346	
Iron-T (ug/l)	117		83		170	
Magnesium-T (mg/l)	36		36		36	
Manganese-T (ug/l)	16		23		24	
Potassium-T (mg/l)	3		2		3	
Sodium-T (mg/l)	15		13		11	
Strontium-T (ug/l)	1500		1660		1640	
Zinc-T (ug/l)	< 10		< 10		36	
Alkalinity (mg/l)	283	271	274	277	277	272
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	30.6	28	26.6	24.1	24.1	23.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.83	0.83	1.08	1.32	1.16	1.18
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	37.6	30.3	41.6	42	42	40.9
TKN (mg/l)	0.29	0.25	< 0.2	< 0.2	< 0.2	< 0.2
Phosphorus-T (mg/l)	0.015	0.047	< 0.01	< 0.01	< 0.01	< 0.01

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BROWNS RUN ADJ. BROWNS RUN RD (NEAR ADDRESS 6320)** SWDO Map # 69

River Mile: 0.93 Storet ID: 300946 WAU: 050800020702

Latitude/Longitude: 39.5480 / -84.3994 Drainage Area (mi2): 10.4 County: Butler Ecoregion: ECBP USGS Quad: Middletown

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:30	11:00	10:40	10:05	10:45	11:05
Temp (C)	20.57	20.58	23.43	24.36	20.58	22.51
D.O. (mg/l) / (% sat)	11.67 / 130	8.64 / 96.3	8.46 / 99.6	9.22 / 110.4	9.73 / 108.5	9.88 / 114.3
pH (fld) SU	8.26	8.27	8.27	8.23	8.24	8.24
SpCond fld/lab (umhos/cm)	658 / 642	620 / 601	623.3 / 644	621 / 623	598 / 638	614 / 639
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	390	360	372	354	352	388
TSS (mg/l)	< 5	14	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	< 2		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	104		116		118	
Calcium-T (mg/l)	73		69		67	
Hardness (mg/l)	182		325		320	
Iron-T (ug/l)	89		< 50		144	
Magnesium-T (mg/l)	35		37		37	
Manganese-T (ug/l)	< 10		< 10		< 10	
Potassium-T (mg/l)	2		2		2	
Sodium-T (mg/l)	15		14		13	
Strontium-T (ug/l)	1670		2120		2160	
Zinc-T (ug/l)	< 10		< 10		17	
Alkalinity (mg/l)	285	269	251	261	264	267
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	29.6	25.4	25.1	22.4	21.8	21.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.55	0.63	0.78	0.72	0.72	0.77
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	35.2	29	38.2	38.3	38.1	37.3
TKN (mg/l)	0.26	0.36	< 0.2	0.21	< 0.2	< 0.2
Phosphorus-T (mg/l)	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **DICKS CREEK AT MIDDLETOWN @ MAIN ST.** SWDO Map # 70

River Mile: 0.93 Storet ID: H09W66 WAU: 050800020704

Latitude/Longitude: 39.4778 / -84.4200 Drainage Area (mi2): 48.5 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	10:50	10:40	10:05	10:00	10:30	10:10
Temp (C)	21.62	23.76	27.63	28.86	24.59	25.87
D.O. (mg/l) / (% sat)	7.95 / 90.6	6.95 / 82.3	8 / 102.1	7.21 / 94.2	7.87 / 95.1	7.14 / 88.4
pH (fld) SU	8.08	8.11	8.46	8.15	8.24	8.17
SpCond fld/lab (umhos/cm)	1347.6 / 1360	460.9 / 463	2259.1 / 2340	2549.9 / 2600	2140.4 / 2190	2127 / 2180
BOD5 (mg/l)	2.2	4.4	2.4	2.1	< 2	< 2
CBOD20 (mg/l)	4	6.8	5.9	5.9	3.2	5.8
Oil & Grease (mg/l)						
TDS (mg/l)	934	276	1500	1640	1390	1500
TSS (mg/l)	37	134	10	12	19	8
TOC (mg/l)						
Arsenic-T (ug/l)	3.7		5.4	5.9	4.7	
Cadmium-T (ug/l)	< 0.2		< 0.2	< 0.2	< 0.2	
Chromium-T (ug/l)	< 2		< 2	< 2	< 2	
Copper-T (ug/l)	2.5		3.2	3.3	4.1	
Lead-T (ug/l)	< 2		< 2	< 2	< 2	
Nickel-T (ug/l)	4.9		5.8	6.9	5.9	
Selenium-T (ug/l)	< 2		3.7	2.4	2.5	
Aluminum-T (ug/l)	869		< 200	228	502	
Barium-T (ug/l)	80		92	102	96	
Calcium-T (mg/l)	124		156	172	144	
Hardness (mg/l)	310		752	825	681	
Iron-T (ug/l)	1480		336	509	922	
Magnesium-T (mg/l)	52		88	96	78	
Manganese-T (ug/l)	114		102	94	68	
Potassium-T (mg/l)	9		21	16	16	
Sodium-T (mg/l)	65		165	192	172	
Strontium-T (ug/l)	576		834	933	852	
Zinc-T (ug/l)	13		< 10	27	24	
Alkalinity (mg/l)	205	117	150	158	151	166
Ammonia-N (mg/l)	0.117	0.088	0.064	0.108	0.116	0.154
COD (mg/l)	< 20	24	< 20	< 20	< 20	
Chloride (mg/l)	283	60.5	461	538	437	473
Cyanide (free) (ug/l)		< 5	< 5	< 5	< 5	< 5
Nitrate-nitrite-N (mg/l)	0.93	0.35	0.48	0.37	0.83	
Nitrite-N (mg/l)	0.03	< 0.02	0.035	0.026	0.034	0.034
Orthophosphate, D (mg/l)		0.025	0.048	0.057		0.037
Phenolics (ug/l)						
Sulfate (mg/l)	103	34.5	280	314	273	179
TKN (mg/l)	0.93	0.62	1.36	0.99	0.99	
Phosphorus-T (mg/l)	0.119	0.17	0.104	0.131	0.08	

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **COLDWATER CREEK @ RODEN PARK DR. (LE SOURDESVILLE)** SWDO Map # 71

River Mile: 0.6 Storet ID: 300947 WAU: 050800020705

Latitude/Longitude: 39.4401 / -84.4277 Drainage Area (mi2): 3.7 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:30	12:30	10:50	10:30	10:25	10:50
Temp (C)	20.09	22.25	23.89	25.29	20.99	22.37
D.O. (mg/l) / (% sat)	9.14 / 100.9	8.69 / 100	6.18 / 73.4	4.19 / 51.2	5.13 / 57.6	5.61 / 64.8
pH (fld) SU	8.01	7.87	7.97	7.8	7.94	7.89
SpCond fld/lab (umhos/cm)	750.2 / 774	498.9 / 501	923.1 / 952	900.6 / 908	905.9 / 940	966.8 / 982
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	464	294	566	538	546	580
TSS (mg/l)	< 5	13	5	10	14	14
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2.3		3.3	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		2.5	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.1		2		2.5	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		275	
Barium-T (ug/l)	78		104		113	
Calcium-T (mg/l)	98		111		107	
Hardness (mg/l)	245		425		399	
Iron-T (ug/l)	290		206		583	
Magnesium-T (mg/l)	28		36		32	
Manganese-T (ug/l)	37		84		230	
Potassium-T (mg/l)	2		2		2	
Sodium-T (mg/l)	29		43		39	
Strontium-T (ug/l)	385		548		525	
Zinc-T (ug/l)	< 10		< 10		18	
Alkalinity (mg/l)	289	162	290	291	283	280
Ammonia-N (mg/l)	0.054	< 0.05	0.072	0.111	0.078	0.071
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	65.1	43.4	86.3	84.9	81.8	94.5
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.09	0.51	0.56	0.11	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	43.3	32.1	64.5	78	72.2	76.9
TKN (mg/l)	0.27	0.32	0.53	0.58	0.5	0.38
Phosphorus-T (mg/l)	0.017	0.132	0.032 PT	0.048	0.072	0.067

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREGORY CREEK AT HUGHES @ PRINCETON RD.** SWDO Map # 72

River Mile: 5.29 Storet ID: H09P02 WAU: 050800020705

Latitude/Longitude: 39.3867 / -84.4103 Drainage Area (mi2): 9 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	8:45	8:45	1:15	12:35	12:20	12:50
Temp (C)	18.69	21.84	25.65	26.5	21.87	24.68
D.O. (mg/l) / (% sat)	8.75 / 94	8.34 / 95.3	9.03 / 111	7.53 / 93.9	8.26 / 94.5	7.9 / 95.4
pH (fld) SU	7.89	8.01	8.24	8.22	8.26	8.25
SpCond fld/lab (umhos/cm)	936.1 / 948	689 / 698	1108.7 / 1120	1147 / 1140	1025.6 / 1070	1151.3 / 1200
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	560	412	652	658	598	678
TSS (mg/l)	< 5	< 5	< 5	8	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.1		2.4		2.5	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.1		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	58		64		62	
Calcium-T (mg/l)	97		99		91	
Hardness (mg/l)	242		363		326	
Iron-T (ug/l)	121		51		75	
Magnesium-T (mg/l)	25		28		24	
Manganese-T (ug/l)	28		22		20	
Potassium-T (mg/l)	3		4		3	
Sodium-T (mg/l)	65		90		80	
Strontium-T (ug/l)	365		409		377	
Zinc-T (ug/l)	< 10		< 10		17	
Alkalinity (mg/l)	253	149	210	253	203	246
Ammonia-N (mg/l)	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	117	102	146	164	141	168
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.61	0.3	0.15	< 0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	78.4	58	100	96.6	93.7	92.3
TKN (mg/l)	0.58	0.59	0.6	0.6	0.58	0.37
Phosphorus-T (mg/l)	0.023	0.065	0.032 PT	0.068	0.053	0.061

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **GREGORY CK @ LESOURDSVILLE W. CHESTER RD** SWDO Map # 73

River Mile: 0.98 Storet ID: 300811 WAU: 050800020705

Latitude/Longitude: 39.4316 / -84.4357 Drainage Area (mi2): 22.2 County: Butler Ecoregion: ECBP USGS Quad: Trenton

Date Collected	6/30/2010	7/14/2010	7/28/2010	8/11/2010	8/24/2010	8/31/2010
Time	12:15	9:15	12:30	10:45	11:10	12:25
Temp (C)	22.23	22.27	27.38	26.99	22.33	23.31
D.O. (mg/l) / (% sat)	10.15 / 116.8	7.89 / 90.8	8.73 / 110.5	6.88 / 86.5	7.22 / 83.2	6.74 / 79.2
pH (fld) SU	8.2	7.81	8.2	7.99	8.14	8
SpCond fld/lab (umhos/cm)	795.9 / 802	463.8 / 470	793.2 / 809	720.3 / 728	750 / 777	778.6 / 808
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	3.7	< 3	3.6	< 3	4.2
Oil & Grease (mg/l)						
TDS (mg/l)	498	262	492	420	440	496
TSS (mg/l)	< 5	18	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.7		< 2		2.7	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.1		< 2		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	56		65		63	
Calcium-T (mg/l)	88		84		76	
Hardness (mg/l)	220		313		280	
Iron-T (ug/l)	178		127		147	
Magnesium-T (mg/l)	24		25		22	
Manganese-T (ug/l)	31		32		31	
Potassium-T (mg/l)	3		3		3	
Sodium-T (mg/l)	45		48		45	
Strontium-T (ug/l)	315		318		302	
Zinc-T (ug/l)	< 10		< 10		34	
Alkalinity (mg/l)	246	107	222	190	209	206
Ammonia-N (mg/l)	0.053	< 0.05	< 0.05	< 0.05	< 0.05	0.06
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	82.3	60.6	82.8	82	81.5	86.4
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.59	0.32	0.32	< 0.1	0.1	0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.049	0.021	0.012	0.024	0.019
Phenolics (ug/l)						
Sulfate (mg/l)	59.6	38.3	58.8	61.2	59.3	61
TKN (mg/l)	0.45	0.45	0.43	0.51	0.4	0.32
Phosphorus-T (mg/l)	0.056	0.093	0.03 PT	0.037	0.017	0.033

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **PLEASANT RUN @ END OF SIR LANCELOT LN.** SWDO Map # 74

River Mile: 3.75 Storet ID: 300948 WAU: 050800020901

Latitude/Longitude: 39.3264 / -84.5510 Drainage Area (mi2): 4.7 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	9:00	8:40	9:10	8:50	9:20	9:35
Temp (C)	20.39	23.08	22.27	24.15	20.87	22.01
D.O. (mg/l) / (% sat)	8.52 / 94.6	6.54 / 76.6	7.26 / 83.7	4.63 / 55.3	7.26 / 81.4	6.31 / 72.4
pH (fld) SU	8.17	7.93	8	7.76	7.98	7.81
SpCond fld/lab (umhos/cm)	943 / 943	935 /	1027 / 1040	978 / 995	883 / 903	996 / 1000
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	536	538	578	550	500	562
TSS (mg/l)	< 5	< 5	< 5	< 5	14	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3		2.6		3.2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.6		2.6		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	68		69		62	
Calcium-T (mg/l)	96		84		81	
Hardness (mg/l)	240		309		289	
Iron-T (ug/l)	271		113		303	
Magnesium-T (mg/l)	23		24		21	
Manganese-T (ug/l)	19		24		31	
Potassium-T (mg/l)	3		3		2	
Sodium-T (mg/l)	68		85		71	
Strontium-T (ug/l)	374		401		365	
Zinc-T (ug/l)	< 10		< 10		33	
Alkalinity (mg/l)	290		240	187	216	201
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	0.051
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	102	131	154	168	125	164
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.05		0.2	0.37	0.38	0.6
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	40.7	39.5	42.6	46.1	40.9	46.2
TKN (mg/l)	0.88		0.63	0.79	0.68	0.54
Phosphorus-T (mg/l)	0.07		0.025	0.036	0.045	0.048

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **PLEASANT RUN AT FAIRFIELD @ U.S. RT. 127 (PLEASANT AVE)** SWDO Map # 75

River Mile: 2.1 Storet ID: 300949 WAU: 050800020901

Latitude/Longitude: 39.3419 / -84.5600 Drainage Area (mi2): 16.5 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/23/2010
Time	9:35	8:55	9:45	9:50
Temp (C)	22.1	24.84	23.77	22.4
D.O. (mg/l) / (% sat)	8.3 / 95.3	6.5 / 78.7	9.2 / 109.2	8.83 / 102
pH (fld) SU	8.16	8.04	8.12	8.13
SpCond fld/lab (umhos/cm)	744 / 733	988 /	1053 / 1070	773 / 816
BOD5 (mg/l)				
CBOD20 (mg/l)				
Oil & Grease (mg/l)				
TDS (mg/l)	410	576	590	426
TSS (mg/l)	6	< 5	< 5	< 5
TOC (mg/l)				
Arsenic-T (ug/l)	< 2		< 2	< 2
Cadmium-T (ug/l)	< 0.2		< 0.2	< 0.2
Chromium-T (ug/l)	< 2		< 2	< 2
Copper-T (ug/l)	2.9		2.8	3.9
Lead-T (ug/l)	< 2		< 2	< 2
Nickel-T (ug/l)	2.1		2.3	< 2
Selenium-T (ug/l)	< 2		< 2	< 2
Aluminum-T (ug/l)	< 200		< 200	< 200
Barium-T (ug/l)	50		65	54
Calcium-T (mg/l)	68		71	62
Hardness (mg/l)	170		272	225
Iron-T (ug/l)	311		< 50	251
Magnesium-T (mg/l)	16		23	17
Manganese-T (ug/l)	17		21	25
Potassium-T (mg/l)	3		3	2
Sodium-T (mg/l)	55		105	68
Strontium-T (ug/l)	260		393	312
Zinc-T (ug/l)	< 10		< 10	25
Alkalinity (mg/l)	193		178	150
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05
COD (mg/l)	< 20		< 20	< 20
Chloride (mg/l)	90.4	159	184	117
Cyanide (free) (ug/l)				
Nitrate-nitrite-N (mg/l)	0.45		< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)				
Phenolics (ug/l)				
Sulfate (mg/l)	35.4	51.8	59.4	46.3
TKN (mg/l)	0.75		0.56	0.55
Phosphorus-T (mg/l)	0.086		0.013	0.014

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **TRIBUTARY TO PLEASANT RUN (RM 3.30) @ CHESAPEAKE WAY** SWDO Map # 76

River Mile: 0.13 Storet ID: 300950 WAU: 050800020901

Latitude/Longitude: 39.3294 / -84.5448 Drainage Area (mi2): 3 County: Butler Ecoregion: ECBP USGS Quad: Greenhills

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	9:20	9:10	9:25	9:05	9:30	9:45
Temp (C)	21.31	23.5	22.18	23.96	20.99	21.86
D.O. (mg/l) / (% sat)	8.33 / 94.2	7.84 / 92.6	9.38 / 108	7.46 / 88.8	8.76 / 98.5	9.46 / 108.2
pH (fld) SU	8.19	8.2	8.25	7.96	8.2	8.09
SpCond fld/lab (umhos/cm)	799 / 801	1291 /	1283 / 1300	1112 / 1130	862 / 908	1220 / 1240
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	450	744	706	620	482	706
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.2		3.2		3.9	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		2.4		< 2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	49		61		48	
Calcium-T (mg/l)	69		72		59	
Hardness (mg/l)	172		266		213	
Iron-T (ug/l)	379		63		131	
Magnesium-T (mg/l)	16		21		16	
Manganese-T (ug/l)	22		< 10		< 10	
Potassium-T (mg/l)	3		5		3	
Sodium-T (mg/l)	69		143		92	
Strontium-T (ug/l)	348		474		373	
Zinc-T (ug/l)	< 10		< 10		25	
Alkalinity (mg/l)	188		157	126	125	133
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	105	262	269	234	144	257
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.5		0.35	0.16	0.17	0.24
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	46.2	80.1	85.5	83.4	62.7	93.5
TKN (mg/l)	0.67		0.53	0.45	0.57	0.32
Phosphorus-T (mg/l)	0.055		0.026	0.024	0.03	0.022

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **PADDYS RUN UPST. FERNALD D.O.E. @ MORGAN-ROSS RD.** SWDO Map # 77

River Mile: 4.73 Storet ID: H11C02 WAU: 050800020903

Latitude/Longitude: 39.3192 / -84.7033 Drainage Area (mi2): 6.7 County: Butler Ecoregion: IP USGS Quad: Shandon

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:45	12:00	11:00	12:05	12:30	12:15
Temp (C)	20.91	22.19	23.02	25.04	26.08	26.32
D.O. (mg/l) / (% sat)	8.73 / 97.9	9.33 / 107.2	10.64 / 124.3	13.12 / 159.2	15.49 / 191.5	15.07 / 187.2
pH (fld) SU	7.97	8	8.66	7.79	8.24	8.32
SpCond fld/lab (umhos/cm)	696 / 694	659 / 811	791 / 812	793 / 787	721 / 740	707 / 751
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	414	492	464	444	416	460
TSS (mg/l)	5	< 5	< 5	< 5	10	18
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		< 2		< 2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.4		2.5		2.1	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		272	
Barium-T (ug/l)	47		53		49	
Calcium-T (mg/l)	89		100		90	
Hardness (mg/l)	222		353		319	
Iron-T (ug/l)	271		145		475	
Magnesium-T (mg/l)	21		25		23	
Manganese-T (ug/l)	40		100		283	
Potassium-T (mg/l)	4		4		4	
Sodium-T (mg/l)	23		33		31	
Strontium-T (ug/l)	287		301		257	
Zinc-T (ug/l)	< 10		< 10		29	
Alkalinity (mg/l)	286	314	288	273	254	264
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.052
COD (mg/l)	< 20	180	< 20	< 20	< 20	< 20
Chloride (mg/l)	40.3	58.8	67.7	72.4	61.7	61.8
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.14	4	0.68	0.22	0.22	0.13
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	29.9	33.2	33.7	39.7	37.6	36.2
TKN (mg/l)	0.66	0.53	0.45	0.26	0.48	0.27
Phosphorus-T (mg/l)	0.131	0.076	0.109	0.034	0.109	0.066

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **PADDYS RUN AT FERNALD D.O.E., DST OLD RR BRIDGE** SWDO Map # 78

River Mile: 3.27 Storet ID: H11C03 WAU: 050800020903

Latitude/Longitude: 39.3031 / -84.6992 Drainage Area (mi2): 11 County: Hamilton Ecoregion: IP USGS Quad: Shandon

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:10	11:40	10:40	11:45	12:10	11:45
Temp (C)	21.19	23.45	23.27	26.03	23.39	23.04
D.O. (mg/l) / (% sat)	8.88 / 100.2	8.44 / 99.4	5.65 / 66.4	7.58 / 93.6	7.75 / 91.1	7.46 / 87.1
pH (fld) SU	8.05	8.07	8.19	8.05	8.18	8.16
SpCond fld/lab (umhos/cm)	675 / 676	750 / 730	685 / 696	640 / 649	452 / 463	466 / 493
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	400	434	406	380	266	284
TSS (mg/l)	7	5	17	10	6	9
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		2.3	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	< 2		2.3		2.4	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.6		3.7		2.2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	267		675		281	
Barium-T (ug/l)	48		63		43	
Calcium-T (mg/l)	90		91		57	
Hardness (mg/l)	225		322		200	
Iron-T (ug/l)	436		1180		469	
Magnesium-T (mg/l)	21		23		14	
Manganese-T (ug/l)	45		170		77	
Potassium-T (mg/l)	3		4		4	
Sodium-T (mg/l)	20		24		15	
Strontium-T (ug/l)	280		306		210	
Zinc-T (ug/l)	< 10		84		35	
Alkalinity (mg/l)	278	291	263	229	170	179
Ammonia-N (mg/l)	< 0.05	< 0.05	0.068	< 0.05	< 0.05	0.084
COD (mg/l)	< 20	< 20	< 20	< 20	< 20	< 20
Chloride (mg/l)	36.2	50.9	50.6	59	26.3	29.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	2.14	1.83	0.31	< 0.1	< 0.1	0.21
Nitrite-N (mg/l)	< 0.02	0.024	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	28.6	31.9	29.1	31.4	29.1	28.4
TKN (mg/l)	0.53	0.48	0.26	0.22	0.36	0.35
Phosphorus-T (mg/l)	0.134	0.045	0.131	0.048	0.116	0.134

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **TAYLOR CREEK UPST. BRIARLY CREEK** SWDO Map # 79

River Mile: 3.4 Storet ID: H11K20 WAU: 050800020905

Latitude/Longitude: 39.1984 / -84.6600 Drainage Area (mi2): 4.9 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	1:15	11:15	9:00	12:10	12:45	11:20
Temp (C)	24.07	24.4	24.25	26.93	23.71	23.61
D.O. (mg/l) / (% sat)	9.19 / 109.6	6.57 / 78.8	6.96 / 83.3	7.95 / 99.9	9.34 / 110.5	8.19 / 96.9
pH (fld) SU	8.29	7.99	8.03	8.41	8.31	8.22
SpCond fld/lab (umhos/cm)	750.1 / 796	854 /	792.3 / 857	866.7 / 882	727.7 / 855	876.6 / 897
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	464	546	484	512	506	534
TSS (mg/l)	7	5	6	< 5	< 5	7
TOC (mg/l)						
Arsenic-T (ug/l)	2.1		2.1		2.1	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.2		3.1		4	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.7		2.9		2.4	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	30		32		32	
Calcium-T (mg/l)	84		80		81	
Hardness (mg/l)	210		262		264	
Iron-T (ug/l)	273		136		142	
Magnesium-T (mg/l)	14		15		15	
Manganese-T (ug/l)	16		13		12	
Potassium-T (mg/l)	4		4		4	
Sodium-T (mg/l)	57		64		65	
Strontium-T (ug/l)	352		392		399	
Zinc-T (ug/l)	< 10		20		23	
Alkalinity (mg/l)	209		187	158	172	170
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	0.05
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	88.4	117	108	117	105	111
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.96		1.18	3.09	2.57	4.44
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	60.2	78.7	70.5	97.4	81.2	95.4
TKN (mg/l)	0.84		0.55	0.63	0.6	0.57
Phosphorus-T (mg/l)	0.32		0.374	0.383	0.312	0.452

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **TAYLOR CREEK UPST. I-275 (ADJ HARRISON RD.)** SWDO Map # 80

River Mile: 1.6 Storet ID: H11K19 WAU: 050800020905

Latitude/Longitude: 39.2122 / -84.6761 Drainage Area (mi2): 14.5 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	11:45	12:20	10:40	10:05	11:50	11:30
Temp (C)	23.83	24.83	24.34	25.91	23.19	25.19
D.O. (mg/l) / (% sat)	11.66 / 138.4	7.73 / 93.5	8.31 / 99.6	6.34 / 78.2	9.68 / 113.5	8.63 / 105.1
pH (fld) SU	8.31	8.13	8.19	8.01	8.29	8.3
SpCond fld/lab (umhos/cm)	675.3 / 719	811.2 / 825	773.3 / 800	912.8 / 931	799.8 / 823	861.8 / 897
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	424	498	460	522	464	518
TSS (mg/l)	< 5	9	5	< 5	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.3		2.8		3.4	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.2		2.8		2.3	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	297		< 200		< 200	
Barium-T (ug/l)	29		38		43	
Calcium-T (mg/l)	80		79		77	
Hardness (mg/l)	200		255		254	
Iron-T (ug/l)	248		282		251	
Magnesium-T (mg/l)	13		14		15	
Manganese-T (ug/l)	30		59		52	
Potassium-T (mg/l)	3		4		4	
Sodium-T (mg/l)	49		61		62	
Strontium-T (ug/l)	343		395		403	
Zinc-T (ug/l)	< 10		< 10		10	
Alkalinity (mg/l)	198	178	181	157	169	150
Ammonia-N (mg/l)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.05
COD (mg/l)	< 20	26	< 20	< 20	< 20	< 20
Chloride (mg/l)	79.3	111	103	140	105	128
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.51	0.19	0.38	< 0.1	0.37	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	50.1	71.6	60.7	92.3	67.5	85.6
TKN (mg/l)	0.75	0.77	0.45	0.63	0.6	0.49
Phosphorus-T (mg/l)	0.235	0.201	0.119	0.124	0.177	0.116

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **TAYLOR CREEK AT WESSELMAN RD.** SWDO Map # 81

River Mile: 0.82 Storet ID: 300902 WAU: 050800020905

Latitude/Longitude: 39.2166 / -84.6860 Drainage Area (mi2): 26.5 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	11:55	11:55	10:15	9:00	11:20	11:00
Temp (C)	23.27	26.11	25.77	26.15	24.28	23.52
D.O. (mg/l) / (% sat)	8.15 / 95.6	5.86 / 72.6	4.97 / 61.1	6.6 / 81.7	5.39 / 64.4	8.11 / 95.7
pH (fld) SU	8.09	8.08	8.08	8.16	7.91	8.24
SpCond fld/lab (umhos/cm)	634.1 / 652	841 / 837	649.3 / 738	862.3 / 883	698.2 / 721	837.6 / 869
BOD5 (mg/l)	< 2	< 2	< 2	< 2	< 2	< 2
CBOD20 (mg/l)	< 3	4.9	3.6	5.2	3.3	4.1
Oil & Grease (mg/l)						
TDS (mg/l)	376	518	430	490	402	510
TSS (mg/l)	18	11	18	22	30	18
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2.6		2.4	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	4		2.7		3.5	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.7		3		2.9	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	649		417		674	
Barium-T (ug/l)	33		44		53	
Calcium-T (mg/l)	72		73		68	
Hardness (mg/l)	180		236		219	
Iron-T (ug/l)	1020		732		1170	
Magnesium-T (mg/l)	12		13		12	
Manganese-T (ug/l)	85		278		239	
Potassium-T (mg/l)	4		4		4	
Sodium-T (mg/l)	43		53		52	
Strontium-T (ug/l)	304		357		352	
Zinc-T (ug/l)	< 10		< 10		21	
Alkalinity (mg/l)	178	187	173	168	154	169
Ammonia-N (mg/l)	< 0.05	< 0.05	0.09	< 0.05	0.088	< 0.05
COD (mg/l)	< 20	20	< 20	< 20	< 20	< 20
Chloride (mg/l)	67.8	112	92.1	127	87.5	121
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.62	< 0.1	0.23	< 0.1	0.25	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)		0.108	0.159	0.081	0.141	0.075
Phenolics (ug/l)						
Sulfate (mg/l)	44.9	71.7	53.8	76.7	56.5	74.2
TKN (mg/l)	0.77	0.7	0.39	0.57	0.57	0.38
Phosphorus-T (mg/l)	0.272	0.149	0.131	0.13	0.196	0.109

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **BRIARLY CREEK NEAR MOUTH** SWDO Map # 82

River Mile: 0.1 Storet ID: H11K22 WAU: 050800020905

Latitude/Longitude: 39.1997 / -84.6594 Drainage Area (mi2): 7.2 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:45	11:00	8:50	12:00	12:30	11:15
Temp (C)	23.24	24.41	24.12	26.95	24.13	22.64
D.O. (mg/l) / (% sat)	9.75 / 114.4	6.13 / 73.6	7.07 / 84.3	8.38 / 105.4	9.25 / 110.3	7.54 / 87.5
pH (fld) SU	8.27	7.94	8.02	8.29	8.37	8.11
SpCond fld/lab (umhos/cm)	603.9 / 641	715 /	555.4 / 719	895.4 / 909	777.4 / 804	853.6 / 876
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	376	468	406	508	468	522
TSS (mg/l)	< 5	< 5	< 5	< 5	< 5	5
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		< 2		< 2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.3		2.5		3.2	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.4		2.3		2	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	< 200		< 200		< 200	
Barium-T (ug/l)	29		33		35	
Calcium-T (mg/l)	72		72		78	
Hardness (mg/l)	180		233		252	
Iron-T (ug/l)	187		210		71	
Magnesium-T (mg/l)	12		13		14	
Manganese-T (ug/l)	12		21		< 10	
Potassium-T (mg/l)	3		4		4	
Sodium-T (mg/l)	40		51		57	
Strontium-T (ug/l)	302		366		387	
Zinc-T (ug/l)	< 10		< 10		19	
Alkalinity (mg/l)	199		180	178	183	193
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		< 20	< 20	< 20	33
Chloride (mg/l)	64.3	91	88.2	132	98.8	117
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.62		0.36	0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	41.6	55.9	46.7	69	59.6	70.7
TKN (mg/l)	0.77		0.41	0.68	0.44	0.37
Phosphorus-T (mg/l)	0.254		0.839	0.179	0.19	0.195

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WESSELMAN CREEK ADJ WESSELMAN RD (UPST TAYLOR RD and TRIB)** SWDO Map # 83

River Mile: 3 Storet ID: 300951 WAU: 050800020905

Latitude/Longitude: 39.1805 / -84.6821 Drainage Area (mi2): 2.6 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	11:20	10:30	10:00	10:45	11:20	10:45
Temp (C)	21.57	22.77	22.19	23.54	21.17	21.64
D.O. (mg/l) / (% sat)	9.5 / 107.9	4.95 / 57.6	9.38 / 108	9.22 / 108.9	8.42 / 95	8.42 / 95.9
pH (fld) SU	8.19	8.02	8.36	7.99	7.82	8.05
SpCond fld/lab (umhos/cm)	740.9 / 792	901.2 /	848.5 / 886	1030.9 / 1050	874.1 / 956	1029 / 1050
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	466	582	514	612	566	634
TSS (mg/l)	< 5	13	< 5	7	< 5	< 5
TOC (mg/l)						
Arsenic-T (ug/l)	2.1		< 2		2.4	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	2.7		2.5		4	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.5		3		2.7	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	219		< 200		< 200	
Barium-T (ug/l)	33		36		47	
Calcium-T (mg/l)	95		95		98	
Hardness (mg/l)	237		303		319	
Iron-T (ug/l)	347		192		121	
Magnesium-T (mg/l)	14		16		18	
Manganese-T (ug/l)	25		15		48	
Potassium-T (mg/l)	4		6		7	
Sodium-T (mg/l)	50		64		72	
Strontium-T (ug/l)	398		491		574	
Zinc-T (ug/l)	< 10		< 10		23	
Alkalinity (mg/l)	236		223	245	227	239
Ammonia-N (mg/l)	< 0.05		< 0.05	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20		< 20	< 20	< 20	< 20
Chloride (mg/l)	76.8	106	95.2	125	100	117
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	1.25		0.65	0.22	1.33	2.19
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	58.9	90.4	85.4	117	98.7	119
TKN (mg/l)	0.79		0.5	0.67	0.63	0.61
Phosphorus-T (mg/l)	0.435		0.425	0.395 J	0.654	0.715

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix Table A-1 Lower Great Miami River Watershed Inorganic Water Chemistry Sampling Results (2010)

Site Location: **WESSELMAN CREEK NEAR MOUTH, UPST. I-74, ADJ. WESSELMAN RD.** SWDO Map # 84

River Mile: 0.3 Storet ID: H11K21 WAU: 050800020905

Latitude/Longitude: 39.2108 / -84.6847 Drainage Area (mi2): 9.1 County: Hamilton Ecoregion: IP USGS Quad: Addyston

Date Collected	6/29/2010	7/13/2010	7/27/2010	8/10/2010	8/23/2010	8/30/2010
Time	12:15	12:05	10:30	9:50	11:35	11:15
Temp (C)	23.46	24.59	24.64	26.04	24.5	25.02
D.O. (mg/l) / (% sat)	8.79 / 103.5	5.61 / 67.6	7.02 / 84.5	5.47 / 67.6	7.34 / 88.2	7.39 / 89.6
pH (fld) SU	8.2	8.07	8.14	7.94	8.12	8.09
SpCond fld/lab (umhos/cm)	617.5 / 645	874.9 / 880	699.4 / 727	857.1 / 874	681.7 / 698	567.5 / 799
BOD5 (mg/l)						
CBOD20 (mg/l)						
Oil & Grease (mg/l)						
TDS (mg/l)	386	530	432	506	394	476
TSS (mg/l)	13	17	33	29	24	42
TOC (mg/l)						
Arsenic-T (ug/l)	< 2		2.1		2.2	
Cadmium-T (ug/l)	< 0.2		< 0.2		< 0.2	
Chromium-T (ug/l)	< 2		< 2		< 2	
Copper-T (ug/l)	3.1		2.9		2.8	
Lead-T (ug/l)	< 2		< 2		< 2	
Nickel-T (ug/l)	2.8		3.5		2.9	
Selenium-T (ug/l)	< 2		< 2		< 2	
Aluminum-T (ug/l)	550		575		541	
Barium-T (ug/l)	31		41		47	
Calcium-T (mg/l)	80		82		75	
Hardness (mg/l)	200		258		237	
Iron-T (ug/l)	826		992		912	
Magnesium-T (mg/l)	11		13		12	
Manganese-T (ug/l)	63		154		168	
Potassium-T (mg/l)	4		5		5	
Sodium-T (mg/l)	36		47		46	
Strontium-T (ug/l)	328		382		386	
Zinc-T (ug/l)	< 10		< 10		11	
Alkalinity (mg/l)	204	214	205	221	173	209
Ammonia-N (mg/l)	< 0.05	0.052	0.053	< 0.05	< 0.05	< 0.05
COD (mg/l)	< 20	137	24	< 20	< 20	< 20
Chloride (mg/l)	58.3	103	79	110	72.7	90.7
Cyanide (free) (ug/l)						
Nitrate-nitrite-N (mg/l)	0.79	< 0.1	0.21	< 0.1	< 0.1	< 0.1
Nitrite-N (mg/l)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Orthophosphate, D (mg/l)						
Phenolics (ug/l)						
Sulfate (mg/l)	45.1	84.2	52.5	63	57.6	63.3
TKN (mg/l)	0.62	0.73	0.33	0.69	0.4	0.49
Phosphorus-T (mg/l)	0.364	0.215	0.249	0.247	0.247	0.152

J - Analyte identified, value estimated PT - Result estimated, sample not analyzed within required holding time R - Result unusable-quality control criteria not met UJ - Analyte not detected above sample quantitation limit (QL). However, the reported QL is estimated.

Appendix A-2. Bacteria sample results.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09W02	# 1	GREAT MIAMI R. AT DAYTON @ STEWART ST.	78.85	01-05	5/6/2010	219
					5/26/2010	75.6
					6/29/2010	2420
					7/7/2010	160 JL
					7/21/2010	800 JL
					7/27/2010	548
					8/4/2010	150 JL
					8/16/2010	220
					8/25/2010	100 JL
					9/8/2010	520
					9/13/2010	480
					10/13/2010	120 JL
					10/21/2010	60 JL
					10/21/2010	141
					10/27/2010	3600
H09W73	# 3	GREAT MIAMI R. 0.25 MI. DST. DAYTON WWTP, ADJ. WEST RIVER RD	75.86	01-05	7/21/2010	560
					8/4/2010	100 JL
					8/16/2010	280
					9/8/2010	590
					9/13/2010	170 JL
					10/13/2010	80 JL
					10/21/2010	70 JL
					10/27/2010	5900

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09W56	# 5	GREAT MIAMI R @ WEST END OF MORAINE AIRPARK, UPST APPLETON	72.48	01-06	7/7/2010	50 JL
					7/21/2010	410
					8/4/2010	30 JL
					8/16/2010	230
					9/8/2010	40 JL
					9/13/2010	140 JL
					10/13/2010	40 JL
					10/21/2010	30 JL
					10/27/2010	76000
H09K15	# 6	GREAT MIAMI R. UPST. MONTGOMERY CO. W. REGIONAL WWTP	71.6	01-06	7/7/2010	50 JL
					7/21/2010	300 JL
					8/4/2010	50 JL
					8/16/2010	250
					9/8/2010	50 JL
					9/13/2010	300
					10/13/2010	40 JL
					10/21/2010	70 JL
					10/27/2010	110000 JL
600070	# 7	GREAT MIAMI R. @ FARMERSVILLE-WEST CARROLLTON RD.	69.87	01-06	7/7/2010	170 JL
					7/21/2010	160 JL
					8/4/2010	40 JL
					8/16/2010	220
					9/8/2010	20 JL
					9/13/2010	300
					10/13/2010	40 JL
					10/21/2010	60 JL
					10/27/2010	51000

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
201902	# 8	GREAT MIAMI R. AT WEST CARROLLTON, UPST WWTP, DST OWL CREEK	69.3	01-06	7/8/2010	60 JL
					7/22/2010	180 JL
					8/4/2010	170 JL
					8/16/2010	100 JL
					9/8/2010	80 JL
					9/13/2010	160 JL
					10/13/2010	50 JL
					10/21/2010	50 JL
					10/27/2010	9200 JL
H09K21	# 9	GREAT MIAMI R. DST. WEST CARROLLTON WWTP	68.6	01-06	7/8/2010	90 JL
					7/22/2010	350
					8/4/2010	40 JL
					8/16/2010	220
					9/8/2010	290
					9/13/2010	160 JL
					10/13/2010	70 JL
					10/21/2010	80 JL
					10/27/2010	4800

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09S13	# 10	GREAT MIAMI R @ LINDEN AVE AT MIAMISBURG	66.9	04-04	5/6/2010	90.9
					5/26/2010	119
					6/29/2010	1870
					7/8/2010	80 JL
					7/22/2010	90 JL
					7/27/2010	71.7
					8/4/2010	40 JL
					8/16/2010	220
					8/25/2010	100 JL
					9/8/2010	130 JL
					9/13/2010	40 JL
					10/13/2010	140 JL
					10/21/2010	110 JL
					10/21/2010	60.9
					10/27/2010	7100
600050	# 11	GREAT MIAMI R. S OF MIAMISBURG @ CHAUTAQUA RD.	64.72	04-04	7/8/2010	2400
					7/22/2010	240
					8/4/2010	50 JL
					8/16/2010	270
					9/8/2010	70 JL
					9/13/2010	70 JL
					10/13/2010	50 JL
					10/21/2010	50 JL
					10/27/2010	2700

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09S31	# 14	GREAT MIAMI R. AT FRANKLIN @ OLD ST. RT. 123	60.58	04-04	7/8/2010	30 JL
					7/22/2010	170 JL
					8/4/2010	40 JL
					8/16/2010	250
					9/8/2010	80 JL
					9/13/2010	40 JL
					10/13/2010	10 JL
					10/21/2010	40 JL
					10/27/2010	6100
H09K07	# 15	GREAT MIAMI R. DST. FRANKLIN WWTP	59.5	04-04	7/7/2010	40 JL
					7/21/2010	100 JL
					8/4/2010	20 JL
					8/16/2010	100 JL
					9/8/2010	30 JL
					9/13/2010	30 JL
					10/13/2010	20 JL
					10/21/2010	40 JL
					10/27/2010	5900

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
600040	# 17	GREAT MIAMI R. AT MIDDLETOWN @ CENTRAL AVE. (SR 122)	52.64	07-02	5/6/2010	45.9
					5/26/2010	43.2
					6/29/2010	1550
					7/7/2010	20 JL
					7/21/2010	110 JL
					7/27/2010	30.3
					8/4/2010	320
					8/16/2010	170 JL
					8/25/2010	100 JL
					9/8/2010	320
					9/13/2010	20 JL
					10/13/2010	20 JL
					10/21/2010	40 JL
					10/21/2010	24.3
					10/27/2010	470
300940	#18	GREAT MIAMI R. DST MIDDLETOWN DAM	51.6	07-02	7/7/2010	130 JL
H09G01	# 19	GREAT MIAMI R. NEAR MIDDLETOWN, DST VERITY RELIEF OVERFLOW	51.44	07-02	7/7/2010	60 JL
					7/21/2010	130 JL
					8/4/2010	130 JL
					8/16/2010	3000
					9/8/2010	90 JL
					9/13/2010	20 JL
					10/13/2010	10 JL
					10/21/2010	10 JL
					10/27/2010	11000 JL
H09W78	# 20	GREAT MIAMI R. DST AK STEEL 011, BETWEEN CSO'S	51.24	07-02	7/7/2010	< 10
600330	# 21	GREAT MIAMI R. NEAR MIDDLETOWN @ ST. RT. 73	49.1	07-06	7/7/2010	10 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09W79	# 22	GREAT MIAMI R. DST WWTP and CRYSTAL TISSUE, UPST DICKS CR	47.91	07-06	7/7/2010	20 JL
					7/21/2010	40 JL
					8/4/2010	50 JL
					8/16/2010	2600
					9/8/2010	160 JL
					9/13/2010	40 JL
					10/13/2010	30 JL
					10/21/2010	30 JL
					10/27/2010	8600 JL
201888	#23	GREAT MIAMI R. UPST. LESOURDSVILLE WWTP, DST DICKS CR	47.1	07-06	7/7/2010	20 JL
H09K02	# 24	GREAT MIAMI R. DST. LESOURDSVILLE WWTP	45.2	07-06	7/8/2010	30 JL
					7/22/2010	140 JL
					8/5/2010	3200
					8/19/2010	160 JL
					9/7/2010	120 JL
					9/14/2010	80 JL
					10/12/2010	80 JL
					10/20/2010	90 JL
					10/28/2010	2000

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H11W35	# 27	GREAT MIAMI R. 0.1 MI. UPST. HAMILTON WWTP	34.1	09-02	5/6/2010	59.1
					5/26/2010	197
					6/29/2010	1120
					7/8/2010	110 JL
					7/22/2010	70 JL
					7/27/2010	25.9
					8/5/2010	1500 JL
					8/19/2010	100 JL
					8/25/2010	90 JL
					9/7/2010	70 JL
					9/14/2010	150 JL
					10/12/2010	160 JL
					10/20/2010	80 JL
					10/21/2010	88.2
					10/28/2010	4700
H11K18	# 28	GREAT MIAMI R. DST. HAMILTON WWTP	33.5	09-02	7/8/2010	80 JL
					7/22/2010	110 JL
					8/5/2010	3600
					8/19/2010	170 JL
					9/7/2010	110 JL
					9/14/2010	160 JL
					10/12/2010	130 JL
					10/20/2010	90 JL
					10/28/2010	3500

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
201879	# 30	GREAT MIAMI R. DST. FAIRFIELD WWTP, DST PLEASANT RUN	31.4	09-02	7/8/2010	200
					7/22/2010	140 JL
					8/5/2010	410
					8/19/2010	130 JL
					9/7/2010	60 JL
					9/14/2010	70 JL
					10/12/2010	120 JL
					10/20/2010	90 JL
					10/28/2010	730
H11W51	#31	GREAT MIAMI R. UPST. BANKLICK CREEK, ADJ. EAST RIVER RD.	28.85	09-02	7/8/2010	20 JL
H11W14	# 32	GREAT MIAMI R. AT ROSS @ ST. RT. 126	26.21	09-04	7/8/2010	20 JL
					7/22/2010	170 JL
					8/5/2010	60 JL
					8/19/2010	60 JL
					9/7/2010	30 JL
					9/14/2010	30 JL
					10/12/2010	90 JL
					10/20/2010	40 JL
					10/28/2010	400
H11S29	# 34	GREAT MIAMI R. W OF NEW BALTIMORE, DST. PADDYS RUN	19.9	09-06	7/22/2010	120 JL
					8/5/2010	20 JL
					8/19/2010	50 JL
					9/7/2010	10 JL
					9/14/2010	10 JL
					10/12/2010	70 JL
					10/20/2010	< 10
					10/28/2010	660

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H11W20	# 35	GREAT MIAMI R. AT MIAMITOWN @ HARRISON RD.	15.49	09-06	5/6/2010	55.6
					5/26/2010	186
					6/29/2010	1480
					7/8/2010	20 JL
					7/22/2010	80 JL
					7/27/2010	12
					8/5/2010	70 JL
					8/19/2010	40 JL
					8/25/2010	10 JL
					9/7/2010	< 10
					9/14/2010	20 JL
					10/12/2010	70 JL
					10/20/2010	10 JL
					10/21/2010	23.5
					10/28/2010	900 JL
H11W55	# 36	GREAT MIAMI R. @ I-74/I-275/NEW U.S. RT. 52	14.93	09-06	7/8/2010	40 JL
					7/22/2010	80 JL
					8/19/2010	30 JL
					9/7/2010	70 JL
					9/14/2010	30 JL
					10/12/2010	40 JL
					10/20/2010	20 JL
					10/28/2010	770

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
610070	# 38	GREAT MIAMI R. NEAR. SHAWNEE BOAT RAMP	4	09-07	7/8/2010	50 JL
					7/22/2010	70 JL
					8/5/2010	50 JL
					8/19/2010	30 JL
					9/7/2010	10 JL
					9/14/2010	70 JL
					10/12/2010	30 JL
					10/20/2010	< 10 JL
					10/28/2010	170 JL
H09W82	# 40	WOLF CREEK UPST. BROOKVILLE WWTP @ WESTBROOK RD.	15.32	01-02	7/7/2010	1000 JL
					7/21/2010	4300
					8/4/2010	2000
					8/16/2010	950 JL
					9/8/2010	11000 JL
					9/13/2010	4900
					10/13/2010	850 JL
					10/21/2010	790
					10/27/2010	11000 JL
H09W83	# 41	WOLF CREEK DST. BROOKVILLE WWTP @ AIRHILL RD.	14.14	01-02	7/7/2010	480
					7/21/2010	160 JL
					8/4/2010	450
					8/16/2010	540
					9/8/2010	440
					9/13/2010	570
					10/13/2010	240
					10/21/2010	420
					10/27/2010	12000 JL
203503	#42	WOLF CREEK W OF TROTWOOD UPST. NOLAN RD.	10.4	01-02	7/7/2010	160 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
300818	# 43	WOLF CK @ DAYTON @ WESLEYAN NATURE CENT PEDESTRIAN BRIDGE	2.49	01-03	5/6/2010	90.6
					5/26/2010	77.1
					6/29/2010	980
					7/7/2010	190 JL
					7/21/2010	290
					7/27/2010	93.3
					8/4/2010	240
					8/16/2010	300
					8/25/2010	80 JL
					9/8/2010	240
					9/13/2010	400
					10/13/2010	120 JL
					10/21/2010	60 JL
					10/21/2010	33.6
					10/27/2010	7200
600230	# 46	N. BR. WOLF CREEK AT TROTWOOD @ UNION RD.	0.69	01-01	7/7/2010	390
					7/21/2010	370
					8/4/2010	490
					8/16/2010	490
					9/8/2010	570
					9/13/2010	190 JL
					10/13/2010	220
					10/21/2010	50 JL
					10/27/2010	1100 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
300652	# 50	HOLES CREEK @ MAD RIVER RD	3.37	01-04	5/6/2010	118
					5/26/2010	187
					6/29/2010	770
					7/8/2010	610
					7/22/2010	500
					7/27/2010	548
					8/4/2010	330
					8/16/2010	360
					8/25/2010	530
					9/8/2010	3200
					9/13/2010	710
					10/13/2010	440
					10/21/2010	180 JL
					10/21/2010	148
					10/27/2010	9400 JL
H09S07	# 52	OWL CREEK AT WEST CARROLLTON @ W CENTRAL AVE.	0.17	01-06	7/8/2010	880 JL
					7/22/2010	160 JL
					8/4/2010	480
					8/16/2010	150 JL
					9/8/2010	130 JL
					9/13/2010	110 JL
					10/13/2010	60 JL
					10/21/2010	60 JL
					10/27/2010	25000
300943	# 54	OPOSSUM CREEK @ SOLDIERS HOME RD (W. CARROLLTON)	0.1	01-06	7/7/2010	140 JL
					7/21/2010	30 JL
					8/4/2010	20 JL
					8/16/2010	90 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09P06	# 56	BEAR CREEK E OF NEW LEBANON @ U.S. RT. 35	9.75	04-01	7/7/2010	130 JL
					7/21/2010	350
					8/4/2010	1300 JL
					8/16/2010	950 JL
					9/8/2010	880 JL
					9/13/2010	1200 JL
					10/13/2010	350
					10/21/2010	560
					10/27/2010	690
H09S01	# 58	BEAR CREEK NEAR MIAMISBURG @ SOLDIERS HOME-MIAMISBURG RD.	0.24	04-02	5/6/2010	178
					5/26/2010	102
					6/29/2010	411
					7/8/2010	120 JL
					7/22/2010	330
					7/27/2010	113
					8/4/2010	180 JL
					8/16/2010	180 JL
					8/25/2010	90 JL
					9/8/2010	130 JL
					9/13/2010	260
					10/13/2010	70 JL
					10/21/2010	80 JL
					10/21/2010	32.7
					10/27/2010	410

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09W50	# 62	CLEAR CREEK S OF SPRINGBORO, DST. WWTP TRIB @ WEIDNER RD.	6.9	04-03	7/8/2010	190 JL
					7/22/2010	360
					8/4/2010	360
					8/16/2010	420
					9/8/2010	340
					9/13/2010	140 JL
					10/13/2010	140 JL
					10/21/2010	120 JL
					10/27/2010	5700
300812	# 64	CLEAR CK @ BAXTER DR. IN FRANKLIN	0.77	04-03	5/6/2010	52.5
					5/26/2010	194
					6/29/2010	1990
					7/7/2010	140 JL
					7/21/2010	330
					7/27/2010	579
					8/4/2010	180 JL
					8/16/2010	790
					8/25/2010	100 JL
					9/8/2010	2600
					9/13/2010	60 JL
					10/13/2010	10 JL
					10/21/2010	50 JL
					10/21/2010	20.1
					10/27/2010	15000 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09P01	# 67	ELK CREEK AT MILTONVILLE @ HOWE RD.	1.49	07-01	5/6/2010	34.1
					5/26/2010	133
					6/29/2010	1300
					7/7/2010	100 JL
					7/21/2010	50 JL
					7/27/2010	41.4
					8/4/2010	110 JL
					8/16/2010	170 JL
					8/25/2010	90 JL
					9/8/2010	250
					9/13/2010	160 JL
					10/13/2010	50 JL
					10/21/2010	40 JL
					10/21/2010	36.9
					10/27/2010	80 JL
300946	# 69	BROWNS RUN ADJ. BROWNS RUN RD (NEAR ADDRESS 6320)	0.93	07-02	7/7/2010	110 JL
					7/21/2010	340
					8/4/2010	290
					8/16/2010	3100
					9/13/2010	60 JL
					10/13/2010	30 JL
					10/21/2010	20 JL
					10/27/2010	130 JL

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
H09W66	# 70	DICKS CREEK AT MIDDLETOWN @ MAIN ST.	0.93	07-04	5/6/2010	291
					5/26/2010	488
					6/29/2010	1550
					7/7/2010	330
					7/21/2010	390
					7/27/2010	214
					8/4/2010	170 JL
					8/16/2010	700 JL
					8/25/2010	60 JL
					9/8/2010	150 JL
					9/13/2010	240
					10/13/2010	50 JL
					10/21/2010	90 JL
					10/21/2010	71.7
					10/27/2010	50000
300811	# 73	GREGORY CK @ LESOURDSVILLE W. CHESTER RD	0.98	07-05	5/6/2010	78.9
					5/26/2010	326
					6/29/2010	1990
					7/8/2010	100 JL
					7/22/2010	240
					7/27/2010	46.5
					8/5/2010	1500 JL
					8/19/2010	140 JL
					8/25/2010	120 JL
					9/7/2010	20 JL
					9/14/2010	90 JL
					10/12/2010	10 JL
					10/20/2010	10 JL
					10/21/2010	19.7
					10/28/2010	550

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
300949	# 75	PLEASANT RUN @ US 127 (PLEASANT AVE)	2.1	09-01	7/8/2010	200
					7/22/2010	480
					8/5/2010	2700
					8/19/2010	460
					10/20/2010	290
					10/28/2010	790
H11K20	# 79	TAYLOR CREEK UPST. BRIARLY CREEK	3.4	09-05	7/8/2010	50 JL
					7/22/2010	390
					8/5/2010	1300 JL
					8/19/2010	30 JL
					9/7/2010	170 JL
					9/14/2010	240
					10/12/2010	20 JL
					10/20/2010	130 JL
					10/28/2010	1100 JL
H11K19	# 80	TAYLOR CREEK UPST. I-275 (ADJ HARRISON RD.)	1.6	09-05	7/8/2010	390
					7/22/2010	1000 JL
					8/5/2010	1100 JL
					8/19/2010	200
					9/7/2010	< 10
					9/14/2010	50 JL
					10/12/2010	< 10
					10/20/2010	60 JL
					10/28/2010	2100

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
300902	# 81	TAYLOR CREEK AT WESSELMAN RD.	0.82	09-05	5/6/2010	326
					5/26/2010	435
					6/29/2010	3130
					7/8/2010	150 JL
					7/22/2010	1300 JL
					7/27/2010	261
					8/5/2010	660
					8/19/2010	680
					8/25/2010	130 JL
					9/7/2010	20 JL
					9/14/2010	30 JL
					10/12/2010	10 JL
					10/20/2010	80 JL
					10/21/2010	65.7
					10/28/2010	4800
H11K22	# 82	BRIARLY CREEK NEAR MOUTH	0.1	09-05	7/8/2010	20 JL
					7/22/2010	470
					8/5/2010	340
					8/19/2010	130 JL
					9/7/2010	10 JL
					9/14/2010	10 JL
					10/12/2010	320
					10/20/2010	40 JL
					10/28/2010	2900

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix Table A-2 Lower Great Miami River Watershed Bacteria Sampling Results (2010)

Station ID	SWDO Map #	Location	River Mile	WAU 05080002-	Date	E. coli (#/100 ml)
300951	# 83	WESSELMAN CREEK ADJ WESSELMAN RD (UPST TAYLOR RD and TRIB)	3	09-05	7/8/2010	130 JL
					7/22/2010	3200
					8/5/2010	3500
					8/19/2010	320
					9/7/2010	60 JL
					9/14/2010	180 JL
					10/12/2010	110 JL
					10/20/2010	140 JL
					10/28/2010	780
H11K21	# 84	WESSELMAN CREEK NEAR MOUTH, UPST. I-74, ADJ. WESSELMAN RD.	0.3	09-05	7/8/2010	2400
					7/22/2010	2000
					8/5/2010	180 JL
					8/19/2010	360
					9/7/2010	30 JL
					9/14/2010	150 JL
					10/12/2010	< 10
					10/20/2010	40 JL
					10/28/2010	3200

JL - Estimated; computed using a colony count that is not within the acceptable counting range.

Appendix A-3. Fish assemblage metrics.

Preliminary IBI scores from the lower GMR mainstem in 2010.

River Mile	Type	Date	Drainage area (sq mi)	Number of: Total species	Sunfish species	Sucker species	Intolerant species	Percent of Individuals: Rnd-bodied suckers	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(1.0 km)		IBI	Modified Iwb
Great Miami River - (14-001)																		
Year: 2010																		
81.10	A	10/01/2010	2511	19(3)	1(1)	6(5)	2(3)	39(5)	41(5)	9(5)	35(1)	8(3)	56(5)	0.0(5)	212(3)		44	8.7
78.80	A	08/04/2010	2587	20(3)	3(3)	7(5)	4(5)	47(5)	53(5)	6(5)	7(5)	19(5)	69(5)	0.0(5)	406(3)		54	10.0
77.20	A	08/04/2010	2591	25(5)	6(5)	5(3)	2(3)	36(3)	38(5)	5(5)	5(5)	6(3)	84(5)	0.0(5)	636(5)		52	9.8
75.70	A	08/09/2010	2595	23(5)	6(5)	6(5)	2(3)	31(3)	34(3)	11(5)	15(5)	16(5)	66(5)	0.0(5)	334(3)		52	9.6
73.80	A	08/09/2010	2605	16(3)	4(5)	4(3)	0(1)	43(5)	45(5)	7(5)	11(5)	8(3)	80(5)	1.2(3)	302(3)		46	8.3
72.40	A	08/10/2010	2636	24(5)	4(5)	6(5)	4(5)	38(5)	42(5)	4(5)	13(5)	17(5)	61(5)	0.0(5)	320(3)		58	9.9
71.70	A	08/10/2010	2637	22(5)	1(1)	5(3)	6(5)	22(3)	41(5)	3(5)	5(5)	8(3)	74(5)	0.9(3)	642(5)		48	9.9
69.90	A	08/10/2010	2647	16(3)	1(1)	3(3)	2(3)	20(3)	29(3)	2(5)	6(5)	15(5)	78(5)	0.0(5)	350(3)		44	8.6
69.90	A	09/08/2010	2647	25(5)	3(3)	6(5)	5(5)	26(3)	31(3)	7(5)	12(5)	20(5)	64(5)	0.0(5)	376(3)		52	9.8
68.70	A	08/11/2010	2654	22(5)	4(5)	4(3)	6(5)	33(3)	47(5)	8(5)	9(5)	7(3)	81(5)	0.9(3)	432(5)		52	9.2
66.90	A	08/18/2010	2711	20(3)	5(5)	5(3)	4(5)	50(5)	61(5)	8(5)	8(5)	5(1)	81(5)	0.0(5)	314(3)		50	9.2
64.10	A	08/18/2010	2719	18(3)	4(5)	5(3)	1(1)	25(3)	32(3)	18(3)	27(3)	18(5)	51(3)	0.7(5)	238(3)		40	9.0
64.10	A	09/15/2010	2719	15(3)	3(3)	5(3)	1(1)	3(1)	3(1)	31(1)	42(1)	26(5)	26(1)	3.2(3)	86(1)	*	24	7.3
62.60	A	08/19/2010	2723	25(5)	5(5)	5(3)	4(5)	19(1)	29(3)	19(3)	27(3)	12(5)	51(3)	3.1(1)	210(3)		40	9.2
62.60	A	09/15/2010	2723	16(3)	3(3)	4(3)	0(1)	38(3)	48(5)	16(3)	23(3)	10(3)	64(5)	0.0(5)	102(1)	*	38	8.2
60.00	A	08/12/2010	2728	13(3)	0(1)	5(3)	1(1)	50(5)	53(5)	12(5)	16(5)	19(5)	61(5)	0.0(5)	219(3)		46	8.4
58.20	A	08/13/2010	2791	17(3)	3(3)	5(3)	1(1)	53(5)	57(5)	14(5)	16(5)	12(5)	69(5)	0.0(5)	254(3)		48	8.9
52.60	A	08/12/2010	3134	9(1)	0(1)	4(3)	0(1)	73(5)	73(5)	11(5)	12(5)	6(3)	77(5)	0.0(5)	216(3)		42	7.8
51.60	A	08/19/2010	3137	21(5)	2(3)	5(3)	4(5)	42(5)	51(5)	10(5)	14(5)	5(3)	73(5)	0.0(5)	414(3)		52	9.6
51.60	A	09/08/2010	3137	18(3)	1(1)	7(5)	4(5)	39(5)	46(5)	3(5)	12(5)	6(3)	66(5)	2.0(3)	507(5)		50	10.2
51.40	A	08/19/2010	3137	20(3)	2(3)	5(3)	4(5)	33(3)	41(5)	4(5)	13(5)	9(3)	76(5)	0.0(5)	349(3)		48	9.3
51.40	A	09/08/2010	3137	19(3)	4(5)	6(5)	4(5)	19(1)	32(5)	7(5)	8(5)	6(3)	86(5)	0.0(5)	565(5)		52	9.4
51.20	A	08/19/2010	3138	19(3)	2(3)	4(3)	4(5)	29(3)	52(5)	8(5)	9(5)	5(3)	75(5)	0.0(5)	216(3)		48	8.6
51.20	A	09/08/2010	3138	22(5)	0(1)	5(3)	5(5)	36(3)	64(5)	5(5)	9(5)	7(3)	81(5)	0.0(5)	282(3)		48	8.8

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

Preliminary IBI scores from the lower GMR mainstem in 2010.

				Number of				Percent of Individuals										
River Mile	Type	Date	Drainage area (sq mi)	Total species	Sunfish species	Sucker species	Intolerant species	Rnd-bodied suckers	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(1.0 km)		IBI	Modified Iwb
49.10	A	08/05/2010	3189	14(3)	2(3)	4(3)	1(1)	6(1)	21(3)	22(3)	29(1)	14(5)	54(3)	2.9(3)	218(3)		32	7.8
49.10	A	09/08/2010	3189	20(3)	1(1)	5(3)	5(5)	27(3)	37(5)	12(5)	13(5)	8(3)	77(5)	1.3(3)	636(5)		46	9.5
48.00	A	09/08/2010	3191	18(3)	3(3)	3(3)	2(3)	13(1)	18(3)	4(5)	4(5)	6(3)	87(5)	0.4(5)	856(5)		44	8.6
47.10	A	09/08/2010	3240	26(5)	5(5)	4(3)	4(5)	11(1)	39(5)	9(5)	8(5)	3(1)	81(5)	0.2(5)	874(5)		50	9.3
45.30	A	08/04/2010	3271	10(3)	1(1)	3(3)	1(1)	23(3)	25(3)	14(5)	14(5)	5(1)	59(5)	4.7(1)	110(1)	*	32	7.8
45.30	A	09/08/2010	3271	21(5)	2(3)	3(3)	3(3)	14(1)	41(5)	14(5)	14(5)	2(1)	76(5)	0.0(5)	652(5)		46	10.0
43.20	A	08/04/2010	3280	15(3)	1(1)	1(1)	3(3)	1(1)	14(1)	12(5)	12(5)	6(3)	76(5)	0.0(5)	336(3)		36	7.3
43.20	A	09/08/2010	3280	18(3)	1(1)	4(3)	3(3)	10(1)	37(5)	9(5)	10(5)	6(3)	73(5)	0.0(5)	322(3)		42	8.6
34.20	A	08/03/2010	3636	27(5)	2(3)	9(5)	3(3)	31(3)	38(5)	1(5)	15(5)	7(3)	56(5)	0.0(5)	218(3)		50	9.7
34.20	A	09/09/2010	3636	22(5)	0(1)	8(5)	4(5)	65(5)	68(5)	4(5)	7(5)	4(1)	80(5)	0.0(5)	184(1)	*	48	9.1
33.60	A	08/03/2010	3639	19(3)	0(1)	8(5)	2(3)	13(1)	16(3)	1(5)	29(1)	12(5)	38(3)	1.4(3)	136(1)	*	34	9.4
33.60	A	09/09/2010	3639	28(5)	2(3)	9(5)	5(5)	21(3)	27(3)	5(5)	12(5)	10(5)	71(5)	0.9(3)	220(3)		50	10.1
32.70	A	08/03/2010	3641	16(3)	2(3)	7(5)	1(1)	7(1)	8(1)	9(5)	35(1)	11(5)	30(3)	2.2(3)	166(1)	*	32	9.7
32.70	A	09/09/2010	3641	25(5)	1(1)	10(5)	4(5)	30(3)	34(5)	2(5)	18(3)	5(3)	66(5)	0.6(5)	310(3)		48	10.4
31.40	A	08/03/2010	3662	15(3)	0(1)	7(5)	0(1)	12(1)	12(1)	1(5)	24(3)	12(5)	36(3)	0.0(5)	146(1)	*	34	9.3
31.40	A	09/09/2010	3662	21(5)	1(1)	8(5)	2(3)	8(1)	9(1)	7(5)	24(3)	9(3)	47(3)	0.0(5)	194(1)		36	9.8
28.70	A	08/03/2010	3670	15(3)	2(3)	7(5)	1(1)	5(1)	6(1)	0(5)	38(1)	6(3)	28(3)	3.2(1)	188(1)	*	28	9.1
28.70	A	09/09/2010	3670	24(5)	2(3)	7(5)	1(1)	26(3)	34(5)	3(5)	16(3)	9(3)	59(5)	0.0(5)	216(3)		46	10.3
26.10	A	08/03/2010	3789	15(3)	0(1)	6(5)	0(1)	24(3)	29(3)	4(5)	27(3)	11(5)	44(3)	2.2(5)	86(1)	*	38	9.1
26.10	A	09/16/2010	3789	24(5)	0(1)	8(5)	0(1)	22(3)	35(5)	2(5)	23(3)	3(1)	56(5)	1.3(3)	300(3)		40	10.3
23.40	A	08/04/2010	3803	18(3)	0(1)	6(5)	2(3)	7(1)	12(1)	0(5)	29(1)	13(5)	32(3)	0.0(5)	152(1)	*	34	9.0
23.40	A	09/16/2010	3803	28(5)	2(3)	7(5)	3(3)	26(3)	31(5)	2(5)	19(3)	8(3)	60(5)	3.3(1)	242(3)		44	10.3
20.00	A	08/02/2010	3831	27(5)	4(5)	7(5)	3(3)	7(1)	13(1)	8(5)	33(1)	13(5)	41(3)	1.2(3)	158(1)	*	38	10.0
20.00	A	09/09/2010	3831	28(5)	3(3)	7(5)	2(3)	8(1)	26(3)	7(5)	17(3)	2(1)	66(5)	0.3(5)	718(5)		44	10.5
15.50	A	08/12/2010	3838	17(3)	2(3)	7(5)	0(1)	11(1)	18(3)	5(5)	20(3)	9(3)	47(3)	0.0(5)	104(1)	*	36	8.8
15.50	A	09/15/2010	3838	31(5)	5(5)	6(5)	3(3)	4(1)	6(1)	10(5)	27(3)	5(3)	49(3)	0.6(3)	513(5)		42	10.3

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

Preliminary IBI scores from the lower GMR mainstem in 2010.

				Number of				Percent of Individuals										
River Mile	Type	Date	Drainage area (sq mi)	Total species	Sunfish species	Sucker species	Intolerant species	Rnd-bodied suckers	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(1.0 km)		IBI	Modified Iwb
14.80	A	08/02/2010	3865	17(3)	0(1)	6(5)	1(1)	4(1)	7(1)	4(5)	49(1)	16(5)	24(1)	2.7(3)	142(1)	*	28	9.2
14.80	A	09/15/2010	3865	27(5)	6(5)	6(5)	2(3)	3(1)	10(1)	5(5)	44(1)	2(1)	40(3)	0.3(5)	708(5)		40	10.1
8.20	A	09/09/2010	3878	29(5)	1(1)	9(5)	3(3)	7(1)	12(1)	2(5)	11(5)	4(1)	48(3)	0.2(5)	820(5)		40	10.7
8.20	A	08/02/2010	3878	27(5)	2(3)	9(5)	2(3)	17(1)	21(3)	4(5)	15(5)	8(3)	33(3)	2.3(3)	256(3)		42	10.1

♦ - IBI is low end adjusted.

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** - < 50 Total individuals in sample

Preliminary IBI scores from tributaries to the lower Great Miami River, sampled in 2010.

				Number of					Percent of Individuals									
River Mile	Type	Date	Drainage area (sq mi)	Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)		IBI	Modified Iwb
Taylor Creek - (14004)																		
Year: 2010																		
0.80	D	07/29/2010	26	23(5)	3(3)	1(1)	1(1)	4(5)	15(1)	5(5)	7(5)	0.5(1)	34(3)	0.0(5)	1710(5)		40	8.4
0.80	D	08/27/2010	26	24(5)	5(5)	2(3)	1(1)	5(5)	9(1)	37(3)	44(1)	1.4(3)	50(3)	0.0(5)	810(5)		40	8.5
Gregory Creek - (14016)																		
Year: 2010																		
1.00	E	07/23/2010	22	27(5)	4(5)	4(5)	2(3)	6(5)	35(3)	30(3)	18(5)	6.0(5)	72(5)	0.0(5)	489(3)		52	9.6
Dicks Creek - (14018)																		
Year: 2010																		
0.90	D	07/28/2010	48	16(3)	2(3)	3(3)	3(3)	4(3)	62(5)	4(5)	4(5)	1.3(3)	80(5)	0.0(5)	114(1)	*	44	6.3
0.90	D	08/26/2010	48	22(5)	6(5)	3(3)	1(1)	3(3)	38(5)	16(5)	13(5)	3.6(3)	77(5)	0.9(3)	281(3)		46	8.0
Elk Creek - (14022)																		
Year: 2010																		
3.70	D	08/25/2010	37	21(5)	1(1)	2(3)	2(3)	5(5)	38(5)	14(5)	5(5)	1.1(3)	32(3)	0.0(5)	1296(5)		48	7.9
1.50	E	07/23/2010	46	21(5)	1(1)	2(3)	4(3)	5(5)	44(5)	10(5)	8(5)	1.8(3)	47(3)	0.0(5)	1192(5)		48	8.7
1.50	E	08/25/2010	46	21(5)	2(3)	2(3)	3(3)	4(3)	47(5)	8(5)	4(5)	4.1(3)	51(3)	0.0(5)	988(5)		48	8.8
Clear Creek - (14024)																		
Year: 2010																		
7.60	D	06/30/2010	30	26(5)	4(5)	3(3)	2(3)	4(3)	51(5)	30(3)	23(3)	5.0(5)	54(3)	0.0(5)	419(3)		46	8.9
7.60	D	08/25/2010	30	26(5)	3(3)	4(5)	3(3)	6(5)	42(5)	27(5)	23(3)	1.0(3)	41(3)	0.0(5)	1499(5)		50	8.7
6.90	D	06/30/2010	38	23(5)	3(3)	3(3)	2(1)	4(3)	44(5)	42(3)	25(3)	2.0(3)	63(5)	0.0(5)	348(3)		42	7.4
6.90	D	08/25/2010	38	28(5)	3(3)	4(5)	4(5)	6(5)	25(3)	5(5)	4(5)	0.3(1)	30(3)	0.0(5)	5285(5)		50	9.3
2.50	D	07/01/2010	47	27(5)	2(3)	5(5)	5(5)	4(3)	43(5)	12(5)	10(5)	5.0(5)	52(3)	0.2(3)	681(3)		50	9.5
2.50	D	08/25/2010	47	29(5)	4(5)	6(5)	5(5)	4(3)	55(5)	9(5)	6(5)	2.4(3)	73(5)	0.0(5)	795(5)		56	9.9
0.80	D	07/01/2010	52	26(5)	3(3)	5(5)	5(5)	3(3)	32(3)	25(5)	21(3)	4.2(3)	41(3)	0.2(3)	515(3)		44	9.0

na - Qualitative data, Modified Iwb not applicable.

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● - One or more species excluded from IBI calculation.

Preliminary IBI scores from tributaries to the lower Great Miami River, sampled in 2010.

				Number of					Percent of Individuals								
River Mile	Type	Date	Drainage area (sq mi)	Total species	Sunfish species	Sucker species	Intolerant species	Darter species	Simple Lithophils	Tolerant fishes	Omni-vores	Top carnivores	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI	Modified Iwb
0.80	D	08/26/2010	52	22(5)	3(3)	4(5)	4(3)	5(5)	60(5)	9(5)	4(5)	2.4(3)	80(5)	0.0(5)	624(3)	52	8.9
Bear Creek - (14029)																	
Year: 2010																	
7.10	E	07/15/2010	20	15(3)	1(1)	2(3)	0(1)	2(3)	32(3)	9(5)	2(5)	0.8(1)	51(5)	0.0(5)	950(5)	40	na
5.80	E	08/26/2010	21	18(5)	1(1)	2(3)	0(1)	3(3)	27(3)	9(5)	5(5)	1.3(3)	29(3)	0.0(5)	2864(5)	42	8.7
0.20	D	07/21/2010	53	20(3)	2(3)	1(1)	3(3)	4(3)	22(3)	15(5)	14(5)	0.9(1)	32(3)	0.0(5)	1263(5)	40	8.0
0.20	E	08/25/2010	53	24(5)	2(3)	3(3)	5(5)	3(3)	30(3)	13(5)	11(5)	2.1(3)	42(3)	0.1(3)	2022(5)	46	9.4
Wolf Creek - (14037)																	
Year: 2010																	
3.70	D	07/22/2010	64	20(3)	2(3)	2(3)	1(1)	4(3)	37(5)	8(5)	3(5)	0.6(1)	37(3)	0.0(5)	2226(5)	42	8.3
2.50	D	07/22/2010	66	22(5)	3(3)	4(5)	2(1)	5(5)	35(3)	19(5)	14(5)	2.0(3)	29(3)	0.0(5)	932(5)	48	8.5
2.50	D	08/26/2010	66	23(5)	3(3)	4(5)	3(3)	5(5)	60(5)	22(5)	14(5)	3.6(3)	55(5)	0.0(5)	783(5)	54	9.0
1.00	D	07/22/2010	70	21(3)	3(3)	4(5)	2(1)	3(3)	54(5)	58(1)	36(1)	6.7(5)	49(3)	0.0(5)	162(1)	36	8.0
N. Br. Wolf Creek - (14039)																	
Year: 2010																	
0.70	E	07/14/2010	23	19(5)	3(3)	2(3)	1(1)	4(5)	48(5)	26(5)	16(5)	0.9(1)	43(3)	0.0(5)	773(5)	46	8.4

na - Qualitative data, Modified Iwb not applicable.
♦ - IBI is low end adjusted.
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** - < 50 Total individuals in sample
● - One or more species excluded from IBI calculation.

Preliminary IBI scores from tributaries to the lower Great Miami River, sampled in 2010.

				Number of						Percent of Individuals						
River Mile	Type	Date	Drainage area (sq mi)	Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
Taylor Creek - (14-004)																
Year: 2010																
1.60	E	07/29/2010	14.5	19(5)	8(5)	1(1)	6(5)	4(3)	6(3)	13(5)	11(5)	13(5)	23(3)	0.0(5)	1908(5)	50
Paddys Run - (14-005)																
Year: 2010																
4.90	E	07/29/2010	6.7	18(5)	10(5)	3(3)	2(1)	4(5)	7(5)	27(5)	9(5)	21(5)	20(3)	0.0(5)	2714(5)	52
Pleasant Run - (14-013)																
Year: 2010																
3.80	E	07/28/2010	4.7	11(3)	6(5)	2(3)	1(1)	2(3)	5(5)	63(1)	15(3)	37(3)	7(1)	0.0(5)	316(3)	36
2.20	E	07/28/2010	16.5	16(3)	7(5)	2(3)	3(1)	3(3)	5(3)	38(3)	12(5)	27(5)	8(1)	0.0(5)	1174(5)	42
Gregory Creek - (14-016)																
Year: 2010																
5.30	E	07/23/2010	9.0	19(5)	9(5)	2(3)	4(3)	4(5)	7(5)	37(3)	27(3)	26(5)	41(3)	0.0(5)	808(5)	50
Coldwater Creek - (14-017)																
Year: 2010																
0.60	E	07/22/2010	3.7	16(5)	8(5)	2(3)	4(5)	5(5)	7(5)	28(5)	19(3)	24(5)	18(3)	0.0(5)	1640(5)	54
Elk Creek - (14-022)																
Year: 2010																
10.10	E	07/21/2010	15.0	20(5)	7(5)	3(3)	5(3)	5(5)	7(5)	33(3)	9(5)	17(5)	34(3)	0.0(5)	716(3)	50
Browns Run - (14-023)																
Year: 2010																
2.70	E	07/01/2010	8.7	10(3)	5(3)	3(3)	1(1)	4(5)	5(3)	57(3)	1(5)	11(5)	26(3)	0.0(5)	586(3)	42
1.10	E	07/21/2010	10.4	19(5)	10(5)	3(3)	5(3)	4(5)	8(5)	29(5)	8(5)	13(5)	34(3)	0.0(5)	1090(5)	54
Clear Creek - (14-024)																
Year: 2010																
11.10	E	06/30/2010	8.7	15(5)	6(3)	3(3)	3(3)	4(5)	7(5)	23(5)	4(5)	14(5)	30(3)	0.0(5)	1336(5)	52
Bear Creek - (14-029)																
Year: 2010																
12.10	E	07/15/2010	5.6	17(5)	6(5)	4(5)	2(1)	5(5)	6(5)	59(1)	18(3)	31(3)	24(3)	0.0(5)	872(5)	46

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Preliminary IBI scores from tributaries to the lower Great Miami River, sampled in 2010.

				Number of						Percent of Individuals						
River Mile	Type	Date	Drainage area (sq mi)	Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
9.70	E	07/15/2010	11.2	12(3)	6(3)	1(1)	4(3)	3(3)	4(3)	33(5)	13(5)	21(5)	54(5)	0.0(5)	446(3)	44
Little Bear Creek - (14-030)																
Year: 2010																
1.00	E	07/15/2010	10.0	13(3)	6(3)	2(3)	3(3)	3(3)	6(5)	25(5)	1(5)	14(5)	59(5)	0.0(5)	614(3)	48
Opossum Creek - (14-035)																
Year: 2010																
1.40	E	07/15/2010	7.0	13(3)	5(3)	5(5)	3(3)	5(5)	7(5)	38(3)	1(5)	6(5)	11(1)	0.1(5)	1396(5)	48
Holes Creek - (14-036)																
Year: 2010																
8.60	E	07/16/2010	7.3	10(3)	5(3)	0(1)	0(1)	0(1)	2(1)	83(1)	32(1)	62(1)	49(5)	0.0(5)	34(1) *	24
3.40	E	07/21/2010	18.7	15(3)	7(5)	2(3)	5(3)	3(3)	6(3)	14(5)	8(5)	11(5)	35(3)	0.2(3)	1520(5)	46
Wolf Creek - (14-037)																
Year: 2010																
16.70	E	07/14/2010	4.6	9(3)	3(3)	0(1)	2(3)	2(3)	3(3)	65(1)	13(5)	54(3)	39(5)	0.0(5)	96(1)	36
15.30	E	07/14/2010	7.4	11(3)	4(3)	1(1)	3(3)	2(3)	5(3)	63(1)	16(3)	48(3)	25(3)	0.0(5)	198(3)	34
14.90	D	07/22/2010	8.0	11(3)	4(3)	1(1)	3(3)	2(3)	5(3)	43(3)	17(3)	17(5)	12(1)	0.0(5)	938(5)	38
10.40	D	07/14/2010	13.9	13(3)	5(3)	1(1)	3(3)	3(3)	5(3)	73(1)	25(3)	38(3)	21(1)	0.0(5)	208(3)	32
N. Br. Wolf Creek - (14-039)																
Year: 2010																
2.60	E	07/15/2010	14.1	19(5)	9(5)	2(3)	7(5)	3(3)	8(5)	34(3)	4(5)	35(3)	46(3)	0.0(5)	412(3)	48
Razor Run - (14-040)																
Year: 2010																
0.60	E	07/14/2010	5.3	16(5)	6(5)	2(3)	4(3)	4(5)	5(5)	48(3)	9(5)	40(3)	35(3)	0.0(5)	170(3)	48
Briarly Creek - (14-148)																
Year: 2010																
0.20	E	07/29/2010	6.9	5(1)	3(3)	0(1)	0(1)	0(1)	1(1)	59(1)	25(3)	57(1)	1(1)	0.0(5)	516(3)	22
Wesselman Creek - (14-149)																
Year: 2010																

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Preliminary IBI scores from tributaries to the lower Great Miami River, sampled in 2010.

				Number of						Percent of Individuals						
River Mile	Type	Date	Drainage area (sq mi)	Total species	Minnow species	Headwater species	Sensitive species	Darter & Sculpin species	Simple Lithophils	Tolerant fishes	Omni-vores	Pioneering fishes	Insect-ivores	DELT anomalies	Rel.No. minus tolerants /(0.3km)	IBI
3.00	E	07/29/2010	2.6	6(3)	4(3)	2(3)	0(1)	1(1)	2(3)	12(5)	2(5)	9(5)	50(5)	0.0(5)	182(3)	42
0.40	E	07/29/2010	9.1	22(5)	9(5)	2(3)	8(5)	4(5)	9(5)	23(5)	16(3)	23(5)	46(5)	0.0(5)	1584(5)	56
Pleasant Run trb 3.3 - (14-279)																
Year: 2010																
0.10	E	07/28/2010	3.0	5(3)	3(3)	1(1)	1(1)	1(1)	3(3)	47(3)	1(5)	24(5)	1(1)	0.0(5)	400(5)	36
N Br Wolf trib 1.77 - (14-280)																
Year: 2010																
0.40	E	07/12/2010	6.3	11(3)	4(3)	1(1)	3(3)	4(5)	4(3)	15(5)	8(5)	16(5)	61(5)	0.0(5)	324(3)	46

♦ - IBI is low end adjusted.

* - < 200 Total individuals in sample

** - < 50 Total individuals in sample

● - One or more species excluded from IBI calculation.

Appendix A-4. Fish species collected by site.

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **81.10**	Location: upst. Monument Ave. dam	Date Range: 10/01/2010
Time Fished: 1982 sec	Drainage: 2511.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		8	16.00	6.84	4.45	6.54	278.38
Northern Pike	F	P	M		1	2.00	0.85	0.75	1.10	375.00
Quillback	C	O	M		15	30.00	12.82	18.96	27.85	632.00
River Carpsucker	C	O	M		7	14.00	5.98	10.77	15.82	769.29
Highfin Carpsucker	C	O	M		1	2.00	0.85	1.76	2.58	880.00
Black Redhorse	R	I	S	I	1	2.00	0.85	0.02	0.03	10.00
Golden Redhorse	R	I	S	M	40	80.00	34.19	5.63	8.27	70.38
Northern Hog Sucker	R	I	S	M	5	10.00	4.27	1.20	1.76	120.00
Common Carp	G	O	M	T	7	14.00	5.98	21.40	31.43	1,528.57
Golden Shiner	N	I	M	T	1	2.00	0.85	0.06	0.09	30.00
Silver Shiner	N	I	S	I	1	2.00	0.85	0.02	0.03	11.00
Striped Shiner	N	I	S		1	2.00	0.85	0.08	0.12	42.00
Spotfin Shiner	N	I	M		10	20.00	8.55	0.02	0.04	1.20
Sand Shiner	N	I	M	M	1	2.00	0.85	0.00	0.01	2.00
Bluntnose Minnow	N	O	C	T	3	6.00	2.56	0.02	0.03	3.67
Channel Catfish	F		C		1	2.00	0.85	0.02	0.03	10.00
Brook Silverside		I	M	M	4	8.00	3.42	0.01	0.01	1.25
Smallmouth Bass	F	C	C	M	5	10.00	4.27	2.72	4.00	272.40
Largemouth Bass	F	C	C		3	6.00	2.56	0.11	0.16	18.67
Longear Sunfish	S	I	C	M	2	4.00	1.71	0.06	0.09	16.00
	Mile Total				117	234.00		68.09		
	Number of Species				20					
	Number of Hybrids				0					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **78.90**	Location: Stewart St.	Date Range: 08/04/2010
Time Fished: 2171 sec	Drainage: 2587.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Quillback	C	O	M		2	4.00	0.93	3.60	2.44	900.00
Black Redhorse	R	I	S	I	15	30.00	6.98	11.24	7.61	374.67
Golden Redhorse	R	I	S	M	50	100.00	23.26	37.91	25.67	379.08
River Redhorse [S]	R	I	S	I	1	2.00	0.47	6.40	4.33	3,200.00
Northern Hog Sucker	R	I	S	M	11	22.00	5.12	9.00	6.10	409.27
White Sucker	W	O	S	T	1	2.00	0.47	0.17	0.11	84.00
Smallmouth Redhorse	R	I	S	M	23	46.00	10.70	20.55	13.91	446.70
Common Carp	G	O	M	T	8	16.00	3.72	30.40	20.58	1,900.00
Silver Shiner	N	I	S	I	9	18.00	4.19	0.17	0.12	9.67
Rosyface Shiner	N	I	S	I	2	4.00	0.93	0.01	0.01	2.00
Striped Shiner	N	I	S		1	2.00	0.47	0.04	0.03	20.00
Spotfin Shiner	N	I	M		18	36.00	8.37	0.16	0.11	4.44
Sand Shiner	N	I	M	M	8	16.00	3.72	0.05	0.03	2.86
Bluntnose Minnow	N	O	C	T	3	6.00	1.40	0.03	0.02	5.33
Channel Catfish	F		C		12	24.00	5.58	9.30	6.30	387.50
Rock Bass	S	C	C		16	32.00	7.44	1.66	1.13	52.00
Smallmouth Bass	F	C	C	M	24	48.00	11.16	16.68	11.29	347.50
Largemouth Bass	F	C	C		1	2.00	0.47	0.10	0.07	50.00
Bluegill Sunfish	S	I	C	P	6	12.00	2.79	0.17	0.11	14.00
Longear Sunfish	S	I	C	M	3	6.00	1.40	0.04	0.03	6.67
Rainbow Darter	D	I	S	M	1	2.00	0.47	0.00	0.00	1.00
	Mile Total				215	430.00		147.68		
	Number of Species				21					
	Number of Hybrids				0					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **77.30**	Location: upst. Broadway St.	Date Range: 08/04/2010
Time Fished: 2200 sec	Drainage: 2591.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.00	0.30	0.25	0.19	125.00
Quillback	C	O	M		1	2.00	0.30	0.77	0.60	386.00
Golden Redhorse	R	I	S	M	75	150.00	22.52	47.44	36.56	316.25
River Redhorse [S]	R	I	S	I	4	8.00	1.20	12.05	9.29	1,506.25
Northern Hog Sucker	R	I	S	M	18	36.00	5.41	7.55	5.82	209.72
Smallmouth Redhorse	R	I	S	M	22	44.00	6.61	10.05	7.75	228.41
Common Carp	G	O	M	T	6	12.00	1.80	32.60	25.13	2,716.67
Suckermouth Minnow	N	I	S		4	8.00	1.20	0.02	0.02	3.00
Silver Shiner	N	I	S	I	1	2.00	0.30	0.02	0.01	9.00
Spotfin Shiner	N	I	M		59	118.00	17.72	0.44	0.34	3.75
Sand Shiner	N	I	M	M	50	100.00	15.02	0.20	0.15	2.00
Silverjaw Minnow	N	I	M		1	2.00	0.30	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	8	16.00	2.40	0.04	0.03	2.43
Central Stoneroller	N	H	N		11	22.00	3.30	0.08	0.06	3.60
Channel Catfish	F		C		5	10.00	1.50	9.40	7.25	940.00
Black Crappie	S	I	C		1	2.00	0.30	0.10	0.08	49.00
Rock Bass	S	C	C		6	12.00	1.80	1.16	0.90	97.00
Smallmouth Bass	F	C	C	M	13	26.00	3.90	5.20	4.01	200.00
Largemouth Bass	F	C	C		2	4.00	0.60	0.01	0.01	2.50
Green Sunfish	S	I	C	T	1	2.00	0.30	0.01	0.01	7.00
Bluegill Sunfish	S	I	C	P	31	62.00	9.31	2.04	1.57	32.87
Orangespotted Sunfish	S	I	C		1	2.00	0.30	0.01	0.01	5.00
Longear Sunfish	S	I	C	M	7	14.00	2.10	0.24	0.18	17.14
Green Sf X Hybrid					1	2.00	0.30	0.01	0.01	6.00
Logperch	D	I	S	M	1	2.00	0.30	0.02	0.02	11.00
Greenside Darter	D	I	S	M	2	4.00	0.60	0.01	0.01	3.00
Rainbow Darter	D	I	S	M	1	2.00	0.30	0.00	0.00	2.00
	Mile Total				333	666.00		129.74		
	Number of Species				26					
	Number of Hybrids				1					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **75.70**	Location: dst. Dayton WWTP	Date Range: 08/09/2010
Time Fished: 2388 sec	Drainage: 2595.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		8	16.00	4.26	0.13	0.08	8.00
Quillback	C	O	M		1	2.00	0.53	1.50	0.98	750.00
Golden Redhorse	R	I	S	M	45	90.00	23.94	26.75	17.55	297.25
River Redhorse [S]	R	I	S	I	4	8.00	2.13	1.55	1.02	194.00
Northern Hog Sucker	R	I	S	M	4	8.00	2.13	0.90	0.59	112.50
White Sucker	W	O	S	T	1	2.00	0.53	0.04	0.03	20.00
Smallmouth Redhorse	R	I	S	M	5	10.00	2.66	1.70	1.12	170.00
Common Carp	G	O	M	T	11	22.00	5.85	52.30	34.31	2,377.27
River Chub	N	I	N	I	2	4.00	1.06	0.09	0.06	22.00
Spotfin Shiner	N	I	M		18	36.00	9.57	0.12	0.08	3.22
Sand Shiner	N	I	M	M	3	6.00	1.60	0.02	0.01	2.67
Bluntnose Minnow	N	O	C	T	8	16.00	4.26	0.02	0.01	1.25
Grass Carp	E		M		1	2.00	0.53	20.60	13.51	10,300.00
Channel Catfish	F		C		2	4.00	1.06	4.80	3.15	1,200.00
Flathead Catfish	F	P	C		7	14.00	3.72	34.52	22.65	2,465.86
Black Crappie	S	I	C		3	6.00	1.60	1.68	1.10	280.00
Rock Bass	S	C	C		7	14.00	3.72	1.55	1.02	110.71
Smallmouth Bass	F	C	C	M	13	26.00	6.91	1.95	1.28	75.00
Largemouth Bass	F	C	C		4	8.00	2.13	0.30	0.19	37.00
Green Sunfish	S	I	C	T	1	2.00	0.53	0.02	0.02	12.00
Bluegill Sunfish	S	I	C	P	27	54.00	14.36	1.61	1.06	29.89
Longear Sunfish	S	I	C	M	7	14.00	3.72	0.18	0.12	12.86
Pumpkinseed Sunfish	S	I	C	P	1	2.00	0.53	0.03	0.02	17.00
Logperch	D	I	S	M	4	8.00	2.13	0.08	0.05	9.75
Greenside Darter	D	I	S	M	1	2.00	0.53	0.00	0.00	2.00
	Mile Total				188	376.00		152.45		
	Number of Species				25					
	Number of Hybrids				0					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **73.70**	Location: Sellars Rd.	Date Range: 08/09/2010
Time Fished: 2245 sec	Drainage: 2605.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		2	4.00	1.23	1.30	1.76	325.00
Quillback	C	O	M		5	10.00	3.09	8.55	11.59	855.00
Golden Redhorse	R	I	S	M	67	134.00	41.36	27.30	36.99	203.73
White Sucker	W	O	S	T	1	2.00	0.62	0.04	0.05	20.00
Spotted Sucker	R	I	S		3	6.00	1.85	4.40	5.96	733.33
Common Carp	G	O	M	T	6	12.00	3.70	26.40	35.77	2,200.00
Striped Shiner	N	I	S		1	2.00	0.62	0.04	0.06	22.00
Spotfin Shiner	N	I	M		20	40.00	12.35	0.12	0.16	3.00
Bluntnose Minnow	N	O	C	T	4	8.00	2.47	0.02	0.03	2.50
Channel Catfish	F		C		1	2.00	0.62	1.70	2.30	850.00
Rock Bass	S	C	C		1	2.00	0.62	0.20	0.27	100.00
Smallmouth Bass	F	C	C	M	5	10.00	3.09	1.17	1.59	117.00
Largemouth Bass	F	C	C		7	14.00	4.32	0.26	0.36	18.86
Bluegill Sunfish	S	I	C	P	21	42.00	12.96	1.72	2.33	40.86
Orangespotted Sunfish	S	I	C		1	2.00	0.62	0.01	0.02	6.00
Longear Sunfish	S	I	C	M	16	32.00	9.88	0.54	0.73	16.88
Logperch	D	I	S	M	1	2.00	0.62	0.02	0.03	12.00
	Mile Total				162	324.00		73.80		
	Number of Species				17					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **72.60**	Location: upst. Appleton Paper Co.	Date Range: 08/10/2010
Time Fished: 2260 sec	Drainage: 2636.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		14	28.00	8.38	4.50	3.22	160.71
Black Redhorse	R	I	S	I	1	2.00	0.60	1.00	0.71	500.00
Golden Redhorse	R	I	S	M	18	36.00	10.78	17.23	12.32	478.53
River Redhorse [S]	R	I	S	I	3	6.00	1.80	15.20	10.87	2,533.33
Northern Hog Sucker	R	I	S	M	7	14.00	4.19	7.50	5.36	535.71
Spotted Sucker	R	I	S		1	2.00	0.60	0.95	0.68	475.00
Smallmouth Redhorse	R	I	S	M	34	68.00	20.36	26.00	18.59	382.35
Common Carp	G	O	M	T	6	12.00	3.59	24.70	17.66	2,058.33
Silver Shiner	N	I	S	I	1	2.00	0.60	0.01	0.01	7.00
Striped Shiner	N	I	S		1	2.00	0.60	0.02	0.02	11.00
Spotfin Shiner	N	I	M		14	28.00	8.38	0.08	0.06	2.79
Sand Shiner	N	I	M	M	3	6.00	1.80	0.09	0.06	14.67
Bluntnose Minnow	N	O	C	T	1	2.00	0.60	0.01	0.00	3.00
Central Stoneroller	N	H	N		5	10.00	2.99	0.06	0.04	5.80
Channel Catfish	F		C		11	22.00	6.59	22.20	15.87	1,009.09
Flathead Catfish	F	P	C		1	2.00	0.60	1.40	1.00	700.00
White Bass	F	P	M		1	2.00	0.60	0.02	0.02	11.00
White Crappie	S	I	C		1	2.00	0.60	0.05	0.04	25.00
Rock Bass	S	C	C		1	2.00	0.60	0.25	0.18	125.00
Smallmouth Bass	F	C	C	M	22	44.00	13.17	13.26	9.48	301.40
Bluegill Sunfish	S	I	C	P	12	24.00	7.19	1.50	1.07	62.50
Longear Sunfish	S	I	C	M	2	4.00	1.20	0.11	0.08	28.00
Greenside Darter	D	I	S	M	2	4.00	1.20	0.02	0.01	4.50
Banded Darter	D	I	S	I	1	2.00	0.60	0.00	0.00	2.00
Rainbow Darter	D	I	S	M	1	2.00	0.60	0.00	0.00	2.00
Sauger X Walleye	E	P			3	6.00	1.80	3.70	2.65	616.67
	Mile Total				167	334.00		139.87		
	Number of Species				25					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **71.70**	Location: upst. Mont. Co. Western Reg. WWTP	Date Range: 08/10/2010
Time Fished: 2086 sec	Drainage: 2637.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		5	10.00	1.51	1.62	0.88	162.00
Quillback	C	O	M		1	2.00	0.30	1.55	0.84	775.00
Golden Redhorse	R	I	S	M	24	48.00	7.23	18.57	10.12	386.84
River Redhorse [S]	R	I	S	I	1	2.00	0.30	2.40	1.31	1,200.00
Northern Hog Sucker	R	I	S	M	25	50.00	7.53	11.91	6.49	238.16
Smallmouth Redhorse	R	I	S	M	24	48.00	7.23	20.50	11.17	427.08
Common Carp	G	O	M	T	6	12.00	1.81	28.40	15.48	2,366.67
River Chub	N	I	N	I	3	6.00	0.90	0.18	0.10	29.33
Suckermouth Minnow	N	I	S		3	6.00	0.90	0.02	0.01	3.33
Silver Shiner	N	I	S	I	2	4.00	0.60	0.01	0.01	3.00
Rosyface Shiner	N	I	S	I	48	96.00	14.46	0.24	0.13	2.46
Striped Shiner	N	I	S		1	2.00	0.30	0.04	0.02	21.00
Spotfin Shiner	N	I	M		29	58.00	8.73	0.20	0.11	3.45
Sand Shiner	N	I	M	M	73	146.00	21.99	0.26	0.14	1.79
Bluntnose Minnow	N	O	C	T	5	10.00	1.51	0.03	0.02	3.00
Channel Catfish	F		C		42	84.00	12.65	78.80	42.94	938.10
Flathead Catfish	F	P	C		1	2.00	0.30	7.90	4.31	3,950.00
Smallmouth Bass	F	C	C	M	22	44.00	6.63	4.80	2.62	109.09
Longear Sunfish	S	I	C	M	3	6.00	0.90	0.11	0.06	19.00
Logperch	D	I	S	M	5	10.00	1.51	0.15	0.08	15.40
Greenside Darter	D	I	S	M	3	6.00	0.90	0.05	0.03	8.00
Banded Darter	D	I	S	I	1	2.00	0.30	0.01	0.00	3.00
Sauger X Walleye	E	P			5	10.00	1.51	5.75	3.13	575.00
	Mile Total				332	664.00		183.50		
	Number of Species				22					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **69.90**	Location: Farmersville-West Carrollton Rd.	Date Range: 08/10/2010
Time Fished: 5145 sec	Drainage: 2647.0 sq mi	Thru: 09/08/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		16	16.00	4.21	3.15	3.42	197.09
Quillback	C	O	M		2	2.00	0.53	1.80	1.95	900.00
Golden Redhorse	R	I	S	M	29	29.00	7.63	17.23	18.68	593.97
River Redhorse [S]	R	I	S	I	2	2.00	0.53	4.80	5.20	2,400.00
Northern Hog Sucker	R	I	S	M	9	9.00	2.37	3.34	3.63	371.43
Spotted Sucker	R	I	S		2	2.00	0.53	0.03	0.03	12.50
Smallmouth Redhorse	R	I	S	M	46	46.00	12.11	21.51	23.33	467.70
Common Carp	G	O	M	T	12	12.00	3.16	5.05	5.48	420.83
River Chub	N	I	N	I	1	1.00	0.26	0.03	0.03	30.00
Silver Shiner	N	I	S	I	7	7.00	1.84	0.03	0.04	4.71
Rosyface Shiner	N	I	S	I	1	1.00	0.26	0.00	0.00	2.00
Spotfin Shiner	N	I	M		144	144.00	37.89	0.54	0.59	3.77
Sand Shiner	N	I	M	M	2	2.00	0.53	0.00	0.00	1.50
Mimic Shiner	N	I	M	I	1	1.00	0.26	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	4	4.00	1.05	0.01	0.01	2.50
Central Stoneroller	N	H	N		3	3.00	0.79	0.02	0.02	6.33
Channel Catfish	F		C		8	8.00	2.11	9.20	9.98	1,150.00
Flathead Catfish	F	P	C		13	13.00	3.42	14.22	15.42	1,093.69
Brook Silverside		I	M	M	1	1.00	0.26	0.00	0.00	3.00
Smallmouth Bass	F	C	C	M	49	49.00	12.89	3.99	4.32	81.33
Green Sunfish	S	I	C	T	1	1.00	0.26	0.04	0.04	37.00
Bluegill Sunfish	S	I	C	P	4	4.00	1.05	0.30	0.33	75.00
Longear Sunfish	S	I	C	M	1	1.00	0.26	0.03	0.03	28.00
Walleye	F	P	S		1	1.00	0.26	1.20	1.30	1,200.00
Logperch	D	I	S	M	10	10.00	2.63	0.15	0.17	15.40
Greenside Darter	D	I	S	M	5	5.00	1.32	0.04	0.04	7.80
Banded Darter	D	I	S	I	1	1.00	0.26	0.00	0.00	4.00
Sauger X Walleye	E	P			5	5.00	1.32	5.50	5.96	1,100.00
	Mile Total				380	380.00		92.22		
	Number of Species				27					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **68.30**	Location: dst. West Carrolton WWTP	Date Range: 08/11/2010
Time Fished: 2396 sec	Drainage: 2654.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.00	0.42	0.55	0.33	275.00
Golden Redhorse	R	I	S	M	44	88.00	18.64	36.45	21.84	414.19
River Redhorse [S]	R	I	S	I	1	2.00	0.42	0.09	0.05	44.00
Northern Hog Sucker	R	I	S	M	6	12.00	2.54	4.00	2.40	333.33
Smallmouth Redhorse	R	I	S	M	27	54.00	11.44	19.00	11.38	351.85
Common Carp	G	O	M	T	13	26.00	5.51	76.35	45.75	2,936.54
Silver Shiner	N	I	S	I	19	38.00	8.05	0.14	0.08	3.58
Rosyface Shiner	N	I	S	I	5	10.00	2.12	0.02	0.01	2.40
Spotfin Shiner	N	I	M		58	116.00	24.58	0.40	0.24	3.45
Sand Shiner	N	I	M	M	2	4.00	0.85	0.01	0.00	2.00
Mimic Shiner	N	I	M	I	1	2.00	0.42	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	7	14.00	2.97	0.04	0.02	2.57
Channel Catfish	F		C		7	14.00	2.97	17.20	10.31	1,228.57
Flathead Catfish	F	P	C		1	2.00	0.42	2.40	1.44	1,200.00
Stonecat Madtom		I	C	I	2	4.00	0.85	0.02	0.01	4.00
Rock Bass	S	C	C		2	4.00	0.85	0.28	0.17	71.00
Smallmouth Bass	F	C	C	M	11	22.00	4.66	4.56	2.73	207.45
Largemouth Bass	F	C	C		1	2.00	0.42	0.01	0.01	7.00
Bluegill Sunfish	S	I	C	P	9	18.00	3.81	0.34	0.20	18.67
Orangespotted Sunfish	S	I	C		1	2.00	0.42	0.01	0.01	6.00
Longear Sunfish	S	I	C	M	6	12.00	2.54	0.20	0.12	16.67
Logperch	D	I	S	M	9	18.00	3.81	0.22	0.13	12.33
Banded Darter	D	I	S	I	1	2.00	0.42	0.00	0.00	2.00
Sauger X Walleye	E	P			2	4.00	0.85	4.60	2.76	1,150.00
	Mile Total				236	472.00		166.90		
	Number of Species				23					
	Number of Hybrids				1					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **66.90**	Location: Linden Ave.	Date Range: 08/18/2010
Time Fished: 1923 sec	Drainage: 2711.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	3	6.00	1.75	2.85	2.32	475.00
Golden Redhorse	R	I	S	M	41	82.00	23.98	28.64	23.34	349.21
Northern Hog Sucker	R	I	S	M	16	32.00	9.36	7.42	6.04	231.75
Spotted Sucker	R	I	S		3	6.00	1.75	0.04	0.03	6.00
Smallmouth Redhorse	R	I	S	M	22	44.00	12.87	16.16	13.17	367.25
Common Carp	G	O	M	T	7	14.00	4.09	43.80	35.69	3,128.57
Silver Shiner	N	I	S	I	8	16.00	4.68	0.19	0.15	11.88
Rosyface Shiner	N	I	S	I	3	6.00	1.75	0.02	0.01	3.00
Spotfin Shiner	N	I	M		24	48.00	14.04	0.18	0.15	3.83
Sand Shiner	N	I	M	M	4	8.00	2.34	0.02	0.01	2.25
Bluntnose Minnow	N	O	C	T	7	14.00	4.09	0.05	0.04	3.57
Channel Catfish	F		C		10	20.00	5.85	20.17	16.44	1,008.50
Black Crappie	S	I	C		2	4.00	1.17	0.31	0.25	77.00
Rock Bass	S	C	C		1	2.00	0.58	0.10	0.08	52.00
Smallmouth Bass	F	C	C	M	6	12.00	3.51	2.12	1.73	176.67
Largemouth Bass	F	C	C		1	2.00	0.58	0.25	0.20	125.00
Bluegill Sunfish	S	I	C	P	2	4.00	1.17	0.08	0.07	21.00
Orangespotted Sunfish	S	I	C		1	2.00	0.58	0.02	0.02	11.00
Longear Sunfish	S	I	C	M	1	2.00	0.58	0.06	0.05	30.00
Logperch	D	I	S	M	8	16.00	4.68	0.23	0.19	14.38
Banded Darter	D	I	S	I	1	2.00	0.58	0.00	0.00	1.00
	Mile Total				171	342.00		122.71		
	Number of Species				21					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **64.10**	Location: dst. DPL Hutchings Dam	Date Range: 08/18/2010
Time Fished: 6441 sec	Drainage: 2719.0 sq mi	Thru: 09/15/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		9	9.00	4.33	2.64	1.91	293.33
Quillback	C	O	M		8	8.00	3.85	4.71	3.40	588.75
River Carpsucker	C	O	M		1	1.00	0.48	1.10	0.80	1,100.00
Highfin Carpsucker	C	O	M		2	2.00	0.96	1.14	0.82	567.50
Golden Redhorse	R	I	S	M	22	22.00	10.58	6.00	4.34	272.77
Northern Hog Sucker	R	I	S	M	1	1.00	0.48	0.04	0.03	40.00
Smallmouth Redhorse	R	I	S	M	16	16.00	7.69	9.20	6.65	575.00
Common Carp	G	O	M	T	39	39.00	18.75	80.80	58.40	2,071.79
Silver Shiner	N	I	S	I	3	3.00	1.44	0.01	0.01	3.33
Spotfin Shiner	N	I	M		15	15.00	7.21	0.05	0.03	3.00
Bluntnose Minnow	N	O	C	T	7	7.00	3.37	0.02	0.02	3.43
Channel Catfish	F		C		8	8.00	3.85	4.42	3.19	551.88
Flathead Catfish	F	P	C		6	6.00	2.88	19.86	14.36	3,310.00
Stonecat Madtom		I	C	I	1	1.00	0.48	0.01	0.01	10.00
White Crappie	S	I	C		2	2.00	0.96	0.56	0.40	279.00
Rock Bass	S	C	C		1	1.00	0.48	0.00	0.00	3.00
Smallmouth Bass	F	C	C	M	25	25.00	12.02	5.47	3.96	218.96
Largemouth Bass	F	C	C		9	9.00	4.33	0.44	0.32	48.56
Bluegill Sunfish	S	I	C	P	20	20.00	9.62	0.83	0.60	41.45
Orangespotted Sunfish	S	I	C		3	3.00	1.44	0.02	0.01	6.67
Hybrid X Sunfish					2	2.00	0.96	0.13	0.09	65.00
Logperch	D	I	S	M	7	7.00	3.37	0.10	0.07	13.71
Sauger X Walleye	E	P			1	1.00	0.48	0.81	0.59	810.00
	Mile Total				208	208.00		138.35		
	Number of Species				21					
	Number of Hybrids				2					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **62.60**	Location: upst. Chautaqua Dam	Date Range: 08/19/2010
Time Fished: 7147 sec	Drainage: 2723.0 sq mi	Thru: 09/15/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		4	4.00	2.11	1.78	1.78	443.75
Quillback	C	O	M		5	5.00	2.63	2.90	2.91	580.00
Highfin Carpsucker	C	O	M		6	6.00	3.16	3.32	3.32	552.50
Golden Redhorse	R	I	S	M	28	28.00	14.74	11.64	11.67	415.68
River Redhorse [S]	R	I	S	I	1	1.00	0.53	3.23	3.23	3,225.00
Northern Hog Sucker	R	I	S	M	2	2.00	1.05	0.41	0.41	202.50
Smallmouth Redhorse	R	I	S	M	16	16.00	8.42	6.46	6.48	403.79
Common Carp	G	O	M	T	24	24.00	12.63	51.90	52.04	2,162.29
Silver Shiner	N	I	S	I	5	5.00	2.63	0.02	0.02	3.40
Rosyface Shiner	N	I	S	I	2	2.00	1.05	0.01	0.01	4.50
Spotfin Shiner	N	I	M		24	24.00	12.63	0.09	0.09	3.92
Bluntnose Minnow	N	O	C	T	10	10.00	5.26	0.04	0.04	3.70
Central Stoneroller	N	H	N		1	1.00	0.53	0.00	0.00	2.00
Channel Catfish	F		C		13	13.00	6.84	8.33	8.35	640.38
Flathead Catfish	F	P	C		5	5.00	2.63	5.45	5.46	1,089.00
White Bass	F	P	M		1	1.00	0.53	0.02	0.02	17.00
Black Crappie	S	I	C		1	1.00	0.53	0.38	0.38	375.00
Rock Bass	S	C	C		1	1.00	0.53	0.04	0.04	43.00
Smallmouth Bass	F	C	C	M	10	10.00	5.26	1.93	1.93	192.50
Largemouth Bass	F	C	C		2	2.00	1.05	0.06	0.06	28.50
Warmouth Sunfish	S	C	C		1	1.00	0.53	0.01	0.01	12.00
Bluegill Sunfish	S	I	C	P	5	5.00	2.63	0.32	0.32	63.20
Orangespotted Sunfish	S	I	C		1	1.00	0.53	0.01	0.01	11.00
Longear Sunfish	S	I	C	M	7	7.00	3.68	0.08	0.08	11.57
Blackside Darter	D	I	S		1	1.00	0.53	0.00	0.00	4.00
Logperch	D	I	S	M	6	6.00	3.16	0.14	0.14	22.83
Greenside Darter	D	I	S	M	4	4.00	2.11	0.02	0.02	5.00
Banded Darter	D	I	S	I	2	2.00	1.05	0.00	0.00	2.00
Sauger X Walleye	E	P			2	2.00	1.05	1.19	1.19	592.50
	Mile Total				190	190.00		99.73		
	Number of Species				28					
	Number of Hybrids				1					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **60.00**	Location: upst. Franklin WWTP	Date Range: 08/12/2010
Time Fished: 1593 sec	Drainage: 2728.0 sq mi	
Dist Fished: 0.43 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.33	0.93	0.70	0.56	300.00
Quillback	C	O	M		1	2.33	0.93	0.56	0.44	240.00
Highfin Carpsucker	C	O	M		2	4.65	1.87	3.49	2.78	750.00
Golden Redhorse	R	I	S	M	11	25.58	10.28	13.02	10.38	509.09
Northern Hog Sucker	R	I	S	M	3	6.98	2.80	2.16	1.72	310.00
Smallmouth Redhorse	R	I	S	M	40	93.02	37.38	30.51	24.33	328.03
Common Carp	G	O	M	T	12	27.91	11.21	55.49	44.25	1,988.33
Silver Shiner	N	I	S	I	3	6.98	2.80	0.05	0.04	6.67
Spotfin Shiner	N	I	M		6	13.95	5.61	0.04	0.03	3.00
Sand Shiner	N	I	M	M	2	4.65	1.87	0.01	0.01	2.00
Bluntnose Minnow	N	O	C	T	1	2.33	0.93	0.01	0.00	2.00
Channel Catfish	F		C		5	11.63	4.67	9.22	7.35	793.00
Flathead Catfish	F	P	C		1	2.33	0.93	0.58	0.46	250.00
Smallmouth Bass	F	C	C	M	19	44.19	17.76	9.57	7.63	216.58
	Mile Total				107	248.84		125.41		
	Number of Species				14					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **58.20**	Location: 0.4 mi. dst. Clear Creek	Date Range: 08/13/2010
Time Fished: 1975 sec	Drainage: 2791.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.00	0.68	0.80	0.60	400.00
Quillback	C	O	M		1	2.00	0.68	1.40	1.05	700.00
Highfin Carpsucker	C	O	M		2	4.00	1.36	1.08	0.81	270.00
Golden Redhorse	R	I	S	M	22	44.00	14.97	18.82	14.15	427.78
Northern Hog Sucker	R	I	S	M	21	42.00	14.29	6.87	5.16	163.57
Smallmouth Redhorse	R	I	S	M	35	70.00	23.81	21.88	16.44	312.50
Common Carp	G	O	M	T	17	34.00	11.56	57.80	43.45	1,700.00
Spotfin Shiner	N	I	M		13	26.00	8.84	0.10	0.08	3.85
Bluntnose Minnow	N	O	C	T	2	4.00	1.36	0.01	0.00	1.50
Channel Catfish	F		C		5	10.00	3.40	8.95	6.73	895.00
Flathead Catfish	F	P	C		2	4.00	1.36	10.20	7.67	2,550.00
Smallmouth Bass	F	C	C	M	15	30.00	10.20	4.85	3.65	161.67
Largemouth Bass	F	C	C		1	2.00	0.68	0.04	0.03	22.00
Green Sunfish	S	I	C	T	1	2.00	0.68	0.02	0.02	10.00
Bluegill Sunfish	S	I	C	P	2	4.00	1.36	0.03	0.03	8.50
Longear Sunfish	S	I	C	M	1	2.00	0.68	0.02	0.02	12.00
Logperch	D	I	S	M	4	8.00	2.72	0.14	0.11	17.50
Banded Darter	D	I	S	I	2	4.00	1.36	0.01	0.01	2.00
	Mile Total				147	294.00		133.02		
	Number of Species				18					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **52.70**	Location:	Date Range: 08/12/2010
Time Fished: 2016 sec	Drainage:	
Dist Fished: 0.50 km	Basin: Great Miami 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
Quillback	C	O	M		2	4.00	1.65	3.26	4.66	815.00
Golden Redhorse	R	I	S	M	51	102.00	42.15	4.11	5.87	40.26
Northern Hog Sucker	R	I	S	M	14	28.00	11.57	2.75	3.93	98.21
Smallmouth Redhorse	R	I	S	M	23	46.00	19.01	15.64	22.36	340.00
Common Carp	G	O	M	T	11	22.00	9.09	33.35	47.67	1,515.91
Spotfin Shiner	N	I	M		5	10.00	4.13	0.04	0.06	4.40
Bluntnose Minnow	N	O	C	T	2	4.00	1.65	0.01	0.01	2.50
Channel Catfish	F		C		6	12.00	4.96	6.25	8.93	520.83
Flathead Catfish	F	P	C		1	2.00	0.83	0.30	0.43	150.00
Smallmouth Bass	F	C	C	M	6	12.00	4.96	4.25	6.07	354.17
	Mile Total				121	242.00		69.96		
	Number of Species				10					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **51.60**	Location: dst. New Middletown dam	Date Range: 08/19/2010
Time Fished: 1433 sec	Drainage: 3137.0 sq mi	Thru: 09/08/2010
Dist Fished: 0.57 km	Basin: Great Miami 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
Quillback	C	O	M		13	22.91	4.66	19.04	7.77	828.85
River Carpsucker	C	O	M		2	3.57	0.73	2.05	0.84	575.00
Highfin Carpsucker	C	O	M		2	3.57	0.73	2.14	0.87	600.00
Golden Redhorse	R	I	S	M	17	29.80	6.06	12.11	4.94	404.41
River Redhorse [S]	R	I	S	I	3	5.23	1.06	17.71	7.22	3,383.33
Northern Hog Sucker	R	I	S	M	6	10.59	2.15	4.28	1.75	401.67
Smallmouth Redhorse	R	I	S	M	87	152.71	31.05	63.56	25.93	415.17
Common Carp	G	O	M	T	9	15.70	3.19	47.24	19.27	3,019.44
Silver Shiner	N	I	S	I	2	3.51	0.71	0.03	0.01	7.50
Rosyface Shiner	N	I	S	I	3	5.36	1.09	0.02	0.01	3.33
Spotfin Shiner	N	I	M		49	86.21	17.53	0.24	0.10	2.74
Sand Shiner	N	I	M	M	4	6.90	1.40	0.01	0.01	2.00
Bluntnose Minnow	N	O	C	T	9	15.64	3.18	0.03	0.01	2.00
Central Stoneroller	N	H	N		2	3.45	0.70	0.01	0.00	2.00
Channel Catfish	F		C		33	58.37	11.87	43.24	17.63	740.45
Flathead Catfish	F	P	C		6	10.59	2.15	26.46	10.79	2,476.50
Stonecat Madtom		I	C	I	1	1.72	0.35	0.01	0.00	5.00
Smallmouth Bass	F	C	C	M	9	15.83	3.22	6.70	2.73	421.56
Largemouth Bass	F	C	C		1	1.72	0.35	0.01	0.01	8.00
Orangespotted Sunfish	S	I	C		3	5.23	1.06	0.04	0.02	8.33
Longear Sunfish	S	I	C	M	1	1.72	0.35	0.03	0.01	15.00
Logperch	D	I	S	M	1	1.72	0.35	0.04	0.02	22.00
Greenside Darter	D	I	S	M	8	13.92	2.83	0.14	0.06	9.75
Banded Darter	D	I	S	I	5	8.87	1.80	0.02	0.01	2.00
Rainbow Darter	D	I	S	M	4	6.96	1.41	0.01	0.00	1.75
	Mile Total				280	491.81		245.18		
	Number of Species				25					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **51.40**	Location: dst. stormsewer outfall	Date Range: 08/19/2010
Time Fished: 3180 sec	Drainage: 3137.0 sq mi	Thru: 09/08/2010
Dist Fished: 0.66 km	Basin: Great Miami 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		1	1.43	0.28	0.71	0.81	500.00
Quillback	C	O	M		10	14.65	2.89	10.25	11.68	698.00
Highfin Carpsucker	C	O	M		3	4.47	0.88	2.66	3.04	600.00
Black Redhorse	R	I	S	I	4	6.27	1.23	3.19	3.64	506.25
Golden Redhorse	R	I	S	M	45	67.60	13.32	20.73	23.63	308.76
Northern Hog Sucker	R	I	S	M	2	3.23	0.64	0.52	0.60	162.50
Smallmouth Redhorse	R	I	S	M	26	39.36	7.75	13.79	15.71	347.31
Common Carp	G	O	M	T	4	5.90	1.16	13.70	15.61	2,375.00
Silver Shiner	N	I	S	I	7	10.55	2.08	0.04	0.05	3.71
Rosyface Shiner	N	I	S	I	42	64.24	12.66	0.15	0.17	2.32
Spotfin Shiner	N	I	M		90	138.89	27.37	0.47	0.54	3.36
Sand Shiner	N	I	M	M	7	10.55	2.08	0.02	0.03	2.29
Mimic Shiner	N	I	M	I	36	57.88	11.40	0.12	0.13	2.00
Bluntnose Minnow	N	O	C	T	13	20.60	4.06	0.07	0.08	3.40
Channel Catfish	F		C		3	4.29	0.84	3.54	4.03	825.00
Flathead Catfish	F	P	C		2	3.04	0.60	6.62	7.54	2,052.00
Smallmouth Bass	F	C	C	M	10	15.02	2.96	4.01	4.57	268.00
Largemouth Bass	F	C	C		6	9.31	1.83	1.31	1.49	145.00
Green Sunfish	S	I	C	T	1	1.61	0.32	0.04	0.05	25.00
Bluegill Sunfish	S	I	C	P	1	1.61	0.32	0.05	0.06	30.00
Orangespotted Sunfish	S	I	C		6	8.94	1.76	0.10	0.11	10.83
Longear Sunfish	S	I	C	M	5	7.70	1.52	0.11	0.13	14.20
Blackside Darter	D	I	S		1	1.43	0.28	0.01	0.01	8.00
Logperch	D	I	S	M	2	2.86	0.56	0.05	0.05	16.00
Sauger X Walleye	E	P			4	6.08	1.20	5.47	6.24	900.00
	Mile Total				331	507.51		87.74		
	Number of Species				24					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **51.20**	Location: upst. AK Steel stormsewer	Date Range: 08/19/2010
Time Fished: 4326 sec	Drainage: 3138.0 sq mi	Thru: 09/08/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		4	4.00	1.50	1.51	2.03	377.50
Quillback	C	O	M		4	4.00	1.50	3.16	4.25	788.75
Black Redhorse	R	I	S	I	3	3.00	1.13	0.70	0.94	233.33
Golden Redhorse	R	I	S	M	56	56.00	21.05	10.21	13.76	182.32
Northern Hog Sucker	R	I	S	M	4	4.00	1.50	0.39	0.52	96.75
Smallmouth Redhorse	R	I	S	M	24	24.00	9.02	4.47	6.02	186.21
Common Carp	G	O	M	T	16	16.00	6.02	37.90	51.07	2,368.75
Suckermouth Minnow	N	I	S		4	4.00	1.50	0.03	0.04	6.75
Silver Shiner	N	I	S	I	13	13.00	4.89	0.06	0.09	4.92
Rosyface Shiner	N	I	S	I	32	32.00	12.03	0.06	0.07	1.72
Striped Shiner	N	I	S		1	1.00	0.38	0.01	0.01	6.00
River Shiner	N	I	S		1	1.00	0.38	0.00	0.00	3.00
Spotfin Shiner	N	I	M		29	29.00	10.90	0.09	0.12	3.00
Sand Shiner	N	I	M	M	13	13.00	4.89	0.02	0.03	1.53
Mimic Shiner	N	I	M	I	5	5.00	1.88	0.01	0.01	2.20
Bluntnose Minnow	N	O	C	T	1	1.00	0.38	0.00	0.00	3.00
Central Stoneroller	N	H	N		2	2.00	0.75	0.01	0.01	5.50
Channel Catfish	F		C		13	13.00	4.89	7.75	10.44	596.15
Flathead Catfish	F	P	C		3	3.00	1.13	4.55	6.13	1,516.67
White Bass	F	P	M		1	1.00	0.38	0.17	0.22	165.00
Smallmouth Bass	F	C	C	M	13	13.00	4.89	2.91	3.92	223.92
Bluegill Sunfish	S	I	C	P	1	1.00	0.38	0.11	0.15	111.00
Orangespotted Sunfish	S	I	C		4	4.00	1.50	0.02	0.03	5.75
Logperch	D	I	S	M	2	2.00	0.75	0.04	0.05	19.00
Greenside Darter	D	I	S	M	2	2.00	0.75	0.02	0.03	9.50
Banded Darter	D	I	S	I	15	15.00	5.64	0.03	0.04	2.13
	Mile Total				266	266.00		74.22		
	Number of Species				26					
	Number of Hybrids				0					

Species List

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **49.10**	Location: dst. St. Rt. 73	Date Range: 08/05/2010
Time Fished: 3863 sec	Drainage: 3189.0 sq mi	Thru: 09/08/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		7	7.00	1.39	1.65	1.19	235.71
Quillback	C	O	M		3	3.00	0.60	2.45	1.77	816.67
Golden Redhorse	R	I	S	M	9	9.00	1.79	1.21	0.88	134.78
River Redhorse [S]	R	I	S	I	1	1.00	0.20	1.60	1.16	1,600.00
Northern Hog Sucker	R	I	S	M	66	66.00	13.12	17.45	12.60	264.39
Smallmouth Redhorse	R	I	S	M	32	32.00	6.36	11.58	8.36	361.72
Common Carp	G	O	M	T	28	28.00	5.57	71.35	51.52	2,548.09
Suckermouth Minnow	N	I	S		1	1.00	0.20	0.01	0.01	12.00
Silver Shiner	N	I	S	I	10	10.00	1.99	0.08	0.06	7.70
Rosyface Shiner	N	I	S	I	26	26.00	5.17	0.05	0.03	1.83
Spotfin Shiner	N	I	M		156	156.00	31.01	0.46	0.33	2.96
Sand Shiner	N	I	M	M	26	26.00	5.17	0.07	0.05	2.65
Bluntnose Minnow	N	O	C	T	48	48.00	9.54	0.12	0.09	2.58
Channel Catfish	F		C		14	14.00	2.78	10.95	7.91	782.14
Flathead Catfish	F	P	C		10	10.00	1.99	14.70	10.61	1,469.67
Stonecat Madtom		I	C	I	1	1.00	0.20	0.01	0.01	8.00
Smallmouth Bass	F	C	C	M	29	29.00	5.77	3.76	2.72	129.71
Largemouth Bass	F	C	C		10	10.00	1.99	0.71	0.51	70.60
Orangespotted Sunfish	S	I	C		5	5.00	0.99	0.05	0.04	10.80
Longear Sunfish	S	I	C	M	2	2.00	0.40	0.02	0.01	8.00
Hybrid X Sunfish					1	1.00	0.20	0.06	0.04	58.00
Logperch	D	I	S	M	6	6.00	1.19	0.11	0.08	18.80
Banded Darter	D	I	S	I	8	8.00	1.59	0.03	0.02	3.13
Rainbow Darter	D	I	S	M	4	4.00	0.80	0.02	0.01	4.50
	Mile Total				503	503.00		138.48		
	Number of Species				23					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **48.00**	Location: 0.3 mi. upst. Dicks Creek	Date Range: 09/08/2010
Time Fished: 1640 sec	Drainage: 3191.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.00	0.22	0.48	0.32	241.00
Golden Redhorse	R	I	S	M	1	2.00	0.22	0.74	0.49	368.00
Northern Hog Sucker	R	I	S	M	11	22.00	2.47	5.15	3.43	234.09
Smallmouth Redhorse	R	I	S	M	45	90.00	10.09	37.16	24.75	412.90
Common Carp	G	O	M	T	9	18.00	2.02	58.80	39.17	3,266.67
Silver Shiner	N	I	S	I	3	6.00	0.67	0.06	0.04	10.67
Rosyface Shiner	N	I	S	I	18	36.00	4.04	0.10	0.07	2.89
Spotfin Shiner	N	I	M		292	584.00	65.47	1.62	1.08	2.77
Sand Shiner	N	I	M	M	10	20.00	2.24	0.04	0.03	2.10
Bluntnose Minnow	N	O	C	T	7	14.00	1.57	0.07	0.05	4.86
Central Stoneroller	N	H	N		1	2.00	0.22	0.03	0.02	15.00
Channel Catfish	F		C		13	26.00	2.91	27.55	18.35	1,059.62
Flathead Catfish	F	P	C		6	12.00	1.35	6.90	4.60	575.00
Smallmouth Bass	F	C	C	M	19	38.00	4.26	8.72	5.81	229.37
Largemouth Bass	F	C	C		2	4.00	0.45	0.20	0.13	49.00
Green Sunfish	S	I	C	T	2	4.00	0.45	0.04	0.03	10.50
Bluegill Sunfish	S	I	C	P	1	2.00	0.22	0.02	0.01	10.00
Longear Sunfish	S	I	C	M	2	4.00	0.45	0.12	0.08	30.50
Greenside Darter	D	I	S	M	2	4.00	0.45	0.02	0.02	6.00
Sauger X Walleye	E	P			1	2.00	0.22	2.30	1.53	1,150.00
	Mile Total				446	892.00		150.13		
	Number of Species				19					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **47.10**	Location: dst. Dicks Creek	Date Range: 09/08/2010
Time Fished: 1453 sec	Drainage: 3240.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		1	2.00	0.21	0.22	0.12	108.00
Quillback	C	O	M		1	2.00	0.21	2.80	1.60	1,400.00
Golden Redhorse	R	I	S	M	4	8.00	0.83	0.17	0.10	21.25
Northern Hog Sucker	R	I	S	M	27	54.00	5.63	15.69	8.97	290.48
Smallmouth Redhorse	R	I	S	M	22	44.00	4.58	19.85	11.35	451.14
Common Carp	G	O	M	T	16	32.00	3.33	96.13	54.98	3,004.17
Suckermouth Minnow	N	I	S		34	68.00	7.08	0.44	0.25	6.47
Silver Shiner	N	I	S	I	3	6.00	0.63	0.04	0.02	6.67
Rosyface Shiner	N	I	S	I	87	174.00	18.13	0.39	0.22	2.25
Spotfin Shiner	N	I	M		175	350.00	36.46	1.03	0.59	2.93
Sand Shiner	N	I	M	M	17	34.00	3.54	0.11	0.06	3.29
Bluntnose Minnow	N	O	C	T	22	44.00	4.58	0.16	0.09	3.55
Central Stoneroller	N	H	N		24	48.00	5.00	0.42	0.24	8.70
Channel Catfish	F		C		15	30.00	3.13	26.05	14.90	868.20
Flathead Catfish	F	P	C		4	8.00	0.83	9.15	5.23	1,143.75
Stonecat Madtom		I	C	I	1	2.00	0.21	0.04	0.02	20.00
Rock Bass	S	C	C		1	2.00	0.21	0.15	0.09	76.00
Smallmouth Bass	F	C	C	M	5	10.00	1.04	1.42	0.81	142.40
Largemouth Bass	F	C	C		3	6.00	0.63	0.30	0.17	50.67
Green Sunfish	S	I	C	T	5	10.00	1.04	0.12	0.07	11.80
Bluegill Sunfish	S	I	C	P	2	4.00	0.42	0.03	0.02	7.00
Orangespotted Sunfish	S	I	C		1	2.00	0.21	0.02	0.01	10.00
Longear Sunfish	S	I	C	M	2	4.00	0.42	0.05	0.03	12.50
Blackside Darter	D	I	S		1	2.00	0.21	0.01	0.00	4.00
Logperch	D	I	S	M	1	2.00	0.21	0.02	0.01	12.00
Greenside Darter	D	I	S	M	5	10.00	1.04	0.05	0.03	4.60
Banded Darter	D	I	S	I	1	2.00	0.21	0.00	0.00	2.00
	Mile Total				480	960.00		174.85		
	Number of Species				27					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **45.30**	Location: dst. LeSourdsville WWTP	Date Range: 08/04/2010
Time Fished: 3392 sec	Drainage: 3271.0 sq mi	Thru: 09/08/2010
Dist Fished: 1.00 km	Basin: Great Miami 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	34	34.00	7.66	18.32	11.60	538.73
Northern Hog Sucker	R	I	S	M	19	19.00	4.28	5.74	3.63	301.84
Smallmouth Redhorse	R	I	S	M	16	16.00	3.60	8.35	5.29	521.88
Common Carp	G	O	M	T	12	12.00	2.70	45.00	28.49	3,750.00
Suckermouth Minnow	N	I	S		4	4.00	0.90	0.05	0.03	11.75
Silver Shiner	N	I	S	I	9	9.00	2.03	0.08	0.05	8.50
Rosyface Shiner	N	I	S	I	60	60.00	13.51	0.10	0.06	1.60
Spotfin Shiner	N	I	M		109	109.00	24.55	0.26	0.16	2.36
Sand Shiner	N	I	M	M	43	43.00	9.68	0.10	0.07	2.40
Mimic Shiner	N	I	M	I	1	1.00	0.23	0.00	0.00	2.00
Bluntnose Minnow	N	O	C	T	50	50.00	11.26	0.14	0.09	2.76
Central Stoneroller	N	H	N		3	3.00	0.68	0.01	0.01	4.00
Grass Carp	E		M		1	1.00	0.23	6.20	3.93	6,200.00
Channel Catfish	F		C		39	39.00	8.78	42.06	26.63	1,078.57
Flathead Catfish	F	P	C		10	10.00	2.25	31.05	19.66	3,105.40
Smallmouth Bass	F	C	C	M	1	1.00	0.23	0.27	0.17	268.00
Largemouth Bass	F	C	C		1	1.00	0.23	0.02	0.02	24.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.23	0.01	0.01	10.00
Orangespotted Sunfish	S	I	C		3	3.00	0.68	0.05	0.03	15.00
Blackside Darter	D	I	S		1	1.00	0.23	0.00	0.00	4.00
Logperch	D	I	S	M	1	1.00	0.23	0.03	0.02	25.00
Greenside Darter	D	I	S	M	16	16.00	3.60	0.08	0.05	4.75
Banded Darter	D	I	S	I	7	7.00	1.58	0.03	0.02	4.34
Rainbow Darter	D	I	S	M	3	3.00	0.68	0.01	0.00	2.00
Mile Total					444	444.00		157.94		
Number of Species					24					
Number of Hybrids					0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **43.20**	Location: Liberty-Fairfield Rd.	Date Range: 08/04/2010
Time Fished: 4051 sec	Drainage: 3280.0 sq mi	Thru: 09/08/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Quillback	C	O	M		1	1.00	0.27	1.23	1.79	1,230.00
Golden Redhorse	R	I	S	M	5	5.00	1.36	1.58	2.30	315.00
Northern Hog Sucker	R	I	S	M	9	9.00	2.45	2.28	3.32	252.78
Smallmouth Redhorse	R	I	S	M	5	5.00	1.36	2.40	3.50	480.00
Common Carp	G	O	M	T	11	11.00	2.99	30.10	43.89	2,736.36
Suckermouth Minnow	N	I	S		9	9.00	2.45	0.02	0.03	2.33
Emerald Shiner	N	I	M		1	1.00	0.27	0.01	0.01	5.00
Silver Shiner	N	I	S	I	3	3.00	0.82	0.03	0.04	8.33
Rosyface Shiner	N	I	S	I	48	48.00	13.04	0.09	0.13	1.79
Spotfin Shiner	N	I	M		170	170.00	46.20	0.59	0.86	3.46
Sand Shiner	N	I	M	M	9	9.00	2.45	0.02	0.02	1.89
Bluntnose Minnow	N	O	C	T	28	28.00	7.61	0.07	0.10	2.39
Central Stoneroller	N	H	N		3	3.00	0.82	0.03	0.05	10.67
Channel Catfish	F		C		30	30.00	8.15	24.76	36.11	825.33
Flathead Catfish	F	P	C		1	1.00	0.27	2.50	3.65	2,500.00
Smallmouth Bass	F	C	C	M	17	17.00	4.62	2.21	3.22	129.71
Largemouth Bass	F	C	C		3	3.00	0.82	0.60	0.87	200.00
Orangespotted Sunfish	S	I	C		1	1.00	0.27	0.00	0.01	4.00
Longear Sunfish	S	I	C	M	1	1.00	0.27	0.02	0.02	17.00
Logperch	D	I	S	M	1	1.00	0.27	0.01	0.01	10.00
Greenside Darter	D	I	S	M	10	10.00	2.72	0.05	0.08	5.30
Banded Darter	D	I	S	I	2	2.00	0.54	0.01	0.01	2.50
	Mile Total				368	368.00		68.58		
	Number of Species				22					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **34.20**	Location: 0.2 mi. upst. Hamilton WWTP	Date Range: 08/03/2010
Time Fished: 2948 sec	Drainage: 3636.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		4	4.00	1.94	3.00	2.88	750.00
Gizzard Shad		O	M		1	1.00	0.49	0.33	0.31	325.00
Black Buffalo	C	I	M		4	4.00	1.94	3.23	3.10	806.25
Smallmouth Buffalo	C	I	M		10	10.00	4.85	24.45	23.49	2,445.00
Quillback	C	O	M		12	12.00	5.83	6.00	5.76	500.00
River Carpsucker	C	O	M		2	2.00	0.97	1.25	1.20	625.00
Highfin Carpsucker	C	O	M		2	2.00	0.97	0.95	0.91	475.00
Silver Redhorse	R	I	S	M	7	7.00	3.40	12.58	12.08	1,796.43
Black Redhorse	R	I	S	I	1	1.00	0.49	0.38	0.36	375.00
Golden Redhorse	R	I	S	M	21	21.00	10.19	6.94	6.67	330.48
Northern Hog Sucker	R	I	S	M	1	1.00	0.49	0.08	0.07	75.00
Smallmouth Redhorse	R	I	S	M	66	66.00	32.04	23.90	22.96	362.15
Common Carp	G	O	M	T	1	1.00	0.49	1.23	1.18	1,225.00
Emerald Shiner	N	I	M		2	2.00	0.97	0.00	0.00	1.50
Spotfin Shiner	N	I	M		8	8.00	3.88	0.02	0.02	2.13
Mimic Shiner	N	I	M	I	2	2.00	0.97	0.00	0.00	1.50
Bullhead Minnow	N	O	C		2	2.00	0.97	0.01	0.00	2.50
Bluntnose Minnow	N	O	C	T	4	4.00	1.94	0.01	0.01	2.50
Central Stoneroller	N	H	N		1	1.00	0.49	0.00	0.00	3.00
Channel Catfish	F		C		5	5.00	2.43	5.30	5.09	1,060.00
Flathead Catfish	F	P	C		1	1.00	0.49	0.85	0.82	850.00
Stonecat Madtom		I	C	I	2	2.00	0.97	0.02	0.02	10.00
Smallmouth Bass	F	C	C	M	3	3.00	1.46	1.30	1.25	433.33
Largemouth Bass	F	C	C		1	1.00	0.49	0.01	0.01	10.00
Orangespotted Sunfish	S	I	C		1	1.00	0.49	0.01	0.01	10.00
Longear Sunfish	S	I	C	M	3	3.00	1.46	0.02	0.02	7.33
Logperch	D	I	S	M	5	5.00	2.43	0.07	0.07	14.00
Greenside Darter	D	I	S	M	1	1.00	0.49	0.00	0.00	3.00
Banded Darter	D	I	S	I	3	3.00	1.46	0.02	0.01	5.00
Rainbow Darter	D	I	S	M	2	2.00	0.97	0.00	0.00	2.00
Sauger X Walleye	E	P			3	3.00	1.46	3.35	3.22	1,116.67
Freshwater Drum			M	P	25	25.00	12.14	8.80	8.45	352.00
	Mile Total				206	206.00		104.09		
	Number of Species				31					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **33.60**	Location: 0.4 mi. dst. Hamilton WWTP	Date Range: 08/03/2010
Time Fished: 3622 sec	Drainage: 3639.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		10	10.00	5.41	9.80	12.02	980.00
Gizzard Shad		O	M		6	6.00	3.24	0.92	1.12	152.50
Smallmouth Buffalo	C	I	M		9	9.00	4.86	18.40	22.56	2,044.44
Quillback	C	O	M		5	5.00	2.70	3.45	4.23	690.00
River Carpsucker	C	O	M		14	14.00	7.57	9.14	11.21	652.86
Highfin Carpsucker	C	O	M		1	1.00	0.54	0.45	0.55	450.00
Silver Redhorse	R	I	S	M	5	5.00	2.70	6.55	8.03	1,310.00
Black Redhorse	R	I	S	I	1	1.00	0.54	1.55	1.90	1,550.00
Golden Redhorse	R	I	S	M	15	15.00	8.11	6.28	7.70	418.33
River Redhorse [S]	R	I	S	I	2	2.00	1.08	1.85	2.27	925.00
Northern Hog Sucker	R	I	S	M	2	2.00	1.08	0.73	0.89	362.50
Smallmouth Redhorse	R	I	S	M	8	8.00	4.32	3.15	3.86	393.13
Common Carp	G	O	M	T	2	2.00	1.08	2.90	3.56	1,450.00
Gravel Chub	N	I	S	M	2	2.00	1.08	0.01	0.01	5.50
Emerald Shiner	N	I	M		17	17.00	9.19	0.02	0.02	1.19
Rosyface Shiner	N	I	S	I	3	3.00	1.62	0.00	0.00	0.67
Spotfin Shiner	N	I	M		30	30.00	16.22	0.05	0.06	1.49
Sand Shiner	N	I	M	M	1	1.00	0.54	0.00	0.00	1.00
Mimic Shiner	N	I	M	I	7	7.00	3.78	0.01	0.01	1.29
Bullhead Minnow	N	O	C		1	1.00	0.54	0.00	0.00	3.00
Bluntnose Minnow	N	O	C	T	5	5.00	2.70	0.01	0.01	1.73
Central Stoneroller	N	H	N		1	1.00	0.54	0.01	0.01	7.00
Channel Catfish	F		C		4	4.00	2.16	3.00	3.68	750.00
Flathead Catfish	F	P	C		2	2.00	1.08	2.60	3.19	1,300.00
White Bass	F	P	M		4	4.00	2.16	1.55	1.90	387.50
Smallmouth Bass	F	C	C	M	2	2.00	1.08	0.27	0.33	136.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.54	0.02	0.02	15.00
Orangespotted Sunfish	S	I	C		1	1.00	0.54	0.01	0.01	5.00
Slenderhead Darter	D	I	S	R	1	1.00	0.54	0.01	0.01	10.00
Logperch	D	I	S	M	2	2.00	1.08	0.03	0.04	15.00
Rainbow Darter	D	I	S	M	1	1.00	0.54	0.00	0.00	2.00
Sauger X Walleye	E	P			2	2.00	1.08	1.13	1.39	565.00
Freshwater Drum			M	P	18	18.00	9.73	7.68	9.41	426.39
Mile Total					185	185.00		81.55		
Number of Species					32					
Number of Hybrids					1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **32.70**	Location: 0.7 mi. upst. Fairfield WWTP	Date Range: 08/03/2010
Time Fished: 3397 sec	Drainage: 3641.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		8	8.00	3.21	6.72	3.65	839.38
Gizzard Shad		O	M		4	4.00	1.61	1.15	0.63	287.50
Black Buffalo	C	I	M		17	17.00	6.83	21.38	11.63	1,257.35
Smallmouth Buffalo	C	I	M		21	21.00	8.43	48.63	26.45	2,315.48
Quillback	C	O	M		9	9.00	3.61	5.84	3.17	648.33
River Carpsucker	C	O	M		31	31.00	12.45	23.72	12.90	765.00
Highfin Carpsucker	C	O	M		3	3.00	1.20	1.32	0.72	440.00
Silver Redhorse	R	I	S	M	2	2.00	0.80	5.15	2.80	2,575.00
Golden Redhorse	R	I	S	M	7	7.00	2.81	3.47	1.88	495.00
River Redhorse [S]	R	I	S	I	5	5.00	2.01	3.74	2.03	747.00
Northern Hog Sucker	R	I	S	M	1	1.00	0.40	0.36	0.20	360.00
Smallmouth Redhorse	R	I	S	M	39	39.00	15.66	15.26	8.30	391.40
Common Carp	G	O	M	T	9	9.00	3.61	14.94	8.12	1,659.44
Emerald Shiner	N	I	M		19	19.00	7.63	0.03	0.01	1.42
Rosyface Shiner	N	I	S	I	1	1.00	0.40	0.00	0.00	1.00
Spotfin Shiner	N	I	M		12	12.00	4.82	0.02	0.01	1.92
Bullhead Minnow	N	O	C		4	4.00	1.61	0.01	0.00	1.50
Bluntnose Minnow	N	O	C	T	1	1.00	0.40	0.00	0.00	1.00
Channel Catfish	F		C		17	17.00	6.83	13.84	7.53	814.12
Flathead Catfish	F	P	C		2	2.00	0.80	6.02	3.27	3,008.50
Smallmouth Bass	F	C	C	M	5	5.00	2.01	0.80	0.44	160.00
Green Sunfish	S	I	C	T	1	1.00	0.40	0.02	0.01	22.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.40	0.25	0.14	250.00
Longear Sunfish	S	I	C	M	1	1.00	0.40	0.02	0.01	20.00
Sauger	F	P	S		2	2.00	0.80	1.00	0.54	497.50
Slenderhead Darter	D	I	S	R	1	1.00	0.40	0.01	0.00	9.00
Logperch	D	I	S	M	2	2.00	0.80	0.03	0.01	13.00
Banded Darter	D	I	S	I	1	1.00	0.40	0.00	0.00	1.00
Sauger X Walleye	E	P			1	1.00	0.40	0.65	0.35	650.00
Freshwater Drum			M	P	22	22.00	8.84	9.50	5.17	431.59
Mile Total					249	249.00		183.83		
Number of Species					29					
Number of Hybrids					1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **31.40**	Location: dst. Fairfield WWTP	Date Range: 08/03/2010
Time Fished: 3773 sec	Drainage: 3662.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		9	9.00	5.06	5.23	3.67	580.56
Gizzard Shad		O	M		6	6.00	3.37	1.36	0.95	225.83
Black Buffalo	C	I	M		13	13.00	7.30	17.34	12.17	1,333.85
Smallmouth Buffalo	C	I	M		20	20.00	11.24	49.10	34.45	2,454.75
Quillback	C	O	M		7	7.00	3.93	3.70	2.60	528.57
River Carpsucker	C	O	M		21	21.00	11.80	15.53	10.89	739.29
Highfin Carpsucker	C	O	M		1	1.00	0.56	0.48	0.33	475.00
Silver Redhorse	R	I	S	M	4	4.00	2.25	9.13	6.40	2,281.25
Golden Redhorse	R	I	S	M	6	6.00	3.37	3.73	2.62	621.67
Northern Hog Sucker	R	I	S	M	2	2.00	1.12	0.45	0.32	225.00
Smallmouth Redhorse	R	I	S	M	5	5.00	2.81	2.03	1.42	405.00
Common Carp	G	O	M	T	7	7.00	3.93	16.30	11.44	2,328.57
Emerald Shiner	N	I	M		14	14.00	7.87	0.02	0.01	1.43
Rosyface Shiner	N	I	S	I	1	1.00	0.56	0.00	0.00	1.00
Spotfin Shiner	N	I	M		8	8.00	4.49	0.02	0.01	1.88
Bullhead Minnow	N	O	C		1	1.00	0.56	0.00	0.00	1.00
Central Stoneroller	N	H	N		1	1.00	0.56	0.00	0.00	2.00
Channel Catfish	F		C		6	6.00	3.37	4.21	2.95	701.67
Flathead Catfish	F	P	C		3	3.00	1.69	1.02	0.71	338.33
Stonecat Madtom		I	C	I	2	2.00	1.12	0.00	0.00	2.00
White Bass	F	P	M		1	1.00	0.56	0.40	0.28	400.00
Smallmouth Bass	F	C	C	M	4	4.00	2.25	0.35	0.25	87.50
Spotted Bass	F	C	C		1	1.00	0.56	0.32	0.22	315.00
Green Sunfish	S	I	C	T	1	1.00	0.56	0.01	0.01	9.00
Freshwater Drum			M	P	34	34.00	19.10	11.83	8.30	347.79
Mile Total					178	178.00		142.51		
Number of Species					25					
Number of Hybrids					0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **28.70**	Location: upst. Banklick Creek	Date Range: 08/03/2010
Time Fished: 3982 sec	Drainage: 3670.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		3	3.00	1.46	1.78	1.10	591.67
Gizzard Shad		O	M		2	2.00	0.98	0.57	0.35	285.00
Black Buffalo	C	I	M		11	11.00	5.37	10.79	6.67	980.45
Smallmouth Buffalo	C	I	M		21	21.00	10.24	50.60	31.29	2,409.52
Quillback	C	O	M		7	7.00	3.41	5.25	3.25	750.00
River Carpsucker	C	O	M		38	38.00	18.54	29.06	17.97	764.74
Highfin Carpsucker	C	O	M		1	1.00	0.49	0.55	0.34	550.00
Silver Redhorse	R	I	S	M	5	5.00	2.44	9.11	5.63	1,822.00
Golden Redhorse	R	I	S	M	8	8.00	3.90	3.58	2.21	446.88
Northern Hog Sucker	R	I	S	M	6	6.00	2.93	1.41	0.87	234.17
Smallmouth Redhorse	R	I	S	M	15	15.00	7.32	6.13	3.79	408.33
Common Carp	G	O	M	T	2	2.00	0.98	4.75	2.94	2,375.00
Emerald Shiner	N	I	M		5	5.00	2.44	0.01	0.00	1.40
Spotfin Shiner	N	I	M		2	2.00	0.98	0.00	0.00	2.00
Bullhead Minnow	N	O	C		3	3.00	1.46	0.00	0.00	1.00
Bluntnose Minnow	N	O	C	T	1	1.00	0.49	0.00	0.00	1.00
Channel Catfish	F		C		13	13.00	6.34	5.60	3.46	430.77
Flathead Catfish	F	P	C		3	3.00	1.46	15.90	9.83	5,300.00
Blackstripe Topminnow		I	M		1	1.00	0.49	0.00	0.00	1.00
White Bass	F	P	M		1	1.00	0.49	0.55	0.34	550.00
Smallmouth Bass	F	C	C	M	6	6.00	2.93	1.27	0.78	210.83
Bluegill Sunfish	S	I	C	P	5	5.00	2.44	0.23	0.14	46.00
Longear Sunfish	S	I	C	M	5	5.00	2.44	0.10	0.06	19.40
Sauger	F	P	S		3	3.00	1.46	1.15	0.71	383.33
Slenderhead Darter	D	I	S	R	3	3.00	1.46	0.02	0.01	7.33
Logperch	D	I	S	M	4	4.00	1.95	0.07	0.04	17.75
Freshwater Drum			M	P	31	31.00	15.12	13.28	8.21	428.23
	Mile Total				205	205.00		161.73		
	Number of Species				27					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **26.10**	Location: dst. St. Rt. 126	Date Range: 08/03/2010
Time Fished: 4063 sec	Drainage: 3789.0 sq mi	Thru: 09/16/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		2	2.00	1.01	1.20	0.93	600.00
Gizzard Shad		O	M		14	14.00	7.07	2.37	1.84	169.21
Black Buffalo	C	I	M		5	5.00	2.53	6.16	4.77	1,231.00
Smallmouth Buffalo	C	I	M		11	11.00	5.56	26.14	20.27	2,376.36
Quillback	C	O	M		3	3.00	1.52	2.70	2.09	900.00
River Carpsucker	C	O	M		22	22.00	11.11	16.93	13.13	769.32
Silver Redhorse	R	I	S	M	5	5.00	2.53	11.60	9.00	2,320.00
Golden Redhorse	R	I	S	M	28	28.00	14.14	15.72	12.19	561.43
Northern Hog Sucker	R	I	S	M	1	1.00	0.51	0.02	0.01	15.00
Smallmouth Redhorse	R	I	S	M	11	11.00	5.56	5.54	4.29	503.18
Common Carp	G	O	M	T	5	5.00	2.53	12.45	9.65	2,490.00
Gravel Chub	N	I	S	M	2	2.00	1.01	0.01	0.01	4.00
Suckermouth Minnow	N	I	S		16	16.00	8.08	0.05	0.04	3.06
Emerald Shiner	N	I	M		16	16.00	8.08	0.03	0.02	1.88
River Shiner	N	I	S		1	1.00	0.51	0.00	0.00	2.00
Spotfin Shiner	N	I	M		5	5.00	2.53	0.01	0.01	2.40
Sand Shiner	N	I	M	M	3	3.00	1.52	0.01	0.00	2.00
Bullhead Minnow	N	O	C		3	3.00	1.52	0.01	0.00	2.00
Central Stoneroller	N	H	N		1	1.00	0.51	0.00	0.00	2.00
Channel Catfish	F		C		18	18.00	9.09	12.58	9.75	698.72
Flathead Catfish	F	P	C		3	3.00	1.52	6.76	5.24	2,253.33
White Bass	F	P	M		2	2.00	1.01	0.72	0.56	360.00
Str. Bass X Wh. Bass	E				1	1.00	0.51	0.22	0.17	220.00
Smallmouth Bass	F	C	C	M	2	2.00	1.01	0.16	0.12	79.50
Logperch	D	I	S	M	2	2.00	1.01	0.02	0.01	7.50
Sauger X Walleye	E	P			1	1.00	0.51	0.30	0.23	300.00
Freshwater Drum			M	P	15	15.00	7.58	7.28	5.64	485.00
	Mile Total				198	198.00		128.95		
	Number of Species				25					
	Number of Hybrids				2					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **23.40**	Location: at gravel quarry	Date Range: 08/04/2010
Time Fished: 4122 sec	Drainage: 3803.0 sq mi	Thru: 09/16/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		11	11.00	5.50	6.48	6.41	589.09
Gizzard Shad		O	M		21	21.00	10.50	2.65	2.63	126.33
Black Buffalo	C	I	M		5	5.00	2.50	8.03	7.94	1,605.00
Smallmouth Buffalo	C	I	M		13	13.00	6.50	32.77	32.43	2,520.38
Quillback	C	O	M		4	4.00	2.00	1.66	1.64	415.00
River Carpsucker	C	O	M		12	12.00	6.00	9.35	9.25	779.17
Silver Redhorse	R	I	S	M	3	3.00	1.50	5.50	5.44	1,833.33
Golden Redhorse	R	I	S	M	16	16.00	8.00	7.04	6.97	440.00
Northern Hog Sucker	R	I	S	M	1	1.00	0.50	0.08	0.08	78.00
Smallmouth Redhorse	R	I	S	M	17	17.00	8.50	9.32	9.23	548.42
Common Carp	G	O	M	T	1	1.00	0.50	1.50	1.48	1,500.00
Silver Chub	N	I	M		1	1.00	0.50	0.01	0.01	12.00
Suckermouth Minnow	N	I	S		2	2.00	1.00	0.01	0.00	2.50
Emerald Shiner	N	I	M		9	9.00	4.50	0.01	0.01	1.33
Spotfin Shiner	N	I	M		19	19.00	9.50	0.04	0.04	2.00
Bullhead Minnow	N	O	C		6	6.00	3.00	0.01	0.01	1.50
Bluntnose Minnow	N	O	C	T	1	1.00	0.50	0.00	0.00	1.00
Central Stoneroller	N	H	N		1	1.00	0.50	0.01	0.01	6.00
Channel Catfish	F		C		11	11.00	5.50	5.18	5.12	470.55
Flathead Catfish	F	P	C		2	2.00	1.00	0.02	0.02	10.00
Stonecat Madtom		I	C	I	2	2.00	1.00	0.03	0.03	13.00
White Bass	F	P	M		2	2.00	1.00	0.18	0.18	90.50
Smallmouth Bass	F	C	C	M	3	3.00	1.50	0.52	0.51	172.33
Spotted Bass	F	C	C		1	1.00	0.50	0.13	0.13	130.00
Largemouth Bass	F	C	C		1	1.00	0.50	0.01	0.01	12.00
Green Sunfish	S	I	C	T	1	1.00	0.50	0.01	0.01	9.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.50	0.06	0.05	55.00
Slenderhead Darter	D	I	S	R	4	4.00	2.00	0.02	0.02	4.75
Logperch	D	I	S	M	2	2.00	1.00	0.02	0.01	7.50
Greenside Darter	D	I	S	M	1	1.00	0.50	0.01	0.01	6.00
Banded Darter	D	I	S	I	1	1.00	0.50	0.00	0.00	2.00
Freshwater Drum			M	P	25	25.00	12.50	10.41	10.30	416.20
	Mile Total				200	200.00		101.03		
	Number of Species				32					
	Number of Hybrids				0					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **20.00**	Location: dst. Paddys Run	Date Range: 08/02/2010
Time Fished: 4253 sec	Drainage: 3831.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		4	4.00	0.85	2.30	1.87	575.00
Gizzard Shad		O	M		18	18.00	3.81	1.82	1.48	101.09
Black Buffalo	C	I	M		1	1.00	0.21	0.95	0.77	950.00
Smallmouth Buffalo	C	I	M		16	16.00	3.39	39.65	32.31	2,478.13
Quillback	C	O	M		4	4.00	0.85	2.13	1.74	533.50
River Carpsucker	C	O	M		6	6.00	1.27	4.63	3.77	770.83
Silver Redhorse	R	I	S	M	7	7.00	1.48	13.50	11.00	1,928.57
Golden Redhorse	R	I	S	M	18	18.00	3.81	6.87	5.59	381.39
River Redhorse [S]	R	I	S	I	3	3.00	0.64	2.80	2.28	933.33
Northern Hog Sucker	R	I	S	M	7	7.00	1.48	1.25	1.01	177.86
Smallmouth Redhorse	R	I	S	M	1	1.00	0.21	0.70	0.57	700.00
Common Carp	G	O	M	T	2	2.00	0.42	7.00	5.70	3,500.00
Gravel Chub	N	I	S	M	24	24.00	5.08	0.06	0.05	2.54
Suckermouth Minnow	N	I	S		30	30.00	6.36	0.13	0.11	4.30
Emerald Shiner	N	I	M		43	43.00	9.11	0.08	0.06	1.79
Silver Shiner	N	I	S	I	1	1.00	0.21	0.00	0.00	1.00
Spotfin Shiner	N	I	M		92	92.00	19.49	0.06	0.05	0.65
Sand Shiner	N	I	M	M	13	13.00	2.75	0.03	0.02	2.23
Mimic Shiner	N	I	M	I	2	2.00	0.42	0.00	0.00	2.00
Bullhead Minnow	N	O	C		34	34.00	7.20	0.07	0.06	2.06
Bluntnose Minnow	N	O	C	T	28	28.00	5.93	0.06	0.05	2.25
Central Stoneroller	N	H	N		8	8.00	1.69	0.04	0.03	5.25
Channel Catfish	F		C		18	18.00	3.81	10.41	8.48	578.33
Flathead Catfish	F	P	C		5	5.00	1.06	5.73	4.67	1,145.00
White Bass	F	P	M		3	3.00	0.64	1.10	0.90	366.67
Str. Bass X Wh. Bass	E				3	3.00	0.64	1.65	1.34	550.00
White Crappie	S	I	C		1	1.00	0.21	0.45	0.37	450.00
Rock Bass	S	C	C		1	1.00	0.21	0.04	0.03	38.00
Smallmouth Bass	F	C	C	M	1	1.00	0.21	0.02	0.01	17.00
Spotted Bass	F	C	C		2	2.00	0.42	0.25	0.20	125.00
Green Sunfish	S	I	C	T	4	4.00	0.85	0.03	0.02	7.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.21	0.02	0.01	15.00
Orangespotted Sunfish	S	I	C		6	6.00	1.27	0.01	0.01	2.00
Longear Sunfish	S	I	C	M	1	1.00	0.21	0.01	0.00	5.00
Sauger	F	P	S		2	2.00	0.42	0.73	0.59	362.50
Slenderhead Darter	D	I	S	R	9	9.00	1.91	0.02	0.02	2.44
Logperch	D	I	S	M	8	8.00	1.69	0.11	0.09	14.25
Greenside Darter	D	I	S	M	1	1.00	0.21	0.01	0.01	7.00
Freshwater Drum			M	P	44	44.00	9.32	18.02	14.68	409.47
	Mile Total				472	472.00		122.71		
	Number of Species				38					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **15.40**	Location: dst. Harrison Rd.	Date Range: 08/12/2010
Time Fished: 5114 sec	Drainage: 3838.0 sq mi	Thru: 09/15/2010
Dist Fished: 1.10 km	Basin: Great Miami 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
Longnose Gar		P	M		6	5.50	1.62	2.45	2.19	454.17
Gizzard Shad		O	M		17	14.50	4.28	2.27	2.02	153.82
Black Buffalo	C	I	M		2	2.00	0.59	2.33	2.07	1,162.50
Smallmouth Buffalo	C	I	M		24	21.67	6.39	41.78	37.24	1,921.88
Quillback	C	O	M		1	1.00	0.29	0.55	0.49	550.00
River Carpsucker	C	O	M		16	14.00	4.13	8.95	7.98	635.63
Highfin Carpsucker	C	O	M		1	1.00	0.29	0.50	0.45	500.00
Silver Redhorse	R	I	S	M	1	0.83	0.25	2.92	2.60	3,500.00
Golden Redhorse	R	I	S	M	6	5.00	1.47	2.88	2.56	575.00
River Redhorse [S]	R	I	S	I	1	0.83	0.25	2.38	2.12	2,850.00
Northern Hog Sucker	R	I	S	M	1	1.00	0.29	0.11	0.10	110.00
Smallmouth Redhorse	R	I	S	M	11	10.00	2.95	6.22	5.54	622.73
Common Carp	G	O	M	T	2	2.00	0.59	3.95	3.52	1,975.00
Gravel Chub	N	I	S	M	1	0.83	0.25	0.01	0.01	8.00
Suckermouth Minnow	N	I	S		5	4.83	1.43	0.01	0.01	2.40
Emerald Shiner	N	I	M		24	20.00	5.90	0.05	0.04	2.50
Spotfin Shiner	N	I	M		81	67.83	20.00	0.12	0.11	1.81
Sand Shiner	N	I	M	M	3	2.50	0.74	0.00	0.00	1.33
Bullhead Minnow	N	O	C		46	38.50	11.35	0.07	0.06	1.78
Bluntnose Minnow	N	O	C	T	19	15.83	4.67	0.04	0.03	2.22
Channel Catfish	F		C		23	19.33	5.70	4.85	4.32	248.70
Flathead Catfish	F	P	C		3	2.50	0.74	0.79	0.71	316.67
Stonecat Madtom		I	C	I	2	1.67	0.49	0.01	0.01	4.50
White Bass	F	P	M		3	2.83	0.84	1.12	1.00	400.00
Rock Bass	S	C	C		1	0.83	0.25	0.00	0.00	4.00
Smallmouth Bass	F	C	C	M	1	0.83	0.25	0.21	0.19	250.00
Spotted Bass	F	C	C		7	5.83	1.72	1.66	1.48	285.00
Largemouth Bass	F	C	C		1	0.83	0.25	0.05	0.04	60.00
Green Sunfish	S	I	C	T	15	12.67	3.73	0.33	0.29	26.27
Bluegill Sunfish	S	I	C	P	2	1.67	0.49	0.07	0.06	42.50
Orangespotted Sunfish	S	I	C		1	0.83	0.25	0.01	0.01	7.00
Longear Sunfish	S	I	C	M	7	6.00	1.77	0.06	0.05	9.57
Green Sf X Hybrid					1	0.83	0.25	0.01	0.01	10.00
Sauger	F	P	S		1	0.83	0.25	0.38	0.33	450.00
Slenderhead Darter	D	I	S	R	4	3.33	0.98	0.03	0.02	7.50
Logperch	D	I	S	M	1	0.83	0.25	0.02	0.02	25.00
Freshwater Drum			M	P	55	47.83	14.10	25.02	22.30	523.70
	Mile Total				396	339.17		112.17		
	Number of Species				36					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **14.80**	Location: dst. U.S. Rt. 52	Date Range: 08/02/2010
Time Fished: 4979 sec	Drainage: 3865.0 sq mi	Thru: 09/15/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		12	12.00	2.68	6.78	5.07	564.58
Gizzard Shad		O	M		14	14.00	3.13	3.26	2.44	232.50
Blue Sucker [E]	R	I	S	R	4	4.00	0.89	12.67	9.49	3,166.67
Smallmouth Buffalo	C	I	M		16	16.00	3.57	39.40	29.51	2,462.50
Quillback	C	O	M		1	1.00	0.22	0.75	0.56	750.00
River Carpsucker	C	O	M		29	29.00	6.47	22.33	16.72	769.83
Highfin Carpsucker	C	O	M		2	2.00	0.45	0.73	0.54	362.50
Silver Redhorse	R	I	S	M	3	3.00	0.67	6.28	4.70	2,091.67
Golden Redhorse	R	I	S	M	7	7.00	1.56	4.56	3.42	651.43
Smallmouth Redhorse	R	I	S	M	2	2.00	0.45	1.20	0.90	600.00
Common Carp	G	O	M	T	6	6.00	1.34	13.35	10.00	2,225.00
Suckermouth Minnow	N	I	S		21	21.00	4.69	0.07	0.05	3.33
Emerald Shiner	N	I	M		1	1.00	0.22	0.00	0.00	2.00
Spotfin Shiner	N	I	M		80	80.00	17.86	0.13	0.10	1.65
Sand Shiner	N	I	M	M	4	4.00	0.89	0.01	0.01	2.00
Bullhead Minnow	N	O	C		136	136.00	30.36	0.19	0.15	1.43
Bluntnose Minnow	N	O	C	T	13	13.00	2.90	0.01	0.01	0.92
Central Stoneroller	N	H	N		4	4.00	0.89	0.03	0.02	7.50
Channel Catfish	F		C		14	14.00	3.13	9.37	7.02	669.36
Flathead Catfish	F	P	C		4	4.00	0.89	2.45	1.83	612.50
White Bass	F	P	M		2	2.00	0.45	0.65	0.49	325.00
Str. Bass X Wh. Bass	E				3	3.00	0.67	1.70	1.27	566.67
White Crappie	S	I	C		1	1.00	0.22	0.23	0.17	225.00
Black Crappie	S	I	C		1	1.00	0.22	0.25	0.19	250.00
Smallmouth Bass	F	C	C	M	1	1.00	0.22	0.35	0.26	350.00
Green Sunfish	S	I	C	T	4	4.00	0.89	0.04	0.03	10.00
Bluegill Sunfish	S	I	C	P	2	2.00	0.45	0.05	0.04	25.50
Orangespotted Sunfish	S	I	C		2	2.00	0.45	0.02	0.01	10.00
Longear Sunfish	S	I	C	M	17	17.00	3.79	0.16	0.12	9.13
Sauger	F	P	S		1	1.00	0.22	0.36	0.27	360.00
Slenderhead Darter	D	I	S	R	2	2.00	0.45	0.01	0.01	7.00
Rainbow Darter	D	I	S	M	1	1.00	0.22	0.00	0.00	2.00
Freshwater Drum			M	P	38	38.00	8.48	6.15	4.61	161.87
	Mile Total				448	448.00		133.52		
	Number of Species				32					
	Number of Hybrids				1					

River Code: **14-001**	Stream: **Great Miami River**	Sample Date: **2010**
River Mile: **8.20**	Location: dst. U.S. Rt. 50	Date Range: 08/02/2010
Time Fished: 4950 sec	Drainage: 3878.0 sq mi	Thru: 09/09/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Longnose Gar		P	M		18	18.00	3.27	10.40	5.63	577.85
Gizzard Shad		O	M		10	10.00	1.81	4.80	2.60	479.60
Black Buffalo	C	I	M		5	5.00	0.91	19.05	10.31	3,810.00
Smallmouth Buffalo	C	I	M		30	30.00	5.44	57.19	30.96	1,906.23
Quillback	C	O	M		18	18.00	3.27	4.67	2.53	259.44
River Carpsucker	C	O	M		10	10.00	1.81	7.50	4.06	750.00
Highfin Carpsucker	C	O	M		1	1.00	0.18	0.45	0.24	450.00
Silver Redhorse	R	I	S	M	5	5.00	0.91	7.68	4.15	1,535.00
Golden Redhorse	R	I	S	M	26	26.00	4.72	13.61	7.37	523.35
River Redhorse [S]	R	I	S	I	1	1.00	0.18	0.90	0.49	900.00
Northern Hog Sucker	R	I	S	M	3	3.00	0.54	0.64	0.35	212.67
Smallmouth Redhorse	R	I	S	M	12	12.00	2.18	5.70	3.09	475.00
Common Carp	G	O	M	T	3	3.00	0.54	9.25	5.01	3,083.33
Silver Chub	N	I	M		1	1.00	0.18	0.03	0.01	25.00
Gravel Chub	N	I	S	M	8	8.00	1.45	0.03	0.01	3.25
Suckermouth Minnow	N	I	S		9	9.00	1.63	0.04	0.02	4.44
Emerald Shiner	N	I	M		69	69.00	12.52	0.10	0.06	1.49
Spotfin Shiner	N	I	M		40	40.00	7.26	0.06	0.03	1.60
Sand Shiner	N	I	M	M	18	18.00	3.27	0.02	0.01	1.00
Mimic Shiner	N	I	M	I	1	1.00	0.18	0.00	0.00	2.00
Bullhead Minnow	N	O	C		17	17.00	3.09	0.03	0.02	1.71
Bluntnose Minnow	N	O	C	T	9	9.00	1.63	0.01	0.01	1.22
Central Stoneroller	N	H	N		2	2.00	0.36	0.01	0.00	4.00
Channel Catfish	F		C		79	79.00	14.34	20.93	11.33	264.96
Flathead Catfish	F	P	C		6	6.00	1.09	1.73	0.93	287.67
Str. Bass X Wh. Bass	E				5	5.00	0.91	3.20	1.73	640.00
Smallmouth Bass	F	C	C	M	1	1.00	0.18	0.24	0.13	244.00
Spotted Bass	F	C	C		1	1.00	0.18	0.06	0.03	60.00
Largemouth Bass	F	C	C		1	1.00	0.18	0.05	0.03	52.00
Green Sunfish	S	I	C	T	3	3.00	0.54	0.03	0.01	8.33
Bluegill Sunfish	S	I	C	P	3	3.00	0.54	0.06	0.03	19.67
Longear Sunfish	S	I	C	M	1	1.00	0.18	0.03	0.01	27.00
Sauger	F	P	S		1	1.00	0.18	0.30	0.16	300.00
Slenderhead Darter	D	I	S	R	3	3.00	0.54	0.02	0.01	5.00
Logperch	D	I	S	M	2	2.00	0.36	0.04	0.02	21.50
Greenside Darter	D	I	S	M	2	2.00	0.36	0.01	0.00	3.50
Banded Darter	D	I	S	I	1	1.00	0.18	0.00	0.00	2.00
Freshwater Drum			M	P	126	126.00	22.87	15.89	8.60	126.10
	Mile Total				551	551.00		184.73		
	Number of Species				37					
	Number of Hybrids				1					

River Code: **14-004**	Stream: **Taylor Creek**	Sample Date: **2010**
River Mile: **1.60**	Location: upst. I-275	Date Range: 07/29/2010
Time Fished: 1800 sec	Drainage: 14.5 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.09			
White Sucker	W	O	S	T	1	2.00	0.09			
Creek Chub	N	G	N	T	13	26.00	1.19			
Suckermouth Minnow	N	I	S		1	2.00	0.09			
Striped Shiner	N	I	S		33	66.00	3.02			
Spotfin Shiner	N	I	M		3	6.00	0.27			
Sand Shiner	N	I	M	M	4	8.00	0.37			
Silverjaw Minnow	N	I	M		4	8.00	0.37			
Bluntnose Minnow	N	O	C	T	122	244.00	11.18			
Central Stoneroller	N	H	N		695	1,390.00	63.70			
Rock Bass	S	C	C		1	2.00	0.09			
Smallmouth Bass	F	C	C	M	6	12.00	0.55			
Green Sunfish	S	I	C	T	1	2.00	0.09			
Bluegill Sunfish	S	I	C	P	1	2.00	0.09			
Longear Sunfish	S	I	C	M	64	128.00	5.87			
Johnny Darter	D	I	C		1	2.00	0.09			
Greenside Darter	D	I	S	M	2	4.00	0.18			
Rainbow Darter	D	I	S	M	112	224.00	10.27			
Fantail Darter	D	I	C		26	52.00	2.38			
	Mile Total				1,091	2,182.00				
	Number of Species				19					
	Number of Hybrids				0					

River Code: **14-004**	Stream: **Taylor Creek**	Sample Date: **2010**
River Mile: **0.80**	Location: Wesselman Rd.	Date Range: 07/29/2010
Time Fished: 3600 sec	Drainage: 26.5 sq mi	Thru: 08/27/2010
Dist Fished: 0.22 km	Basin: Great Miami 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
Gizzard Shad		O	M		59	78.50	5.07	6.67	45.11	88.05
Golden Redhorse	R	I	S	M	19	24.25	1.57	2.12	14.34	87.74
Northern Hog Sucker	R	I	S	M	1	1.25	0.08	0.01	0.08	10.00
Creek Chub	N	G	N	T	1	1.50	0.10	0.00	0.03	3.00
Suckermouth Minnow	N	I	S		17	25.25	1.63	0.11	0.74	4.31
Emerald Shiner	N	I	M		31	39.00	2.52	0.05	0.36	1.35
Rosyface Shiner	N	I	S	I	3	4.50	0.29	0.01	0.05	1.67
Scarlet Shiner	N	I	S	M	3	4.50	0.29	0.01	0.05	1.67
Spotfin Shiner	N	I	M		29	40.25	2.60	0.10	0.65	2.38
Sand Shiner	N	I	M	M	69	99.00	6.39	0.14	0.92	1.37
Mimic Shiner	N	I	M	I	1	1.25	0.08	0.00	0.01	1.00
Silverjaw Minnow	N	I	M		1	1.25	0.08	0.00	0.02	2.00
Bullhead Minnow	N	O	C		14	17.50	1.13	0.02	0.11	0.93
Fathead Minnow	N	O	C	T	1	1.50	0.10	0.00	0.01	1.00
Bluntnose Minnow	N	O	C	T	199	254.75	16.45	0.38	2.54	1.47
Central Stoneroller	N	H	N		371	550.25	35.52	1.56	10.58	2.86
Flathead Catfish	F	P	C		1	1.50	0.10	0.00	0.03	3.00
Brook Silverside		I	M	M	1	1.50	0.10	0.00	0.02	2.00
Black Crappie	S	I	C		1	1.25	0.08	0.03	0.19	22.00
Rock Bass	S	C	C		1	1.25	0.08	0.07	0.46	54.00
Smallmouth Bass	F	C	C	M	2	2.75	0.18	0.25	1.67	86.00
Largemouth Bass	F	C	C		6	7.75	0.50	0.11	0.74	14.17
Green Sunfish	S	I	C	T	24	31.25	2.02	0.36	2.42	11.38
Bluegill Sunfish	S	I	C	P	11	14.25	0.92	0.07	0.45	4.64
Longear Sunfish	S	I	C	M	142	185.75	11.99	2.48	16.78	13.19
Logperch	D	I	S	M	2	2.50	0.16	0.03	0.21	12.50
Johnny Darter	D	I	C		3	4.00	0.26	0.00	0.03	1.00
Greenside Darter	D	I	S	M	6	8.75	0.56	0.02	0.15	2.50
Rainbow Darter	D	I	S	M	86	123.00	7.94	0.16	1.10	1.32
Fantail Darter	D	I	C		14	19.00	1.23	0.02	0.17	1.29
	Mile Total				1,119	1,549.00		14.78		
	Number of Species				30					
	Number of Hybrids				0					

River Code: **14-005**	Stream: **Paddy's Run**	Sample Date: **2010**
River Mile: **4.90**	Location: Morgan-Ross Rd.	Date Range: 07/29/2010
Time Fished: 1800 sec	Drainage: 6.7 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	22	44.00	1.19			
Western Blacknose Dace	N	G	S	T	175	350.00	9.43			
Creek Chub	N	G	N	T	61	122.00	3.29			
South. Redbelly Dace	N	H	S		159	318.00	8.57			
Scarlet Shiner	N	I	S	M	5	10.00	0.27			
Striped Shiner	N	I	S		93	186.00	5.01			
Spotfin Shiner	N	I	M		1	2.00	0.05			
Silverjaw Minnow	N	I	M		3	6.00	0.16			
Fathead Minnow	N	O	C	T	1	2.00	0.05			
Bluntnose Minnow	N	O	C	T	152	304.00	8.19			
Central Stoneroller	N	H	N		911	1,822.00	49.11			
Largemouth Bass	F	C	C		2	4.00	0.11			
Green Sunfish	S	I	C	T	87	174.00	4.69			
Bluegill Sunfish	S	I	C	P	2	4.00	0.11			
Johnny Darter	D	I	C		54	108.00	2.91			
Rainbow Darter	D	I	S	M	43	86.00	2.32			
Orangethroat Darter	D	I	S		31	62.00	1.67			
Fantail Darter	D	I	C		53	106.00	2.86			
	Mile Total				1,855	3,710.00				
	Number of Species				18					
	Number of Hybrids				0					

River Code: **14-013**	Stream: **Pleasant Run**	Sample Date: **2010**
River Mile: **3.80**	Location: end of Sir Lancelot Lane	Date Range: 07/28/2010
Time Fished: 1800 sec	Drainage: 4.7 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	54	108.00	12.74			
Western Blacknose Dace	N	G	S	T	57	114.00	13.44			
Creek Chub	N	G	N	T	142	284.00	33.49			
South. Redbelly Dace	N	H	S		14	28.00	3.30			
Silverjaw Minnow	N	I	M		1	2.00	0.24			
Bluntnose Minnow	N	O	C	T	11	22.00	2.59			
Central Stoneroller	N	H	N		118	236.00	27.83			
Green Sunfish	S	I	C	T	2	4.00	0.47			
Bluegill Sunfish	S	I	C	P	5	10.00	1.18			
Rainbow Darter	D	I	S	M	18	36.00	4.25			
Orangethroat Darter	D	I	S		2	4.00	0.47			
	Mile Total				424	848.00				
	Number of Species				11					
	Number of Hybrids				0					

River Code: **14-013**	Stream: **Pleasant Run**	Sample Date: **2010**
River Mile: **2.20**	Location: U.S. Rt. 127	Date Range: 07/28/2010
Time Fished: 1800 sec	Drainage: 16.5 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	67	134.00	7.02			
Western Blacknose Dace	N	G	S	T	49	98.00	5.13			
Creek Chub	N	G	N	T	190	380.00	19.90			
Striped Shiner	N	I	S		5	10.00	0.52			
Sand Shiner	N	I	M	M	2	4.00	0.21			
Silverjaw Minnow	N	I	M		8	16.00	0.84			
Bluntnose Minnow	N	O	C	T	48	96.00	5.03			
Central Stoneroller	N	H	N		527	1,054.00	55.18			
Yellow Bullhead		I	C	T	1	2.00	0.10			
Largemouth Bass	F	C	C		2	4.00	0.21			
Green Sunfish	S	I	C	T	12	24.00	1.26			
Bluegill Sunfish	S	I	C	P	1	2.00	0.10			
Longear Sunfish	S	I	C	M	1	2.00	0.10			
Rainbow Darter	D	I	S	M	40	80.00	4.19			
Orangethroat Darter	D	I	S		1	2.00	0.10			
Fantail Darter	D	I	C		1	2.00	0.10			
	Mile Total				955	1,910.00				
	Number of Species				16					
	Number of Hybrids				0					

River Code: **14-016**	Stream: **Gregory Creek**	Sample Date: **2010**
River Mile: **5.30**	Location: Princeton Rd.	Date Range: 07/23/2010
Time Fished: 1800 sec	Drainage: 9.0 sq mi	
Dist Fished: 0.17 km	Basin: Great Miami 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	5	8.82	0.68			
White Sucker	W	O	S	T	104	183.53	14.23			
Common Carp	G	O	M	T	2	3.53	0.27			
Western Blacknose Dace	N	G	S	T	1	1.77	0.14			
Creek Chub	N	G	N	T	67	118.24	9.17			
Suckermouth Minnow	N	I	S		4	7.06	0.55			
Striped Shiner	N	I	S		41	72.35	5.61			
Spotfin Shiner	N	I	M		4	7.06	0.55			
Sand Shiner	N	I	M	M	2	3.53	0.27			
Silverjaw Minnow	N	I	M		1	1.77	0.14			
Bluntnose Minnow	N	O	C	T	88	155.29	12.04			
Central Stoneroller	N	H	N		165	291.18	22.57			
Brown Bullhead		I	C	T	1	1.77	0.14			
Largemouth Bass	F	C	C		6	10.59	0.82			
Green Sunfish	S	I	C	T	10	17.65	1.37			
Bluegill Sunfish	S	I	C	P	24	42.35	3.28			
Johnny Darter	D	I	C		21	37.06	2.87			
Greenside Darter	D	I	S	M	5	8.82	0.68			
Rainbow Darter	D	I	S	M	160	282.35	21.89			
Fantail Darter	D	I	C		20	35.29	2.74			
	Mile Total				731	1,290.00				
	Number of Species				20					
	Number of Hybrids				0					

River Code: **14-016**	Stream: **Gregory Creek**	Sample Date: **2010**
River Mile: **1.00**	Location: Lesourdsville-West Chester Rd.	Date Range: 07/23/2010
Time Fished: 1800 sec	Drainage: 22.2 sq mi	
Dist Fished: 0.20 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	2	3.00	0.43	0.57	2.46	190.00
Golden Redhorse	R	I	S	M	11	16.50	2.35	2.93	12.60	177.27
Northern Hog Sucker	R	I	S	M	14	21.00	2.99	1.78	7.68	84.86
White Sucker	W	O	S	T	19	28.50	4.06	1.11	4.77	38.82
Common Carp	G	O	M	T	2	3.00	0.43	5.10	21.98	1,700.00
Rosyface Shiner	N	I	S	I	11	16.50	2.35	0.05	0.20	2.82
Scarlet Shiner	N	I	S	M	2	3.00	0.43	0.01	0.03	2.00
Striped Shiner	N	I	S		10	15.00	2.14	0.15	0.65	10.00
Spotfin Shiner	N	I	M		18	27.00	3.85	0.05	0.23	2.00
Sand Shiner	N	I	M	M	57	85.50	12.18	0.15	0.65	1.75
Bluntnose Minnow	N	O	C	T	62	93.00	13.25	0.23	1.00	2.51
Central Stoneroller	N	H	N		20	30.00	4.27	0.24	1.02	7.89
Channel Catfish	F		C		1	1.50	0.21	3.08	13.25	2,050.00
Yellow Bullhead		I	C	T	3	4.50	0.64	0.39	1.69	87.33
Rock Bass	S	C	C		5	7.50	1.07	0.60	2.59	80.00
Smallmouth Bass	F	C	C	M	12	18.00	2.56	4.66	20.07	258.75
Spotted Bass	F	C	C		1	1.50	0.21	0.54	2.33	360.00
Largemouth Bass	F	C	C		10	15.00	2.14	0.05	0.20	3.10
Green Sunfish	S	I	C	T	56	84.00	11.97	0.97	4.19	11.57
Bluegill Sunfish	S	I	C	P	17	25.50	3.63	0.15	0.62	5.67
Longear Sunfish	S	I	C	M	9	13.50	1.92	0.09	0.38	6.50
Blackside Darter	D	I	S		1	1.50	0.21	0.01	0.05	7.00
Logperch	D	I	S	M	2	3.00	0.43	0.05	0.21	16.00
Johnny Darter	D	I	C		19	28.50	4.06	0.03	0.12	1.00
Greenside Darter	D	I	S	M	36	54.00	7.69	0.13	0.55	2.36
Rainbow Darter	D	I	S	M	54	81.00	11.54	0.09	0.41	1.16
Fantail Darter	D	I	C		13	19.50	2.78	0.02	0.09	1.00
Mottled Sculpin		I	C		1	1.50	0.21	0.00	0.01	2.00
	Mile Total				468	702.00		23.21		
	Number of Species				28					
	Number of Hybrids				0					

River Code: **14-017**	Stream: **Coldwater Creek**	Sample Date: **2010**
River Mile: **0.60**	Location: Roden Park Drive	Date Range: 07/22/2010
Time Fished: 1800 sec	Drainage: 3.7 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	80	160.00	7.00			
Western Blacknose Dace	N	G	S	T	6	12.00	0.52			
Creek Chub	N	G	N	T	103	206.00	9.01			
Suckermouth Minnow	N	I	S		17	34.00	1.49			
Rosyface Shiner	N	I	S	I	7	14.00	0.61			
Spotfin Shiner	N	I	M		8	16.00	0.70			
Sand Shiner	N	I	M	M	11	22.00	0.96			
Bluntnose Minnow	N	O	C	T	132	264.00	11.55			
Central Stoneroller	N	H	N		610	1,220.00	53.37			
Largemouth Bass	F	C	C		6	12.00	0.52			
Green Sunfish	S	I	C	T	2	4.00	0.17			
Hybrid X Sunfish					1	2.00	0.09			
Johnny Darter	D	I	C		32	64.00	2.80			
Greenside Darter	D	I	S	M	4	8.00	0.35			
Rainbow Darter	D	I	S	M	115	230.00	10.06			
Orangethroat Darter	D	I	S		1	2.00	0.09			
Fantail Darter	D	I	C		8	16.00	0.70			
	Mile Total				1,143	2,286.00				
	Number of Species				16					
	Number of Hybrids				1					

River Code: **14-018**	Stream: **Dicks Creek**	Sample Date: **2010**
River Mile: **0.90**	Location: Main St.	Date Range: 07/28/2010
Time Fished: 3600 sec	Drainage: 48.5 sq mi	Thru: 08/26/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	1	0.75	0.33	0.02	0.23	28.00
Golden Redhorse	R	I	S	M	2	1.50	0.66	0.06	0.70	43.00
Northern Hog Sucker	R	I	S	M	7	5.25	2.33	0.38	4.08	72.00
White Sucker	W	O	S	T	3	2.25	1.00	0.09	0.97	39.67
Smallmouth Redhorse	R	I	S	M	1	0.75	0.33	0.04	0.45	55.00
Common Carp	G	O	M	T	4	3.00	1.33	5.93	63.97	1,977.50
Creek Chub	N	G	N	T	1	0.75	0.33	0.01	0.06	8.00
Rosyface Shiner	N	I	S	I	39	29.25	12.96	0.06	0.61	1.95
Striped Shiner	N	I	S		11	8.25	3.65	0.10	1.08	12.12
Spotfin Shiner	N	I	M		53	39.75	17.61	0.12	1.25	2.91
Sand Shiner	N	I	M	M	17	12.75	5.65	0.02	0.17	1.24
Bluntnose Minnow	N	O	C	T	24	18.00	7.97	0.07	0.77	3.95
Central Stoneroller	N	H	N		25	18.75	8.31	0.19	2.02	9.99
Channel Catfish	F		C		2	1.50	0.66	1.22	13.20	816.00
Rock Bass	S	C	C		1	0.75	0.33	0.03	0.31	38.00
Smallmouth Bass	F	C	C	M	2	1.50	0.66	0.10	1.13	69.50
Largemouth Bass	F	C	C		6	4.50	1.99	0.11	1.22	25.17
Green Sunfish	S	I	C	T	6	4.50	1.99	0.13	1.37	28.33
Bluegill Sunfish	S	I	C	P	3	2.25	1.00	0.03	0.37	15.00
Orangespotted Sunfish	S	I	C		1	0.75	0.33	0.01	0.11	13.00
Longear Sunfish	S	I	C	M	17	12.75	5.65	0.27	2.88	20.94
Pumpkinseed Sunfish	S	I	C	P	2	1.50	0.66	0.07	0.73	45.00
Greenside Darter	D	I	S	M	58	43.50	19.27	0.19	2.10	4.48
Banded Darter	D	I	S	I	1	0.75	0.33	0.00	0.03	3.00
Rainbow Darter	D	I	S	M	11	8.25	3.65	0.02	0.20	2.18
Fantail Darter	D	I	C		3	2.25	1.00	0.01	0.05	2.00
	Mile Total				301	225.75		9.27		
	Number of Species				26					
	Number of Hybrids				0					

River Code: **14-022**	Stream: **Elk Creek**	Sample Date: **2010**
River Mile: **10.10**	Location: Shurtz Rd.	Date Range: 07/21/2010
Time Fished: 1800 sec	Drainage: 15.0 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	3	6.00	0.56			
White Sucker	W	O	S	T	9	18.00	1.68			
Western Blacknose Dace	N	G	S	T	82	164.00	15.33			
Creek Chub	N	G	N	T	25	50.00	4.67			
Scarlet Shiner	N	I	S	M	1	2.00	0.19			
Striped Shiner	N	I	S		25	50.00	4.67			
Silverjaw Minnow	N	I	M		1	2.00	0.19			
Bluntnose Minnow	N	O	C	T	41	82.00	7.66			
Central Stoneroller	N	H	N		182	364.00	34.02			
Yellow Bullhead		I	C	T	1	2.00	0.19			
Rock Bass	S	C	C		10	20.00	1.87			
Smallmouth Bass	F	C	C	M	2	4.00	0.37			
Largemouth Bass	F	C	C		4	8.00	0.75			
Green Sunfish	S	I	C	T	19	38.00	3.55			
Bluegill Sunfish	S	I	C	P	1	2.00	0.19			
Johnny Darter	D	I	C		6	12.00	1.12			
Greenside Darter	D	I	S	M	11	22.00	2.06			
Rainbow Darter	D	I	S	M	48	96.00	8.97			
Fantail Darter	D	I	C		57	114.00	10.65			
Mottled Sculpin		I	C		7	14.00	1.31			
	Mile Total				535	1,070.00				
	Number of Species				20					
	Number of Hybrids				0					

River Code: **14-022**	Stream: **Elk Creek**	Sample Date: **2010**
River Mile: **3.60**	Location: dst. Dry Run	Date Range: 07/22/2010
Time Fished: 3600 sec	Drainage: 44.9 sq mi	Thru: 08/25/2010
Dist Fished: 0.35 km	Basin: Great Miami 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
Northern Hog Sucker	R	I	S	M	62	57.50	2.91	0.46	5.63	7.98
White Sucker	W	O	S	T	48	41.00	2.08	0.36	4.38	8.45
Western Blacknose Dace	N	G	S	T	91	79.00	4.00	0.18	2.24	2.33
Creek Chub	N	G	N	T	70	57.50	2.91	0.78	9.59	13.82
Suckermouth Minnow	N	I	S		5	4.75	0.24	0.02	0.21	3.67
Rosyface Shiner	N	I	S	I	46	42.50	2.15	0.08	0.97	1.87
Striped Shiner	N	I	S		113	96.00	4.86	0.42	5.12	4.35
Sand Shiner	N	I	M	M	3	2.75	0.14	0.01	0.08	2.33
Silverjaw Minnow	N	I	M		3	2.25	0.11	0.01	0.09	3.00
Bluntnose Minnow	N	O	C	T	35	30.00	1.52	0.08	1.03	2.83
Central Stoneroller	N	H	N		1,186	1,054.50	53.43	4.49	54.86	4.24
Yellow Bullhead		I	C	T	1	1.00	0.05	0.02	0.18	15.00
Flathead Catfish	F	P	C		1	0.75	0.04	0.00	0.01	1.00
Rock Bass	S	C	C		10	8.75	0.44	0.23	2.82	24.30
Smallmouth Bass	F	C	C	M	2	1.75	0.09	0.14	1.74	80.00
Largemouth Bass	F	C	C		5	4.00	0.20	0.08	0.95	20.40
Green Sunfish	S	I	C	T	6	5.50	0.28	0.05	0.56	9.00
Johnny Darter	D	I	C		10	8.25	0.42	0.01	0.10	1.00
Greenside Darter	D	I	S	M	71	65.75	3.33	0.21	2.59	3.21
Banded Darter	D	I	S	I	2	1.50	0.08	0.00	0.04	2.00
Rainbow Darter	D	I	S	M	396	350.75	17.77	0.40	4.85	1.13
Fantail Darter	D	I	C		8	7.50	0.38	0.01	0.16	1.75
Mottled Sculpin		I	C		52	50.25	2.55	0.15	1.82	2.95
	Mile Total				2,226	1,973.50		8.18		
	Number of Species				23					
	Number of Hybrids				0					

River Code: **14-022**	Stream: **Elk Creek**	Sample Date: **2010**
River Mile: **1.50**	Location: Howe Rd.	Date Range: 07/23/2010
Time Fished: 3600 sec	Drainage: 46.0 sq mi	Thru: 08/25/2010
Dist Fished: 0.30 km	Basin: Great Miami 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
Northern Hog Sucker	R	I	S	M	83	83.00	6.91	1.11	13.81	13.42
White Sucker	W	O	S	T	34	34.00	2.83	0.53	6.57	15.59
Western Blacknose Dace	N	G	S	T	6	6.00	0.50	0.01	0.17	2.33
Creek Chub	N	G	N	T	27	27.00	2.25	0.64	7.91	23.63
Suckermouth Minnow	N	I	S		29	29.00	2.41	0.15	1.85	5.14
Silver Shiner	N	I	S	I	2	2.00	0.17	0.01	0.07	3.00
Rosyface Shiner	N	I	S	I	103	103.00	8.58	0.29	3.54	2.77
Striped Shiner	N	I	S		42	42.00	3.50	0.28	3.52	6.76
Spotfin Shiner	N	I	M		10	10.00	0.83	0.04	0.52	4.20
Sand Shiner	N	I	M	M	12	12.00	1.00	0.02	0.29	1.92
Mimic Shiner	N	I	M	I	6	6.00	0.50	0.01	0.16	2.17
Bluntnose Minnow	N	O	C	T	44	44.00	3.66	0.18	2.18	4.00
Central Stoneroller	N	H	N		469	469.00	39.05	2.99	37.07	6.37
Striped Sh X Rosyface Sh		I			1	1.00	0.08	0.02	0.20	16.00
Stonecat Madtom		I	C	I	2	2.00	0.17	0.02	0.21	8.50
Rock Bass	S	C	C		8	8.00	0.67	0.12	1.48	14.88
Smallmouth Bass	F	C	C	M	22	22.00	1.83	0.84	10.38	38.07
Largemouth Bass	F	C	C		4	4.00	0.33	0.06	0.69	14.00
Bluegill Sunfish	S	I	C	P	1	1.00	0.08	0.03	0.32	26.00
Logperch	D	I	S	M	1	1.00	0.08	0.02	0.21	17.00
Greenside Darter	D	I	S	M	87	87.00	7.24	0.38	4.74	4.39
Banded Darter	D	I	S	I	7	7.00	0.58	0.01	0.12	1.43
Rainbow Darter	D	I	S	M	151	151.00	12.57	0.20	2.47	1.32
Fantail Darter	D	I	C		41	41.00	3.41	0.08	0.97	1.91
Mottled Sculpin		I	C		9	9.00	0.75	0.04	0.55	4.89
Mile Total					1,201	1,201.00		8.07		
Number of Species					24					
Number of Hybrids					1					

River Code: **14-023**	Stream: **Browns Run**	Sample Date: **2010**
River Mile: **2.70**	Location: Meyers Rd.	Date Range: 07/01/2010
Time Fished: 1800 sec	Drainage: 8.7 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	4	8.00	0.59			
Western Blacknose Dace	N	G	S	T	312	624.00	46.02			
Creek Chub	N	G	N	T	69	138.00	10.18			
Striped Shiner	N	I	S		4	8.00	0.59			
Silverjaw Minnow	N	I	M		1	2.00	0.15			
Central Stoneroller	N	H	N		115	230.00	16.96			
Rainbow Darter	D	I	S	M	34	68.00	5.01			
Orangethroat Darter	D	I	S		1	2.00	0.15			
Fantail Darter	D	I	C		27	54.00	3.98			
Mottled Sculpin		I	C		111	222.00	16.37			
	Mile Total				678	1,356.00				
	Number of Species				10					
	Number of Hybrids				0					

River Code: **14-023**	Stream: **Browns Run**	Sample Date: **2010**
River Mile: **1.10**	Location: adj. Browns Run Rd.	Date Range: 07/21/2010
Time Fished: 1800 sec	Drainage: 10.4 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	6	12.00	0.78			
White Sucker	W	O	S	T	51	102.00	6.65			
Western Blacknose Dace	N	G	S	T	106	212.00	13.82			
Creek Chub	N	G	N	T	50	100.00	6.52			
Suckermouth Minnow	N	I	S		3	6.00	0.39			
Silver Shiner	N	I	S	I	6	12.00	0.78			
Scarlet Shiner	N	I	S	M	1	2.00	0.13			
Spotfin Shiner	N	I	M		2	4.00	0.26			
Silverjaw Minnow	N	I	M		33	66.00	4.30			
Fathead Minnow	N	O	C	T	1	2.00	0.13			
Bluntnose Minnow	N	O	C	T	8	16.00	1.04			
Central Stoneroller	N	H	N		291	582.00	37.94			
Brindled Madtom		I	C	I	1	2.00	0.13			
Largemouth Bass	F	C	C		3	6.00	0.39			
Green Sunfish	S	I	C	T	5	10.00	0.65			
Greenside Darter	D	I	S	M	1	2.00	0.13			
Rainbow Darter	D	I	S	M	41	82.00	5.35			
Fantail Darter	D	I	C		7	14.00	0.91			
Mottled Sculpin		I	C		151	302.00	19.69			
	Mile Total				767	1,534.00				
	Number of Species				19					
	Number of Hybrids				0					

River Code: **14-024**	Stream: **Clear Creek**	Sample Date: **2010**
River Mile: **11.10**	Location: 0.6 mi. dst. U.S. Rt. 42	Date Range: 06/30/2010
Time Fished: 1800 sec	Drainage: 8.7 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.12			
White Sucker	W	O	S	T	35	70.00	4.04			
Western Blacknose Dace	N	G	S	T	47	94.00	5.43			
Creek Chub	N	G	N	T	111	222.00	12.82			
South. Redbelly Dace	N	H	S		8	16.00	0.92			
Striped Shiner	N	I	S		3	6.00	0.35			
Bluntnose Minnow	N	O	C	T	2	4.00	0.23			
Central Stoneroller	N	H	N		399	798.00	46.07			
Largemouth Bass	F	C	C		1	2.00	0.12			
Green Sunfish	S	I	C	T	3	6.00	0.35			
Bluegill Sunfish	S	I	C	P	4	8.00	0.46			
Johnny Darter	D	I	C		7	14.00	0.81			
Greenside Darter	D	I	S	M	38	76.00	4.39			
Rainbow Darter	D	I	S	M	48	96.00	5.54			
Mottled Sculpin		I	C		159	318.00	18.36			
	Mile Total				866	1,732.00				
	Number of Species				15					
	Number of Hybrids				0					

River Code: **14-024**	Stream: **Clear Creek**	Sample Date: **2010**
River Mile: **7.60**	Location: St. Rt. 741	Date Range: 06/30/2010
Time Fished: 3887 sec	Drainage: 30.0 sq mi	Thru: 08/25/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	9	6.75	0.51	1.03	1.49	152.78
Golden Redhorse	R	I	S	M	16	12.00	0.91	2.57	3.72	214.17
Northern Hog Sucker	R	I	S	M	38	28.50	2.16	1.84	2.67	64.64
White Sucker	W	O	S	T	295	221.25	16.74	32.93	47.70	148.85
Common Carp	G	O	M	T	9	6.75	0.51	15.30	22.16	2,266.67
Creek Chub	N	G	N	T	27	20.25	1.53	0.15	0.22	7.56
Silver Shiner	N	I	S	I	51	38.25	2.89	0.13	0.18	3.27
Rosyface Shiner	N	I	S	I	8	6.00	0.45	0.02	0.02	2.50
Scarlet Shiner	N	I	S	M	6	4.50	0.34	0.01	0.01	1.67
Striped Shiner	N	I	S		43	32.25	2.44	0.98	1.41	30.26
Spotfin Shiner	N	I	M		6	4.50	0.34	0.02	0.03	4.50
Sand Shiner	N	I	M	M	27	20.25	1.53	0.04	0.05	1.80
Silverjaw Minnow	N	I	M		1	0.75	0.06	0.00	0.00	2.00
Fathead Minnow	N	O	C	T	2	1.50	0.11	0.00	0.00	1.00
Bluntnose Minnow	N	O	C	T	93	69.75	5.28	0.24	0.35	3.48
Central Stoneroller	N	H	N		521	390.75	29.57	3.43	4.97	8.79
Channel Catfish	F		C		3	2.25	0.17	5.03	7.28	2,233.33
Yellow Bullhead		I	C	T	4	3.00	0.23	0.32	0.46	107.00
Rock Bass	S	C	C		18	13.50	1.02	1.33	1.92	98.33
Smallmouth Bass	F	C	C	M	11	8.25	0.62	2.12	3.07	256.73
Largemouth Bass	F	C	C		5	3.75	0.28	0.04	0.05	9.60
Green Sunfish	S	I	C	T	54	40.50	3.06	0.64	0.93	15.84
Bluegill Sunfish	S	I	C	P	59	44.25	3.35	0.30	0.44	6.82
Longear Sunfish	S	I	C	M	1	0.75	0.06	0.00	0.00	2.00
Blackside Darter	D	I	S		1	0.75	0.06	0.00	0.01	5.00
Logperch	D	I	S	M	4	3.00	0.23	0.05	0.07	16.50
Johnny Darter	D	I	C		37	27.75	2.10	0.02	0.02	0.60
Greenside Darter	D	I	S	M	66	49.50	3.75	0.11	0.17	2.31
Banded Darter	D	I	S	I	9	6.75	0.51	0.01	0.01	1.00
Rainbow Darter	D	I	S	M	227	170.25	12.88	0.18	0.26	1.04
Fantail Darter	D	I	C		5	3.75	0.28	0.00	0.01	1.00
Mottled Sculpin		I	C		106	79.50	6.02	0.21	0.30	2.61
	Mile Total				1,762	1,321.50		69.04		
	Number of Species				32					
	Number of Hybrids				0					

River Code: **14-024**	Stream: **Clear Creek**	Sample Date: **2010**
River Mile: **6.90**	Location: Weidner Rd.	Date Range: 06/30/2010
Time Fished: 3978 sec	Drainage: 38.0 sq mi	Thru: 08/25/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	1	0.75	0.02	0.08	0.20	100.00
Golden Redhorse	R	I	S	M	10	7.50	0.24	0.86	2.32	114.50
Northern Hog Sucker	R	I	S	M	62	46.50	1.50	2.45	6.63	52.71
White Sucker	W	O	S	T	142	106.50	3.44	1.60	4.31	14.97
Common Carp	G	O	M	T	10	7.50	0.24	17.81	48.14	2,375.00
Creek Chub	N	G	N	T	50	37.50	1.21	0.24	0.64	6.35
Suckermouth Minnow	N	I	S		4	3.00	0.10	0.03	0.08	9.50
Silver Shiner	N	I	S	I	11	8.25	0.27	0.02	0.05	2.18
Rosyface Shiner	N	I	S	I	29	21.75	0.70	0.05	0.14	2.37
Scarlet Shiner	N	I	S	M	1	0.75	0.02	0.00	0.00	2.00
Striped Shiner	N	I	S		45	33.75	1.09	0.47	1.28	14.04
Spotfin Shiner	N	I	M		14	10.50	0.34	0.04	0.10	3.64
Sand Shiner	N	I	M	M	222	166.50	5.37	0.35	0.94	2.09
Silverjaw Minnow	N	I	M		9	6.75	0.22	0.04	0.10	5.67
Bluntnose Minnow	N	O	C	T	88	66.00	2.13	0.25	0.67	3.78
Central Stoneroller	N	H	N		2,444	1,833.00	59.15	7.20	19.45	3.93
Channel Catfish	F		C		1	0.75	0.02	0.79	2.14	1,055.00
Yellow Bullhead		I	C	T	14	10.50	0.34	1.32	3.56	125.57
Rock Bass	S	C	C		9	6.75	0.22	0.48	1.29	70.89
Smallmouth Bass	F	C	C	M	8	6.00	0.19	1.32	3.58	220.63
Largemouth Bass	F	C	C		2	1.50	0.05	0.09	0.25	61.50
Green Sunfish	S	I	C	T	64	48.00	1.55	0.43	1.15	8.87
Bluegill Sunfish	S	I	C	P	18	13.50	0.44	0.09	0.24	6.56
Logperch	D	I	S	M	2	1.50	0.05	0.02	0.06	13.50
Johnny Darter	D	I	C		14	10.50	0.34	0.01	0.03	1.00
Greenside Darter	D	I	S	M	211	158.25	5.11	0.47	1.28	2.98
Banded Darter	D	I	S	I	9	6.75	0.22	0.01	0.03	1.50
Rainbow Darter	D	I	S	M	570	427.50	13.79	0.43	1.17	1.01
Orangethroat Darter	D	I	S		1	0.75	0.02	0.00	0.00	2.00
Mottled Sculpin		I	C		67	50.25	1.62	0.06	0.17	1.28
Mile Total					4,132	3,099.00		37.00		
Number of Species					30					
Number of Hybrids					0					

River Code: **14-024**	Stream: **Clear Creek**	Sample Date: **2010**
River Mile: **2.50**	Location: end of lane, at municipal park	Date Range: 07/01/2010
Time Fished: 3590 sec	Drainage: 46.0 sq mi	Thru: 08/25/2010
Dist Fished: 0.37 km	Basin: Great Miami 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
Silver Redhorse	R	I	S	M	8	6.00	0.73	0.73	1.61	121.00
Black Redhorse	R	I	S	I	38	31.54	3.83	4.41	9.76	142.14
Golden Redhorse	R	I	S	M	62	49.94	6.07	7.41	16.40	146.36
Northern Hog Sucker	R	I	S	M	170	135.84	16.50	8.74	19.35	66.15
White Sucker	W	O	S	T	34	27.35	3.32	2.03	4.49	76.06
Smallmouth Redhorse	R	I	S	M	4	3.13	0.38	0.40	0.89	127.25
Common Carp	G	O	M	T	8	6.00	0.73	10.03	22.20	1,670.88
Western Blacknose Dace	N	G	S	T	1	0.88	0.11	0.00	0.00	1.00
Creek Chub	N	G	N	T	6	4.76	0.58	0.02	0.05	4.17
Suckermouth Minnow	N	I	S		2	1.63	0.20	0.01	0.01	3.00
Silver Shiner	N	I	S	I	10	8.43	1.02	0.04	0.08	4.30
Rosyface Shiner	N	I	S	I	56	44.12	5.36	0.09	0.20	1.99
Scarlet Shiner	N	I	S	M	5	4.41	0.54	0.02	0.03	3.40
Striped Shiner	N	I	S		11	9.04	1.10	0.20	0.45	22.45
Spotfin Shiner	N	I	M		33	26.60	3.23	0.10	0.23	3.77
Sand Shiner	N	I	M	M	88	70.37	8.55	0.12	0.26	1.64
Mimic Shiner	N	I	M	I	14	10.63	1.29	0.01	0.03	1.36
Silverjaw Minnow	N	I	M		7	5.65	0.69	0.02	0.05	3.71
Bluntnose Minnow	N	O	C	T	40	34.10	4.14	0.12	0.26	3.44
Central Stoneroller	N	H	N		233	192.88	23.43	1.00	2.22	5.11
Channel Catfish	F		C		10	7.76	0.94	4.04	8.93	528.00
Yellow Bullhead		I	C	T	2	1.50	0.18	0.05	0.12	35.50
Rock Bass	S	C	C		12	10.32	1.25	1.82	4.02	173.33
Smallmouth Bass	F	C	C	M	24	19.59	2.38	3.11	6.89	158.25
Green Sunfish	S	I	C	T	13	10.41	1.26	0.32	0.71	31.85
Bluegill Sunfish	S	I	C	P	12	9.00	1.09	0.11	0.25	12.50
Longear Sunfish	S	I	C	M	4	3.00	0.36	0.05	0.12	17.50
Logperch	D	I	S	M	3	2.38	0.29	0.04	0.09	17.00
Greenside Darter	D	I	S	M	44	34.99	4.25	0.07	0.16	2.02
Banded Darter	D	I	S	I	10	7.63	0.93	0.01	0.03	1.60
Rainbow Darter	D	I	S	M	52	40.06	4.87	0.05	0.11	1.20
Mottled Sculpin		I	C		4	3.13	0.38	0.02	0.04	5.00
	Mile Total				1,020	823.10		45.17		
	Number of Species				32					
	Number of Hybrids				0					

River Code: **14-024**	Stream: **Clear Creek**	Sample Date: **2010**
River Mile: **0.80**	Location: Baxter Drive	Date Range: 07/01/2010
Time Fished: 3747 sec	Drainage: 52.2 sq mi	Thru: 08/26/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	3	2.25	0.33	0.38	2.88	170.67
Golden Redhorse	R	I	S	M	8	6.00	0.88	0.90	6.76	149.88
Northern Hog Sucker	R	I	S	M	80	60.00	8.77	4.10	30.82	68.38
White Sucker	W	O	S	T	40	30.00	4.39	0.68	5.11	22.65
Smallmouth Redhorse	R	I	S	M	3	2.25	0.33	0.37	2.78	164.67
Common Carp	G	O	M	T	1	0.75	0.11	1.58	11.83	2,100.00
Creek Chub	N	G	N	T	4	3.00	0.44	0.02	0.14	6.25
Suckermouth Minnow	N	I	S		1	0.75	0.11	0.00	0.02	3.00
Silver Shiner	N	I	S	I	2	1.50	0.22	0.01	0.04	3.50
Rosyface Shiner	N	I	S	I	20	15.00	2.19	0.03	0.25	2.20
Striped Shiner	N	I	S		3	2.25	0.33	0.03	0.20	11.33
Spotfin Shiner	N	I	M		3	2.25	0.33	0.01	0.06	3.33
Sand Shiner	N	I	M	M	38	28.50	4.17	0.06	0.41	1.92
Mimic Shiner	N	I	M	I	7	5.25	0.77	0.01	0.06	1.43
Bluntnose Minnow	N	O	C	T	73	54.75	8.00	0.18	1.32	3.21
Central Stoneroller	N	H	N		208	156.00	22.81	1.27	9.56	8.16
Channel Catfish	F		C		1	0.75	0.11	0.60	4.51	800.00
Yellow Bullhead		I	C	T	6	4.50	0.66	0.28	2.13	63.00
Rock Bass	S	C	C		16	12.00	1.75	0.68	5.13	56.94
Smallmouth Bass	F	C	C	M	11	8.25	1.21	1.25	9.39	151.45
Largemouth Bass	F	C	C		3	2.25	0.33	0.02	0.17	10.00
Green Sunfish	S	I	C	T	29	21.75	3.18	0.28	2.11	12.93
Bluegill Sunfish	S	I	C	P	42	31.50	4.61	0.13	0.96	4.06
Hybrid X Sunfish					2	1.50	0.22	0.04	0.27	23.50
Johnny Darter	D	I	C		11	8.25	1.21	0.01	0.08	1.30
Greenside Darter	D	I	S	M	82	61.50	8.99	0.21	1.60	3.45
Banded Darter	D	I	S	I	58	43.50	6.36	0.05	0.41	1.25
Rainbow Darter	D	I	S	M	119	89.25	13.05	0.10	0.73	1.09
Orangethroat Darter	D	I	S		2	1.50	0.22	0.00	0.01	1.00
Mottled Sculpin		I	C		36	27.00	3.95	0.04	0.30	1.48
	Mile Total				912	684.00		13.31		
	Number of Species				29					
	Number of Hybrids				1					

River Code: **14-029**	Stream: **Bear Creek**	Sample Date: **2010**
River Mile: **12.10**	Location: Clayton Rd.	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 5.6 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	168	336.00	15.83			
Western Blacknose Dace	N	G	S	T	127	254.00	11.97			
Creek Chub	N	G	N	T	303	606.00	28.56			
South. Redbelly Dace	N	H	S		19	38.00	1.79			
Striped Shiner	N	I	S		76	152.00	7.16			
Bluntnose Minnow	N	O	C	T	22	44.00	2.07			
Central Stoneroller	N	H	N		165	330.00	15.55			
Striped Sh X Rosyface Sh		I			1	2.00	0.09			
Yellow Bullhead		I	C	T	3	6.00	0.28			
Rock Bass	S	C	C		4	8.00	0.38			
Largemouth Bass	F	C	C		4	8.00	0.38			
Green Sunfish	S	I	C	T	2	4.00	0.19			
Bluegill Sunfish	S	I	C	P	34	68.00	3.20			
Johnny Darter	D	I	C		1	2.00	0.09			
Greenside Darter	D	I	S	M	19	38.00	1.79			
Rainbow Darter	D	I	S	M	41	82.00	3.86			
Fantail Darter	D	I	C		1	2.00	0.09			
Mottled Sculpin		I	C		71	142.00	6.69			
	Mile Total				1,061	2,122.00				
	Number of Species				17					
	Number of Hybrids				1					

River Code: **14-029**	Stream: **Bear Creek**	Sample Date: **2010**
River Mile: **9.70**	Location: U.S. Rt. 35	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 11.2 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	42	84.00	12.65			
Creek Chub	N	G	N	T	66	132.00	19.88			
Striped Shiner	N	I	S		41	82.00	12.35			
Sand Shiner	N	I	M	M	2	4.00	0.60			
Silverjaw Minnow	N	I	M		1	2.00	0.30			
Bluntnose Minnow	N	O	C	T	1	2.00	0.30			
Central Stoneroller	N	H	N		36	72.00	10.84			
Rock Bass	S	C	C		6	12.00	1.81			
Smallmouth Bass	F	C	C	M	1	2.00	0.30			
Greenside Darter	D	I	S	M	23	46.00	6.93			
Rainbow Darter	D	I	S	M	44	88.00	13.25			
Mottled Sculpin		I	C		69	138.00	20.78			
Mile Total					332	664.00				
Number of Species					12					
Number of Hybrids					0					

River Code: **14-029**	Stream: **Bear Creek**	Sample Date: **2010**
River Mile: **7.10**	Location: Huffman Rd.	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 20.2 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.19			
White Sucker	W	O	S	T	7	14.00	1.34			
Western Blacknose Dace	N	G	S	T	4	8.00	0.76			
Creek Chub	N	G	N	T	31	62.00	5.93			
Suckermouth Minnow	N	I	S		2	4.00	0.38			
Striped Shiner	N	I	S		28	56.00	5.35			
Sand Shiner	N	I	M	M	11	22.00	2.10			
Silverjaw Minnow	N	I	M		3	6.00	0.57			
Bluntnose Minnow	N	O	C	T	6	12.00	1.15			
Central Stoneroller	N	H	N		206	412.00	39.39			
Rock Bass	S	C	C		3	6.00	0.57			
Largemouth Bass	F	C	C		1	2.00	0.19			
Greenside Darter	D	I	S	M	26	52.00	4.97			
Rainbow Darter	D	I	S	M	101	202.00	19.31			
Mottled Sculpin		I	C		93	186.00	17.78			
	Mile Total				523	1,046.00				
	Number of Species				15					
	Number of Hybrids				0					

River Code: **14-029**	Stream: **Bear Creek**	Sample Date: **2010**
River Mile: **5.80**	Location: dst. Lutheran Church Rd.	Date Range: 08/26/2010
Time Fished: 1800 sec	Drainage: 21.1 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	8	16.00	0.51	1.16	3.45	72.25
White Sucker	W	O	S	T	60	120.00	3.83	5.02	15.00	41.87
Western Blacknose Dace	N	G	S	T	11	22.00	0.70	0.06	0.18	2.73
Creek Chub	N	G	N	T	49	98.00	3.13	1.36	4.07	13.92
Striped Shiner	N	I	S		264	528.00	16.86	9.65	28.82	18.28
Sand Shiner	N	I	M	M	2	4.00	0.13	0.01	0.04	3.00
Silverjaw Minnow	N	I	M		12	24.00	0.77	0.05	0.15	2.10
Fathead Minnow	N	O	C	T	2	4.00	0.13	0.01	0.02	2.00
Bluntnose Minnow	N	O	C	T	10	20.00	0.64	0.04	0.12	2.00
Central Stoneroller	N	H	N		957	1,914.00	61.11	13.11	39.16	6.85
Yellow Bullhead		I	C	T	2	4.00	0.13	0.02	0.06	5.00
Rock Bass	S	C	C		13	26.00	0.83	1.00	2.99	38.46
Smallmouth Bass	F	C	C	M	4	8.00	0.26	1.29	3.85	161.25
Largemouth Bass	F	C	C		3	6.00	0.19	0.09	0.28	15.67
Johnny Darter	D	I	C		2	4.00	0.13	0.00	0.01	1.00
Greenside Darter	D	I	S	M	8	16.00	0.51	0.12	0.35	7.29
Rainbow Darter	D	I	S	M	75	150.00	4.79	0.20	0.60	1.35
Mottled Sculpin		I	C		84	168.00	5.36	0.28	0.84	1.68
	Mile Total				1,566	3,132.00		33.49		
	Number of Species				18					
	Number of Hybrids				0					

River Code: **14-029**	Stream: **Bear Creek**	Sample Date: **2010**
River Mile: **0.20**	Location: Soldiers Home-Miamisburg Rd.	Date Range: 07/21/2010
Time Fished: 3600 sec	Drainage: 53.3 sq mi	Thru: 08/25/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Northern Pike	F	P	M		1	0.75	0.04	0.04	0.28	52.00
Golden Redhorse	R	I	S	M	2	1.50	0.08	0.26	1.85	171.50
Northern Hog Sucker	R	I	S	M	9	6.75	0.35	1.11	8.01	165.11
White Sucker	W	O	S	T	160	120.00	6.27	2.83	20.35	23.61
Bigeye Chub	N	I	S	I	1	0.75	0.04	0.00	0.01	2.00
Creek Chub	N	G	N	T	30	22.50	1.18	0.14	1.04	6.40
Suckermouth Minnow	N	I	S		188	141.00	7.37	0.74	5.35	5.28
Silver Shiner	N	I	S	I	1	0.75	0.04	0.00	0.02	4.00
Rosyface Shiner	N	I	S	I	37	27.75	1.45	0.06	0.45	2.26
Striped Shiner	N	I	S		27	20.25	1.06	0.13	0.92	6.33
Spotfin Shiner	N	I	M		7	5.25	0.27	0.03	0.19	5.00
Sand Shiner	N	I	M	M	139	104.25	5.45	0.34	2.47	3.30
Mimic Shiner	N	I	M	I	169	126.75	6.62	0.38	2.72	2.98
Silverjaw Minnow	N	I	M		40	30.00	1.57	0.08	0.59	2.73
Bluntnose Minnow	N	O	C	T	155	116.25	6.07	0.38	2.72	3.26
Central Stoneroller	N	H	N		1,195	896.25	46.83	4.11	29.49	4.58
Yellow Bullhead		I	C	T	16	12.00	0.63	0.12	0.86	10.00
Rock Bass	S	C	C		16	12.00	0.63	0.59	4.20	48.75
Smallmouth Bass	F	C	C	M	21	15.75	0.82	1.89	13.55	119.71
Largemouth Bass	F	C	C		3	2.25	0.12	0.05	0.37	23.00
Green Sunfish	S	I	C	T	1	0.75	0.04	0.01	0.10	19.00
Bluegill Sunfish	S	I	C	P	1	0.75	0.04	0.01	0.04	8.00
Hybrid X Sunfish					1	0.75	0.04	0.02	0.11	21.00
Johnny Darter	D	I	C		2	1.50	0.08	0.00	0.01	1.00
Greenside Darter	D	I	S	M	111	83.25	4.35	0.31	2.24	3.75
Banded Darter	D	I	S	I	12	9.00	0.47	0.02	0.14	2.16
Rainbow Darter	D	I	S	M	140	105.00	5.49	0.15	1.05	1.39
Mottled Sculpin		I	C		67	50.25	2.63	0.12	0.87	2.41
	Mile Total				2,552	1,914.00		13.92		
	Number of Species				27					
	Number of Hybrids				1					

River Code: **14-030**	Stream: **Little Bear Creek**	Sample Date: **2010**
River Mile: **1.00**	Location: Huffman Rd.	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 10.0 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.24			
White Sucker	W	O	S	T	1	2.00	0.24			
Western Blacknose Dace	N	G	S	T	44	88.00	10.76			
Creek Chub	N	G	N	T	48	96.00	11.74			
Striped Shiner	N	I	S		63	126.00	15.40			
Silverjaw Minnow	N	I	M		1	2.00	0.24			
Bluntnose Minnow	N	O	C	T	3	6.00	0.73			
Central Stoneroller	N	H	N		72	144.00	17.60			
Green Sunfish	S	I	C	T	6	12.00	1.47			
Bluegill Sunfish	S	I	C	P	1	2.00	0.24			
Greenside Darter	D	I	S	M	3	6.00	0.73			
Rainbow Darter	D	I	S	M	30	60.00	7.33			
Mottled Sculpin		I	C		136	272.00	33.25			
	Mile Total				409	818.00				
	Number of Species				13					
	Number of Hybrids				0					

River Code: **14-035**	Stream: **Opossum Creek**	Sample Date: **2010**
River Mile: **1.40**	Location: Pinnacle Rd.	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 7.0 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	10	20.00	0.89			
Western Blacknose Dace	N	G	S	T	353	706.00	31.52			
Creek Chub	N	G	N	T	53	106.00	4.73			
South. Redbelly Dace	N	H	S		3	6.00	0.27			
Redside Dace	N	I	S	I	1	2.00	0.09			
Central Stoneroller	N	H	N		584	1,168.00	52.14			
Green Sunfish	S	I	C	T	6	12.00	0.54			
Bluegill Sunfish	S	I	C	P	9	18.00	0.80			
Greenside Darter	D	I	S	M	5	10.00	0.45			
Rainbow Darter	D	I	S	M	18	36.00	1.61			
Orangethroat Darter	D	I	S		10	20.00	0.89			
Fantail Darter	D	I	C		38	76.00	3.39			
Mottled Sculpin		I	C		30	60.00	2.68			
	Mile Total				1,120	2,240.00				
	Number of Species				13					
	Number of Hybrids				0					

River Code: **14-036**	Stream: **Holes Creek**	Sample Date: **2010**
River Mile: **8.60**	Location: Lyons Rd.	Date Range: 07/16/2010
Time Fished:	Drainage: 7.3 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	18.37			
Creek Chub	N	G	N	T	12	24.00	12.24			
Striped Shiner	N	I	S		6	12.00	6.12			
Spotfin Shiner	N	I	M		1	2.00	1.02			
Bluntnose Minnow	N	O	C	T	13	26.00	13.27			
Central Stoneroller	N	H	N		3	6.00	3.06			
Yellow Bullhead		I	C	T	2	4.00	2.04			
Largemouth Bass	F	C	C		3	6.00	3.06			
Green Sunfish	S	I	C	T	36	72.00	36.73			
Bluegill Sunfish	S	I	C	P	3	6.00	3.06			
Hybrid X Sunfish					1	2.00	1.02			
	Mile Total				98	196.00				
	Number of Species				10					
	Number of Hybrids				1					

River Code: **14-036**	Stream: **Holes Creek**	Sample Date: **2010**
River Mile: **3.30**	Location:	Date Range: 07/21/2010
Time Fished: 3000 sec	Drainage:	
Dist Fished: 0.15 km	Basin: Great Miami 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	9	18.00	1.02			
White Sucker	W	O	S	T	4	8.00	0.45			
Western Blacknose Dace	N	G	S	T	31	62.00	3.51			
Creek Chub	N	G	N	T	14	28.00	1.59			
Striped Shiner	N	I	S		44	88.00	4.99			
Sand Shiner	N	I	M	M	71	142.00	8.05			
Silverjaw Minnow	N	I	M		9	18.00	1.02			
Bluntnose Minnow	N	O	C	T	69	138.00	7.82			
Central Stoneroller	N	H	N		455	910.00	51.59			
Yellow Bullhead		I	C	T	2	4.00	0.23			
Smallmouth Bass	F	C	C	M	1	2.00	0.11			
Green Sunfish	S	I	C	T	2	4.00	0.23			
Hybrid X Sunfish					1	2.00	0.11			
Greenside Darter	D	I	S	M	2	4.00	0.23			
Rainbow Darter	D	I	S	M	46	92.00	5.22			
Fantail Darter	D	I	C		122	244.00	13.83			
	Mile Total				882	1,764.00				
	Number of Species				15					
	Number of Hybrids				1					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **16.70**	Location: Lewisburg-Salem Rd.	Date Range: 07/14/2010
Time Fished: 2520 sec	Drainage: 4.6 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	16	32.00	11.59			
Creek Chub	N	G	N	T	44	88.00	31.88			
Bluntnose Minnow	N	O	C	T	2	4.00	1.45			
Central Stoneroller	N	H	N		10	20.00	7.25			
Largemouth Bass	F	C	C		12	24.00	8.70			
Green Sunfish	S	I	C	T	28	56.00	20.29			
Bluegill Sunfish	S	I	C	P	14	28.00	10.14			
Greenside Darter	D	I	S	M	1	2.00	0.72			
Rainbow Darter	D	I	S	M	11	22.00	7.97			
	Mile Total				138	276.00				
	Number of Species				9					
	Number of Hybrids				0					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **15.30**	Location: Westbrook Rd.	Date Range: 07/14/2010
Time Fished: 3160 sec	Drainage: 7.4 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.37			
White Sucker	W	O	S	T	37	74.00	13.65			
Western Blacknose Dace	N	G	S	T	5	10.00	1.85			
Creek Chub	N	G	N	T	102	204.00	37.64			
Bluntnose Minnow	N	O	C	T	6	12.00	2.21			
Central Stoneroller	N	H	N		49	98.00	18.08			
Largemouth Bass	F	C	C		3	6.00	1.11			
Green Sunfish	S	I	C	T	22	44.00	8.12			
Bluegill Sunfish	S	I	C	P	7	14.00	2.58			
Hybrid X Sunfish					2	4.00	0.74			
Greenside Darter	D	I	S	M	4	8.00	1.48			
Rainbow Darter	D	I	S	M	33	66.00	12.18			
	Mile Total				271	542.00				
	Number of Species				11					
	Number of Hybrids				1					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **14.90**	Location: dst. Brookville WWTP	Date Range: 07/22/2010
Time Fished: 1800 sec	Drainage: 8.0 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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
Northern Hog Sucker	R	I	S	M	11	22.00	1.34			
White Sucker	W	O	S	T	132	264.00	16.08			
Western Blacknose Dace	N	G	S	T	78	156.00	9.50			
Creek Chub	N	G	N	T	125	250.00	15.23			
Bluntnose Minnow	N	O	C	T	8	16.00	0.97			
Central Stoneroller	N	H	N		379	758.00	46.16			
Largemouth Bass	F	C	C		1	2.00	0.12			
Green Sunfish	S	I	C	T	9	18.00	1.10			
Bluegill Sunfish	S	I	C	P	24	48.00	2.92			
Hybrid X Sunfish					2	4.00	0.24			
Greenside Darter	D	I	S	M	8	16.00	0.97			
Rainbow Darter	D	I	S	M	44	88.00	5.36			
	Mile Total				821	1,642.00				
	Number of Species				11					
	Number of Hybrids				1					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **10.40**	Location: upst. Nolan Rd.	Date Range: 07/14/2010
Time Fished: 1800 sec	Drainage: 13.9 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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
Northern Hog Sucker	R	I	S	M	10	20.00	2.58			
White Sucker	W	O	S	T	93	186.00	24.03			
Western Blacknose Dace	N	G	S	T	47	94.00	12.14			
Creek Chub	N	G	N	T	134	268.00	34.63			
Silverjaw Minnow	N	I	M		3	6.00	0.78			
Bluntnose Minnow	N	O	C	T	3	6.00	0.78			
Central Stoneroller	N	H	N		22	44.00	5.68			
Largemouth Bass	F	C	C		3	6.00	0.78			
Green Sunfish	S	I	C	T	6	12.00	1.55			
Bluegill Sunfish	S	I	C	P	1	2.00	0.26			
Hybrid X Sunfish					3	6.00	0.78			
Johnny Darter	D	I	C		1	2.00	0.26			
Greenside Darter	D	I	S	M	2	4.00	0.52			
Rainbow Darter	D	I	S	M	59	118.00	15.25			
	Mile Total				387	774.00				
	Number of Species				13					
	Number of Hybrids				1					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **2.50**	Location: Wesleyan Nature Center	Date Range: 07/22/2010
Time Fished: 3600 sec	Drainage: 66.6 sq mi	Thru: 08/26/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	3	2.25	0.21	0.48	1.93	211.67
Golden Redhorse	R	I	S	M	5	3.75	0.35	0.61	2.49	163.80
Northern Hog Sucker	R	I	S	M	117	87.75	8.20	4.11	16.67	46.78
White Sucker	W	O	S	T	173	129.75	12.12	7.09	28.80	54.67
Western Blacknose Dace	N	G	S	T	2	1.50	0.14	0.00	0.01	2.00
Creek Chub	N	G	N	T	57	42.75	3.99	2.38	9.65	55.59
Silver Shiner	N	I	S	I	11	8.25	0.77	0.04	0.17	5.18
Striped Shiner	N	I	S		83	62.25	5.82	1.91	7.76	30.72
Sand Shiner	N	I	M	M	62	46.50	4.34	0.09	0.38	2.01
Silverjaw Minnow	N	I	M		4	3.00	0.28	0.01	0.03	2.50
Bluntnose Minnow	N	O	C	T	31	23.25	2.17	0.09	0.37	3.94
Central Stoneroller	N	H	N		532	399.00	37.28	4.70	19.08	11.78
Yellow Bullhead		I	C	T	6	4.50	0.42	0.39	1.58	86.50
Rock Bass	S	C	C		30	22.50	2.10	1.54	6.26	68.48
Smallmouth Bass	F	C	C	M	3	2.25	0.21	0.53	2.17	237.33
Largemouth Bass	F	C	C		6	4.50	0.42	0.04	0.17	9.00
Green Sunfish	S	I	C	T	15	11.25	1.05	0.11	0.44	9.67
Bluegill Sunfish	S	I	C	P	6	4.50	0.42	0.05	0.20	11.00
Hybrid X Sunfish					1	0.75	0.07	0.03	0.11	35.00
Logperch	D	I	S	M	1	0.75	0.07	0.01	0.03	10.00
Johnny Darter	D	I	C		3	2.25	0.21	0.00	0.01	1.00
Greenside Darter	D	I	S	M	79	59.25	5.54	0.20	0.82	3.39
Banded Darter	D	I	S	I	1	0.75	0.07	0.00	0.00	1.00
Rainbow Darter	D	I	S	M	193	144.75	13.52	0.21	0.87	1.47
Fantail Darter	D	I	C		3	2.25	0.21	0.00	0.01	1.33
	Mile Total				1,427	1,070.25		24.63		
	Number of Species				24					
	Number of Hybrids				1					

River Code: **14-037**	Stream: **Wolf Creek**	Sample Date: **2010**
River Mile: **1.00**	Location: Rosedale Ave.	Date Range: 07/22/2010
Time Fished: 1800 sec	Drainage: 70.0 sq mi	
Dist Fished: 0.20 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	2	3.00	0.78	0.31	1.29	103.50
Golden Redhorse	R	I	S	M	7	10.50	2.75	3.91	16.18	372.14
Northern Hog Sucker	R	I	S	M	17	25.50	6.67	1.91	7.92	75.00
White Sucker	W	O	S	T	74	111.00	29.02	7.31	30.27	65.85
Common Carp	G	O	M	T	1	1.50	0.39	4.88	20.19	3,250.00
Creek Chub	N	G	N	T	19	28.50	7.45	3.00	12.42	105.26
Silver Shiner	N	I	S	I	17	25.50	6.67	0.16	0.64	6.06
Striped Shiner	N	I	S		8	12.00	3.14	0.39	1.62	32.50
Spotfin Shiner	N	I	M		3	4.50	1.18	0.02	0.07	4.00
Sand Shiner	N	I	M	M	3	4.50	1.18	0.01	0.06	3.00
Silverjaw Minnow	N	I	M		1	1.50	0.39	0.00	0.01	2.00
Bluntnose Minnow	N	O	C	T	18	27.00	7.06	0.09	0.39	3.44
Central Stoneroller	N	H	N		2	3.00	0.78	0.03	0.12	10.00
Yellow Bullhead		I	C	T	5	7.50	1.96	0.81	3.35	108.00
Rock Bass	S	C	C		8	12.00	3.14	0.44	1.83	36.88
Smallmouth Bass	F	C	C	M	1	1.50	0.39	0.03	0.12	20.00
Largemouth Bass	F	C	C		8	12.00	3.14	0.08	0.31	6.25
Green Sunfish	S	I	C	T	30	45.00	11.76	0.68	2.80	15.00
Bluegill Sunfish	S	I	C	P	17	25.50	6.67	0.06	0.27	2.50
Johnny Darter	D	I	C		1	1.50	0.39	0.00	0.01	1.00
Greenside Darter	D	I	S	M	6	9.00	2.35	0.02	0.06	1.67
Rainbow Darter	D	I	S	M	7	10.50	2.75	0.02	0.07	1.71
	Mile Total				255	382.50		24.15		
	Number of Species				22					
	Number of Hybrids				0					

River Code: **14-039**	Stream: **North Branch Wolf Creek**	Sample Date: **2010**
River Mile: **2.60**	Location: Shiloh Springs Rd.	Date Range: 07/15/2010
Time Fished: 1800 sec	Drainage: 14.1 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	12	24.00	3.87			
White Sucker	W	O	S	T	8	16.00	2.58			
Western Blacknose Dace	N	G	S	T	1	2.00	0.32			
Creek Chub	N	G	N	T	83	166.00	26.77			
Silver Shiner	N	I	S	I	4	8.00	1.29			
Scarlet Shiner	N	I	S	M	1	2.00	0.32			
Striped Shiner	N	I	S		1	2.00	0.32			
Sand Shiner	N	I	M	M	1	2.00	0.32			
Silverjaw Minnow	N	I	M		12	24.00	3.87			
Bluntnose Minnow	N	O	C	T	4	8.00	1.29			
Central Stoneroller	N	H	N		60	120.00	19.35			
Rock Bass	S	C	C		4	8.00	1.29			
Smallmouth Bass	F	C	C	M	4	8.00	1.29			
Largemouth Bass	F	C	C		3	6.00	0.97			
Green Sunfish	S	I	C	T	8	16.00	2.58			
Bluegill Sunfish	S	I	C	P	1	2.00	0.32			
Greenside Darter	D	I	S	M	16	32.00	5.16			
Rainbow Darter	D	I	S	M	66	132.00	21.29			
Fantail Darter	D	I	C		21	42.00	6.77			
	Mile Total				310	620.00				
	Number of Species				19					
	Number of Hybrids				0					

River Code: **14-039**	Stream: **North Branch Wolf Creek**	Sample Date: **2010**
River Mile: **0.70**	Location: Union Rd.	Date Range: 07/14/2010
Time Fished: 2700 sec	Drainage: 23.4 sq mi	
Dist Fished: 0.17 km	Basin: Great Miami 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	19	33.53	3.22	3.31	17.59	98.68
White Sucker	W	O	S	T	82	144.71	13.90	7.88	41.87	54.43
Western Blacknose Dace	N	G	S	T	1	1.77	0.17	0.01	0.04	4.00
Creek Chub	N	G	N	T	51	90.00	8.64	1.85	9.85	20.59
Silver Shiner	N	I	S	I	33	58.24	5.59	0.43	2.28	7.36
Scarlet Shiner	N	I	S	M	6	10.59	1.02	0.04	0.20	3.60
Striped Shiner	N	I	S		39	68.82	6.61	1.50	7.97	21.79
Sand Shiner	N	I	M	M	9	15.88	1.53	0.04	0.23	2.75
Silverjaw Minnow	N	I	M		16	28.24	2.71	0.09	0.47	3.13
Bluntnose Minnow	N	O	C	T	14	24.71	2.37	0.09	0.47	3.57
Central Stoneroller	N	H	N		183	322.94	31.02	2.78	14.79	8.61
Rock Bass	S	C	C		3	5.29	0.51	0.31	1.64	58.33
Largemouth Bass	F	C	C		2	3.53	0.34	0.01	0.03	1.50
Green Sunfish	S	I	C	T	3	5.29	0.51	0.09	0.45	16.00
Bluegill Sunfish	S	I	C	P	2	3.53	0.34	0.01	0.06	3.00
Johnny Darter	D	I	C		2	3.53	0.34	0.00	0.02	1.00
Greenside Darter	D	I	S	M	23	40.59	3.90	0.11	0.58	2.70
Rainbow Darter	D	I	S	M	83	146.47	14.07	0.22	1.15	1.48
Fantail Darter	D	I	C		19	33.53	3.22	0.06	0.30	1.68
	Mile Total				590	1,041.18		18.81		
	Number of Species				19					
	Number of Hybrids				0					

River Code: **14-040**	Stream: **Razor Run**	Sample Date: **2010**
River Mile: **0.60**	Location: Wastler Rd.	Date Range: 07/14/2010
Time Fished: 1800 sec	Drainage: 5.3 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.61			
White Sucker	W	O	S	T	3	6.00	1.83			
Western Blacknose Dace	N	G	S	T	39	78.00	23.78			
Creek Chub	N	G	N	T	24	48.00	14.63			
Sand Shiner	N	I	M	M	1	2.00	0.61			
Silverjaw Minnow	N	I	M		24	48.00	14.63			
Bluntnose Minnow	N	O	C	T	12	24.00	7.32			
Central Stoneroller	N	H	N		27	54.00	16.46			
Rock Bass	S	C	C		1	2.00	0.61			
Largemouth Bass	F	C	C		1	2.00	0.61			
Green Sunfish	S	I	C	T	1	2.00	0.61			
Bluegill Sunfish	S	I	C	P	3	6.00	1.83			
Johnny Darter	D	I	C		4	8.00	2.44			
Greenside Darter	D	I	S	M	1	2.00	0.61			
Rainbow Darter	D	I	S	M	20	40.00	12.20			
Fantail Darter	D	I	C		2	4.00	1.22			
	Mile Total				164	328.00				
	Number of Species				16					
	Number of Hybrids				0					

River Code: **14-148**	Stream: **Briarly Creek**	Sample Date: **2010**
River Mile: **0.20**	Location: near mouth	Date Range: 07/29/2010
Time Fished: 1800 sec	Drainage: 6.9 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	13	26.00	2.06			
Creek Chub	N	G	N	T	216	432.00	34.29			
Bluntnose Minnow	N	O	C	T	143	286.00	22.70			
Central Stoneroller	N	H	N		254	508.00	40.32			
Bluegill Sunfish	S	I	C	P	4	8.00	0.63			
	Mile Total				630	1,260.00				
	Number of Species				5					
	Number of Hybrids				0					

River Code: **14-149**	Stream: **Wesselman Creek**	Sample Date: **2010**
River Mile: **3.00**	Location: upst. Taylor Rd. and trib.	Date Range: 07/29/2010
Time Fished: 1800 sec	Drainage: 2.6 sq mi	
Dist Fished: 0.13 km	Basin: Great Miami 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	1	2.31	1.11			
Western Blacknose Dace	N	G	S	T	2	4.62	2.22			
Creek Chub	N	G	N	T	7	16.15	7.78			
Fathead Minnow	N	O	C	T	1	2.31	1.11			
Central Stoneroller	N	H	N		34	78.46	37.78			
Fantail Darter	D	I	C		45	103.85	50.00			
	Mile Total				90	207.69				
	Number of Species				6					
	Number of Hybrids				0					

River Code: **14-149**	Stream: **Wesselman Creek**	Sample Date: **2010**
River Mile: **0.40**	Location: adj. Wesselman Rd.	Date Range: 07/29/2010
Time Fished: 1800 sec	Drainage: 9.1 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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
Golden Redhorse	R	I	S	M	13	26.00	1.26			
Northern Hog Sucker	R	I	S	M	2	4.00	0.19			
White Sucker	W	O	S	T	25	50.00	2.42			
Western Blacknose Dace	N	G	S	T	1	2.00	0.10			
Creek Chub	N	G	N	T	50	100.00	4.84			
Suckermouth Minnow	N	I	S		7	14.00	0.68			
Scarlet Shiner	N	I	S	M	47	94.00	4.55			
Striped Shiner	N	I	S		144	288.00	13.95			
Sand Shiner	N	I	M	M	12	24.00	1.16			
Silverjaw Minnow	N	I	M		17	34.00	1.65			
Bluntnose Minnow	N	O	C	T	140	280.00	13.57			
Central Stoneroller	N	H	N		324	648.00	31.40			
Yellow Bullhead		I	C	T	5	10.00	0.48			
Rock Bass	S	C	C		13	26.00	1.26			
Smallmouth Bass	F	C	C	M	9	18.00	0.87			
Largemouth Bass	F	C	C		1	2.00	0.10			
Green Sunfish	S	I	C	T	19	38.00	1.84			
Longear Sunfish	S	I	C	M	121	242.00	11.72			
Johnny Darter	D	I	C		7	14.00	0.68			
Greenside Darter	D	I	S	M	2	4.00	0.19			
Rainbow Darter	D	I	S	M	54	108.00	5.23			
Fantail Darter	D	I	C		19	38.00	1.84			
	Mile Total				1,032	2,064.00				
	Number of Species				22					
	Number of Hybrids				0					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **20.20**	Location: upst. St. Rt. 55	Date Range: 08/11/2010
Time Fished: 3033 sec	Drainage: 594.0 sq mi	Thru: 09/28/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	294	294.00	25.77	43.91	28.21	149.34
Golden Redhorse	R	I	S	M	190	190.00	16.65	52.06	33.45	273.99
River Redhorse [S]	R	I	S	I	3	3.00	0.26	5.70	3.66	1,900.00
Northern Hog Sucker	R	I	S	M	98	98.00	8.59	15.65	10.05	159.66
Smallmouth Redhorse	R	I	S	M	25	25.00	2.19	3.80	2.44	152.01
Common Carp	G	O	M	T	1	1.00	0.09	2.55	1.64	2,550.00
River Chub	N	I	N	I	14	14.00	1.23	0.87	0.56	62.36
Silver Shiner	N	I	S	I	36	36.00	3.16	0.19	0.12	5.25
Rosyface Shiner	N	I	S	I	77	77.00	6.75	0.19	0.12	2.43
Striped Shiner	N	I	S		46	46.00	4.03	0.66	0.42	14.24
Spotfin Shiner	N	I	M		27	27.00	2.37	0.11	0.07	4.11
Sand Shiner	N	I	M	M	25	25.00	2.19	0.07	0.05	2.92
Bluntnose Minnow	N	O	C	T	25	25.00	2.19	0.07	0.05	2.92
Central Stoneroller	N	H	N		63	63.00	5.52	1.16	0.74	18.35
Channel Catfish	F		C		3	3.00	0.26	5.03	3.23	1,675.00
Yellow Bullhead		I	C	T	1	1.00	0.09	0.20	0.13	195.00
Stonecat Madtom		I	C	I	7	7.00	0.61	0.14	0.09	19.71
White Crappie	S	I	C		2	2.00	0.18	0.47	0.30	232.50
Black Crappie	S	I	C		1	1.00	0.09	0.18	0.12	184.00
Rock Bass	S	C	C		57	57.00	5.00	6.93	4.45	121.54
Smallmouth Bass	F	C	C	M	58	58.00	5.08	12.21	7.85	210.49
Largemouth Bass	F	C	C		5	5.00	0.44	1.33	0.86	266.20
Green Sunfish	S	I	C	T	1	1.00	0.09	0.04	0.03	43.00
Bluegill Sunfish	S	I	C	P	6	6.00	0.53	0.22	0.14	36.33
Longear Sunfish	S	I	C	M	23	23.00	2.02	0.56	0.36	24.48
Green Sf X Bluegill Sf					12	12.00	1.05	1.07	0.69	88.92
Logperch	D	I	S	M	26	26.00	2.28	0.24	0.15	9.21
Greenside Darter	D	I	S	M	2	2.00	0.18	0.01	0.01	5.00
Banded Darter	D	I	S	I	5	5.00	0.44	0.01	0.01	2.20
Rainbow Darter	D	I	S	M	8	8.00	0.70	0.01	0.01	1.75
	Mile Total				1,141	1,141.00		155.62		
	Number of Species				29					
	Number of Hybrids				1					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **19.40**	Location: upst. West Milton Dam	Date Range: 08/11/2010
Time Fished: 3835 sec	Drainage: 598.0 sq mi	Thru: 09/28/2010
Dist Fished: 1.00 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	24	24.00	4.35	4.38	7.91	182.29
Golden Redhorse	R	I	S	M	104	104.00	18.84	17.37	31.41	166.97
River Redhorse [S]	R	I	S	I	6	6.00	1.09	0.74	1.34	123.33
Northern Hog Sucker	R	I	S	M	1	1.00	0.18	0.02	0.04	20.00
White Sucker	W	O	S	T	1	1.00	0.18	0.75	1.35	748.00
Spotted Sucker	R	I	S		55	55.00	9.96	9.70	17.55	176.42
Smallmouth Redhorse	R	I	S	M	5	5.00	0.91	1.12	2.03	224.00
Common Carp	G	O	M	T	4	4.00	0.72	9.24	16.72	2,310.75
Silver Shiner	N	I	S	I	28	28.00	5.07	0.21	0.38	7.50
Striped Shiner	N	I	S		40	40.00	7.25	0.63	1.13	15.63
Spotfin Shiner	N	I	M		24	24.00	4.35	0.13	0.23	5.26
Sand Shiner	N	I	M	M	10	10.00	1.81	0.02	0.03	1.70
Bluntnose Minnow	N	O	C	T	28	28.00	5.07	0.08	0.15	2.90
Blackstripe Topminnow		I	M		2	2.00	0.36	0.01	0.01	3.50
Rock Bass	S	C	C		4	4.00	0.72	0.28	0.50	69.25
Smallmouth Bass	F	C	C	M	10	10.00	1.81	1.26	2.27	125.50
Largemouth Bass	F	C	C		42	42.00	7.61	6.40	11.58	152.39
Green Sunfish	S	I	C	T	6	6.00	1.09	0.21	0.38	35.00
Bluegill Sunfish	S	I	C	P	51	51.00	9.24	0.71	1.28	13.86
Orangespotted Sunfish	S	I	C		8	8.00	1.45	0.08	0.14	9.50
Longear Sunfish	S	I	C	M	79	79.00	14.31	1.31	2.36	16.52
Hybrid X Sunfish					15	15.00	2.72	0.62	1.13	41.53
Logperch	D	I	S	M	5	5.00	0.91	0.05	0.09	9.80
	Mile Total				552	552.00		55.28		
	Number of Species				22					
	Number of Hybrids				1					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **18.00**	Location: dst. West Milton dam	Date Range: 08/11/2010
Time Fished: 1239 sec	Drainage: 600.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Gizzard Shad		O	M		7	14.00	1.30	1.92	1.33	137.14
Quillback	C	O	M		2	4.00	0.37	2.00	1.38	500.00
Black Redhorse	R	I	S	I	155	310.00	28.81	50.08	34.63	161.54
Golden Redhorse	R	I	S	M	129	258.00	23.98	53.88	37.26	208.82
River Redhorse [S]	R	I	S	I	7	14.00	1.30	7.75	5.36	553.57
Northern Hog Sucker	R	I	S	M	18	36.00	3.35	3.81	2.64	105.94
Smallmouth Redhorse	R	I	S	M	31	62.00	5.76	8.22	5.69	132.61
Common Carp	G	O	M	T	2	4.00	0.37	6.25	4.32	1,562.50
River Chub	N	I	N	I	2	4.00	0.37	0.16	0.11	40.00
Silver Shiner	N	I	S	I	12	24.00	2.23	0.18	0.13	7.58
Rosyface Shiner	N	I	S	I	4	8.00	0.74	0.06	0.04	7.50
Striped Shiner	N	I	S		9	18.00	1.67	0.50	0.34	27.50
Spotfin Shiner	N	I	M		55	110.00	10.22	0.32	0.22	2.94
Sand Shiner	N	I	M	M	18	36.00	3.35	0.08	0.06	2.28
Bluntnose Minnow	N	O	C	T	8	16.00	1.49	0.06	0.04	4.00
Central Stoneroller	N	H	N		4	8.00	0.74	0.09	0.06	10.75
Channel Catfish	F		C		1	2.00	0.19	1.84	1.27	920.00
Brown Bullhead		I	C	T	1	2.00	0.19	0.29	0.20	143.00
Rock Bass	S	C	C		12	24.00	2.23	1.95	1.35	81.25
Smallmouth Bass	F	C	C	M	5	10.00	0.93	1.50	1.04	150.00
Largemouth Bass	F	C	C		2	4.00	0.37	1.26	0.87	314.50
Green Sunfish	S	I	C	T	3	6.00	0.56	0.26	0.18	43.33
Bluegill Sunfish	S	I	C	P	13	26.00	2.42	0.95	0.66	36.54
Green Sf X Bluegill Sf					2	4.00	0.37	0.50	0.35	125.00
Logperch	D	I	S	M	30	60.00	5.58	0.67	0.46	11.11
Greenside Darter	D	I	S	M	1	2.00	0.19	0.00	0.00	2.00
Banded Darter	D	I	S	I	3	6.00	0.56	0.01	0.01	2.33
Rainbow Darter	D	I	S	M	2	4.00	0.37	0.01	0.01	2.50
	Mile Total				538	1,076.00		144.60		
	Number of Species				27					
	Number of Hybrids				1					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **11.10**	Location: dst. Martindale Rd.	Date Range: 07/19/2010
Time Fished: 1473 sec	Drainage: 645.0 sq mi	
Dist Fished: 0.50 km	Basin: Great Miami 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
Quillback	C	O	M		3	6.00	0.72	4.90	2.55	816.67
Black Redhorse	R	I	S	I	84	168.00	20.19	28.98	15.10	172.50
Golden Redhorse	R	I	S	M	108	216.00	25.96	66.71	34.76	308.82
River Redhorse [S]	R	I	S	I	8	16.00	1.92	13.20	6.88	825.00
Northern Hog Sucker	R	I	S	M	37	74.00	8.89	16.03	8.36	216.67
Smallmouth Redhorse	R	I	S	M	9	18.00	2.16	4.20	2.19	233.33
Common Carp	G	O	M	T	15	30.00	3.61	34.80	18.13	1,160.00
River Chub	N	I	N	I	7	14.00	1.68	0.44	0.23	31.33
Silver Shiner	N	I	S	I	6	12.00	1.44	0.12	0.06	10.00
Rosyface Shiner	N	I	S	I	6	12.00	1.44	0.07	0.04	5.80
Striped Shiner	N	I	S		8	16.00	1.92	0.90	0.47	56.38
Spotfin Shiner	N	I	M		21	42.00	5.05	0.22	0.11	5.19
Central Stoneroller	N	H	N		3	6.00	0.72	0.15	0.08	25.00
Channel Catfish	F		C		5	10.00	1.20	8.60	4.48	860.00
Brown Bullhead		I	C	T	2	4.00	0.48	0.76	0.40	190.00
Rock Bass	S	C	C		19	38.00	4.57	5.20	2.71	136.84
Smallmouth Bass	F	C	C	M	27	54.00	6.49	4.15	2.16	76.85
Green Sunfish	S	I	C	T	1	2.00	0.24	0.11	0.06	54.00
Bluegill Sunfish	S	I	C	P	4	8.00	0.96	0.54	0.28	67.25
Longear Sunfish	S	I	C	M	7	14.00	1.68	0.56	0.29	40.14
Green Sf X Bluegill Sf					1	2.00	0.24	0.06	0.03	31.00
Logperch	D	I	S	M	34	68.00	8.17	1.20	0.62	17.62
Banded Darter	D	I	S	I	1	2.00	0.24	0.00	0.00	1.00
	Mile Total				416	832.00		191.90		
	Number of Species				22					
	Number of Hybrids				1					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **9.50**	Location: upst. old Englewood lowhead dam	Date Range: 07/19/2010
Time Fished: 2083 sec	Drainage: 649.0 sq mi	Thru: 08/30/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		8	8.00	1.30	1.04	0.49	129.75
Quillback	C	O	M		6	6.00	0.98	5.48	2.57	912.50
Black Redhorse	R	I	S	I	39	39.00	6.34	8.59	4.03	220.19
Golden Redhorse	R	I	S	M	89	89.00	14.47	19.02	8.92	213.73
River Redhorse [S]	R	I	S	I	6	6.00	0.98	3.18	1.49	529.17
Northern Hog Sucker	R	I	S	M	42	42.00	6.83	8.68	4.07	206.64
Smallmouth Redhorse	R	I	S	M	34	34.00	5.53	6.73	3.15	197.89
Common Carp	G	O	M	T	162	162.00	26.34	152.76	71.62	942.96
River Chub	N	I	N	I	1	1.00	0.16	0.05	0.03	54.00
Silver Shiner	N	I	S	I	30	30.00	4.88	0.19	0.09	6.37
Striped Shiner	N	I	S		11	11.00	1.79	0.35	0.16	31.45
Spotfin Shiner	N	I	M		80	80.00	13.01	0.29	0.13	3.57
Sand Shiner	N	I	M	M	22	22.00	3.58	0.04	0.02	1.73
Bluntnose Minnow	N	O	C	T	8	8.00	1.30	0.02	0.01	3.00
Central Stoneroller	N	H	N		1	1.00	0.16	0.01	0.00	8.00
Channel Catfish	F		C		5	5.00	0.81	1.98	0.93	395.00
Yellow Bullhead		I	C	T	1	1.00	0.16	0.10	0.05	102.00
Brown Bullhead		I	C	T	17	17.00	2.76	1.69	0.79	99.58
Rock Bass	S	C	C		2	2.00	0.33	0.06	0.03	29.00
Smallmouth Bass	F	C	C	M	15	15.00	2.44	2.67	1.25	177.93
Green Sunfish	S	I	C	T	10	10.00	1.63	0.14	0.06	13.58
Bluegill Sunfish	S	I	C	P	5	5.00	0.81	0.07	0.03	14.60
Orangespotted Sunfish	S	I	C		8	8.00	1.30	0.05	0.02	5.75
Longear Sunfish	S	I	C	M	7	7.00	1.14	0.05	0.03	7.71
Logperch	D	I	S	M	5	5.00	0.81	0.08	0.04	15.00
Banded Darter	D	I	S	I	1	1.00	0.16	0.00	0.00	4.00
	Mile Total				615	615.00		213.30		
	Number of Species				26					
	Number of Hybrids				0					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **8.50**	Location: dst. old Englewood lowhead dam	Date Range: 07/19/2010
Time Fished: 2705 sec	Drainage: 652.0 sq mi	Thru: 08/30/2010
Dist Fished: 1.00 km	Basin: Great Miami 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		5	5.00	0.41	0.46	0.25	91.60
Quillback	C	O	M		13	13.00	1.06	6.55	3.53	503.85
Black Redhorse	R	I	S	I	229	229.00	18.71	29.61	15.94	129.29
Golden Redhorse	R	I	S	M	335	335.00	27.37	52.81	28.43	157.64
River Redhorse [S]	R	I	S	I	55	55.00	4.49	25.38	13.67	461.54
Northern Hog Sucker	R	I	S	M	91	91.00	7.43	9.35	5.03	102.72
White Sucker	W	O	S	T	2	2.00	0.16	0.37	0.20	186.50
Smallmouth Redhorse	R	I	S	M	75	75.00	6.13	11.95	6.43	159.27
Common Carp	G	O	M	T	20	20.00	1.63	23.33	12.56	1,166.40
Goldfish	G	O	M	T	2	2.00	0.16	0.39	0.21	193.50
River Chub	N	I	N	I	6	6.00	0.49	0.21	0.12	35.67
Silver Shiner	N	I	S	I	6	6.00	0.49	0.08	0.04	12.67
Rosyface Shiner	N	I	S	I	4	4.00	0.33	0.01	0.01	2.75
Striped Shiner	N	I	S		35	35.00	2.86	0.69	0.37	19.77
Spotfin Shiner	N	I	M		98	98.00	8.01	0.31	0.17	3.18
Sand Shiner	N	I	M	M	30	30.00	2.45	0.07	0.04	2.38
Bluntnose Minnow	N	O	C	T	21	21.00	1.72	0.10	0.05	4.61
Central Stoneroller	N	H	N		9	9.00	0.74	0.11	0.06	11.89
Channel Catfish	F		C		11	11.00	0.90	7.60	4.09	690.91
Yellow Bullhead		I	C	T	2	2.00	0.16	0.35	0.19	176.50
Brown Bullhead		I	C	T	31	31.00	2.53	2.57	1.38	82.94
White Crappie	S	I	C		2	2.00	0.16	0.22	0.12	107.50
Rock Bass	S	C	C		35	35.00	2.86	3.30	1.78	94.26
Smallmouth Bass	F	C	C	M	42	42.00	3.43	7.45	4.01	177.27
Largemouth Bass	F	C	C		1	1.00	0.08	1.03	0.55	1,025.00
Green Sunfish	S	I	C	T	2	2.00	0.16	0.08	0.04	39.50
Bluegill Sunfish	S	I	C	P	23	23.00	1.88	0.66	0.35	28.57
Orangespotted Sunfish	S	I	C		1	1.00	0.08	0.02	0.01	15.00
Longear Sunfish	S	I	C	M	10	10.00	0.82	0.23	0.12	23.10
Green Sf X Bluegill Sf					3	3.00	0.25	0.27	0.15	91.00
Logperch	D	I	S	M	23	23.00	1.88	0.20	0.11	8.66
Greenside Darter	D	I	S	M	1	1.00	0.08	0.01	0.00	9.00
Banded Darter	D	I	S	I	1	1.00	0.08	0.00	0.00	2.00
	Mile Total				1,224	1,224.00		185.74		
	Number of Species				32					
	Number of Hybrids				1					

River Code: **14-200**	Stream: **Stillwater River**	Sample Date: **2010**
River Mile: **1.20**	Location: Siebenthaler Rd.	Date Range: 07/20/2010
Time Fished: 2065 sec	Drainage: 674.0 sq mi	Thru: 08/31/2010
Dist Fished: 0.70 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	149	243.50	18.74	51.23	19.98	209.45
Golden Redhorse	R	I	S	M	123	216.00	16.62	64.63	25.21	305.93
River Redhorse [S]	R	I	S	I	8	11.00	0.85	8.58	3.35	1,019.75
Northern Hog Sucker	R	I	S	M	123	189.00	14.54	30.44	11.87	161.61
Smallmouth Redhorse	R	I	S	M	91	149.50	11.50	33.16	12.93	230.58
Common Carp	G	O	M	T	10	19.00	1.46	38.89	15.17	2,047.50
River Chub	N	I	N	I	21	37.50	2.89	1.50	0.59	39.10
Silver Shiner	N	I	S	I	29	50.00	3.85	0.39	0.15	8.41
Rosyface Shiner	N	I	S	I	2	2.00	0.15	0.01	0.00	3.00
Striped Shiner	N	I	S		30	51.00	3.92	1.14	0.44	21.17
Spotfin Shiner	N	I	M		63	96.00	7.39	0.46	0.18	5.38
Sand Shiner	N	I	M	M	7	8.50	0.65	0.03	0.01	3.14
Bluntnose Minnow	N	O	C	T	2	2.00	0.15	0.01	0.00	4.00
Central Stoneroller	N	H	N		15	36.00	2.77	0.17	0.07	4.87
Channel Catfish	F		C		7	8.50	0.65	9.13	3.56	1,177.14
Stonecat Madtom		I	C	I	2	3.50	0.27	0.02	0.01	8.00
White Crappie	S	I	C		1	2.50	0.19	0.08	0.03	31.00
Rock Bass	S	C	C		28	43.00	3.31	2.84	1.11	69.11
Smallmouth Bass	F	C	C	M	45	61.50	4.73	12.66	4.94	235.77
Longear Sunfish	S	I	C	M	16	23.50	1.81	0.61	0.24	25.94
Logperch	D	I	S	M	19	23.50	1.81	0.33	0.13	14.11
Greenside Darter	D	I	S	M	4	7.00	0.54	0.04	0.02	5.75
Banded Darter	D	I	S	I	7	13.00	1.00	0.03	0.01	2.14
Rainbow Darter	D	I	S	M	1	2.50	0.19	0.01	0.00	3.00
	Mile Total				803	1,299.50		256.37		
	Number of Species				24					
	Number of Hybrids				0					

River Code: **14-279**	Stream: **Trib. to Pleasant Run (3.31)**	Sample Date: **2010**
River Mile: **0.10**	Location: at mouth	Date Range: 07/28/2010
Time Fished: 1800 sec	Drainage: 3.0 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	2	4.00	0.53			
Western Blacknose Dace	N	G	S	T	87	174.00	22.96			
Creek Chub	N	G	N	T	90	180.00	23.75			
Central Stoneroller	N	H	N		198	396.00	52.24			
Rainbow Darter	D	I	S	M	2	4.00	0.53			
	Mile Total				379	758.00				
	Number of Species				5					
	Number of Hybrids				0					

River Code: **14-280**	Stream: **Trib to N. Br. Wolf Creek (RM 1.77)**	Sample Date: **2010**
River Mile: **0.40**	Location: Shiloh Springs Rd.	Date Range: 07/12/2010
Time Fished: 1800 sec	Drainage: 6.3 sq mi	
Dist Fished: 0.15 km	Basin: Great Miami 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	0.52			
Creek Chub	N	G	N	T	12	24.00	6.28			
Striped Shiner	N	I	S		3	6.00	1.57			
Bluntnose Minnow	N	O	C	T	16	32.00	8.38			
Central Stoneroller	N	H	N		44	88.00	23.04			
Largemouth Bass	F	C	C		3	6.00	1.57			
Green Sunfish	S	I	C	T	1	2.00	0.52			
Johnny Darter	D	I	C		1	2.00	0.52			
Greenside Darter	D	I	S	M	40	80.00	20.94			
Rainbow Darter	D	I	S	M	57	114.00	29.84			
Fantail Darter	D	I	C		13	26.00	6.81			
	Mile Total				191	382.00				
	Number of Species				11					
	Number of Hybrids				0					

River Code: **14-400**	Stream: **Fourmile Creek**	Sample Date: **2010**
River Mile: **18.50**	Location: upst. Bonham Rd.	Date Range: 07/22/2010
Time Fished: 6428 sec	Drainage: 107.0 sq mi	Thru: 09/02/2010
Dist Fished: 0.42 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	43	30.71	2.15	7.69	19.15	250.28
Golden Redhorse	R	I	S	M	9	6.43	0.45	2.30	5.74	358.33
Northern Hog Sucker	R	I	S	M	193	137.86	9.65	12.60	31.39	91.43
White Sucker	W	O	S	T	2	1.43	0.10	0.46	1.15	322.00
Golden Shiner	N	I	M	T	3	2.14	0.15	0.01	0.01	2.67
Creek Chub	N	G	N	T	2	1.43	0.10	0.05	0.11	32.00
Scarlet Shiner	N	I	S	M	2	1.43	0.10	0.01	0.01	4.00
Striped Shiner	N	I	S		15	10.71	0.75	0.42	1.04	38.87
Spotfin Shiner	N	I	M		316	225.71	15.80	1.26	3.13	5.56
Sand Shiner	N	I	M	M	20	14.29	1.00	0.05	0.13	3.55
Bluntnose Minnow	N	O	C	T	171	122.14	8.55	0.18	0.44	1.45
Central Stoneroller	N	H	N		522	372.86	26.10	4.21	10.48	11.28
Channel Catfish	F		C		1	0.71	0.05	0.01	0.02	10.00
Yellow Bullhead		I	C	T	10	7.14	0.50	0.54	1.33	74.90
Stonecat Madtom		I	C	I	2	1.43	0.10	0.01	0.03	7.50
Rock Bass	S	C	C		26	18.57	1.30	1.58	3.94	85.12
Smallmouth Bass	F	C	C	M	34	24.29	1.70	4.62	11.51	190.20
Largemouth Bass	F	C	C		29	20.71	1.45	0.24	0.60	11.62
Green Sunfish	S	I	C	T	39	27.86	1.95	0.69	1.73	24.87
Bluegill Sunfish	S	I	C	P	20	14.29	1.00	0.11	0.27	7.61
Longear Sunfish	S	I	C	M	144	102.86	7.20	2.45	6.10	23.82
Green Sf X Bluegill Sf					1	0.71	0.05	0.05	0.12	67.00
Logperch	D	I	S	M	2	1.43	0.10	0.06	0.14	39.00
Greenside Darter	D	I	S	M	192	137.14	9.60	0.40	1.01	2.94
Banded Darter	D	I	S	I	185	132.14	9.25	0.13	0.33	0.99
Rainbow Darter	D	I	S	M	16	11.43	0.80	0.04	0.11	3.81
Fantail Darter	D	I	C		1	0.71	0.05	0.00	0.00	2.00
	Mile Total				2,000	1,428.57		40.15		
	Number of Species				26					
	Number of Hybrids				1					

River Code: **14-400**	Stream: **Fourmile Creek**	Sample Date: **2010**
River Mile: **18.30**	Location: dst Bonham Rd., within impoundment	Date Range: 07/22/2010
Time Fished: 3755 sec	Drainage: 107.0 sq mi	Thru: 09/02/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	3	2.25	1.08	0.67	3.69	296.33
Golden Redhorse	R	I	S	M	1	0.75	0.36	0.29	1.63	392.00
Northern Hog Sucker	R	I	S	M	15	11.25	5.38	2.19	12.12	194.67
Common Carp	G	O	M	T	6	4.50	2.15	10.54	58.31	2,341.67
Silver Shiner	N	I	S	I	1	0.75	0.36	0.02	0.11	27.00
Spotfin Shiner	N	I	M		9	6.75	3.23	0.04	0.23	6.06
Bluntnose Minnow	N	O	C	T	32	24.00	11.47	0.06	0.33	2.44
Yellow Bullhead		I	C	T	5	3.75	1.79	0.28	1.57	75.40
White Crappie	S	I	C		3	2.25	1.08	0.17	0.94	75.67
Rock Bass	S	C	C		6	4.50	2.15	0.27	1.48	59.50
Smallmouth Bass	F	C	C	M	13	9.75	4.66	0.56	3.09	57.33
Largemouth Bass	F	C	C		24	18.00	8.60	0.62	3.42	34.30
Green Sunfish	S	I	C	T	26	19.50	9.32	0.45	2.47	22.85
Bluegill Sunfish	S	I	C	P	23	17.25	8.24	0.18	0.99	10.34
Longear Sunfish	S	I	C	M	94	70.50	33.69	1.68	9.32	23.88
Logperch	D	I	S	M	2	1.50	0.72	0.04	0.21	25.50
Greenside Darter	D	I	S	M	9	6.75	3.23	0.02	0.09	2.33
Banded Darter	D	I	S	I	5	3.75	1.79	0.01	0.03	1.20
Rainbow Darter	D	I	S	M	2	1.50	0.72	0.00	0.01	1.00
	Mile Total				279	209.25		18.07		
	Number of Species				19					
	Number of Hybrids				0					

River Code: **14-400**	Stream: **Fourmile Creek**	Sample Date: **2010**
River Mile: **17.20**	Location: St. Rt. 73	Date Range: 07/22/2010
Time Fished: 4789 sec	Drainage: 115.0 sq mi	Thru: 09/02/2010
Dist Fished: 0.40 km	Basin: Great Miami 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
Black Redhorse	R	I	S	I	40	30.00	1.78	4.43	17.42	147.56
Golden Redhorse	R	I	S	M	19	14.25	0.84	1.91	7.52	134.10
Northern Hog Sucker	R	I	S	M	277	207.75	12.30	7.03	27.66	33.83
White Sucker	W	O	S	T	19	14.25	0.84	0.87	3.41	60.74
Suckermouth Minnow	N	I	S		43	32.25	1.91	0.28	1.11	8.70
Silver Shiner	N	I	S	I	42	31.50	1.87	0.10	0.39	3.12
Striped Shiner	N	I	S		53	39.75	2.35	0.62	2.45	15.68
Spotfin Shiner	N	I	M		207	155.25	9.19	0.79	3.11	5.09
Sand Shiner	N	I	M	M	250	187.50	11.10	0.51	2.02	2.73
Bluntnose Minnow	N	O	C	T	69	51.75	3.06	0.13	0.51	2.51
Central Stoneroller	N	H	N		459	344.25	20.38	2.91	11.45	8.45
Yellow Bullhead		I	C	T	7	5.25	0.31	0.23	0.91	43.71
Black Bullhead		I	C	P	1	0.75	0.04	0.06	0.23	78.00
Stonecat Madtom		I	C	I	11	8.25	0.49	0.10	0.39	12.06
Brook Silverside		I	M	M	1	0.75	0.04	0.00	0.01	2.00
Rock Bass	S	C	C		18	13.50	0.80	0.87	3.44	64.78
Smallmouth Bass	F	C	C	M	5	3.75	0.22	0.16	0.65	43.80
Largemouth Bass	F	C	C		35	26.25	1.55	0.84	3.30	31.89
Green Sunfish	S	I	C	T	30	22.50	1.33	0.55	2.14	24.22
Bluegill Sunfish	S	I	C	P	152	114.00	6.75	1.61	6.32	14.08
Longear Sunfish	S	I	C	M	29	21.75	1.29	0.44	1.72	20.06
Green Sf X Bluegill Sf					2	1.50	0.09	0.04	0.17	28.50
Blackside Darter	D	I	S		1	0.75	0.04	0.00	0.02	6.00
Logperch	D	I	S	M	20	15.00	0.89	0.28	1.10	18.55
Greenside Darter	D	I	S	M	180	135.00	7.99	0.41	1.61	3.04
Banded Darter	D	I	S	I	153	114.75	6.79	0.12	0.49	1.08
Rainbow Darter	D	I	S	M	127	95.25	5.64	0.12	0.49	1.29
Fantail Darter	D	I	C		2	1.50	0.09	0.00	0.01	2.00
	Mile Total				2,252	1,689.00		25.41		
	Number of Species				27					
	Number of Hybrids				1					

Appendix A-5. Macroinvertebrate assemblage metrics collected by site.

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
Great Miami River (14-001)																
Year: 2010																
80.60	51		51	21		21		21	0	10	2.10	43.1		E	2511.0	
78.85	55	39	40	21	18	16	20	16	0	10	1.60	43.3	46		2587.0	
77.24	62	47	46	26	20	19	28	21	0	5	3.80	43.3	42		2591.0	X15
75.70	68	40	41	21	18	7	25	12	0	17	0.41	37.8	50		2595.0	
72.40	49		49	19		19		21	0	8	2.38	42.7		E	2636.0	
71.70	51	27	47	19	11	17	20	18	0	5	3.40	42.6	48		2637.0	
69.90	43		43	14		14		17	0	10	1.40	39.6		VG	2647.0	
69.30	39	23	23	8	5	4	8	2	0	5	0.80	37.8	24		2654.0	X15
68.70	50	27	43	20	11	18	22	20	0	7	2.57	43.1	52		2654.0	
66.90	49	31	33	21	13	13	24	12	0	5	2.60	41.0	50		2711.0	
64.10	43	30	30	16	12	8	19	11	0	7	1.14	39.7	32		2719.0	X15
62.58	45	26	37	16	12	13	17	14	0	7	1.86	42.3	36		2723.0	
59.10	56	36	45	22	15	16	22	17	0	5	3.20	42.6	44		2729.0	
58.00	56	23	51	16	11	14	20	16	0	8	1.75	40.6	46		2794.0	
52.64	58	30	46	18	12	14	19	15	0	13	1.08	37.8	40		3134.0	
51.60	55	29	48	17	12	13	20	16	0	11	1.18	40.0	44		3137.0	
51.44	57	31	48	17	13	14	18	15	0	14	1.00	39.7	42		3137.0	
51.27	42	25	27	7	7	2	8	5	0	12	0.17	36.1	18		3137.0	X21
49.10	59	34	44	22	15	13	25	15	0	9	1.44	40.0	50		3189.0	
48.00	40		40	12		12		13	0	9	1.33	40.0		G	3191.0	
47.10	38		38	16		16		17	0	7	2.29	42.7		VG	3240.0	
45.30	49	30	39	17	12	13	21	15	0	9	1.44	42.3	40		3271.0	
42.80	56	32	45	17	12	12	21	14	0	11	1.09	39.7	46		3283.0	
34.20	56	21	48	24	12	19	22	16	0	11	1.73	42.6	32		3636.0	
33.60	41	26	33	14	10	10	16	13	0	6	1.67	40.0	26		3639.0	
32.70	42	8	40	15	2	14	18	18	0	4	3.50	42.7	14		3641.0	X8
31.40	45	29	36	20	14	16	19	16	0	4	4.00	42.6	44		3662.0	
28.70	43	25	40	19	12	17	19	17	0	6	2.83	43.1	40		3670.0	
26.10	43	28	34	19	13	13	20	14	0	6	2.17	42.6	38		3789.0	
23.40	37		37	14		14		16	0	4	3.50	42.6		G	3803.0	
15.49	36		36	14		14		17	0	6	2.33	42.6		G	3838.0	
14.80	47	25	45	16	10	15	18	17	0	8	1.88	40.0	32		3865.0	X15
8.20	45	26	37	19	13	15	21	16	0	5	3.00	43.1	42		3878.0	X3,13
Taylor Creek (14-004)																
Year: 2010																
3.50	31		31	4		4		9	0	11	0.36	35.7		F	4.9	

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
Taylor Creek (14-004)																
1.60	35		35	8		8		12	0	6	1.33	40.2		G	14.5	
0.82	47	33	32	8	6	4	13	9	0	10	0.40	37.8	44		26.5	
Paddy's Run (14-005)																
Year: 2010																
4.90	49		49	7		7		10	1	11	0.64	40.0		G	6.7	
Pleasant Run (14-013)																
Year: 2010																
3.75	33		33	4		4		8	2	5	0.80	40.0		MG	4.7	
Gregory Creek (14-016)																
Year: 2010																
5.29	38		38	7		7		11	0	8	0.88	40.0		G	9.0	
0.98	40		40	9		9		11	0	8	1.13	38.3		G	22.2	
Coldwater Creek (14-017)																
Year: 2010																
0.60	52		52	6		6		13	2	12	0.50	39.4		MG	3.7	
Dicks Creek (14-018)																
Year: 2010																
0.93	63	34	47	11	10	6	13	9	1	18	0.33	35.7	42		48.5	
Elk Creek (14-022)																
Year: 2010																
10.10	61		61	16		16		21	0	11	1.45	40.7		E	15.0	
3.70	52		52	16		16		19	0	8	2.00	42.6		E	37.0	
1.49	61	32	44	20	9	15	19	17	0	6	2.50	41.8	46		46.0	X8
Browns Run (14-023)																
Year: 2010																
2.50	53		53	18		18		21	1	5	3.60	42.7		E	8.7	
1.10	48		48	11		11		15	0	7	1.57	41.4		G	10.4	
Clear Creek (14-024)																
Year: 2010																
11.50	42		42	11		11		15	1	9	1.22	42.1		MG	8.7	
7.60	76	42	56	13	6	8	19	15	0	16	0.50	39.3	42		30.0	X15
6.90	58	32	42	9	3	7	12	11	0	9	0.78	39.3	36		38.0	
2.50	59	31	41	12	6	7	19	11	0	10	0.70	39.7	46		46.0	X15
0.77	63	35	51	17	10	13	16	15	0	11	1.18	40.7	44		52.2	
Bear Creek (14-029)																
Year: 2010																
12.10	48		48	9		9		15	1	10	0.90	40.5		G	5.6	
9.70	43		43	5		5		10	1	8	0.63	40.5		G	11.2	
7.08	68	37	46	15	9	9	18	15	0	11	0.82	40.1	36		20.2	
0.24	63	46	37	22	15	14	22	18	0	7	2.00	43.1	54		53.3	

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
Little Bear Creek (14-030)																
Year: 2010																
1.01	38		38	10		10		13	0	3	3.33	42.7		G	10.0	
Opossum Creek (14-035)																
Year: 2010																
1.40	41		41	8		8		14	1	14	0.57	39.2		G	7.0	
0.10	50		50	7		7		13	1	13	0.54	40.5		G	8.7	
Holes Creek (14-036)																
Year: 2010																
8.59	31		31	2		2		5	0	10	0.20	34.5		P	7.3	
3.37	41		41	7		7		9	0	8	0.88	39.6		G	18.7	
Wolf Creek (14-037)																
Year: 2010																
16.70	42		42	2		2		6	0	15	0.13	37.1		F	4.6	
15.30	38		38	3		3		7	0	9	0.33	38.2		F	7.4	
14.90	43		43	2		2		6	1	14	0.14	37.1		F	8.0	
10.40	43		43	7		7		9	0	10	0.70	40.0		G	13.9	
2.49	63	35	49	23	15	16	24	18	0	8	2.00	42.6	52		66.6	
1.00	71	44	48	22	14	14	19	14	0	8	1.75	41.8	46		70.0	
Dry Run (14-038)																
Year: 2010																
0.10	57		57	13		13		15	1	15	0.87	39.4		G	7.8	
North Branch Wolf Creek (14-039)																
Year: 2010																
3.97	49		49	17		17		16	0	7	2.43	43.1		VG	13.9	
0.69	49		49	15		15		18	0	6	2.50	43.1		VG	23.4	
Briarly Creek (14-148)																
Year: 2010																
0.20	40		40	7		7		13	0	7	1.00	40.6		G	6.9	
Wesselman Creek (14-149)																
Year: 2010																
3.00	23		23	5		5		9	0	2	2.50	41.6		G	2.6	
0.40	36		36	5		5		9	0	7	0.71	40.0		G	9.1	
Trib to N. Br. Wolf Creek (RM 1.77/3.34) (14-193)																
Year: 2010																
0.42	49		49	15		15		16	1	5	3.00	41.6		VG	6.3	
Stillwater River (14-200)																
Year: 2010																
20.20	69		69	25		25		22	0	10	2.50	40.5		E	594.0	
19.40	50	29	34	4	4	0	9	3	0	17	0.00	29.0	18		598.0	X2,8
18.00	62	33	48	24	15	17	21	17	0	5	3.40	42.7	42		600.0	

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
Stillwater River (14-200)																
11.10	82	31	72	36	17	30	33	29	0	9	3.33	42.6	48		645.0	
9.50	51	37	37	25	17	18	25	19	0	2	9.00	44.3	52		648.0	
8.50	64	32	50	22	10	20	28	24	0	8	2.50	43.3	36		652.0	X15
1.20	62	34	51	26	19	20	23	20	0	9	2.22	42.7	50		674.0	
Trib. to Pleasant Run (3.31) (14-279)																
Year: 2010																
0.13	24		24	2		2		5	0	4	0.50	38.6		F	3.0	
Fourmile Creek (14-400)																
Year: 2010																
18.50	69	46	43	19	15	10	20	15	0	6	1.67	41.5	38		107.0	X15
18.30	46	27	28	5	4	2	8	5	0	7	0.29	36.1	22		107.0	X2,8
17.20	67	50	42	22	15	14	21	17	0	6	2.33	42.6	50		115.0	

Appendix A-6. Macroinvertebrate taxa collected by site.

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
51	21	24	0	51		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
06201	Hyalella azteca	+
06700	Crangonyx sp	+
11119	Plauditus dubius or P. virilis	+
11130	Baetis intercalaris	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13100	Nixe sp	+
13400	Stenacron sp	+
13510	Maccaffertium exiguum	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
17200	Caenis sp	+
18100	Anthopotamus sp	+
18600	Ephemera sp	+
21300	Hetaerina sp	+
47600	Sialis sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52510	Hydropsyche aerata	+
52520	Hydropsyche bidens	+
52560	Hydropsyche orris	+
53400	Protoptila sp	+
53800	Hydroptila sp	+
59970	Petrophila sp	+
66500	Enochrus sp	+
67500	Laccobius sp	+
69400	Stenelmis sp	+
70600	Antocha sp	+
74100	Simulium sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
78750	Rheopelopia paramaculipennis	+
80310	Cardiocladius obscurus	+
80420	Cricotopus (C.) bicinctus	+
80500	Cricotopus (Isocladius) reversus group	+
80510	Cricotopus (Isocladius) sylvestris group	+
82880	Cryptotendipes sp	+
83003	Dicrotendipes fumidus	+
83300	Glyptotendipes (G.) sp	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
95100	Physella sp	+
97601	Corbicula fluminea	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	16	25	0	55	5,582	46

	Taxa	Abundance/Presence	
01320	Hydra sp	32	
01801	Turbellaria	214	+
03360	Plumatella sp	9	+
03600	Oligochaeta	96	+
04964	Mooreobdella microstoma	0	+
06201	Hyalella azteca	0	+
06700	Crangonyx sp	0	+
11119	Plauditus dubius or P. virilis	17	+
11130	Baetis intercalaris	1,056	+
11650	Procloeon sp (w/ hindwing pads)	0	+
12200	Isonychia sp	22	+
13000	Leucrocuta sp	0	+
13510	Maccaffertium exiguum	32	+
13540	Maccaffertium mediopunctatum	2	
13550	Maccaffertium mexicanum integrum	4	
13561	Maccaffertium pulchellum	198	+
13570	Maccaffertium terminatum	2	+
16700	Tricorythodes sp	985	+
17200	Caenis sp	16	
21300	Hetaerina sp	6	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
52200	Cheumatopsyche sp	670	+
52430	Ceratopsyche morosa group	179	+
52510	Hydropsyche aerata	34	+
52520	Hydropsyche bidens	101	+
52801	Potamyia flava	4	
53400	Protoptila sp	0	+
53800	Hydroptila sp	57	+
59100	Ceraclea sp	9	+
59970	Petrophila sp	91	+
65800	Berosus sp	0	+
67800	Tropisternus sp	0	+
68901	Macronychus glabratus	1	+
69400	Stenelmis sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	138	
78750	Rheopelopia paramaculipennis	59	
80310	Cardiocladius obscurus	20	+
80410	Cricotopus (C.) sp	20	
80420	Cricotopus (C.) bicinctus	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	98	
81250	Nanocladius (N.) minimus	39	
82101	Thienemanniella taurocapita	58	
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	236	+
83840	Microtendipes pedellus group	20	
84040	Parachironomus frequens	39	
84450	Polypedilum (Uresipedilum) flavum	453	+
85625	Rheotanytarsus sp	512	+
85821	Tanytarsus glabrescens group sp 7	20	
92615	Cipangopaludina japonica	0	+
93900	Elimia sp	17	+
95100	Physella sp	0	+
98600	Sphaerium sp	16	

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
46	21	30	0	62	11,321	42

	Taxa	Abundance/Presence	
01801	Turbellaria	30	+
03360	Plumatella sp	80	+
03451	Urnatella gracilis	32	
03600	Oligochaeta	328	+
06201	Hyalella azteca	0	+
06700	Crangonyx sp	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	0	+
11119	Plauditus dubius or P. virilis	1	+
11130	Baetis intercalaris	320	+
11651	Procloeon sp (w/o hindwing pads)	2	
12200	Isonychia sp	11	+
13000	Leucrocuta sp	14	+
13100	Nixe sp	0	+
13400	Stenacron sp	55	+
13510	Maccaffertium exiguum	110	
13521	Stenonema femoratum	28	
13540	Maccaffertium mediopunctatum	14	
13550	Maccaffertium mexicanum integrum	0	+
13561	Maccaffertium pulchellum	276	+
13570	Maccaffertium terminatum	193	+
16700	Tricorythodes sp	1,408	+
17200	Caenis sp	73	+
18100	Anthopotamus sp	0	+
18600	Ephemera sp	0	+
21300	Hetaerina sp	1	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
51206	Cyrnellus fraternus	232	
52200	Cheumatopsyche sp	821	+
52430	Ceratopsyche morosa group	571	+
52510	Hydropsyche aerata	9	+
52520	Hydropsyche bidens	62	+
52560	Hydropsyche orris	179	+
52801	Potamyia flava	71	
53400	Protoptila sp	0	+
53800	Hydroptila sp	26	+
54160	Ochrotrichia sp	0	+
59100	Ceraclea sp	1	
59970	Petrophila sp	17	+
68601	Ancyronyx variegata	0	+
68901	Macronychus glabratus	1	+
69400	Stenelmis sp	1	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	61	
77750	Hayesomyia senata or Thienemannimyia nore	799	+
78140	Labrundinia pilosella	184	
78750	Rheopelopia paramaculipennis	184	+
80410	Cricotopus (C.) sp	184	+
80420	Cricotopus (C.) bicinctus	61	+
81231	Nanocladius (N.) crassicornus or N. (N.) rectii	492	+
81240	Nanocladius (N.) distinctus	123	
81250	Nanocladius (N.) minimus	123	
82121	Thienemanniella lobapodema	32	
83040	Dicrotendipes neomodestus	369	
83300	Glyptotendipes (G.) sp	1,353	+
83310	Glyptotendipes (Heynotendipes) amplus	307	
84300	Phaenopsectra obediens group	61	
84450	Polypedilum (Uresipedilum) flavum	184	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	1,783	+
93900	Elimia sp	54	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
41	12	25	0	68	9,537	50

	Taxa	Abundance/Presence	
01801	Turbellaria	446	+
03360	Plumatella sp	1	+
03451	Urnatella gracilis	48	
03600	Oligochaeta	32	+
04661	Helobdella elongata	0	+
04666	Helobdella triserialis	0	+
04964	Mooreobdella microstoma	0	+
06201	Hyalella azteca	0	+
06700	Crangonyx sp	0	+
11119	Plauditus dubius or P. virilis	199	
11130	Baetis intercalaris	160	+
11200	Callibaetis sp	0	+
11650	Procloeon sp (w/ hindwing pads)	1	+
12200	Isonychia sp	2	
13000	Leucrocuta sp	0	+
13400	Stenacron sp	385	+
13510	Maccaffertium exiguum	24	
13521	Stenonema femoratum	0	+
13550	Maccaffertium mexicanum integrum	2	
13561	Maccaffertium pulchellum	62	
13570	Maccaffertium terminatum	131	
16700	Tricorythodes sp	522	+
17200	Caenis sp	1	+
18100	Anthopotamus sp	0	+
18600	Ephemera sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
24900	Gomphus sp	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
47600	Sialis sp	0	+
51206	Cyrnellus fraternus	1	
52200	Cheumatopsyche sp	1,152	+
52430	Ceratopsyche morosa group	670	
52510	Hydropsyche aerata	3	
52520	Hydropsyche bidens	134	
52560	Hydropsyche orris	724	
52570	Hydropsyche simulans	27	
52801	Potamyia flava	27	
53800	Hydroptila sp	131	+
59970	Petrophila sp	17	+
60900	Peltodytes sp	0	+
63900	Laccophilus sp	0	+
65800	Berosus sp	0	+
66500	Enochrus sp	0	+
67800	Tropisternus sp	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	2	
77130	Ablabesmyia rhamphe group	0	+
77750	Hayesomyia senata or Thienemannimyia nore	269	
78140	Labrundinia pilosella	38	
79100	Thienemannimyia group	0	+
80410	Cricotopus (C.) sp	38	
80420	Cricotopus (C.) bicinctus	38	
81231	Nanocladius (N.) crassicornus or N. (N.) recti	115	
81250	Nanocladius (N.) minimus	115	
82101	Thienemanniella taurocapita	92	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	38	+
83300	Glyptotendipes (G.) sp	269	
84450	Polypedilum (Uresipedilum) flavum	692	
85500	Paratanytarsus sp	39	
85625	Rheotanytarsus sp	2,729	
85800	Tanytarsus sp	0	+
85821	Tanytarsus glabrescens group sp 7	38	
93900	Elimia sp	123	+
97601	Corbicula fluminea	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	21	20	0	49		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
04964	Mooreobdella microstoma	+
06201	Hyalella azteca	+
08250	Orconectes (Procericambarus) rusticus	+
11119	Plauditus dubius or P. virilis	+
11130	Baetis intercalaris	+
11250	Centroptilum sp (w/o hindwing pads)	+
11670	Procloeon viridoculare	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13561	Maccaffertium pulchellum	+
16700	Tricorythodes sp	+
17200	Caenis sp	+
18100	Anthopotamus sp	+
18600	Ephemera sp	+
21300	Hetaerina sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
45100	Palmacorixa sp	+
51400	Nyctiophylax sp	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52510	Hydropsyche aerata	+
52520	Hydropsyche bidens	+
52560	Hydropsyche orris	+
53800	Hydroptila sp	+
59970	Petrophila sp	+
66500	Enochrus sp	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
78655	Procladius (Holotanypus) sp	+
78750	Rheopelopia paramaculipennis	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	+
82730	Chironomus (C.) decorus group	+
83040	Dicrotendipes neomodestus	+
83300	Glyptotendipes (G.) sp	+
84040	Parachironomus frequens	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
47	18	22	0	51	17,583	48

	Taxa	Abundance/Presence	
01801	Turbellaria	11	+
03360	Plumatella sp	8	+
03600	Oligochaeta	0	+
06201	Hyalella azteca	0	+
11119	Plauditus dubius or P. virilis	97	+
11130	Baetis intercalaris	768	+
12200	Isonychia sp	83	+
13000	Leucrocuta sp	11	+
13400	Stenacron sp	27	+
13510	Maccaffertium exiguum	55	
13550	Maccaffertium mexicanum integrum	0	+
13561	Maccaffertium pulchellum	555	+
13570	Maccaffertium terminatum	16	+
16700	Tricorythodes sp	1,056	+
17200	Caenis sp	1	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	1	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
44501	Corixidae	0	+
52200	Cheumatopsyche sp	1,910	+
52430	Ceratopsyche morosa group	1,160	+
52510	Hydropsyche aerata	273	+
52520	Hydropsyche bidens	631	
52560	Hydropsyche orris	2,660	+
53400	Protoptila sp	0	+
53800	Hydroptila sp	35	+
59410	Nectopsyche diarina	0	+
59970	Petrophila sp	0	+
68075	Psephenus herricki	0	+
68708	Dubiraphia vittata group	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	55	+
77750	Hayesomyia senata or Thienemannimyia nore	1,316	+
80430	Cricotopus (C.) tremulus group	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	202	+
81250	Nanocladius (N.) minimus	101	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	101	+
83820	Microtendipes caelum (sensu Simpson & Bod	0	+
84039	Parachironomus frequens group	0	+
84300	Phaenopsectra obediens group	0	+
84450	Polypedilum (Uresipedilum) flavum	1,518	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	4,858	+
85800	Tanytarsus sp	0	+
87540	Hemerodromia sp	74	
93900	Elimia sp	0	+
97601	Corbicula fluminea	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
43	17	15	0	43		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
05800	Caecidotea sp	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
11119	Plauditus dubius or P. virilis	+
11123	Labiobaetis dardanus	+
11130	Baetis intercalaris	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
17200	Caenis sp	+
18100	Anthopotamus sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
42700	Belostoma sp	+
45400	Trichocorixa sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52801	Potamyia flava	+
53400	Protoptila sp	+
59415	Nectopsyche exquisita	+
59970	Petrophila sp	+
65800	Berosus sp	+
67800	Tropisternus sp	+
69400	Stenelmis sp	+
77120	Ablabesmyia mallochi	+
77750	Hayesomyia senata or Thienemannimyia nore	+
78655	Procladius (Holotanypus) sp	+
80410	Cricotopus (C.) sp	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
83300	Glyptotendipes (G.) sp	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
23	2	11	0	39	6,145	24

	Taxa	Abundance/Presence	
00401	Spongillidae	0	+
01801	Turbellaria	2	+
03360	Plumatella sp	1	
03451	Urnatella gracilis	0	+
03600	Oligochaeta	824	
06201	Hyalella azteca	1	+
06700	Crangonyx sp	0	+
13400	Stenacron sp	48	+
13510	Maccaffertium exiguum	2	
13561	Maccaffertium pulchellum	11	
16700	Tricorythodes sp	36	+
18100	Anthopotamus sp	1	
21300	Hetaerina sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
23909	Boyeria vinosa	0	+
43300	Ranatra sp	0	+
45100	Palmacorixa sp	0	+
45400	Trichocorixa sp	0	+
47600	Sialis sp	1	
49200	Climacia sp	0	+
51206	Cyrnellus fraternus	968	
52200	Cheumatopsyche sp	57	
52560	Hydropsyche orris	34	
59970	Petrophila sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	103	
78140	Labrundinia pilosella	103	
78655	Procladius (Holotanypus) sp	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	308	
81250	Nanocladius (N.) minimus	51	
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	360	
83051	Dicrotendipes simpsoni	51	
83300	Glyptotendipes (G.) sp	2,054	+
84450	Polypedilum (Uresipedilum) flavum	0	+
84540	Polypedilum (Tripodura) scalaenum group	205	+
85625	Rheotanytarsus sp	873	+
85821	Tanytarsus glabrescens group sp 7	51	
93900	Elimia sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
43	20	23	0	50	18,973	52

	Taxa	Abundance/Presence	
00653	Eunapius fragilis	0	+
01801	Turbellaria	72	+
03360	Plumatella sp	1	+
03600	Oligochaeta	32	+
05800	Caecidotea sp	0	+
06700	Crangonyx sp	0	+
11130	Baetis intercalaris	1,464	+
11620	Paracloeodes minutus	0	+
12200	Isonychia sp	171	+
13000	Leucrocuta sp	0	+
13100	Nixe sp	0	+
13400	Stenacron sp	0	+
13510	Maccaffertium exiguum	42	+
13561	Maccaffertium pulchellum	332	+
13570	Maccaffertium terminatum	103	+
16700	Tricorythodes sp	299	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	1	
22001	Coenagrionidae	0	+
24900	Gomphus sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	0	+
52200	Cheumatopsyche sp	2,404	+
52430	Ceratopsyche morosa group	1,396	+
52510	Hydropsyche aerata	19	+
52520	Hydropsyche bidens	1,396	+
52560	Hydropsyche orris	4,964	+
52570	Hydropsyche simulans	78	
52801	Potamyia flava	19	
53400	Protoptila sp	0	+
59300	Mystacides sp	0	+
59970	Petrophila sp	0	+
68901	Macronychus glabratus	2	
69400	Stenelmis sp	2	+
74100	Simulium sp	44	+
77750	Hayesomyia senata or Thienemannimyia nore	151	+
78140	Labrundinia pilosella	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	226	
81250	Nanocladius (N.) minimus	151	
82130	Thienemanniella similis	0	+
82820	Cryptochironomus sp	0	+
83300	Glyptotendipes (G.) sp	226	+
84450	Polypedilum (Uresipedilum) flavum	679	+
84520	Polypedilum (Tripodura) halterale group	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	4,678	+
87540	Hemerodromia sp	21	
93900	Elimia sp	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
33	12	23	0	49	20,377	50

	Taxa	Abundance/Presence	
01801	Turbellaria	10	+
03360	Plumatella sp	1	+
03600	Oligochaeta	0	+
04666	Helobdella triserialis	0	+
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11119	Plauditus dubius or P. virilis	12	
11130	Baetis intercalaris	2,738	+
11620	Paracloeodes minutus	0	+
12200	Isonychia sp	150	
13000	Leucrocuta sp	13	+
13400	Stenacron sp	50	
13510	Maccaffertium exiguum	75	
13540	Maccaffertium mediopunctatum	0	+
13561	Maccaffertium pulchellum	500	+
13570	Maccaffertium terminatum	138	+
16700	Tricorythodes sp	349	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	1	+
22001	Coenagrionidae	0	+
22300	Argia sp	8	+
51206	Cyrnellus fraternus	1	
52200	Cheumatopsyche sp	4,006	+
52430	Ceratopsyche morosa group	1,135	
52510	Hydropsyche aerata	75	
52520	Hydropsyche bidens	409	
52560	Hydropsyche orris	810	
52801	Potamyia flava	0	+
53400	Protoptila sp	0	+
53800	Hydroptila sp	9	
59100	Ceraclea sp	1	
59500	Oecetis sp	8	
59970	Petrophila sp	0	+
69400	Stenelmis sp	1	+
74100	Simulium sp	148	
77750	Hayesomyia senata or Thienemannimyia nore	561	+
78140	Labrundinia pilosella	94	
78750	Rheopelopia paramaculipennis	0	+
79085	Telopelopia okoboji	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	187	
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	468	+
84450	Polypedilum (Uresipedilum) flavum	935	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	7,483	+
87540	Hemerodromia sp	1	
93900	Elimia sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
30	11	16	0	43	31,550	32

	Taxa	Abundance/Presence	
01801	Turbellaria	54	+
03360	Plumatella sp	80	+
03600	Oligochaeta	3,712	+
06201	Hyalella azteca	1	+
08250	Orconectes (Procericambarus) rusticus	0	+
11130	Baetis intercalaris	23	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	1	
13400	Stenacron sp	17	+
13510	Maccaffertium exiguum	35	+
13561	Maccaffertium pulchellum	261	+
13570	Maccaffertium terminatum	35	
16700	Tricorythodes sp	76	+
17200	Caenis sp	1	+
18100	Anthopotamus sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	1	+
42700	Belostoma sp	0	+
43300	Ranatra sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	320	+
52200	Cheumatopsyche sp	1,782	+
52430	Ceratopsyche morosa group	63	
52510	Hydropsyche aerata	125	
52520	Hydropsyche bidens	469	
52560	Hydropsyche orris	125	+
52801	Potamyia flava	31	
53800	Hydroptila sp	8	
59415	Nectopsyche exquisita	1	
69400	Stenelmis sp	8	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	616	
78655	Procladius (Holotanypus) sp	0	+
78750	Rheopelopia paramaculipennis	0	+
79085	Telopelopia okoboji	0	+
81240	Nanocladius (N.) distinctus	308	
83040	Dicrotendipes neomodestus	308	
83300	Glyptotendipes (G.) sp	18,163	+
83310	Glyptotendipes (Heynotendipes) amplus	308	
84450	Polypedilum (Uresipedilum) flavum	616	
84470	Polypedilum (P.) illinoense	0	+
85625	Rheotanytarsus sp	4,002	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
37	14	19	0	45	14,308	36

	Taxa	Abundance/Presence	
00653	Eunapius fragilis	0	+
01801	Turbellaria	216	+
03360	Plumatella sp	80	+
03600	Oligochaeta	640	+
04964	Mooreobdella microstoma	0	+
11119	Plauditus dubius or P. virilis	1	+
11130	Baetis intercalaris	3,014	+
12200	Isonychia sp	10	+
13000	Leucrocuta sp	10	+
13400	Stenacron sp	0	+
13510	Maccaffertium exiguum	0	+
13561	Maccaffertium pulchellum	159	+
13570	Maccaffertium terminatum	17	
16700	Tricorythodes sp	218	+
18100	Anthopotamus sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
52200	Cheumatopsyche sp	865	+
52430	Ceratopsyche morosa group	656	+
52510	Hydropsyche aerata	358	+
52520	Hydropsyche bidens	686	+
52560	Hydropsyche orris	418	
53800	Hydroptila sp	1	
59140	Ceraclea maculata	0	+
59970	Petrophila sp	11	+
68901	Macronychus glabratus	2	
69400	Stenelmis sp	0	+
74100	Simulium sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	1,083	+
78140	Labrundinia pilosella	0	+
78750	Rheopelopia paramaculipennis	64	
80310	Cardiocladius obscurus	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	637	+
81250	Nanocladius (N.) minimus	319	
83040	Dicrotendipes neomodestus	0	+
83050	Dicrotendipes lucifer	64	
83300	Glyptotendipes (G.) sp	510	+
84020	Parachironomus carinatus	0	+
84450	Polypedilum (Uresipedilum) flavum	2,039	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	2,230	
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
45	17	25	0	56	13,100	44

	Taxa	Abundance/Presence	
00401	Spongillidae	0	+
01801	Turbellaria	356	+
03121	Paludicella articulata	0	+
03360	Plumatella sp	80	+
03600	Oligochaeta	384	+
04640	Batracobdella picta	0	+
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	0	+
11119	Plauditus dubius or P. virilis	130	+
11130	Baetis intercalaris	1,184	+
11600	Paracloeodes fleeki	0	+
12200	Isonychia sp	85	+
13000	Leucrocuta sp	16	+
13100	Nixe sp	0	+
13400	Stenacron sp	2	+
13510	Maccaffertium exiguum	2	
13540	Maccaffertium mediopunctatum	2	
13561	Maccaffertium pulchellum	225	+
13570	Maccaffertium terminatum	45	
16700	Tricorythodes sp	64	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	1	
22300	Argia sp	0	+
45400	Trichocorixa sp	0	+
51300	Neureclipsis sp	0	+
52200	Cheumatopsyche sp	1,967	+
52430	Ceratopsyche morosa group	635	+
52510	Hydropsyche aerata	121	+
52520	Hydropsyche bidens	303	
52560	Hydropsyche orris	424	+
52570	Hydropsyche simulans	30	
53800	Hydroptila sp	1	+
59100	Ceraclea sp	0	+
59970	Petrophila sp	28	+
60900	Peltodytes sp	0	+
65800	Berosus sp	0	+
69400	Stenelmis sp	1	+
74100	Simulium sp	5	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	154	+
78750	Rheopelopia paramaculipennis	77	
80310	Cardiocladius obscurus	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	308	+
81240	Nanocladius (N.) distinctus	385	
81250	Nanocladius (N.) minimus	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	462	+
84020	Parachironomus carinatus	77	
84040	Parachironomus frequens	77	
84450	Polypedilum (Uresipedilum) flavum	2,849	+
84540	Polypedilum (Tripodura) scalaenum group	77	+
85625	Rheotanytarsus sp	2,541	+
87540	Hemerodromia sp	1	
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	1	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
51	16	19	0	56	59,404	46

	Taxa	Abundance/Presence	
01320	Hydra sp	1	
01801	Turbellaria	9	+
03360	Plumatella sp	80	+
03600	Oligochaeta	256	+
04683	Placobdella multilineata	0	+
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	520	+
11119	Plauditus dubius or P. virilis	16	+
11130	Baetis intercalaris	1,584	+
11200	Callibaetis sp	0	+
12200	Isonychia sp	42	+
13400	Stenacron sp	0	+
13521	Stenonema femoratum	1	
13561	Maccaffertium pulchellum	189	+
13570	Maccaffertium terminatum	0	+
16700	Tricorythodes sp	41	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
43300	Ranatra sp	0	+
45100	Palmacorixa sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	2	
52200	Cheumatopsyche sp	12,043	+
52430	Ceratopsyche morosa group	1,933	+
52510	Hydropsyche aerata	307	+
52520	Hydropsyche bidens	297	+
52560	Hydropsyche orris	743	+
52801	Potamyia flava	167	
53800	Hydroptila sp	8	
59100	Ceraclea sp	0	+
59970	Petrophila sp	50	+
68601	Ancyronyx variegata	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	283	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	0	+
78140	Labrundinia pilosella	0	+
78750	Rheopelopia paramaculipennis	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	0	+
81240	Nanocladius (N.) distinctus	0	+
81250	Nanocladius (N.) minimus	0	+
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	0	+
83310	Glyptotendipes (Heynotendipes) amplus	0	+
84040	Parachironomus frequens	0	+
84450	Polypedilum (Uresipedilum) flavum	5,154	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	35,678	+
96930	Laevapex fuscus	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
46	15	22	0	58	10,253	40

	Taxa	Abundance/Presence	
01801	Turbellaria	0	+
03360	Plumatella sp	80	+
03600	Oligochaeta	544	+
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11119	Plauditus dubius or P. virilis	17	+
11130	Baetis intercalaris	336	+
11200	Callibaetis sp	0	+
11620	Paracloeodes minutus	0	+
12200	Isonychia sp	39	
13400	Stenacron sp	0	+
13561	Maccaffertium pulchellum	57	+
13570	Maccaffertium terminatum	67	+
16700	Tricorythodes sp	32	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	2	
22001	Coenagrionidae	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
47600	Sialis sp	0	+
52200	Cheumatopsyche sp	3,247	+
52430	Ceratopsyche morosa group	943	+
52510	Hydropsyche aerata	9	
52520	Hydropsyche bidens	148	+
52560	Hydropsyche orris	179	+
52801	Potamyia flava	4	
53400	Protoptila sp	0	+
53800	Hydroptila sp	0	+
59500	Oecetis sp	40	
59970	Petrophila sp	174	+
65800	Berosus sp	0	+
68075	Psephenus herricki	0	+
68901	Macronychus glabratus	2	
69400	Stenelmis sp	2	+
74100	Simulium sp	9	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	484	
78655	Procladius (Holotanypus) sp	0	+
78750	Rheopelopia paramaculipennis	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	242	
81240	Nanocladius (N.) distinctus	69	
81250	Nanocladius (N.) minimus	35	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	69	+
83300	Glyptotendipes (G.) sp	0	+
83310	Glyptotendipes (Heynotendipes) amplus	35	
84030	Parachironomus directus	0	+
84040	Parachironomus frequens	35	
84450	Polypedilum (Uresipedilum) flavum	1,452	+
84470	Polypedilum (P.) illinoense	104	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	1,797	+
93900	Elimia sp	0	+
95100	Physella sp	0	+
96900	Ferrissia sp	0	+
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	16	20	0	55	31,439	44

	Taxa	Abundance/Presence	
01801	Turbellaria	747	+
03360	Plumatella sp	80	+
03600	Oligochaeta	320	+
04660	Helobdella sp	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	0	+
11119	Plauditus dubius or P. virilis	8	
11130	Baetis intercalaris	479	+
11200	Callibaetis sp	0	+
12200	Isonychia sp	60	+
13400	Stenacron sp	0	+
13510	Maccaffertium exiguum	0	+
13561	Maccaffertium pulchellum	146	+
13570	Maccaffertium terminatum	16	+
16700	Tricorythodes sp	706	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
45100	Palmacorixa sp	0	+
45400	Trichocorixa sp	0	+
52200	Cheumatopsyche sp	12,068	+
52430	Ceratopsyche morosa group	2,773	+
52510	Hydropsyche aerata	118	+
52520	Hydropsyche bidens	284	+
52560	Hydropsyche orris	339	
52570	Hydropsyche simulans	8	
52801	Potamyia flava	7	
53800	Hydroptila sp	0	+
59100	Ceraclea sp	0	+
59970	Petrophila sp	168	+
63300	Hydroporini	0	+
68901	Macronychus glabratus	0	+
69400	Stenelmis sp	200	+
74100	Simulium sp	11	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	806	+
78140	Labrundinia pilosella	0	+
80310	Cardiocladius obscurus	0	+
80410	Cricotopus (C.) sp	134	
80420	Cricotopus (C.) bicinctus	134	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	1,210	+
81240	Nanocladius (N.) distinctus	269	
82820	Cryptochironomus sp	0	+
83300	Glyptotendipes (G.) sp	2,419	+
84040	Parachironomus frequens	403	
84450	Polypedilum (Uresipedilum) flavum	2,285	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	134	+
85625	Rheotanytarsus sp	5,107	+
93900	Elimia sp	0	+
95100	Physella sp	0	+
96930	Laevapex fuscus	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	15	20	0	57	14,346	42

	Taxa	Abundance/Presence	
01320	Hydra sp	0	+
01801	Turbellaria	640	+
03360	Plumatella sp	80	+
03600	Oligochaeta	256	+
04661	Helobdella elongata	0	+
04666	Helobdella triserialis	0	+
04962	Mooreobdella fervida	0	+
06201	Hyalella azteca	0	+
08601	Hydrachnidia	32	
11130	Baetis intercalaris	1,088	+
11670	Procloeon viridoculare	1	+
12200	Isonychia sp	106	+
13000	Leucrocuta sp	2	+
13400	Stenacron sp	0	+
13510	Maccaffertium exiguum	3	
13561	Maccaffertium pulchellum	198	+
13570	Maccaffertium terminatum	45	
16700	Tricorythodes sp	429	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	2	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
24900	Gomphus sp	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
48410	Corydalus cornutus	1	
51206	Cyrnellus fraternus	1	
52200	Cheumatopsyche sp	2,048	+
52430	Ceratopsyche morosa group	1,229	+
52510	Hydropsyche aerata	3	+
52520	Hydropsyche bidens	80	+
52560	Hydropsyche orris	131	+
52801	Potamyia flava	0	+
53800	Hydroptila sp	32	+
59970	Petrophila sp	33	+
60900	Peltodytes sp	0	+
65800	Berosus sp	0	+
67800	Tropisternus sp	0	+
68901	Macronychus glabratus	33	+
69400	Stenelmis sp	1	+
74100	Simulium sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	418	
78650	Procladius sp	0	+
80310	Cardiocladius obscurus	0	+
80410	Cricotopus (C.) sp	70	
81231	Nanocladius (N.) crassicornus or N. (N.) recti	766	
81250	Nanocladius (N.) minimus	139	
82730	Chironomus (C.) decorus group	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	3,553	+
84450	Polypedilum (Uresipedilum) flavum	1,324	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	1,602	+
93900	Elimia sp	0	+
96930	Laevapex fuscus	0	+
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
27	5	9	0	42	12,950	18

	Taxa	Abundance/Presence	
01801	Turbellaria	219	+
03360	Plumatella sp	0	+
03451	Urnatella gracilis	72	
03600	Oligochaeta	11,328	+
04661	Helobdella elongata	1	+
04666	Helobdella triserialis	61	+
04964	Mooreobdella microstoma	1	
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11130	Baetis intercalaris	0	+
11200	Callibaetis sp	0	+
13400	Stenacron sp	0	+
13561	Maccaffertium pulchellum	1	
16700	Tricorythodes sp	136	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
24900	Gomphus sp	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
52200	Cheumatopsyche sp	9	+
52430	Ceratopsyche morosa group	8	
52560	Hydropsyche orris	1	
66500	Enochrus sp	0	+
67800	Tropisternus sp	0	+
68901	Macronychus glabratus	0	+
69400	Stenelmis sp	8	+
74501	Ceratopogonidae	8	
77750	Hayesomyia senata or Thienemannimyia nore	64	
78750	Rheopelopia paramaculipennis	7	
80410	Cricotopus (C.) sp	28	
80420	Cricotopus (C.) bicinctus	107	
81231	Nanocladius (N.) crassicornus or N. (N.) rectii	21	
81240	Nanocladius (N.) distinctus	7	
83040	Dicrotendipes neomodestus	7	
83300	Glyptotendipes (G.) sp	626	+
84040	Parachironomus frequens	0	+
84450	Polypedilum (Uresipedilum) flavum	21	
84470	Polypedilum (P.) illinoense	0	+
85625	Rheotanytarsus sp	14	
93900	Elimia sp	1	+
95100	Physella sp	194	+
97601	Corbicula fluminea	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
44	15	26	0	59	16,637	50

	Taxa	Abundance/Presence	
01801	Turbellaria	146	+
03360	Plumatella sp	0	+
03600	Oligochaeta	192	+
06201	Hyalella azteca	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11119	Plauditus dubius or P. virilis	8	
11130	Baetis intercalaris	16	
11200	Callibaetis sp	0	+
11620	Paracloeodes minutus	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	234	+
13510	Maccaffertium exiguum	0	+
13540	Maccaffertium mediopunctatum	10	+
13550	Maccaffertium mexicanum integrum	3	
13561	Maccaffertium pulchellum	243	+
13570	Maccaffertium terminatum	54	+
16700	Tricorythodes sp	2,474	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	8	+
22001	Coenagrionidae	0	+
22300	Argia sp	9	+
23804	Basiaeschna janata	0	+
24900	Gomphus sp	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
48410	Corydalus cornutus	1	
51206	Cyrnellus fraternus	4	
52200	Cheumatopsyche sp	1,303	+
52430	Ceratopsyche morosa group	35	+
52510	Hydropsyche aerata	9	
52520	Hydropsyche bidens	106	
52560	Hydropsyche orris	98	
52801	Potamyia flava	9	
53800	Hydroptila sp	1	+
59100	Ceraclea sp	1	
59500	Oecetis sp	8	
59970	Petrophila sp	10	+
67800	Tropisternus sp	0	+
68075	Psephenus herricki	0	+
69400	Stenelmis sp	8	+
77750	Hayesomyia senata or Thienemannimyia nore	1,441	+
78655	Procladius (Holotanypus) sp	0	+
78750	Rheopelopia paramaculipennis	120	
81231	Nanocladius (N.) crassicornus or N. (N.) recti	120	+
81250	Nanocladius (N.) minimus	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	120	
83300	Glyptotendipes (G.) sp	6,244	+
84040	Parachironomus frequens	120	
84450	Polypedilum (Uresipedilum) flavum	480	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	2,762	+
85821	Tanytarsus glabrescens group sp 7	240	
93900	Elimia sp	0	+
95100	Physella sp	0	+
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	13	15	0	40		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
06201	Hyalella azteca	+
11119	Plauditus dubius or P. virilis	+
11130	Baetis intercalaris	+
12200	Isonychia sp	+
13400	Stenacron sp	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
18100	Anthopotamus sp	+
22300	Argia sp	+
45400	Trichocorixa sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52560	Hydropsyche orris	+
52801	Potamyia flava	+
53800	Hydroptila sp	+
59970	Petrophila sp	+
63900	Laccophilus sp	+
66500	Enochrus sp	+
67800	Tropisternus sp	+
69400	Stenelmis sp	+
77120	Ablabesmyia mallochi	+
77750	Hayesomyia senata or Thienemannimyia nore	+
78655	Procladius (Holotanypus) sp	+
78750	Rheopelopia paramaculipennis	+
80410	Cricotopus (C.) sp	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
83300	Glyptotendipes (G.) sp	+
84450	Polypedilum (Uresipedilum) flavum	+
84520	Polypedilum (Tripodura) halterale group	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
93900	Elimia sp	+
97601	Corbicula fluminea	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
38	17	16	0	38		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
06201	Hyalella azteca	+
11119	Plauditus dubius or P. virilis	+
11130	Baetis intercalaris	+
11670	Procloeon viridoculare	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
18100	Anthopotamus sp	+
21200	Calopteryx sp	+
21300	Hetaerina sp	+
22300	Argia sp	+
24900	Gomphus sp	+
42700	Belostoma sp	+
45400	Trichocorixa sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52510	Hydropsyche aerata	+
52520	Hydropsyche bidens	+
52560	Hydropsyche orris	+
52801	Potamyia flava	+
59970	Petrophila sp	+
69400	Stenelmis sp	+
78655	Procladius (Holotanypus) sp	+
82730	Chironomus (C.) decorus group	+
83040	Dicrotendipes neomodestus	+
83300	Glyptotendipes (G.) sp	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
93900	Elimia sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
39	15	24	0	49	14,116	40

	Taxa	Abundance/Presence	
01801	Turbellaria	66	+
03360	Plumatella sp	0	+
03600	Oligochaeta	160	+
04661	Helobdella elongata	0	+
04962	Mooreobdella fervida	0	+
06700	Crangonyx sp	0	+
08601	Hydrachnidia	0	+
11130	Baetis intercalaris	323	+
11200	Callibaetis sp	0	+
12200	Isonychia sp	5	
13000	Leucrocuta sp	0	+
13400	Stenacron sp	36	+
13510	Maccaffertium exiguum	2	
13561	Maccaffertium pulchellum	92	+
13570	Maccaffertium terminatum	5	+
16700	Tricorythodes sp	361	+
18100	Anthopotamus sp	0	+
22300	Argia sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	1	
52200	Cheumatopsyche sp	1,672	+
52430	Ceratopsyche morosa group	215	+
52510	Hydropsyche aerata	29	+
52520	Hydropsyche bidens	212	+
52560	Hydropsyche orris	330	+
52570	Hydropsyche simulans	32	
52801	Potamyia flava	29	
53800	Hydroptila sp	75	+
59140	Ceraclea maculata	0	+
59500	Oecetis sp	32	
59970	Petrophila sp	101	+
68601	Ancyronyx variegata	0	+
68901	Macronychus glabratus	1	
69400	Stenelmis sp	2	+
77750	Hayesomyia senata or Thienemannimyia nore	1,148	+
78140	Labrundinia pilosella	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	88	
82730	Chironomus (C.) decorus group	88	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	5,212	+
83310	Glyptotendipes (Heynotendipes) amplus	0	+
84450	Polypedilum (Uresipedilum) flavum	1,237	+
84540	Polypedilum (Tripodura) scalaenum group	177	+
85625	Rheotanytarsus sp	2,297	
85800	Tanytarsus sp	88	
93900	Elimia sp	0	+
95100	Physella sp	0	+
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
45	14	20	0	56	20,554	46

	Taxa	Abundance/Presence	
01801	Turbellaria	483	+
03360	Plumatella sp	0	+
03600	Oligochaeta	160	+
04964	Mooreobdella microstoma	0	+
06201	Hyalella azteca	8	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	128	+
11130	Baetis intercalaris	721	+
12200	Isonychia sp	27	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	34	+
13510	Maccaffertium exiguum	2	
13550	Maccaffertium mexicanum integrum	0	+
13561	Maccaffertium pulchellum	190	+
13570	Maccaffertium terminatum	81	+
16700	Tricorythodes sp	1,193	+
17200	Caenis sp	1	+
18100	Anthopotamus sp	0	+
18600	Ephemera sp	0	+
22300	Argia sp	0	+
24900	Gomphus sp	0	+
45000	Hesperocorixa sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	10	
52200	Cheumatopsyche sp	3,502	+
52430	Ceratopsyche morosa group	121	
52510	Hydropsyche aerata	10	
52520	Hydropsyche bidens	131	+
52560	Hydropsyche orris	211	+
52801	Potamyia flava	40	
53800	Hydroptila sp	16	
59140	Ceraclea maculata	27	
59970	Petrophila sp	159	+
60900	Peltodytes sp	0	+
69400	Stenelmis sp	16	+
74100	Simulium sp	1	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	1,476	
78655	Procladius (Holotanypus) sp	0	+
79020	Tanypus neopunctipennis	0	+
80410	Cricotopus (C.) sp	164	
81231	Nanocladius (N.) crassicornus or N. (N.) rectii	0	+
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	8,198	+
84040	Parachironomus frequens	164	+
84450	Polypedilum (Uresipedilum) flavum	1,312	+
84520	Polypedilum (Tripodura) halterale group	0	+
84540	Polypedilum (Tripodura) scalaenum group	328	
85625	Rheotanytarsus sp	1,476	+
85821	Tanytarsus glabrescens group sp 7	164	
93900	Elimia sp	0	+
95100	Physella sp	0	+
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	16	24	0	56	38,050	32

	Taxa	Abundance/Presence	
03360	Plumatella sp	0	+
03600	Oligochaeta	3,712	+
04661	Helobdella elongata	0	+
06201	Hyalella azteca	0	+
11123	Labiobaetis dardanus	0	+
11130	Baetis intercalaris	0	+
11200	Callibaetis sp	0	+
11600	Paracloeodes fleeki	0	+
11620	Paracloeodes minutus	0	+
12200	Isonychia sp	2	
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13510	Maccaffertium exiguum	2	
13561	Maccaffertium pulchellum	8	+
13570	Maccaffertium terminatum	1	+
16700	Tricorythodes sp	1,295	
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	0	+
42700	Belostoma sp	0	+
45100	Palmacorixa sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	40	
52200	Cheumatopsyche sp	2,061	+
52430	Ceratopsyche morosa group	95	+
52510	Hydropsyche aerata	219	+
52520	Hydropsyche bidens	183	+
52560	Hydropsyche orris	291	+
52801	Potamyia flava	86	
53800	Hydroptila sp	260	
59970	Petrophila sp	2	+
69400	Stenelmis sp	0	+
72700	Anopheles sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	0	+
78655	Procladius (Holotanypus) sp	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	310	+
81250	Nanocladius (N.) minimus	0	+
82101	Thienemanniella taurocapita	64	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83051	Dicrotendipes simpsoni	310	
83300	Glyptotendipes (G.) sp	17,341	+
84450	Polypedilum (Uresipedilum) flavum	310	+
84470	Polypedilum (P.) illinoense	0	+
85625	Rheotanytarsus sp	11,458	+
95100	Physella sp	0	+
99100	Pyganodon grandis	0	+
99200	Alasmidonta marginata	0	+
99240	Lasmigona complanata	0	+
99400	Quadrula quadrula	0	+
99640	Truncilla donaciformis	0	+
99660	Truncilla truncata	0	+
99680	Leptodea fragilis	0	+
99700	Potamilus alatus	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
33	13	14	0	41	17,686	26

	Taxa	Abundance/Presence	
01418	Craspedacusta sowerbyi	256	
01801	Turbellaria	9	+
03360	Plumatella sp	80	+
03451	Urnatella gracilis	64	
03600	Oligochaeta	6,856	+
04661	Helobdella elongata	0	+
04964	Mooreobdella microstoma	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
12200	Isonychia sp	8	
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13561	Maccaffertium pulchellum	2	+
13570	Maccaffertium terminatum	1	+
16700	Tricorythodes sp	268	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	8	
22300	Argia sp	0	+
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	936	+
51400	Nyctiophylax sp	0	+
52200	Cheumatopsyche sp	1,173	+
52430	Ceratopsyche morosa group	25	
52510	Hydropsyche aerata	110	+
52520	Hydropsyche bidens	272	+
52560	Hydropsyche orris	433	+
52801	Potamyia flava	17	
69400	Stenelmis sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	369	+
80410	Cricotopus (C.) sp	74	
81231	Nanocladius (N.) crassicornus or N. (N.) rectii	74	+
81250	Nanocladius (N.) minimus	74	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	148	+
83300	Glyptotendipes (G.) sp	5,394	+
84450	Polypedilum (Uresipedilum) flavum	222	+
84540	Polypedilum (Tripodura) scalaenum group	74	+
85625	Rheotanytarsus sp	739	+
93900	Elimia sp	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	18	16	0	42	38,275	14

	Taxa	Abundance/Presence	
03360	Plumatella sp	1	+
03600	Oligochaeta	8,832	+
04661	Helobdella elongata	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11119	Plauditus dubius or P. virilis	0	+
11130	Baetis intercalaris	0	+
12200	Isonychia sp	0	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13521	Stenonema femoratum	0	+
13561	Maccaffertium pulchellum	0	+
13570	Maccaffertium terminatum	0	+
16700	Tricorythodes sp	0	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	0	+
22300	Argia sp	0	+
45100	Palmacorixa sp	0	+
51206	Cyrnellus fraternus	2,048	+
51600	Polycentropus sp	0	+
52200	Cheumatopsyche sp	0	+
52430	Ceratopsyche morosa group	0	+
52510	Hydropsyche aerata	0	+
52520	Hydropsyche bidens	0	+
52560	Hydropsyche orris	2	+
52801	Potamyia flava	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	0	+
81250	Nanocladius (N.) minimus	0	+
82730	Chironomus (C.) decorus group	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	26,402	+
83310	Glyptotendipes (Heynotendipes) amplus	330	
84020	Parachironomus carinatus	330	
84040	Parachironomus frequens	0	+
84300	Phaenopsectra obediens group	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	330	+
93900	Elimia sp	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
36	16	20	0	45	20,425	44

	Taxa	Abundance/Presence	
01801	Turbellaria	3	+
03360	Plumatella sp	0	+
03600	Oligochaeta	512	+
08250	Orconectes (Procericambarus) rusticus	0	+
11119	Plauditus dubius or P. virilis	6	
11130	Baetis intercalaris	379	+
12200	Isonychia sp	19	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13550	Maccaffertium mexicanum integrum	4	
13561	Maccaffertium pulchellum	82	+
13570	Maccaffertium terminatum	61	+
16700	Tricorythodes sp	2,131	+
18100	Anthopotamus sp	0	+
21300	Hetaerina sp	1	
22300	Argia sp	64	
45400	Trichocorixa sp	0	+
51206	Cyrnellus fraternus	17	+
52200	Cheumatopsyche sp	2,009	+
52430	Ceratopsyche morosa group	346	+
52510	Hydropsyche aerata	416	+
52520	Hydropsyche bidens	624	+
52560	Hydropsyche orris	1,524	+
52570	Hydropsyche simulans	4	
52801	Potamyia flava	485	+
53800	Hydroptila sp	65	+
59970	Petrophila sp	24	+
69400	Stenelmis sp	1	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	370	+
79085	Telopelopia okoboji	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) rectii	493	
81250	Nanocladius (N.) minimus	123	
82101	Thienemanniella taurocapita	64	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83250	Gillotia alboviridis	0	+
83300	Glyptotendipes (G.) sp	739	+
83310	Glyptotendipes (Heynotendipes) amplus	0	+
84040	Parachironomus frequens	0	+
84300	Phaenopsectra obediens group	0	+
84450	Polypedilum (Uresipedilum) flavum	1,479	+
85625	Rheotanytarsus sp	8,380	
93900	Elimia sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	17	19	0	43	37,442	40

	Taxa	Abundance/Presence	
01801	Turbellaria	0	+
03360	Plumatella sp	80	+
03600	Oligochaeta	832	+
11119	Plauditus dubius or P. virilis	2	
11130	Baetis intercalaris	573	+
12200	Isonychia sp	22	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13561	Maccaffertium pulchellum	100	+
13570	Maccaffertium terminatum	64	+
16700	Tricorythodes sp	1,859	+
17200	Caenis sp	0	+
18100	Anthopotamus sp	0	+
45400	Trichocorixa sp	0	+
48410	Corydalus cornutus	0	+
50315	Chimarra obscura	0	+
52200	Cheumatopsyche sp	4,590	+
52430	Ceratopsyche morosa group	626	+
52510	Hydropsyche aerata	487	+
52520	Hydropsyche bidens	1,391	+
52560	Hydropsyche orris	1,808	+
52801	Potamyia flava	139	+
53800	Hydroptila sp	192	
59140	Ceraclea maculata	0	+
59970	Petrophila sp	417	+
65800	Berosus sp	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	131	+
77120	Ablabesmyia mallochi	1,946	+
77750	Hayesomyia senata or Thienemannimyia nore	0	+
79085	Telopelopia okoboji	0	+
80310	Cardiocladius obscurus	0	+
80410	Cricotopus (C.) sp	1,362	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	2,335	+
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
83300	Glyptotendipes (G.) sp	3,502	+
83310	Glyptotendipes (Heynotendipes) amplus	195	
84300	Phaenopsectra obediens group	195	+
84450	Polypedilum (Uresipedilum) flavum	2,530	+
85625	Rheotanytarsus sp	12,064	+
95100	Physella sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
34	14	19	0	43	17,125	38

	Taxa	Abundance/Presence	
01801	Turbellaria	19	
03360	Plumatella sp	80	+
03600	Oligochaeta	1,929	+
11119	Plauditus dubius or P. virilis	0	+
11130	Baetis intercalaris	0	+
11651	Procloeon sp (w/o hindwing pads)	1	
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	1	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	16	+
13540	Maccaffertium mediopunctatum	2	
13550	Maccaffertium mexicanum integrum	4	
13561	Maccaffertium pulchellum	124	+
13570	Maccaffertium terminatum	150	+
16700	Tricorythodes sp	1,216	+
45400	Trichocorixa sp	0	+
48410	Corydalus cornutus	0	+
51206	Cyrnellus fraternus	107	+
52200	Cheumatopsyche sp	1,583	+
52430	Ceratopsyche morosa group	19	+
52510	Hydropsyche aerata	151	
52520	Hydropsyche bidens	151	+
52560	Hydropsyche orris	188	
52801	Potamyia flava	132	
53800	Hydroptila sp	0	+
59970	Petrophila sp	66	+
69400	Stenelmis sp	0	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	1,566	+
79085	Telopelopia okoboji	0	+
80310	Cardiocladius obscurus	0	+
80420	Cricotopus (C.) bicinctus	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	671	+
81250	Nanocladius (N.) minimus	112	+
82730	Chironomus (C.) decorus group	0	+
83040	Dicrotendipes neomodestus	895	
83300	Glyptotendipes (G.) sp	2,237	+
84040	Parachironomus frequens	112	
84450	Polypedilum (Uresipedilum) flavum	671	+
84540	Polypedilum (Tripodura) scalaenum group	112	+
85625	Rheotanytarsus sp	4,810	+
95100	Physella sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
37	16	16	0	37		

	Taxa	Abundance/Presence
00835	Trochospongilla leidyi	+
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
11130	Baetis intercalaris	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13550	Maccaffertium mexicanum integrum	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
18100	Anthopotamus sp	+
22300	Argia sp	+
25300	Ophiogomphus sp	+
45400	Trichocorixa sp	+
51206	Cyrnellus fraternus	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52510	Hydropsyche aerata	+
52560	Hydropsyche orris	+
52801	Potamyia flava	+
59100	Ceraclea sp	+
69400	Stenelmis sp	+
77120	Ablabesmyia mallochi	+
77750	Hayesomyia senata or Thienemannimyia nore	+
80410	Cricotopus (C.) sp	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	+
82730	Chironomus (C.) decorus group	+
83300	Glyptotendipes (G.) sp	+
83310	Glyptotendipes (Heynotendipes) amplus	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
84888	Xenochironomus xenolabis	+
85230	Cladotanytarsus mancus group	+
85625	Rheotanytarsus sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
36	17	15	0	36		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
08250	Orconectes (Procericambarus) rusticus	+
11123	Labiobaetis dardanus	+
11130	Baetis intercalaris	+
11650	Procloeon sp (w/ hindwing pads)	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13550	Maccaffertium mexicanum integrum	+
13561	Maccaffertium pulchellum	+
13570	Maccaffertium terminatum	+
16700	Tricorythodes sp	+
17200	Caenis sp	+
22300	Argia sp	+
45400	Trichocorixa sp	+
51206	Cyrnellus fraternus	+
52200	Cheumatopsyche sp	+
52510	Hydropsyche aerata	+
52520	Hydropsyche bidens	+
52560	Hydropsyche orris	+
52801	Potamyia flava	+
59970	Petrophila sp	+
69400	Stenelmis sp	+
77120	Ablabesmyia mallochi	+
78655	Procladius (Holotanypus) sp	+
82730	Chironomus (C.) decorus group	+
83040	Dicrotendipes neomodestus	+
83300	Glyptotendipes (G.) sp	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
95100	Physella sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
45	17	17	0	47	18,490	32

	Taxa	Abundance/Presence	
01801	Turbellaria	19	+
03360	Plumatella sp	0	+
03600	Oligochaeta	6,843	+
11130	Baetis intercalaris	0	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	8	+
13510	Maccaffertium exiguum	1	+
13550	Maccaffertium mexicanum integrum	0	+
13561	Maccaffertium pulchellum	2	+
13570	Maccaffertium terminatum	20	+
16700	Tricorythodes sp	291	+
22300	Argia sp	0	+
24900	Gomphus sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	0	+
51206	Cyrnellus fraternus	848	+
52200	Cheumatopsyche sp	234	+
52430	Ceratopsyche morosa group	0	+
52510	Hydropsyche aerata	8	+
52520	Hydropsyche bidens	12	+
52560	Hydropsyche orris	111	+
52801	Potamyia flava	37	+
53800	Hydroptila sp	1	+
59407	Nectopsyche candida	1	
59970	Petrophila sp	3	+
68075	Psephenus herricki	0	+
69400	Stenelmis sp	0	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	99	+
77130	Ablabesmyia rhamphe group	0	+
77750	Hayesomyia senata or Thienemannimyia nore	296	+
80410	Cricotopus (C.) sp	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	99	+
81240	Nanocladius (N.) distinctus	0	+
82730	Chironomus (C.) decorus group	99	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	887	+
83300	Glyptotendipes (G.) sp	7,881	+
84020	Parachironomus carinatus	99	
84450	Polypedilum (Uresipedilum) flavum	197	+
84520	Polypedilum (Tripodura) halterale group	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	394	+
89716	Limnophora discreta	0	+
93900	Elimia sp	0	+
96900	Ferrissia sp	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
37	16	22	0	45	7,414	42

	Taxa	Abundance/Presence	
03360	Plumatella sp	4	+
03600	Oligochaeta	168	
11119	Plauditus dubius or P. virilis	0	+
11130	Baetis intercalaris	15	+
11600	Paracloeodes fleeki	0	+
11620	Paracloeodes minutus	0	+
12200	Isonychia sp	39	+
13000	Leucrocuta sp	0	+
13400	Stenacron sp	0	+
13550	Maccaffertium mexicanum integrum	4	
13561	Maccaffertium pulchellum	97	
13570	Maccaffertium terminatum	22	+
16700	Tricorythodes sp	368	+
17200	Caenis sp	0	+
25300	Ophiogomphus sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	1	
52200	Cheumatopsyche sp	551	+
52430	Ceratopsyche morosa group	5	+
52510	Hydropsyche aerata	24	+
52520	Hydropsyche bidens	49	+
52560	Hydropsyche orris	159	+
52570	Hydropsyche simulans	14	
52801	Potamyia flava	330	+
53800	Hydroptila sp	8	
59970	Petrophila sp	1	+
66500	Enochrus sp	0	+
67500	Laccobius sp	0	+
68601	Ancyronyx variegata	1	
69400	Stenelmis sp	0	+
74100	Simulium sp	1	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	156	+
80410	Cricotopus (C.) sp	52	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	0	+
82730	Chironomus (C.) decorus group	0	+
83250	Gillotia alboviridis	0	+
83300	Glyptotendipes (G.) sp	259	+
84450	Polypedilum (Uresipedilum) flavum	467	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85230	Cladotanytarsus mancus group	0	+
85625	Rheotanytarsus sp	4,618	+
85800	Tanytarsus sp	0	+
87540	Hemerodromia sp	1	
95100	Physella sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
31	9	5	0	31		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04964	Mooreobdella microstoma	+
05900	Lirceus sp	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
27500	Somatochlora sp	+
28500	Libellula sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
60900	Peltodytes sp	+
65800	Berosus sp	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
74100	Simulium sp	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84540	Polypedilum (Tripodura) scalaenum group	+
85500	Paratanytarsus sp	+
85625	Rheotanytarsus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
35	12	12	0	35		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
04664	Helobdella stagnalis	+
04964	Mooreobdella microstoma	+
08250	Orconectes (Procericambarus) rusticus	+
11250	Centroptilum sp (w/o hindwing pads)	+
11650	Procloeon sp (w/ hindwing pads)	+
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	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
53800	Hydroptila sp	+
60900	Peltodytes sp	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
74650	Atrichopogon sp	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
83840	Microtendipes pedellus group	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
32	9	13	0	47	1,768	44

	Taxa	Abundance/Presence	
01801	Turbellaria	37	+
03360	Plumatella sp	4	+
03600	Oligochaeta	32	+
05900	Lirceus sp	15	+
11130	Baetis intercalaris	21	+
11651	Procloeon sp (w/o hindwing pads)	9	+
11670	Procloeon viridoculare	0	+
13400	Stenacron sp	20	+
13521	Stenonema femoratum	77	+
13570	Maccaffertium terminatum	1	
16700	Tricorythodes sp	3	
17200	Caenis sp	102	+
18700	Hexagenia sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	16	+
24900	Gomphus sp	0	+
27307	Epitheca (Epicordulia) princeps	0	+
42700	Belostoma sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	2	+
51206	Cyrnellus fraternus	4	
51600	Polycentropus sp	2	
52200	Cheumatopsyche sp	196	+
63300	Hydroporini	0	+
65800	Berosus sp	1	
68075	Psephenus herricki	0	+
69400	Stenelmis sp	13	+
77750	Hayesomyia senata or Thienemannimyia nore	52	
77800	Helopelopia sp	236	
78655	Procladius (Holotanypus) sp	0	+
80370	Corynoneura lobata	24	
80430	Cricotopus (C.) tremulus group	13	
82101	Thienemanniella taurocapita	8	
82730	Chironomus (C.) decorus group	26	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	236	+
83300	Glyptotendipes (G.) sp	52	
84020	Parachironomus carinatus	13	
84155	Paralauterborniella nigrohalteralis	0	+
84450	Polypedilum (Uresipedilum) flavum	183	+
84520	Polypedilum (Tripodura) halterale group	0	+
84540	Polypedilum (Tripodura) scalaenum group	13	+
84960	Pseudochironomus sp	0	+
85625	Rheotanytarsus sp	131	
85800	Tanytarsus sp	66	
85821	Tanytarsus glabrescens group sp 7	157	
98600	Sphaerium sp	3	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
23	9	6	0	23		

	Taxa	Abundance/Presence
01801	Turbellaria	+
05900	Lirceus sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11651	Procloeon sp (w/o hindwing pads)	+
13400	Stenacron sp	+
17200	Caenis sp	+
21200	Calopteryx sp	+
50301	Chimarra aterrima	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
67800	Tropisternus sp	+
68075	Psephenus herricki	+
72700	Anopheles sp	+
74100	Simulium sp	+
77800	Helopelopia sp	+
82141	Thienemanniella xena	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84450	Polypedilum (Uresipedilum) flavum	+
84750	Stictochironomus sp	+
85800	Tanytarsus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
36	9	7	0	36		

	Taxa	Abundance/Presence
01801	Turbellaria	+
05900	Lirceus sp	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11651	Procloeon sp (w/o hindwing pads)	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
58505	Helicopsyche borealis	+
67700	Paracymus sp	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
71100	Hexatoma sp	+
71900	Tipula sp	+
72700	Anopheles sp	+
77120	Ablabesmyia mallochi	+
77750	Hayesomyia senata or Thienemannimyia nore	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
80351	Corynoneura n.sp 1	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85230	Cladotanytarsus mancus group	+
85800	Tanytarsus sp	+
86100	Chrysops sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	13	13	0	40		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04664	Helobdella stagnalis	+
05900	Lirceus sp	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11250	Centroptilum sp (w/o hindwing pads)	+
11651	Procloeon sp (w/o hindwing pads)	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
18700	Hexagenia sp	+
21200	Calopteryx sp	+
22300	Argia sp	+
45400	Trichocorixa sp	+
50315	Chimarra obscura	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
68075	Psephenus herricki	+
68901	Macronychus glabratus	+
69400	Stenelmis sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
82101	Thienemanniella taurocapita	+
83040	Dicrotendipes neomodestus	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
85230	Cladotanytarsus mancus group	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
85814	Tanytarsus glabrescens group	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	10	13	1	49		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
08250	Orconectes (Procericambarus) rusticus	+
08270	Orconectes (Rhoadesius) sloanii	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
23909	Boyeria vinosa	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
60900	Peltodytes sp	+
63300	Hydroporini	+
67500	Laccobius sp	+
67700	Paracymus sp	+
68025	Ectopria sp	+
68075	Psephenus herricki	+
68700	Dubiraphia sp	+
69400	Stenelmis sp	+
71100	Hexatoma sp	+
71900	Tipula sp	+
72700	Anopheles sp	+
74501	Ceratopogonidae	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
77800	Helopelopia sp	+
78140	Labrundinia pilosella	+
78401	Natarsia species A (sensu Roback, 1978)	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	+
81650	Parametriocnemus sp	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85720	Stempellinella fimbriata	+
85800	Tanytarsus sp	+
95100	Physella sp	+
96002	Helisoma anceps anceps	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
33	8	8	2	33		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
04964	Mooreobdella microstoma	+
05900	Lirceus sp	+
08270	Orconectes (Rhoadesius) sloanii	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22300	Argia sp	+
50301	Chimarra aterrima	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
68025	Ectopria sp	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
78350	Meropelopia sp	+
81650	Parametriocnemus sp	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84210	Paratendipes albimanus or P. duplicatus	+
84315	Phaenopsectra flavipes	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
24	5	4	0	24		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04964	Mooreobdella microstoma	+
05900	Lirceus sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
21200	Calopteryx sp	+
22300	Argia sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
68075	Psephenus herricki	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
82820	Cryptochironomus sp	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
85800	Tanytarsus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
38	11	12	0	38		

	Taxa	Abundance/Presence
01801	Turbellaria	+
04660	Helobdella sp	+
04935	Erpobdella punctata punctata	+
04964	Mooreobdella microstoma	+
05900	Lirceus sp	+
08270	Orconectes (Rhoadesius) sloanii	+
11120	Baetis flavistriga	+
11200	Callibaetis sp	+
11250	Centroptilum sp (w/o hindwing pads)	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
50315	Chimarra obscura	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
59720	Triaenodes ignitus	+
65800	Berosus sp	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68601	Ancyronyx variegata	+
68708	Dubiraphia vittata group	+
69400	Stenelmis sp	+
71900	Tipula sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77800	Helopelopia sp	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
83840	Microtendipes pedellus group	+
84315	Phaenopsectra flavipes	+
84450	Polypedilum (Uresipedilum) flavum	+
84460	Polypedilum (P.) fallax group	+
84540	Polypedilum (Tripodura) scalaenum group	+
85800	Tanytarsus sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
40	11	12	0	40		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11600	Paracloeodes fleeki	+
11620	Paracloeodes minutus	+
11670	Procloeon viridoculare	+
13510	Maccaffertium exiguum	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21001	Calopterygidae	+
22001	Coenagrionidae	+
22300	Argia sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
60900	Peltodytes sp	+
65800	Berosus sp	+
68075	Psephenus herricki	+
68708	Dubiraphia vittata group	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
77120	Ablabesmyia mallochi	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
80410	Cricotopus (C.) sp	+
82101	Thienemanniella taurocapita	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84750	Stictochironomus sp	+
85625	Rheotanytarsus sp	+
95100	Physella sp	+
96900	Ferrissia sp	+
97601	Corbicula fluminea	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
52	13	11	2	52		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
04664	Helobdella stagnalis	+
04687	Placobdella parasitica	+
04964	Mooreobdella microstoma	+
06904	Synurella dentata	+
08250	Orconectes (Procericambarus) rusticus	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11670	Procloeon viridoculare	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
23804	Basiaeschna janata	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
59570	Oecetis nocturna	+
60900	Peltodytes sp	+
65800	Berosus sp	+
68075	Psephenus herricki	+
68708	Dubiraphia vittata group	+
69400	Stenelmis sp	+
71900	Tipula sp	+
72700	Anopheles sp	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
79400	Zavrelimyia sp	+
80420	Cricotopus (C.) bicinctus	+
81650	Parametriocnemus sp	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
84470	Polypedilum (P.) illinoense	+
84520	Polypedilum (Tripodura) halterale group	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85201	Cladotanytarsus species group A	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
85840	Tanytarsus sepp	+
95100	Physella sp	+
96002	Helisoma anceps anceps	+
96900	Ferrissia sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
47	9	16	1	63	4,072	42

	Taxa	Abundance/Presence	
01320	Hydra sp	1	
01801	Turbellaria	38	+
03600	Oligochaeta	0	+
04666	Helobdella triserialis	0	+
04686	Placobdella papillifera	1	
04964	Mooreobdella microstoma	0	+
05900	Lirceus sp	0	+
06700	Crangonyx sp	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11130	Baetis intercalaris	80	+
11200	Callibaetis sp	0	+
12200	Isonychia sp	1	+
13400	Stenacron sp	1	
13570	Maccaffertium terminatum	1	
16700	Tricorythodes sp	1	
17200	Caenis sp	0	+
21200	Calopteryx sp	0	+
21300	Hetaerina sp	24	+
22001	Coenagrionidae	0	+
22300	Argia sp	12	+
28810	Pantala flavescens	0	+
42700	Belostoma sp	0	+
43300	Ranatra sp	0	+
48410	Corydalus cornutus	1	
50315	Chimarra obscura	1	+
52200	Cheumatopsyche sp	479	+
52430	Ceratopsyche morosa group	27	+
52530	Hydropsyche depravata group	0	+
52570	Hydropsyche simulans	5	
53800	Hydroptila sp	8	+
59970	Petrophila sp	1	
63900	Laccophilus sp	0	+
65800	Berosus sp	3	+
67800	Tropisternus sp	0	+
68901	Macronychus glabratus	1	
69400	Stenelmis sp	1	+
71910	Tipula abdominalis	0	+
72700	Anopheles sp	0	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	105	
78450	Nilotanypus fimbriatus	175	+
78655	Procladius (Holotanypus) sp	0	+
79020	Tanypus neopunctipennis	0	+
80420	Cricotopus (C.) bicinctus	140	+
80510	Cricotopus (Isocladius) sylvestris group	0	+
81231	Nanocladius (N.) crassicornus or N. (N.) recti	35	
81250	Nanocladius (N.) minimus	35	
82101	Thienemanniella taurocapita	66	+
82141	Thienemanniella xena	32	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	35	
84450	Polypedilum (Uresipedilum) flavum	560	
84470	Polypedilum (P.) illinoense	70	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85500	Paratanytarsus sp	0	+
85501	Paratanytarsus longistilus	0	+
85625	Rheotanytarsus sp	2,101	+
87540	Hemerodromia sp	3	
93900	Elimia sp	27	+
95100	Physella sp	0	+
96900	Ferrissia sp	1	
97601	Corbicula fluminea	0	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
61	21	22	0	61		

	Taxa	Abundance/Presence			
01801	Turbellaria	+	95100	Physella sp	+
03600	Oligochaeta	+	98600	Sphaerium sp	+
04964	Mooreobdella microstoma	+			
05900	Lirceus sp	+			
08250	Orconectes (Procericambarus) rusticus	+			
11120	Baetis flavistriga	+			
11130	Baetis intercalaris	+			
11650	Procloeon sp (w/ hindwing pads)	+			
11670	Procloeon viridoculare	+			
12200	Isonychia sp	+			
13400	Stenacron sp	+			
13521	Stenonema femoratum	+			
13561	Maccaffertium pulchellum	+			
13590	Maccaffertium vicarium	+			
17200	Caenis sp	+			
18600	Ephemera sp	+			
18700	Hexagenia sp	+			
21200	Calopteryx sp	+			
22001	Coenagrionidae	+			
22300	Argia sp	+			
24900	Gomphus sp	+			
48410	Corydalus cornutus	+			
50301	Chimarra aterrima	+			
50315	Chimarra obscura	+			
51400	Nyctiophylax sp	+			
51600	Polycentropus sp	+			
52200	Cheumatopsyche sp	+			
52430	Ceratopsyche morosa group	+			
52530	Hydropsyche depravata group	+			
53800	Hydroptila sp	+			
58505	Helicopsyche borealis	+			
65800	Berosus sp	+			
66500	Enochrus sp	+			
67800	Tropisternus sp	+			
68075	Psephenus herricki	+			
68708	Dubiraphia vittata group	+			
68901	Macronychus glabratus	+			
69225	Optioservus fastiditus	+			
69400	Stenelmis sp	+			
70600	Antocha sp	+			
72700	Anopheles sp	+			
74100	Simulium sp	+			
77120	Ablabesmyia mallochi	+			
77355	Clinotanypus pinguis	+			
77800	Helopelopia sp	+			
78401	Natarsia species A (sensu Roback, 1978)	+			
78655	Procladius (Holotanypus) sp	+			
82820	Cryptochironomus sp	+			
83040	Dicrotendipes neomodestus	+			
83840	Microtendipes pedellus group	+			
84210	Paratendipes albimanus or P. duplicatus	+			
84300	Phaenopsectra obediens group	+			
84450	Polypedilum (Uresipedilum) flavum	+			
84540	Polypedilum (Tripodura) scalaenum group	+			
84750	Stictochironomus sp	+			
85230	Cladotanytarsus mancus group	+			
85625	Rheotanytarsus sp	+			
85800	Tanytarsus sp	+			
87540	Hemerodromia sp	+			

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
52	19	19	0	52		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
08250	Orconectes (Procericambarus) rusticus	+
08270	Orconectes (Rhoadesius) sloanii	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
11250	Centroptilum sp (w/o hindwing pads)	+
11650	Procloeon sp (w/ hindwing pads)	+
12200	Isonychia sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13561	Maccaffertium pulchellum	+
13590	Maccaffertium vicarium	+
15501	Ephemerellidae	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
21300	Hetaerina sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
23909	Boyeria vinosa	+
24900	Gomphus sp	+
26700	Macromia sp	+
48410	Corydalus cornutus	+
50315	Chimarra obscura	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
60900	Peltodytes sp	+
63300	Hydroporini	+
68075	Psephenus herricki	+
68130	Helichus sp	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
78401	Natarsia species A (sensu Roback, 1978)	+
80410	Cricotopus (C.) sp	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
85615	Rheotanytarsus pellucidus	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
95100	Physella sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
44	17	25	0	61	802	46

	Taxa	Abundance/Presence	
01320	Hydra sp	1	
01801	Turbellaria	2	+
03600	Oligochaeta	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	1	+
11120	Baetis flavistriga	0	+
11130	Baetis intercalaris	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
12200	Isonychia sp	0	+
13400	Stenacron sp	185	+
13521	Stenonema femoratum	185	+
13540	Maccaffertium mediopunctatum	6	
13561	Maccaffertium pulchellum	12	
16700	Tricorythodes sp	19	+
17200	Caenis sp	1	+
18100	Anthopotamus sp	0	+
18600	Ephemera sp	0	+
22300	Argia sp	7	+
23909	Boyeria vinosa	0	+
24900	Gomphus sp	0	+
26700	Macromia sp	0	+
48410	Corydalus cornutus	0	+
50315	Chimarra obscura	1	+
51400	Nyctiophylax sp	0	+
51600	Polycentropus sp	0	+
52200	Cheumatopsyche sp	1	+
52430	Ceratopsyche morosa group	0	+
52530	Hydropsyche depravata group	0	+
58505	Helicopsyche borealis	1	+
60900	Peltodytes sp	0	+
63900	Laccophilus sp	0	+
68075	Psephenus herricki	0	+
69400	Stenelmis sp	1	+
69713	Lutrochus laticeps	1	
77120	Ablabesmyia mallochi	9	+
77500	Conchapelopia sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	4	
77800	Helopelopia sp	14	+
78140	Labrundinia pilosella	20	
78450	Nilotanypus fimbriatus	2	
78655	Procladius (Holotanypus) sp	0	+
79085	Telopelopia okoboji	0	+
80370	Corynoneura lobata	120	
81250	Nanocladius (N.) minimus	2	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	5	
83820	Microtendipes caelum (sensu Simpson & Bod	2	
83840	Microtendipes pedellus group	4	
84210	Paratendipes albimanus or P. duplicatus	0	+
84300	Phaenopsectra obediens group	0	+
84450	Polypedilum (Uresipedilum) flavum	9	
84460	Polypedilum (P.) fallax group	5	
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85625	Rheotanytarsus sp	168	+
85720	Stempellinella fimbriata	2	
85821	Tanytarsus glabrescens group sp 7	4	
87540	Hemerodromia sp	3	
93900	Elimia sp	5	+
96900	Ferrissia sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
53	21	26	1	53		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
08270	Orconectes (Rhoadesius) sloanii	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11250	Centroptilum sp (w/o hindwing pads)	+
11651	Procloeon sp (w/o hindwing pads)	+
11670	Procloeon viridoculare	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13590	Maccaffertium vicarium	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
23909	Boyeria vinosa	+
50301	Chimarra aterrima	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
53501	Hydroptilidae	+
57900	Pycnopsyche sp	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68700	Dubiraphia sp	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71900	Tipula sp	+
74100	Simulium sp	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
78140	Labrundinia pilosella	+
79400	Zavrelimyia sp	+
80420	Cricotopus (C.) bicinctus	+
80430	Cricotopus (C.) tremulus group	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
83840	Microtendipes pedellus group	+
84300	Phaenopsectra obediens group	+
84450	Polypedilum (Uresipedilum) flavum	+
84612	Saetheria tylus	+
85625	Rheotanytarsus sp	+
85720	Stempellinella fimbriata	+
85800	Tanytarsus sp	+
85821	Tanytarsus glabrescens group sp 7	+
87540	Hemerodromia sp	+
95100	Physella sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	15	17	0	48		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
08270	Orconectes (Rhoadesius) sloanii	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
12200	Isonychia sp	+
13100	Nixe sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13590	Maccaffertium vicarium	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
22300	Argia sp	+
23909	Boyeria vinosa	+
24900	Gomphus sp	+
47600	Sialis sp	+
48410	Corydalus cornutus	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
60900	Peltodytes sp	+
68130	Helichus sp	+
69225	Optioservus fastiditus	+
71900	Tipula sp	+
74100	Simulium sp	+
74501	Ceratopogonidae	+
77120	Ablabesmyia mallochi	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
77800	Helopelopia sp	+
80420	Cricotopus (C.) bicinctus	+
82141	Thienemanniella xena	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84700	Stenochironomus sp	+
85261	Cladotanytarsus vanderwulpi group sp 1	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
85821	Tanytarsus glabrescens group sp 7	+
86100	Chrysops sp	+
86200	Tabanus sp	+
87400	Stratiomys sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
42	15	17	1	42		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04935	Erpobdella punctata punctata	+
08270	Orconectes (Rhoadesius) sloanii	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11250	Centroptilum sp (w/o hindwing pads)	+
11651	Procloeon sp (w/o hindwing pads)	+
11670	Procloeon viridoculare	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
28500	Libellula sp	+
50315	Chimarra obscura	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
67700	Paracymus sp	+
68025	Ectopria sp	+
68075	Psephenus herricki	+
68300	Cyphon sp	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
77120	Ablabesmyia mallochi	+
78350	Meropelopia sp	+
78655	Procladius (Holotanypus) sp	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
83310	Glyptotendipes (Heynotendipes) amplus	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
83840	Microtendipes pedellus group	+
84315	Phaenopsectra flavipes	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
85625	Rheotanytarsus sp	+
85840	Tanytarsus sepp	+
95100	Physella sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
56	15	25	0	76	2,445	42

	Taxa	Abundance/Presence	
01320	Hydra sp	160	
01801	Turbellaria	2	+
03600	Oligochaeta	49	+
04935	Erpobdella punctata punctata	1	+
08270	Orconectes (Rhoadesius) sloanii	0	+
11120	Baetis flavistriga	0	+
11130	Baetis intercalaris	0	+
11200	Callibaetis sp	0	+
11250	Centroptilum sp (w/o hindwing pads)	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	0	+
13400	Stenacron sp	79	+
13521	Stenonema femoratum	10	+
13561	Maccaffertium pulchellum	1	
16700	Tricorythodes sp	2	
17200	Caenis sp	46	+
21200	Calopteryx sp	2	+
22001	Coenagrionidae	1	+
22300	Argia sp	6	+
24900	Gomphus sp	0	+
50315	Chimarra obscura	0	+
52200	Cheumatopsyche sp	4	+
52430	Ceratopsyche morosa group	0	+
52530	Hydropsyche depravata group	0	+
53800	Hydroptila sp	1	
58505	Helicopsyche borealis	1	
59300	Mystacides sp	5	+
60900	Peltodytes sp	0	+
65800	Berosus sp	0	+
68075	Psephenus herricki	0	+
68601	Ancyronyx variegata	0	+
68901	Macronychus glabratus	1	
69400	Stenelmis sp	5	+
71900	Tipula sp	0	+
72700	Anopheles sp	0	+
72900	Culex sp	0	+
74100	Simulium sp	0	+
74501	Ceratopogonidae	0	+
74650	Atrichopogon sp	1	
77120	Ablabesmyia mallochi	154	+
77500	Conchapelopia sp	0	+
77750	Hayesomyia senata or Thienemannimyia nore	0	+
77800	Helopelopia sp	116	
78655	Procladius (Holotanypus) sp	0	+
80410	Cricotopus (C.) sp	19	
81231	Nanocladius (N.) crassicornus or N. (N.) recti	19	
82121	Thienemanniella lobapodema	19	
82730	Chironomus (C.) decorus group	0	+
82885	Cryptotendipes pseudotener	0	+
83003	Dicrotendipes fumidus	0	+
83040	Dicrotendipes neomodestus	154	+
83840	Microtendipes pedellus group	193	+
84020	Parachironomus carinatus	19	
84210	Paratendipes albimanus or P. duplicatus	521	+
84300	Phaenopsectra obediens group	193	
84315	Phaenopsectra flavipes	0	+
84450	Polypedilum (Uresipedilum) flavum	0	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	19	+
84750	Stictochironomus sp	0	+
85261	Cladotanytarsus vanderwulpi group sp 1	58	
85500	Paratanytarsus sp	193	+
85625	Rheotanytarsus sp	39	+
85720	Stempellinella fimbriata	39	
85800	Tanytarsus sp	58	+
85818	Tanytarsus glabrescens group sp 4	19	
85821	Tanytarsus glabrescens group sp 7	116	+
85840	Tanytarsus sepp	19	
87400	Stratiomys sp	0	+
87540	Hemerodromia sp	8	
94400	Fossaria sp	0	+
95100	Physella sp	72	+
96120	Menetus (Micromenetus) dilatatus	1	
96264	Planorbella (Pierosoma) pilsbryi	0	+
96900	Ferrissia sp	20	

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
42	11	16	0	58	3,321	36

	Taxa	Abundance/Presence	
01320	Hydra sp	25	
01801	Turbellaria	2	+
03121	Paludicella articulata	0	+
03360	Plumatella sp	1	+
03451	Urnatella gracilis	0	+
04666	Helobdella triserialis	0	+
04687	Placobdella parasitica	0	+
05900	Lirceus sp	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
11130	Baetis intercalaris	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	0	+
13400	Stenacron sp	0	+
13521	Stenonema femoratum	0	+
16700	Tricorythodes sp	32	
17200	Caenis sp	17	+
21200	Calopteryx sp	14	+
22001	Coenagrionidae	0	+
22300	Argia sp	6	+
50315	Chimarra obscura	0	+
52200	Cheumatopsyche sp	42	+
52430	Ceratopsyche morosa group	26	+
52530	Hydropsyche depravata group	8	+
59550	Oecetis inconspicua complex sp A (sensu Flc	0	+
60900	Peltodytes sp	0	+
69400	Stenelmis sp	0	+
71900	Tipula sp	0	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	0	+
77500	Conchapelopia sp	258	+
77750	Hayesomyia senata or Thienemannimyia nore	26	
77800	Helopelopia sp	26	
78450	Nilotanypus fimbriatus	103	
78655	Procladius (Holotanypus) sp	0	+
80370	Corynoneura lobata	43	
80430	Cricotopus (C.) tremulus group	77	
81270	Nanocladius (N.) spiniplenus	26	
82101	Thienemanniella taurocapita	61	
82141	Thienemanniella xena	8	
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	207	
83300	Glyptotendipes (G.) sp	232	+
84040	Parachironomus frequens	129	
84210	Paratendipes albimanus or P. duplicatus	77	+
84450	Polypedilum (Uresipedilum) flavum	207	+
84460	Polypedilum (P.) fallax group	26	
84470	Polypedilum (P.) illinoense	0	+
84700	Stenochironomus sp	0	+
85261	Cladotanytarsus vanderwulpi group sp 1	0	+
85500	Paratanytarsus sp	181	+
85625	Rheotanytarsus sp	491	
85800	Tanytarsus sp	0	+
85821	Tanytarsus glabrescens group sp 7	852	+
85840	Tanytarsus sepp	26	
87540	Hemerodromia sp	3	
95100	Physella sp	47	+
96900	Ferrissia sp	42	+
98600	Sphaerium sp	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
41	11	25	0	59	4,643	46

	Taxa	Abundance/Presence	
01320	Hydra sp	176	
01801	Turbellaria	1	
03360	Plumatella sp	0	+
08270	Orconectes (Rhoadesius) sloanii	0	+
11120	Baetis flavistriga	21	
11130	Baetis intercalaris	85	+
11250	Centroptilum sp (w/o hindwing pads)	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	41	
13400	Stenacron sp	5	
13521	Stenonema femoratum	0	+
13540	Maccaffertium mediopunctatum	1	
13561	Maccaffertium pulchellum	31	
13570	Maccaffertium terminatum	4	
16700	Tricorythodes sp	27	
17200	Caenis sp	1	+
21200	Calopteryx sp	4	+
22001	Coenagrionidae	0	+
22300	Argia sp	11	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	0	+
51206	Cyrnellus fraternus	1	
51300	Neureclipsis sp	0	+
52200	Cheumatopsyche sp	819	+
52430	Ceratopsyche morosa group	93	+
53800	Hydroptila sp	0	+
63900	Laccophilus sp	0	+
64800	Uvarus sp	0	+
65800	Berosus sp	0	+
68601	Ancyronyx variegata	45	+
68901	Macronychus glabratus	9	+
69400	Stenelmis sp	0	+
71910	Tipula abdominalis	0	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	0	+
77500	Conchapelopia sp	133	
77750	Hayesomyia senata or Thienemannimyia nore	66	
78450	Nilotanypus fimbriatus	66	
78655	Procladius (Holotanypus) sp	0	+
80420	Cricotopus (C.) bicinctus	0	+
82121	Thienemanniella lobapodema	8	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	0	+
84210	Paratendipes albimanus or P. duplicatus	33	
84450	Polypedilum (Uresipedilum) flavum	630	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	33	+
84612	Saetheria tylus	0	+
85625	Rheotanytarsus sp	1,922	+
85720	Stempellinella fimbriata	0	+
85800	Tanytarsus sp	0	+
85821	Tanytarsus glabrescens group sp 7	331	
85840	Tanytarsus sepp	33	
87540	Hemerodromia sp	3	
95100	Physella sp	0	+
96900	Ferrissia sp	9	+
97601	Corbicula fluminea	1	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
51	15	25	0	63	4,578	44

	Taxa	Abundance/Presence	
01801	Turbellaria	335	+
03600	Oligochaeta	0	+
08270	Orconectes (Rhoadesius) sloanii	0	+
11120	Baetis flavistriga	199	+
11130	Baetis intercalaris	228	+
11600	Paracloeodes fleeki	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	41	+
13000	Leucrocuta sp	9	
13400	Stenacron sp	35	+
13521	Stenonema femoratum	2	+
13561	Maccaffertium pulchellum	87	+
16700	Tricorythodes sp	27	+
17200	Caenis sp	16	+
21200	Calopteryx sp	2	+
21300	Hetaerina sp	61	
22001	Coenagrionidae	0	+
22300	Argia sp	11	+
23909	Boyeria vinosa	0	+
26700	Macromia sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	2	+
52200	Cheumatopsyche sp	492	+
52430	Ceratopsyche morosa group	148	+
53800	Hydroptila sp	34	+
60900	Peltodytes sp	0	+
63300	Hydroporini	0	+
68075	Psephenus herricki	0	+
68601	Ancyronyx variegata	1	+
68708	Dubiraphia vittata group	0	+
68901	Macronychus glabratus	2	+
69400	Stenelmis sp	8	+
72700	Anopheles sp	0	+
77120	Ablabesmyia mallochi	0	+
77750	Hayesomyia senata or Thienemannimyia nore	90	+
78450	Nilotanypus fimbriatus	60	
78655	Procladius (Holotanypus) sp	0	+
80310	Cardiocladius obscurus	0	+
80360	Corynoneura celeripes (sensu Simpson & Bo	18	
80370	Corynoneura lobata	160	
80430	Cricotopus (C.) tremulus group	0	+
82101	Thienemanniella taurocapita	406	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	90	
83820	Microtendipes caelum (sensu Simpson & Bod	0	+
84210	Paratendipes albimanus or P. duplicatus	0	+
84450	Polypedilum (Uresipedilum) flavum	1,115	+
84470	Polypedilum (P.) illinoense	0	+
84540	Polypedilum (Tripodura) scalaenum group	0	+
85230	Cladotanytarsus mancus group	0	+
85500	Paratanytarsus sp	30	
85625	Rheotanytarsus sp	693	+
85720	Stempellinella fimbriata	30	
85821	Tanytarsus glabrescens group sp 7	60	
87400	Stratiomys sp	0	+
87540	Hemerodromia sp	26	
93900	Elimia sp	4	+
95100	Physella sp	0	+
96900	Ferrissia sp	8	+
97601	Corbicula fluminea	0	+
98001	Sphaeriidae	48	

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	15	14	1	48		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
05900	Lirceus sp	+
06201	Hyalella azteca	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
11250	Centroptilum sp (w/o hindwing pads)	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
23909	Boyeria vinosa	+
24900	Gomphus sp	+
45300	Sigara sp	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
59700	Triaenodes sp	+
63300	Hydroporini	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68300	Cyphon sp	+
68707	Dubiraphia quadrinotata	+
68708	Dubiraphia vittata group	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
71900	Tipula sp	+
72700	Anopheles sp	+
77120	Ablabesmyia mallochi	+
78350	Meropelopia sp	+
78655	Procladius (Holotanypus) sp	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
82730	Chironomus (C.) decorus group	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84300	Phaenopsectra obediens group	+
84480	Polypedilum (P.) laetum group	+
84540	Polypedilum (Tripodura) scalaenum group	+
85821	Tanytarsus glabrescens group sp 7	+
95100	Physella sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
43	10	12	1	43		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
04666	Helobdella triserialis	+
04935	Erpobdella punctata punctata	+
06700	Crangonyx sp	+
08270	Orconectes (Rhoadesius) sloanii	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
13400	Stenacron sp	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
23909	Boyeria vinosa	+
24900	Gomphus sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
53800	Hydroptila sp	+
59720	Triaenodes ignitus	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68700	Dubiraphia sp	+
68901	Macronychus glabratus	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77800	Helopelopia sp	+
78140	Labrundinia pilosella	+
78655	Procladius (Holotanypus) sp	+
81650	Parametriocnemus sp	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
83820	Microtendipes caelum (sensu Simpson & Bod	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84750	Stictochironomus sp	+
85500	Paratanytarsus sp	+
95100	Physella sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
46	15	26	0	68	1,719	36

	Taxa	Abundance/Presence	
01320	Hydra sp	21	
01801	Turbellaria	26	+
03600	Oligochaeta	0	+
08270	Orconectes (Rhoadesius) sloanii	0	+
11120	Baetis flavistriga	0	+
11130	Baetis intercalaris	0	+
11250	Centroptilum sp (w/o hindwing pads)	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11651	Procloeon sp (w/o hindwing pads)	14	
12200	Isonychia sp	0	+
13400	Stenacron sp	36	+
13521	Stenonema femoratum	62	+
17200	Caenis sp	74	+
18700	Hexagenia sp	0	+
22001	Coenagrionidae	0	+
22300	Argia sp	15	+
28208	Erythemis simplicicollis	0	+
28500	Libellula sp	0	+
50315	Chimarra obscura	0	+
51001	Polycentropodidae	1	
52200	Cheumatopsyche sp	0	+
52430	Ceratopsyche morosa group	0	+
52530	Hydropsyche depravata group	0	+
58505	Helicopsyche borealis	33	+
59300	Mystacides sp	6	
59700	Triaenodes sp	0	+
63300	Hydroporini	0	+
65800	Berosus sp	2	+
66500	Enochrus sp	0	+
68075	Psephenus herricki	3	+
68601	Ancyronyx variegata	2	
68708	Dubiraphia vittata group	0	+
68901	Macronychus glabratus	4	
69225	Optioservus fastiditus	1	+
69400	Stenelmis sp	0	+
70600	Antocha sp	8	
71900	Tipula sp	0	+
72700	Anopheles sp	0	+
77120	Ablabesmyia mallochi	12	+
77500	Conchapelopia sp	0	+
77800	Helopelopia sp	25	
78401	Natarsia species A (sensu Roback, 1978)	0	+
78655	Procladius (Holotanypus) sp	0	+
80370	Corynoneura lobata	37	
80410	Cricotopus (C.) sp	12	
82101	Thienemanniella taurocapita	25	
82730	Chironomus (C.) decorus group	0	+
82820	Cryptochironomus sp	0	+
83040	Dicrotendipes neomodestus	12	+
83840	Microtendipes pedellus group	86	+
84210	Paratendipes albimanus or P. duplicatus	510	+
84300	Phaenopsectra obediens group	25	
84450	Polypedilum (Uresipedilum) flavum	0	+
84460	Polypedilum (P.) fallax group	184	
84470	Polypedilum (P.) illinoense	12	
84540	Polypedilum (Tripodura) scalaenum group	37	+
84750	Stictochironomus sp	0	+
85230	Cladotanytarsus mancus group	0	+
85261	Cladotanytarsus vanderwulpi group sp 1	123	
85500	Paratanytarsus sp	61	
85625	Rheotanytarsus sp	49	+
85720	Stempellinella fimbriata	49	
85802	Tanytarsus n. sp. near curticornis	25	
85821	Tanytarsus glabrescens group sp 7	74	
87540	Hemerodromia sp	1	
95100	Physella sp	0	+
96900	Ferrissia sp	8	
97601	Corbicula fluminea	44	

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
37	18	29	0	63	4,091	54

	Taxa	Abundance/Presence	
01320	Hydra sp	26	
01801	Turbellaria	35	+
03360	Plumatella sp	0	+
03600	Oligochaeta	64	+
06201	Hyalella azteca	0	+
08601	Hydrachnidia	24	
11119	Plauditus dubius or P. virilis	10	
11120	Baetis flavistriga	88	+
11130	Baetis intercalaris	30	+
11250	Centroptilum sp (w/o hindwing pads)	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
12200	Isonychia sp	288	+
13000	Leucrocuta sp	17	+
13400	Stenacron sp	81	
13521	Stenonema femoratum	301	+
13540	Maccaffertium mediopunctatum	104	+
13561	Maccaffertium pulchellum	753	+
13570	Maccaffertium terminatum	12	
16700	Tricorythodes sp	51	+
17200	Caenis sp	1	+
18600	Ephemera sp	0	+
21200	Calopteryx sp	35	+
22001	Coenagrionidae	0	+
22300	Argia sp	3	+
24900	Gomphus sp	0	+
26700	Macromia sp	0	+
50315	Chimarra obscura	5	+
52200	Cheumatopsyche sp	269	+
52430	Ceratopsyche morosa group	182	+
53800	Hydroptila sp	25	+
58505	Helicopsyche borealis	0	+
59415	Nectopsyche exquisita	0	+
59500	Oecetis sp	8	
65800	Berosus sp	4	+
67800	Tropisternus sp	0	+
68075	Psephenus herricki	0	+
68601	Ancyronyx variegata	1	
68708	Dubiraphia vittata group	0	+
68901	Macronychus glabratus	25	
77500	Conchapelopia sp	29	
78450	Nilotanypus fimbriatus	29	
78655	Procladius (Holotanypus) sp	0	+
80370	Corynoneura lobata	77	
80410	Cricotopus (C.) sp	14	
80420	Cricotopus (C.) bicinctus	0	+
80430	Cricotopus (C.) tremulus group	14	
81250	Nanocladius (N.) minimus	14	
82101	Thienemanniella taurocapita	35	
82121	Thienemanniella lobapodema	8	
82141	Thienemanniella xena	26	
82220	Tvetenia discoloripes group	14	
83820	Microtendipes caelum (sensu Simpson & Bod	14	
83900	Nilothauma sp	0	+
84450	Polypedilum (Uresipedilum) flavum	502	+
85261	Cladotanytarsus vanderwulpi group sp 1	14	
85500	Paratanytarsus sp	29	
85615	Rheotanytarsus pellucidus	29	
85625	Rheotanytarsus sp	660	
85752	Sublettea coffmani	29	
86100	Chrysops sp	0	+
87540	Hemerodromia sp	1	
95100	Physella sp	102	+
96900	Ferrissia sp	9	

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
38	13	14	0	38		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
08250	Orconectes (Procericambarus) rusticus	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
22300	Argia sp	+
23909	Boyeria vinosa	+
45300	Sigara sp	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
59700	Triaenodes sp	+
63300	Hydroporini	+
68075	Psephenus herricki	+
68901	Macronychus glabratus	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71700	Pilaria sp	+
72340	Dixella sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
80370	Corynoneura lobata	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84750	Stictochironomus sp	+
85752	Sublettea coffmani	+
86100	Chrysops sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
41	14	11	1	41		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04964	Mooreobdella microstoma	+
05800	Caecidotea sp	+
05900	Lirceus sp	+
08270	Orconectes (Rhoadesius) sloanii	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
11250	Centroptilum sp (w/o hindwing pads)	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
27500	Somatochlora sp	+
45300	Sigara sp	+
47600	Sialis sp	+
50301	Chimarra aterrima	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52440	Ceratopsyche slossonae	+
52530	Hydropsyche depravata group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
59410	Nectopsyche diarina	+
60900	Peltodytes sp	+
67800	Tropisternus sp	+
68075	Psephenus herricki	+
68708	Dubiraphia vittata group	+
69225	Optioservus fastiditus	+
71900	Tipula sp	+
77500	Conchapelopia sp	+
80410	Cricotopus (C.) sp	+
82730	Chironomus (C.) decorus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84750	Stictochironomus sp	+
85800	Tanytarsus sp	+
95100	Physella sp	+
98200	Pisidium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
50	13	13	1	50		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
05900	Lirceus sp	+
08270	Orconectes (Rhoadesius) sloanii	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
11250	Centroptilum sp (w/o hindwing pads)	+
11430	Diphetor hageni	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
23600	Aeshna sp	+
23909	Boyeria vinosa	+
44501	Corixidae	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
60900	Peltodytes sp	+
65800	Berosus sp	+
66500	Enochrus sp	+
68130	Helichus sp	+
68901	Macronychus glabratus	+
69225	Optioservus fastiditus	+
71700	Pilaria sp	+
71900	Tipula sp	+
72340	Dixella sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
79400	Zavrelimyia sp	+
80420	Cricotopus (C.) bicinctus	+
80430	Cricotopus (C.) tremulus group	+
82730	Chironomus (C.) decorus group	+
82770	Chironomus (C.) riparius group	+
83003	Dicrotendipes fumidus	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84750	Stictochironomus sp	+
85230	Cladotanytarsus mancus group	+
85500	Paratanytarsus sp	+
85752	Sublettea coffmani	+
85800	Tanytarsus sp	+
85818	Tanytarsus glabrescens group sp 4	+
95100	Physella sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
31	5	6	0	31		

	Taxa	Abundance/Presence
00700	Radiospongilla crateriformis	+
01801	Turbellaria	+
03600	Oligochaeta	+
04664	Helobdella stagnalis	+
04935	Erpobdella punctata punctata	+
04964	Mooreobdella microstoma	+
08250	Orconectes (Procericambarus) rusticus	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
23600	Aeshna sp	+
27307	Epitheca (Epicordulia) princeps	+
52200	Cheumatopsyche sp	+
52530	Hydropsyche depravata group	+
59300	Mystacides sp	+
68708	Dubiraphia vittata group	+
69400	Stenelmis sp	+
82820	Cryptochironomus sp	+
83002	Dicrotendipes modestus	+
83040	Dicrotendipes neomodestus	+
83051	Dicrotendipes simpsoni	+
84210	Paratendipes albimanus or P. duplicatus	+
84540	Polypedilum (Tripodura) scalaenum group	+
84888	Xenochironomus xenolabis	+
85230	Cladotanytarsus mancus group	+
85625	Rheotanytarsus sp	+
93900	Elimia sp	+
95100	Physella sp	+
97601	Corbicula fluminea	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
41	9	10	0	41		

	Taxa	Abundance/Presence
00401	Spongillidae	+
01801	Turbellaria	+
03600	Oligochaeta	+
04666	Helobdella triserialis	+
04964	Mooreobdella microstoma	+
06700	Crangonyx sp	+
07820	Cambarus (Cambarus) sp A	+
11130	Baetis intercalaris	+
11620	Paracloeodes minutus	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
27001	Corduliidae	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
68075	Psephenus herricki	+
68130	Helichus sp	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71900	Tipula sp	+
74100	Simulium sp	+
77120	Ablabesmyia mallochi	+
77800	Helopelopia sp	+
80430	Cricotopus (C.) tremulus group	+
82820	Cryptochironomus sp	+
83040	Dicrotendipes neomodestus	+
84210	Paratendipes albimanus or P. duplicatus	+
84300	Phaenopsectra obediens group	+
84450	Polypedilum (Uresipedilum) flavum	+
84540	Polypedilum (Tripodura) scalaenum group	+
84700	Stenochironomus sp	+
85230	Cladotanytarsus mancus group	+
85261	Cladotanytarsus vanderwulpi group sp 1	+
93900	Elimia sp	+
95100	Physella sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
42	6	8	0	42		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
04935	Erpobdella punctata punctata	+
05800	Caecidotea sp	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
28208	Erythemis simplicicollis	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
53800	Hydroptila sp	+
60900	Peltodytes sp	+
65800	Berosus sp	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
71900	Tipula sp	+
74100	Simulium sp	+
77500	Conchapelopia sp	+
78655	Procladius (Holotanypus) sp	+
80420	Cricotopus (C.) bicinctus	+
80430	Cricotopus (C.) tremulus group	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
82820	Cryptochironomus sp	+
83003	Dicrotendipes fumidus	+
83840	Microtendipes pedellus group	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
85821	Tanytarsus glabrescens group sp 7	+
87540	Hemerodromia sp	+
95100	Physella sp	+
95907	Gyraulus (Torquis) parvus	+
96264	Planorbella (Pierosoma) pilsbryi	+
97601	Corbicula fluminea	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
38	7	8	0	38		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
04935	Erpobdella punctata punctata	+
04964	Mooreobdella microstoma	+
05800	Caecidotea sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
17200	Caenis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
27610	Epitheca (Tetragoneuria) cynosura	+
52200	Cheumatopsyche sp	+
52530	Hydropsyche depravata group	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
68708	Dubiraphia vittata group	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71900	Tipula sp	+
71910	Tipula abdominalis	+
74100	Simulium sp	+
77115	Ablabesmyia janta	+
77500	Conchapelopia sp	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
82820	Cryptochironomus sp	+
84210	Paratendipes albimanus or P. duplicatus	+
84300	Phaenopsectra obediens group	+
84315	Phaenopsectra flavipes	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84750	Stictochironomus sp	+
85500	Paratanytarsus sp	+
85625	Rheotanytarsus sp	+
85800	Tanytarsus sp	+
95100	Physella sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
43	6	6	1	43		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
04664	Helobdella stagnalis	+
04935	Erpobdella punctata punctata	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
68300	Cyphon sp	+
69400	Stenelmis sp	+
71900	Tipula sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
74501	Ceratopogonidae	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
78655	Procladius (Holotanypus) sp	+
80430	Cricotopus (C.) tremulus group	+
81650	Parametriocnemus sp	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
82730	Chironomus (C.) decorus group	+
82770	Chironomus (C.) riparius group	+
83003	Dicrotendipes fumidus	+
83040	Dicrotendipes neomodestus	+
84210	Paratendipes albimanus or P. duplicatus	+
84300	Phaenopsectra obediens group	+
84315	Phaenopsectra flavipes	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85500	Paratanytarsus sp	+
85615	Rheotanytarsus pellucidus	+
85625	Rheotanytarsus sp	+
86200	Tabanus sp	+
87501	Empididae	+
95100	Physella sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
43	9	13	0	43		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
04685	Placobdella ornata	+
04935	Erpobdella punctata punctata	+
05800	Caecidotea sp	+
05900	Lirceus sp	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11650	Procloeon sp (w/ hindwing pads)	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
23909	Boyeria vinosa	+
50315	Chimarra obscura	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
59720	Triaenodes ignitus	+
68075	Psephenus herricki	+
68601	Ancyronyx variegata	+
68901	Macronychus glabratus	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71900	Tipula sp	+
74100	Simulium sp	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
80204	Brillia flavifrons group	+
80420	Cricotopus (C.) bicinctus	+
81825	Rheocricotopus (Psilocricotopus) robacki	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
84750	Stictochironomus sp	+
85500	Paratanytarsus sp	+
85625	Rheotanytarsus sp	+
87540	Hemerodromia sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	18	29	0	63	7,053	52

	Taxa	Abundance/Presence	
01320	Hydra sp	17	
01801	Turbellaria	10	+
03600	Oligochaeta	0	+
08601	Hydrachnidia	0	+
11014	Acentrella turbida	0	+
11119	Plauditus dubius or P. virilis	14	+
11120	Baetis flavistriga	165	+
11130	Baetis intercalaris	206	+
11600	Paracloeodes fleeki	0	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	102	+
13000	Leucrocuta sp	10	
13100	Nixe sp	10	+
13400	Stenacron sp	90	
13521	Stenonema femoratum	44	+
13550	Maccaffertium mexicanum integrum	10	
13561	Maccaffertium pulchellum	280	+
13570	Maccaffertium terminatum	20	
13590	Maccaffertium vicarium	10	
16700	Tricorythodes sp	88	+
17200	Caenis sp	24	+
21200	Calopteryx sp	2	+
22001	Coenagrionidae	0	+
22300	Argia sp	1	+
26700	Macromia sp	0	+
43300	Ranatra sp	0	+
50315	Chimarra obscura	2	+
51600	Polycentropus sp	0	+
52200	Cheumatopsyche sp	279	+
52430	Ceratopsyche morosa group	950	+
52530	Hydropsyche depravata group	0	+
53501	Hydroptilidae	1	
59970	Petrophila sp	1	
65800	Berosus sp	0	+
68075	Psephenus herricki	0	+
68901	Macronychus glabratus	0	+
69400	Stenelmis sp	0	+
70600	Antocha sp	33	
72700	Anopheles sp	0	+
77120	Ablabesmyia mallochi	0	+
77500	Conchapelopia sp	75	+
78450	Nilotanypus fimbriatus	113	
80360	Corynoneura celeripes (sensu Simpson & Bo	32	
80370	Corynoneura lobata	160	
80410	Cricotopus (C.) sp	0	+
80430	Cricotopus (C.) tremulus group	0	+
82101	Thienemanniella taurocapita	160	+
82141	Thienemanniella xena	32	
82730	Chironomus (C.) decorus group	38	+
82820	Cryptochironomus sp	0	+
83300	Glyptotendipes (G.) sp	0	+
84300	Phaenopsectra obediens group	0	+
84450	Polypedilum (Uresipedilum) flavum	866	+
85261	Cladotanytarsus vanderwulpi group sp 1	0	+
85500	Paratanytarsus sp	0	+
85625	Rheotanytarsus sp	3,126	+
85800	Tanytarsus sp	0	+
85821	Tanytarsus glabrescens group sp 7	38	
94400	Fossaria sp	0	+
95100	Physella sp	0	+
96900	Ferrissia sp	44	+
97601	Corbicula fluminea	0	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
48	14	31	0	71	4,518	46

	Taxa	Abundance/Presence	
01320	Hydra sp	8	
01801	Turbellaria	6	+
03600	Oligochaeta	24	+
05900	Lirceus sp	1	
06700	Crangonyx sp	0	+
08250	Orconectes (Procericambarus) rusticus	0	+
08601	Hydrachnidia	0	+
11014	Acentrella turbida	0	+
11120	Baetis flavistriga	15	
11130	Baetis intercalaris	24	+
11650	Procloeon sp (w/ hindwing pads)	0	+
11670	Procloeon viridoculare	0	+
12200	Isonychia sp	32	
13400	Stenacron sp	176	+
13521	Stenonema femoratum	138	+
13540	Maccaffertium mediopunctatum	15	
13561	Maccaffertium pulchellum	138	+
13570	Maccaffertium terminatum	31	
16700	Tricorythodes sp	76	+
17200	Caenis sp	0	+
21200	Calopteryx sp	0	+
21300	Hetaerina sp	2	+
22001	Coenagrionidae	0	+
22300	Argia sp	7	
23909	Boyeria vinosa	0	+
26700	Macromia sp	0	+
45400	Trichocorixa sp	0	+
50315	Chimarra obscura	1	+
51600	Polycentropus sp	0	+
52200	Cheumatopsyche sp	88	+
52430	Ceratopsyche morosa group	93	+
53800	Hydroptila sp	4	
59700	Triaenodes sp	0	+
59970	Petrophila sp	1	
68075	Psephenus herricki	1	+
68130	Helichus sp	0	+
68601	Ancyronyx variegata	0	+
68901	Macronychus glabratus	2	+
69400	Stenelmis sp	2	+
70600	Antocha sp	17	+
74100	Simulium sp	0	+
77120	Ablabesmyia mallochi	35	+
77500	Conchapelopia sp	384	
77750	Hayesomyia senata or Thienemannimyia nore	0	+
78450	Nilotanypus fimbriatus	70	
78655	Procladius (Holotanypus) sp	0	+
78750	Rheopelopia paramaculipennis	35	
79085	Telopelopia okoboji	0	+
80310	Cardiocladius obscurus	0	+
80370	Corynoneura lobata	105	
80430	Cricotopus (C.) tremulus group	70	+
81825	Rheocricotopus (Psilocricotopus) robacki	35	
82101	Thienemanniella taurocapita	105	
82141	Thienemanniella xena	105	
82730	Chironomus (C.) decorus group	0	+
83003	Dicrotendipes fumidus	0	+
83040	Dicrotendipes neomodestus	35	
83840	Microtendipes pedellus group	35	
84210	Paratendipes albimanus or P. duplicatus	0	+
84450	Polypedilum (Uresipedilum) flavum	734	+
84460	Polypedilum (P.) fallax group	70	
84470	Polypedilum (P.) illinoense	0	+
84750	Stictochironomus sp	0	+
85500	Paratanytarsus sp	70	
85615	Rheotanytarsus pellucidus	35	
85625	Rheotanytarsus sp	1,153	+
85752	Sublettea coffmani	70	
85800	Tanytarsus sp	0	+
85818	Tanytarsus glabrescens group sp 4	245	+
87501	Empididae	9	
96900	Ferrissia sp	216	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
57	15	17	1	57		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
05900	Lirceus sp	+
08250	Orconectes (Procericambarus) rusticus	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11200	Callibaetis sp	+
11650	Procloeon sp (w/ hindwing pads)	+
13100	Nixe sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
22001	Coenagrionidae	+
22300	Argia sp	+
28705	Pachydiplax longipennis	+
50301	Chimarra aterrima	+
51600	Polycentropus sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
53800	Hydroptila sp	+
58505	Helicopsyche borealis	+
59300	Mystacides sp	+
60900	Peltodytes sp	+
63900	Laccophilus sp	+
65800	Berosus sp	+
66500	Enochrus sp	+
67800	Tropisternus sp	+
68075	Psephenus herricki	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
72700	Anopheles sp	+
77500	Conchapelopia sp	+
77750	Hayesomyia senata or Thienemannimyia nore	+
77800	Helopelopia sp	+
80310	Cardiocladius obscurus	+
80420	Cricotopus (C.) bicinctus	+
80430	Cricotopus (C.) tremulus group	+
81650	Parametriocnemus sp	+
82101	Thienemanniella taurocapita	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83003	Dicrotendipes fumidus	+
83040	Dicrotendipes neomodestus	+
83840	Microtendipes pedellus group	+
84300	Phaenopsectra obediens group	+
84470	Polypedilum (P.) illinoense	+
84540	Polypedilum (Tripodura) scalaenum group	+
84750	Stictochironomus sp	+
85261	Cladotanytarsus vanderwulpi group sp 1	+
85500	Paratanytarsus sp	+
85625	Rheotanytarsus sp	+
85752	Sublettea coffmani	+
85818	Tanytarsus glabrescens group sp 4	+
89704	Limnophora aequifrons	+
95100	Physella sp	+
96900	Ferrissia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	16	22	0	49		

	Taxa	Abundance/Presence
03600	Oligochaeta	+
04680	Placobdella sp	+
05900	Lirceus sp	+
06201	Hyalella azteca	+
06700	Crangonyx sp	+
08250	Orconectes (Procericambarus) rusticus	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11250	Centroptilum sp (w/o hindwing pads)	+
11670	Procloeon viridoculare	+
12200	Isonychia sp	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
22001	Coenagrionidae	+
23909	Boyeria vinosa	+
24900	Gomphus sp	+
34300	Neoperla clymene complex	+
50301	Chimarra aterrima	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
57400	Neophylax sp	+
59700	Triaenodes sp	+
59970	Petrophila sp	+
63300	Hydroporini	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68708	Dubiraphia vittata group	+
68901	Macronychus glabratus	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71100	Hexatoma sp	+
72340	Dixella sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77800	Helopelopia sp	+
83040	Dicrotendipes neomodestus	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84470	Polypedilum (P.) illinoense	+
84480	Polypedilum (P.) laetum group	+
84750	Stictochironomus sp	+
85500	Paratanytarsus sp	+
85800	Tanytarsus sp	+
93900	Elimia sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	18	20	0	49		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03360	Plumatella sp	+
03600	Oligochaeta	+
05900	Lirceus sp	+
06700	Crangonyx sp	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11650	Procloeon sp (w/ hindwing pads)	+
12200	Isonychia sp	+
13100	Nixe sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
13561	Maccaffertium pulchellum	+
17200	Caenis sp	+
18600	Ephemera sp	+
21200	Calopteryx sp	+
22300	Argia sp	+
24900	Gomphus sp	+
50301	Chimarra aterrima	+
50315	Chimarra obscura	+
51400	Nyctiophylax sp	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
57400	Neophylax sp	+
59700	Triaenodes sp	+
59970	Petrophila sp	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68708	Dubiraphia vittata group	+
68901	Macronychus glabratus	+
69400	Stenelmis sp	+
70600	Antocha sp	+
71900	Tipula sp	+
72340	Dixella sp	+
72700	Anopheles sp	+
74100	Simulium sp	+
77500	Conchapelopia sp	+
82730	Chironomus (C.) decorus group	+
82820	Cryptochironomus sp	+
83840	Microtendipes pedellus group	+
84210	Paratendipes albimanus or P. duplicatus	+
84315	Phaenopsectra flavipes	+
84450	Polypedilum (Uresipedilum) flavum	+
84470	Polypedilum (P.) illinoense	+
85261	Cladotanytarsus vanderwulpi group sp 1	+
85625	Rheotanytarsus sp	+
86100	Chrysops sp	+
98600	Sphaerium sp	+

Qual Taxa	Qual EPT	Sensitives	Coldwater	Total Taxa	Total Number	ICI
49	16	21	1	49		

	Taxa	Abundance/Presence
01801	Turbellaria	+
03600	Oligochaeta	+
05900	Lirceus sp	+
07870	Cambarus (Tubericambarus) sp	+
08250	Orconectes (Procericambarus) rusticus	+
08601	Hydrachnidia	+
11120	Baetis flavistriga	+
11130	Baetis intercalaris	+
11430	Diphetor hageni	+
13000	Leucrocuta sp	+
13400	Stenacron sp	+
13521	Stenonema femoratum	+
17200	Caenis sp	+
21200	Calopteryx sp	+
23909	Boyeria vinosa	+
34300	Neoperla clymene complex	+
48410	Corydalus cornutus	+
50301	Chimarra aterrima	+
52200	Cheumatopsyche sp	+
52430	Ceratopsyche morosa group	+
52530	Hydropsyche depravata group	+
57400	Neophylax sp	+
57900	Pycnopsyche sp	+
58505	Helicopsyche borealis	+
59720	Triaenodes ignitus	+
67750	Sperchopsis tesselatus	+
68075	Psephenus herricki	+
68130	Helichus sp	+
68700	Dubiraphia sp	+
68901	Macronychus glabratus	+
69225	Optioservus fastiditus	+
69400	Stenelmis sp	+
71910	Tipula abdominalis	+
74100	Simulium sp	+
74501	Ceratopogonidae	+
77500	Conchapelopia sp	+
77800	Helopelopia sp	+
81650	Parametriocnemus sp	+
82101	Thienemanniella taurocapita	+
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	+
93900	Elimia sp	+
94400	Fossaria sp	+
95100	Physella sp	+
98600	Sphaerium sp	+