

3R2N Aquatic Report: Allegheny River
Phase 3 - 2002

Fishes of Small Tributaries

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Fishes of Small Tributaries to the Allegheny and Monongahela
Rivers in Allegheny County, Pennsylvania

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3 Rivers 2nd Nature

STUDIO for Creative Inquiry

Carnegie Mellon University

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I. Abstract

The fish communities of thirty-five small streams with little or no available baseline fish data were sampled by backpack electrofishing in 2002. All were tributaries of the Allegheny and Monongahela Rivers in Allegheny County, Pennsylvania. A total of 1,886 fish of thirty-one species, weighing 54.4 pounds, were collected at these urban/suburban streams.

Of the eighteen streams sampled within the Allegheny River drainage, only four did not support some fish. Fish were present in fifteen of seventeen of the Monongahela River tributaries. A total of twenty-nine species of fish were collected in the tributaries of the Allegheny River, and sixteen species in the tributaries of the Monongahela River.

Blacknose dace were the most common fish in these small streams, and showed the widest distribution of any fish. Blacknose dace were present in twenty-four of the study streams, creek chub in twenty-two, and white suckers in twelve. Sensitive sculpin and darter species were present in eleven of the streams, and a state endangered species (river shiner) was found in Bailey Run. Trout were captured in four streams, Little Bull Creek, Bailey Run, Mingo Creek, and Pigeon Creek. Plum Creek had some nice smallmouth bass and Pine Creek had sauger and smallmouth, largemouth, and rock bass.

Index of Biotic Integrity scores were developed for twenty-nine streams. Six of these local streams had good scores, four had fair scores, three had poor scores, and sixteen had very poor scores. This information clearly indicates that numerous small streams in Allegheny County are still experiencing severe stresses, nonetheless; the results generally exceeded expectations.

II. Introduction

A. Purpose of Study

The purpose of this study is to support the Three Rivers Second Nature (3R2N) initiative by performing cursory fish population assessments of small streams in Allegheny County, Pennsylvania. The assessments will be used to characterize and rank the water quality and health of the ecosystems of these primarily urban and suburban streams. The general goals of the 3R2N initiative are to generate interest in protecting/restoring Allegheny County, PA urban streams, including those that are buried and/or culverted, and their riparian corridors for multiple benefits.

B. Authority

The authority for U.S. Army Corps of Engineers participation in this study is Section 22 of the Water Resources Development Act of 1974 (Public Law 93-25, as amended). This statute authorizes the Corps of Engineers to assist states and local governments in the preparation of plans for the development, utilization, and conservation of water and related land resources, and for recovering cost shares of the program from non-federal entities.

C. Sponsors and Participants

The 3R2N initiative is a partnership between Carnegie Mellon University's STUDIO for Creative Inquiry and the Three Rivers Wet Weather Demonstration Project (TRWW). This initiative is supported by the Allegheny County Health Department (ACHD) and the Allegheny County Sanitary Authority (ALCOSAN). The Allegheny County Health Department is the Section 22 Study cost-sharing signatory. The TRWW project was established in 1997 to assist fifty-one communities in Allegheny County, Pennsylvania, currently under regulatory scrutiny to eliminate Sanitary Sewer Overflows (CSOs). The program has expanded to assist all eighty-three communities in the ALCOSAN service area by funding wet weather remediation projects.

Other members on the 3R2N Advisory Board and partnership include the Pittsburgh Water and Sewer Authority, Pittsburgh City Planning, The

University of Pittsburgh, Chatham College, the Rocky Mountain Institute, and others. 3R2N has funding for five years from the Heinz Endowments and the Pittsburgh Foundation.

D. Tasks

This report was prepared by Michael Koryak, Robert Hoskin and Linda Stafford from the U.S. Army Corps of Engineers, Pittsburgh District, with the volunteer assistance of environmental consulting scientist Patrick Bonislowsky. The basic tasks to be performed by the U.S. Army Corps of Engineers, Pittsburgh District, in support of the 3R2N effort, are to conduct rapid biological assessments of stream locations within, or which drain into, waters of Allegheny County, PA. This data will then be used to characterize the quality of the study streams.

Bioassessments may be used within a planning and management framework to prioritize water quality problems for more stringent assessments and to document "environmental recovery" following control actions. Some of the advantages of using biosurveys for this type of monitoring are:

1. Biological communities reflect overall ecological integrity (i.e., chemical, physical, and biological integrity). Therefore, biosurvey results directly assess the status of a waterbody relative to the primary goals of the Clean Water Act.
2. Biological communities integrate the effects of different pollutant stressors and thus provide a holistic measure of their aggregate impact. Biological communities also integrate the stresses over time and provide an ecological measure of fluctuating environmental conditions. Assessing the integrated variable pollutant inputs offers a particularly useful approach for monitoring non-point source impacts and the effectiveness of certain Best Management Practices.
3. Routine monitoring of biological communities

can be relatively inexpensive, particularly when compared to the cost of assessing toxic pollutants, either chemically or with toxicity tests.

4. The status of biological communities is of direct interest to the public as a measure of a pollution free environment, while reductions in the chemical pollutant loadings are not as readily understood by the layperson as positive environmental results.
5. Where criteria for specific ambient impacts do not exist, biological communities may be the only practical means of evaluation (Plafkin et al., 1989).

The 3R2N bioassessment effort is primarily macroinvertebrate based. In 2001, aquatic invertebrates were sampled at thirty-five stations on thirty-three streams. In 2002, aquatic invertebrates were sampled at an additional twenty-three streams. Incidental observations during the spring 2001 aquatic invertebrate assessment field surveys of local urban/suburban streams demonstrated that many of the streams now support resident fish life. Also, even when resident fish communities of local degraded streams are depauperate, reaches with access can nonetheless be routinely used by transient species from the nearby navigation system (Koryak et al., 2001). Like invertebrates, fish can be used to assess stream quality. In addition, fish are familiar organisms, which are of great interest to the general public, and their status is more easily understood by layman as an index of quality. Therefore, it was recommended in the 2001 Phase 1 Interim Report that the 3R2N bioassessment be augmented with fish data. This report represents the implementation of that recommendation.

The advantages of using fish for bioassessment are (Plafkin et al., 1989):

1. Because they are relatively long-lived and mobile, fish are good indicators of long-term (several year) effects and broad habitat conditions.

2. Fish communities generally include a range of species that represent a variety of trophic levels (omnivores, herbivores, insectivores, planktivores, piscivores). They tend to integrate effects of lower trophic levels; thus, fish community structure is reflective of integrated environmental health.
3. Fish are the top of the aquatic food chain and are consumed by humans, making them important subjects in assessing contamination.
4. Fish are relatively easy to collect and identify to the species level. Most specimens can be sorted and identified in the field and released unharmed.
 - Environmental requirements of common fish are comparatively well known.
 - Life history information is extensive for most species.
 - Information on fish distribution is commonly available.
5. Aquatic life uses (water quality standards) are typically characterized in terms of fisheries (coldwater, coolwater, warmwater, sport, forage).
 - Monitoring fish communities provides direct evaluation of “fishability,” which emphasizes the importance of fish to anglers.
6. Fish account for nearly half of the endangered vertebrate species and subspecies in the United States.

E. Station Locations

Thirty-five study area streams were selected for examination. The selected streams were tributaries of the Allegheny and Monongahela Rivers with little or no previously documented baseline fish data, and which were small enough for backpack electrofishing sampling techniques to be effective. The locations of the stream stations sampled by backpack electrofishing in 2002 are described in table 1. The stations are essentially identical to the

reaches of these streams which were sampled for aquatic invertebrates in the 3R2N program.

Station sampling reaches were located as near as possible to the mouths of the study streams, in areas upstream of backwater influences of the navigation dams, and with at least one stony riffle in each sampling reach. At a number of stations, finding suitable unculverted reaches upstream of backwater from the navigation pools forced us to locate stations at considerable distances upstream from the mouths of the study streams. Because of these criteria, the 3R2N bioassessment stations (both invertebrate and fish) were not located in precisely the same stream reaches as the 3R2N tributary bacteriological stations, which were sampled in a separate study effort.

Exceptions to the “as close as possible to the mouth” criteria for selecting station locations are the special interest Thompson Run/Turtle Creek, Little Bull Creek, and Little Deer Creek stations, which were sampled near their confluences with other larger study streams. The Thompson Run station was located on Thompson Run upstream of the confluence of Thompson Run with Turtle Creek. A potential source of confusion in the stream nomenclature is the fact that there are at least four different streams in Allegheny County which are named Thompson Run. Two of these streams were sampled during the 2002 electrofishing survey. As previously mentioned, one of them is a tributary of Turtle Creek, which was sampled at a station in the community of Turtle Creek. The second Thompson Run is a tributary of the Monongahela River that was sampled in Duquesne, Pennsylvania. Throughout the text and tables of this report, the two will be differentiated as Thompson Run/Turtle Creek and Thompson Run/Duquesne. The Sandy Creek which is a tributary to the Allegheny River will be referred to as Sandy Creek. The Sandy Creek tributary to the Monongahela River will be differentiated as Sandy Creek/Curry Hollow. It is also important to make a distinction between two other study streams with similar names, Pine Creek and Pine Run.

The stations described in Table 1 include

reaches of Pine Creek and Pigeon Creek, drainage basin areas 67.3 and 59.2 square miles, respectively. However, even during the relatively moderate flow conditions experienced during the 2002 survey, these two streams were probably too large for effective sampling with only a backpack unit. Numerous fish were observed maneuvering around the electrodes and escaping capture in both streams. In addition, the very elevated specific conductivity of Pigeon Creek makes the effectiveness of electrofishing this stream problematic. Therefore, the results from these two streams cannot be presented as quantitative data comparable to the results from the other thirty-three streams sampled.

F. Methods

An operator utilized a Coffett Model BP-2 backpack shocker powered by a 120 watt generator to stun fish, which were collected by two netters. The netted fish were kept alive in five gallon buckets until they could be processed. Lengths to the nearest millimeter (mm) and weights to the nearest gram (g) were recorded for all sport fish, and all other large or unique fishes. Species of abundant smaller fish were length ranged, separated into size groups, and then group weighed. Except for some shiners (*Notropis spp.*) taken back to the laboratory for more careful identification, all fish were released after processing with negligible apparent mortality. The electrofishing effort, along with pertinent information on stream lengths, widths, and areas sampled, is summarized in table 1. Background water temperature, pH, dissolved oxygen, and conductivity conditions at each electrofishing station at the time of sampling can be found in Appendix A and Appendix B.

III. Results and Discussion

A. Historical Regional Fisheries Resources

Streams draining urban industrial portions of the upper Ohio River Valley can suffer from numerous insults including: a legacy of polluted drainage from past mining and industrial activities; leakage of sanitary wastes from old and poorly maintained sewer systems; combined storm/sanitary sewer overflows; shock loads of deicing chemicals from airports and highways following winter thaws; filling, channelization and culverting; dry weather desiccation from extensive drainage activities; and sudden and violent storm surges from impervious urban surfaces that tend to downcut channels and degrade habitat.

Previously, the waters of many of these smaller local urban streams, and also the Monongahela River and upper Ohio River to which they are tributary, were severely water quality limited (Shapiro et al. 1967) and did not support any significant fisheries. The demise of fishes from rivers of the region during the late nineteenth and most of the twentieth centuries has been examined in detail by the Ohio River Valley Water Sanitation Commission (1962), Preston and White (1978), Trautman (1981), Pearson and Krumholz (1994), and others. Species of smaller rivers and stream habitats persisted in more remote, unurbanized and unpolluted refuge headwaters. However, those species associated with large river ecosystems such as sauger (*Stizostedion vitreum*), spotted bass (*Micropterus punctulatus*), drum (*Aplodinotus grunniens*), mooneye (*Hiodon tergisus*), goldeye (*Hiodon alosoides*), river carpsucker (*Carpionodes carpio*), silver chub (*Hybopsis storeriana*), the buffalofishes (*Ictiobus spp.*), the sturgeons (*Acipenser fulvescens* and *Scaphirhynchus platyrhynchus*), paddlefish (*Polyodon spathula*) and others became locally extinct due to pollution. Historically, the water quality of five Corps of Engineers reservoirs and two large private utility hydropower reservoirs in the upper Ohio River drainage basin was so grossly degraded that these systems were completely devoid of fish life.

The improvements in water quality that began in the 1970s allowed fish to invade and

recolonize reclaimed waters. This restoration of local river fisheries has been discussed by Preston and White (1978), Pearson and Krumholz (1984), Koryak and Hoskin (1994), and others. The first species to appear were those that had persisted in upstream refuges. Recolonization by many of the large river species occurred later and apparently originated from distant downstream areas.

Holland et al. (1984) showed that, depending on their design and operation, navigation dams on larger rivers can be relatively pervious to fish passage. Our observations of recolonization rates along the mainstem Ohio River, lower Monongahela River and lower Allegheny River, which have very heavy commercial barge traffic and frequent year-round lockages, suggest that fishes can generally move upstream through the navigation locks. Along the five pools of the upper Allegheny River navigation system, however, where winter and spring lockages are very infrequent, extirpated fishes were not recolonizing the upstream navigation pools until a program of fish passage lockages was initiated.

Formerly extirpated species of fish are also returning to smaller tributaries of the Allegheny, Monongahela, and Ohio Rivers. As water quality conditions continue to improve, this process of recolonization now appears to include, or has the potential to include, utilization of even small recovering local urban and suburban streams by resident and transient populations of fishes.

B. Results and Discussion of the 2002 Fish Survey

Photographs of each station reach, chemical water quality data and the complete results of aquatic invertebrate bioassessments for each of the thirty-five electrofishing stations sampled in 2002 are available in two 3R2N companion reports (Koryak et al., 3R2N 2001 and 2002 Reports).

Fish species distribution in tributaries of the Monongahela and Allegheny Rivers are shown in tables 2 and 3, respectively. Catch per unit effort information for the Monongahela and Allegheny River tributaries is summarized in table 4 and table 5, respectively. Individual Monongahela River tributary

station fish collection data is contained in Appendix A. This same information for the Allegheny River is contained in Appendix B.

A total of 1,886 fish of thirty-one species (seven families), weighing 24.7 kilograms (54.4 pounds), were collected at thirty-five urban/suburban small stream stations. The total electrofishing effort was 5.23 hours. A total of 1,103 fish weighing 16.45 kilograms (36.3 pounds) were captured from eighteen tributaries of the Allegheny River with 168 minutes of effort. In seventeen tributaries of the Monongahela River which were sampled, 783 fish weighing 8.25 kilograms (18.2 pounds) were captured with 145 minutes of effort. The combined catch rate in the Allegheny River tributaries was 393 fish/hour and 5.86 kilograms/hour. Catch values for the tributaries of the Monongahela River were 324 fish/hour and 3.41 kilograms/hour. Of eighteen streams surveyed within the Allegheny River drainage portion of Allegheny County, only four did not support some fish. Fish were present at fifteen of the seventeen stream stations sampled in the Monongahela River drainage portion of Allegheny County. A total of twenty-nine species of fish were collected in the tributaries of the Allegheny River, and sixteen species in the tributaries of the Monongahela River. Freshwater drum and quillback were the only two species collected in the Monongahela River tributaries which were not collected in Allegheny River tributaries.

In addition to the thirty-one species of fish collected during the 2002 3R2N surveys which are listed in Appendix C, other species of fish recently reported from small Allegheny County streams include brook trout (*Salvelinus fontinalis*), gizzard shad (*Dorosoma cepedianum*), channel catfish (*Ictalurus punctatus*), white bass (*Morone chrysops*), green sunfish (*Lepomis cyanellus*), shorthead redhorse (*Moxostoma macrolepidatum*), and black redhorse (*Moxostoma duquesnei*) (Koryak et al., 2001). Because of the proximity of these streams to the navigation system, probably a minimum of 40 different species of fish might be expected to at least occasionally utilize their lower reaches.

Blacknose dace were the most common fish in these streams, and showed the widest distribution of any species. Blacknose dace were present in twenty-four of the study streams, creek chubs in twenty-two and white suckers in twelve. Stonerollers and rainbow darters were both found in ten of the streams. Bluntnose minnows occurred in nine and fantail darters in eight. Sensitive sculpin and/or darter species were present in eight of the Allegheny River tributaries and three of the Monongahela River tributaries. Numerically, blacknose dace were 62.6% of all fish collected in tributaries of the Monongahela River, and blacknose dace, creek chubs and white suckers combined were 93.0% of the total. In the tributaries of the Allegheny River, blacknose dace were 14% of the total, and blacknose dace, creek chubs, and white suckers combined accounted for 30.7% of the basin total. This trio of urban stream fishes—creek chub, white sucker and blacknose dace in particular—are also locally the characteristic fish fauna of very small non-degraded streams and headwater habitats. In addition to their tolerance of chemical pollutants, it would appear that their general adaptations to the hydrologic and hydraulic stresses of headwater streams permit them to also thrive in the modified channels and under the extreme hydrologic conditions found in urbanized drainages. In these urban situations, they were observed to maintain dominance in even relatively large impacted streams.

The streams with the greatest diversity of fishes were Little Bull Creek (sixteen species), Bailey Run (fifteen species), Plum Creek (fifteen species), Pucketa Creek (ten species), Squaw Run (ten species) and Mingo Creek (ten species). With the exception of Mingo Creek, which drains into the Monongahela River, all of these high diversity streams are tributaries of the Allegheny River. In the Allegheny River drainage, 44% of the tributaries had three or less species of fish, and 76% of the Monongahela River tributaries had three or less fish species. Guys Run (D.A. 2.05 mi²), Quigley Creek (D.A. 1.10 mi²), Falling Springs Run (D.A. 0.14 mi²) and Blacks Run (D.A. 0.63 mi²), in the Allegheny River

drainage had no fish at all. In the Monongahela River drainage, Homestead Run (D.A. 2.34 mi²) and Tasse Hollow (D.A. < 1.0 mi²) did not support any fish life. The absence of fish from Falling Springs Run, Blacks Run and Tasse Hollow might be related to the small sizes of these streams (drainage areas less than one square mile).

Stream size is a factor that influences the potential for fish diversity. With this in mind, and the limitations of backpack electrofishing in larger streams which was discussed in Section I.E., it could be assumed that the diversity of Pine Creek and Pigeon Creek is underrepresented. Both of these large streams probably support much greater fish diversity than is indicated by the 2002 sampling data.

In terms of sport fish and recreational angling potential, trout were captured in Little Bull Creek, Bailey Run and Mingo Creek, and observed in Pigeon Creek (one dead rainbow trout). The smallmouth bass population found in Plum Creek was surprising and exceptional for a small local suburban stream. Smallmouth bass up to 342 mm long (13.5 inches) were captured. The smallmouth population in Plum Creek was estimated to be ninety-three fish/hectare (25.8 kilogram/hectare). There were also rock bass and sunfish in Plum Creek. In Pine Creek, smallmouth bass, largemouth bass, rock bass and sauger were collected, and other sport species likely are present. Also, for youth anglers and sometimes not so young fisherman, even creek chubs which were found in twenty-two of the thirty-five streams sampled, can provide an angling experience in the urban/suburban environment.

Within Allegheny County, the Pennsylvania Fish and Boat Commission (PFBC) now manages Big Sewickley Creek, Bull Creek, Deer Creek (including Deer Lakes), Flaugherty Run, Long Run, Pine Creek (including North Park Lake) and upper Turtle Creek as “approved trout waters.” Mingo Creek, while in Westmoreland County, flows into the Monongahela River adjacent to the Allegheny County line and is also an “approved trout water” stream. Montour Run will likely be added to this list in 2003. Upper Turtle Creek, upstream of Trafford, was previously

managed for trout by the PFBC. It lost its status because of recurring incidents of severe acid mine drainage pollution, but was then returned to the list of managed coldwater fisheries of Allegheny County in 2002. In addition to officially “approved trout waters,” trout have been stocked by sportsmen’s clubs, watershed associations and others in Little Sewickley Creek, upper Turtle Creek, Montour Run and perhaps in other locations within the county. The trout observed in Little Bull Creek, Bailey Run and Pigeon Creek occurred in streams which are not stocked or managed for trout by the PFBC.

C. Condition Score Ranking

To further characterize the fisheries of the 3R2N study streams, Index of Biotic Integrity (IBI) scores were computed from data collected by electrofishing at thirty of the thirty-five streams. IBIs were not computed for Tasse Hollow, Blacks Run, or Falling Springs Run because these stations are probably too small to regularly support fish. Nor were IBIs computed for Pigeon or Pine Creeks because these two streams were too large to collect data suitable for IBI development by the backpack electrofishing methods utilized. Table 6 is a list of the IBI metrics employed. The metrics and drainage area weighted scores were determined from criteria established by the Ohio Environmental Protection Agency (OEPA, 1988), with some modification for local conditions. The most significant modification was the introduction of a negatively weighted “Percent Blacknose Dace” metric. Blacknose dace are a clear indicator of stress in the local small urban stream environment. This species was therefore used as an indicator in the same manner that green sunfish were used by Karr et al. (1986) in Upper Midwestern stream IBI development.

The cumulative IBI scores for the 3R2N streams are shown in table 7. Cumulative score ratings of >50 are exceptional, 35-49 good, 25-34 fair, 15-24 poor, and <14 very poor. Six local streams had good scores: Little Bull Creek (48), Plum Creek (46), Bailey Run (42), Little Pucketa Creek (40), Mingo Creek (38) and Guyasuta Run (38). Four streams had

fair scores: Crawford Run (34), Pucketa Creek (34), Kelley Run (26) and Squaw Run (26). Three streams had poor scores: Perry Mill Run (22) Sandy Creek (18) and Pine Run (16). The scores of the remaining sixteen streams were all very poor. Streams with no fish, or essentially no fish, cannot be rated by the IBI technique. Homestead Run, Quigley Creek and Guys Run, which had no fish, were assigned values of 0. Thompson Run/Duquesne, which had only one white sucker, and Peters Creek, which had only two apparently transient individuals, were both assigned IBI values of 10.

sampling of the Ohio and Allegheny Rivers between Wheeling, West Virginia and the reach of the lower Allegheny River in Allegheny County, PA near Twelve Mile Island (in the vicinity of Allegheny River Mile Point 14). They captured no river shiners in 2001, but in 2002 collected thirty-two specimens near Allegheny River mile 14. The confluence of Bailey Run is at Allegheny River Mile Point 20.4.

D. Rare and Endangered Fish Species

Two individuals of one species of fish which is classified as endangered within the Commonwealth by the Pennsylvania Fish and Boat Commission, the river shiner (*Notropis blennioides*), were collected in Bailey Run near its mouth on 23 May 2002. The river shiner ranges throughout the Mississippi River and Hudson Bay watersheds. Trautman (1981) found it to be an abundant species along the lower Ohio River, downstream of the confluence of the Scioto River, but in Pennsylvania the river shiner has been reported only sporadically in the Monongahela and Ohio Rivers since 1886 (Cooper, 1983). It is a fish that nearly exclusively inhabits large rivers. Trautman (1981) observed that the river shiner occurred commonly in Ohio River tributaries only at their mouths. For example, on the Scioto River in Ohio, despite intensive seining, none were collected farther upstream than four miles from the mouth of this Ohio River tributary. The individuals collected in Bailey Run, therefore, can be considered to be a big river species transient from the nearby Allegheny River.

The identification of the captured river shiners was confirmed by certified fisheries professional and consulting environmental scientist Patrick Bonislowsky, and the specimens were preserved for reference. Independent confirmation of river shiner recolonization of the waters of the Allegheny watershed by other researchers occurred almost simultaneously. In both 2001 and 2002, Argent and Kimmel (2002) conducted extensive fish

IV. Conclusions

Most of the small streams in Allegheny County now contain fish, even in their lower reaches where they are most likely to have accumulated multiple insults from urbanization, industrialization, mineral extraction activities and transportation corridor development and maintenance. IBI computations show that in spite of their locations and histories in a busy urban-industrial environment, nearly a third of those small streams supported fair to good fish communities. A few even have recreational fishery potential, and one contained a state endangered fish species. Acknowledging that many local streams are seriously degraded, the results are still encouraging. While they were once generally viewed to be public nuisances, and flooding and public health liabilities, we believe that the results of this study demonstrate a great potential for these streams to become valued community assets.

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VI. Tables and Figures

Table 1. Three Rivers Second Nature, Stream Stations Sampled by Electrofishing in 2002.

Table 2. Three Rivers Second Nature, Fish Species Distribution in Tributaries of the Monongahela River in Allegheny County, Pennsylvania, June-July 2002.

Table 3. Three River Second Nature, Fish Species Distribution in Tributaries of the Allegheny River in Allegheny County, Pennsylvania, May-June 2002.

Table 4. Three Rivers Second Nature, Fish Catch per Unit Effort in Tributaries of the Monongahela River, Allegheny County, Pennsylvania, June-July 2002.

Table 5. Three Rivers Second Nature, Fish Catch per Unit Effort in Tributaries of the Allegheny River, Allegheny County, Pennsylvania, May-July 2002.

Table 6. Index of Biotic Integrity (IBI) Metrics.

Table 7. Comparison of Fishery Index of Biotic Integrity (IBI) Values for Tributaries of the Monongahela and Allegheny Rivers in Allegheny County, Pennsylvania, 2002.

Figure 1. Number of Fish Species Collected in 2002 at Each Sampling Site of the Allegheny and Monongahela River Tributaries in Allegheny County, Pennsylvania.

Figure 2. Fishery Index of Biotic Integrity (IBI) Values, 2002.

Table 1
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Girtlys Run	Pine Creek	Sipes Run	Guyasuta Run	Squaw Run
TRIBUTARY TO	Allegheny River, Right Bank, River Mile 3.5	Allegheny River, Right Bank, River Mile 4.7	Allegheny River, Right Bank, River Mile 6.1	Allegheny River, Right Bank, River Mile 6.6	Allegheny River, Right Bank, River Mile 8.7
TOTAL DRAINAGE AREA *(mi ²)	13.4	67.3		0.98	8.56
STATION LOCATION	Millvale, Pa	Etna, Pa	Sharpsburg, PA	Sharpsburg, PA	Freeport Road Bridge in O'Hara
STATION NUMBER	0010	0006	0008	0004	0122
STREAM WIDTH ALONG STATION REACH (ft)	21.6	51.8	14.8	11.4	19.2
	12.4	42.9	5.9	4.2	11.3
	21.1	48.3	10.9	7.1	15.5
	195	198	188	219	105
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	0.094	0.219	0.047	0.036	0.037
	75	70	70	80	70
	25	30	30	20	30
	7	18	6	12	12
LATITUDE	40 28 41	40 29 37	40 29 49	40 29 38	40 29 19
LONGITUDE	79 58 29	79 56 30	79 55 29	79 54 43	79 52 42

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Sandy Creek	Quigley Creek	Plum Creek	Guys Run	Falling Springs Run
TRIBUTARY TO	Allegheny River, Left Bank, River Mile 9.6	Allegheny River, Left Bank, River Mile 10.25	Allegheny River, Left Bank, River Mile 11.4	Allegheny River, Right Bank, River Mile 11.9	Allegheny River, Left Bank, River Mile 12.3
TOTAL DRAINAGE AREA *(mi ²)	3.37	1.10	20.6	2.05	0.14
STATION LOCATION	Allegheny River Blvd. Bridge in Penn Hills, Pa	Allegheny River Blvd. Bridge in Penn Hills, Pa	Off Hunters Road in Verona/Oakmont, Pa	Off Guys Run Road Upstream of Harmar Mine Site and Ice Harbor, in Harmarsville, Pa	Above Oakmont Water Treatment Plant in Oakmont/Plum, Pa
STATION NUMBER	0080	0082	0086	0118	0088
STREAM WIDTH ALONG STATION REACH (ft)	17.3	10.5	33.4	13	6.0
	13.1	2.1	20.9	11.2	2.0
	14.9	6.2	28.1	12.1	2.9
LENGTH	105	98	164	120	129
AREA	0.036	0.014	0.106	0.033	0.008
RIFFLE/RUN (%)	93	90	86	80	70
POOL (%)	7	10	14	20	30
TIME (MIN)	4.5	3.5	18	4	2.5
LATITUDE	40 29 06	40 29 27	40 30 41	40 32 10	40 31 48
LONGITUDE	79 51 21	79 50 54	79 50 29	79 50 58	79 50 09

rainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Blacks Run	Tawney Run	Riddle Run	Pucketa Creek	Little Pucketa Creek
TRIBUTARY TO	Allegheny River, Left Bank, River Mile 14.6	Allegheny River, Right Bank, River Mile 15.7	Allegheny River, Right Bank, River Mile 17.1	Allegheny River, Left Bank, River Mile 17.9	Pucketa Creek
TOTAL DRAINAGE AREA *(mi ²)	0.63	2.61	1.63	36.5 (Total including Little Pucketa)	10.7
STATION LOCATION	Near Allegheny River Lock and Dam #3 in Plum Twp, Pa	Off Old Freeport Road in Springdale, Pa	Off Riddle Run Rd. in Springdale Twp, Pa	Upstream of the Confluence of Little Pucketa Creek in Plum/Lower Burrell, Pa	Upstream of the Confluence with Pucketa Creek in New Kensington, Pa
STATION NUMBER	0090	0110	0108	0092	0094
STREAM WIDTH ALONG STATION REACH (ft)	11.5	15.0	11.5	54.4	27.0
MINIMUM	4.3	7.1	5.1	35.0	15.4
MEAN	7.7	11.6	8.7	45.2	21.3
LENGTH	123	106	125	110	104
AREA	0.021	0.028	0.025	0.114	0.051
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	75	80	90	60	90
POOL (%)	25	20	10	40	10
TIME (MIN)	4	9	8	12	11
LATITUDE	40 32 00	40 32 19	40 32 44	40 33 05	40 33 31
LONGITUDE	79 48 47	79 47 36	79 46 17	79 45 09	79 45 34

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Crawford Run	Bailey Run	Little Bull Creek	Becks Run	Streets Run
TRIBUTARY TO	Allegheny River, Right Bank, River Mile 20.2	Allegheny River, Right Bank, River Mile 20.4	Bull Creek	Monongahela River, Left Bank, River Mile 4.5	Monongahela River, Left Bank, River Mile 6.0
TOTAL DRAINAGE AREA *(mi. ²)	1.80	4.17	11.6		10.0
STATION LOCATION	Off Old Freeport Road in East Deer Twp (Creighton), Pa	Off Old Freeport Road in East Deer Twp (Creighton), Pa	Immediately Upstream of the confluence of Bull Creek in Harrison, Pa	Pittsburgh, Pa	Hays in Pittsburgh, Pa Upstream of the Confluence of Glass Run
STATION NUMBER	0106	0104	0098	0016	0020
STREAM WIDTH ALONG STATION REACH (ft)	10.6	13.5	24.7	14.3	18.2
	5.5	8.2	16.8	5.8	12.1
	8.2	10.1	21.6	9.3	13.9
	126	130	96	240	383
	0.024	0.030	0.048	0.051	0.122
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	60	80	90	70	85
	40	20	10	30	15
	9	10	18	6	8.5
STATION COORDINATES	40 35 13	40 35 17	40 36 37	40 24 42	40 23 03
	79 46 37	79 46 39	79 45 17	79 57 33	79 55 57

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	West Run	Homestead Run (AKA Whitaker Run)	Tassey Hollow	Thompson Run (Turtle Creek)	Thompson Run (Duquesne)
TRIBUTARY TO	Monongahela River, Left Bank, River Mile 6.8	Monongahela River, Left Bank, River Mile 8.8	Monongahela River, Right Bank, River Mile 9.7	Turtle Creek, Left Bank, Stream Mile 1.8	Monongahela River, Left Bank, River Mile (12.1?)
TOTAL DRAINAGE AREA *(mi ²)	1.53	2.34		17.9	5.46
STATION LOCATION	Homestead, Pa	Munhall, Pa	Station Along Wilkins Ave in Braddock Hills, Pa	Turtle Creek, Pa	Duquesne, Pa
STATION NUMBER	0022	0024	0026	0054	0034
STREAM WIDTH ALONG STATION REACH (ft)	11.1	12.2	5.3	26.1	21.5
	3.2	3.1	1.8	13.5	11.9
	8.1	8.4	3.1	20.8	16.8
	315	247	191	191	161
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	0.058	0.048	0.013	0.091	0.062
	85	55	80	100	70
	15	45	20	0	30
	8.5	3.5	3.5	11.5	7
STATION COORDINATES	40 24 05	40 24 19	40 24 53	40 24 42	40 22 43
	79 55 00	79 53 48	79 51 54	79 49 29	79 51 02

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Crooked Run	Sandy Creek (Curry Hollow)	Pine Run	Peters Creek	Peters Creek
TRIBUTARY TO	Monongahela River, Right Bank, River Mile 14.2	Monongahela River, Right Bank, River Mile 17.0	Monongahela River, Left Bank, River Mile 18.6	Monongahela River, Left Bank, River Mile 19.7	Monongahela River, Left Bank, River Mile 19.7
TOTAL DRAINAGE AREA * (mi ²)	3.63			51.5	51.5
STATION LOCATION	McKeesport, Pa	Dravosburg, Pa	Coal Valley in West Mifflin, Pa	Clairton, Pa Upstream of the WWTP	Clairton, Pa Downstream of the WWTP
STATION NUMBER	0056	0038	0040	0042	0043
STREAM WIDTH ALONG STATION REACH (ft)	12.4	11.2	18.3	42.5	44.5
	2.2	5.9	9.3	25.9	33.3
	8.1	8.0	12.0	37.7	38.6
LENGTH OF STATION	174	143	194	86	146
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	0.032	0.026	0.053	0.074	0.129
	90	100	100	100	90
	10	0	0	0	10
	4	5	15		10 Total
STATION COORDINATES	40 21 33	40 20 38	40 19 16	40 18 04	40 18 13
	79 49 53	79 53 37	79 54 07	79 53 11	79 52 56

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 1 (cont'd)
Stream Stations Sampled by Electrofishing in 2002

STREAM NAME	Lobbs Run	Perry Mill Run	Kelley Run	Mingo Creek	Dry Run	Pigeon Creek
TRIBUTARY TO	Monongahela River, Left Bank, River Mile 24.5	Monongahela River, Right Bank, River Mile 25.0	Monongahela River, Right Bank, River Mile 25.8	Monongahela River, Left Bank, River Mile 29.8	Monongahela River, Left Bank, River Mile 31.1	Monongahela River, Left Bank, River Mile 32.4
TOTAL DRAINAGE AREA * (mi ²)	3.92	4.02	2.25	22.2	1.99	59.2
STATION LOCATION	Calamity Hollow in Floreffe, Pa	Pangborn Hollow in Forward Twp, Pa	East of Bunola in Forward Twp, Pa	River View/ New Eagle, Pa	Monongahela, Pa	Monongahela, Pa
STATION NUMBER	0044	0068	0066	0050	0078	0058
STREAM WIDTH ALONG STATION REACH (ft)	9.9	14.8	7.2	44.3	12.1	41.3
	3.9	7.2	4.2	14.9	5.1	29.3
	7.4	10.5	5.9	31.2	8.1	35.7
	145	242	166	76	184	121
LENGTH OF STATION (ft), AREA (acres), HABITAT, AND SAMPLING TIME	0.025	0.058	0.022	0.054	0.034	0.099
	80	60	80	85	70	60
	20	40	20	15	30	40
	9	10	8.5	10	11	11
STATION COORDINATES	40 15 31	40 15 03	40 14 33	40 12 09	40 12 30	40 11 09
	79 55 02	79 54 42	79 55 29	79 58 26	79 57 51	79 56 05

*Drainage areas are from the Pennsylvania Gazetteer of Streams

Table 2
 Three Rivers Second Nature, Fish Species Distribution in Tributaries of the
 Monongahela River in Allegheny County, Pennsylvania, June- July 2002.

	Becks Run	Streets Run	West Run	Homesstead Run	Thompson Run (Duquesne)	Sandy Creek (Curry Hollow)	Pine Run	Peter Creek	Lobbs Run	Mingo Creek	Dry Run	Pigeon Creek	Tassey Hollow	Thompson Run (Turtle Creek)	Crooked Run	Perry Mill Run	Kelley Run	Total # Of Surveys
Rainbow trout										X		X						2
Brown trout										X								1
Smallmouth bass												X						1
Carp								X				X						2
Freshwater drum								X										1
Quillback										X								1
White sucker					X		X		X							X	X	6
Hog sucker										X								1
Bluntnose minnow										X								1
Creek chub	X	X	X				X		X	X	X			X	X	X	X	11
Blacknose dace	X	X	X				X		X	X	X			X	X	X	X	12
Notropis species												X						1
Common shiner										X								1
Stoneroller																X		1
Rainbow darter										X						X	X	3
Fantail darter										X							X	2
TOTAL	2	2	2	0	1	1	3	2	3	10	2	5	0	2	2	5	5	16

Table 3
Fish Species Distribution in Tributaries of the Allegheny River in Allegheny County,
Pennsylvania, May-June 2002.

	Crawford Run	Riddle Run	Tawney Run	Gays Run	Little Bull Creek	Bailey Run	Sandy Creek	Quigley Creek	Squaw Run	Guyasata Run	Sipes Run	Pine Creek	Girtys Run	Plum Creek	Fallen Springs Run	Blacks Run	Pucketa Run	Little Pucketa Run	Total # Of Surveys
Rainbow trout					X	X													2
Brown trout						X													1
Smallmouth bass												X		X					2
Largemouth bass												X							1
Bluegill					X				X										2
Hybrid sunfish														X					1
Rock bass												X		X					2
Sauger												X							1
Carp												X							1
White sucker			X		X	X			X					X		X			6
Hog sucker					X				X					X		X			4
Golden redbhorse					X														1
Bluntnose minnow	X				X	X			X					X		X		X	8
Fathead minnow	X													X					2
Creek chub	X	X	X		X	X	X		X	X	X					X	X	X	11
Blacknose dace	X	X	X		X	X	X		X	X	X		X			X	X	X	12
Longnose dace					X	X			X	X			X						6
Emerald shiner					X	X											X		3
Sand shiner					X	X						X		X		X	X		6
Mimic shiner	X				X	X											X		4
Roseface shiner	X																		1
Spotfin shiner						X								X					2
River shiner						X													1
Common shiner						X						X		X			X	X	4
Stoneroller	X				X	X	X		X	X				X		X	X		9
Mottled sculpin									X					X					2
Rainbow darter	X				X				X	X				X			X	X	7
Fantail darter	X				X	X								X			X	X	6
Greenside darter					X														1
TOTAL	9	2	3	0	16	15	4	0	10	5	2	7	2	15	0	0	10	9	29

Table 4
Fish Catch per Unit Effort in Tributaries of the Monongahela River, Allegheny County
Pennsylvania, June-July 2002.

Fish Totals	Becks Run	Streets Run	West Run	Homestead Run	Thompson Run (Duquesne)	Sandy Creek (Curry Hollow)	Pine Run	Peters Creek	Lobbs Run	Mingo Creek	Dry Run	Pigeon Run*	Tassey Hollow	Thompson Run	Crooked Creek	Perry Mill Run	Kelly Run	Maximum	Minimum	Mean
Number / hour	30	380	239	0	9	24	324	18	647	449	802	0	432	299	545	739	802	9	308	
Kilograms / hour	0.08	0.91	1.95	0	0.77	0.11	7.42	15.18	2.59	6.27	2.63	0	0	1.96	3.68	1.56	15.18	0.08	3.17	
Number / hectare	145	1,092	1,434	0	40	188	3,745	37	9,730	3,404	9,677	0	2,249	1,527	3,855	11,539	11,539	37	3,041	
Kilograms / hectare	0.39	2.61	11.69	0	3.58	0.85	85.81	30.87	38.92	47.53	31.78	0	13.71	10.00	26.05	24.29	85.81	0.39	20.50	
Number of species	2	2	2	0	1	1	3	2	3	10	2	5	0	2	5	5	10	0	2,76	
% Tot Wt Sport fish	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	68.10%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	68.1%	0.0%	4.2%	
% Tot Wt Carp/Sucker	0.0%	0.0%	0.0%	0.0%	100%	0.0%	68.48%	100%	0.77%	18.72%	0.0%	0.0%	0.0%	0.0%	46.67%	17.19%	100%	0.0%	22.0%	
% Tot Wt Minnows	100%	100%	100%	0.0%	0.0%	100%	31.52%	0.0%	99.23%	7.93%	100%	0.0%	0.0%	100%	52.68%	80.09%	100%	0.0%	60.7	
% Tot Wt Darters	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.25%	0.0%	0.0%	0.0%	0.0%	0.65%	2.71%	5.25%	0.0%	0.54	

* - Pigeon Creek- collection effort was negatively influenced by conductivity of 2,352 umhos/cm.

Table 5
Fish Catch per Unit Effort in Tributaries of the Allegheny River, Allegheny County, Pennsylvania, May-July 2002.

	Crawford Run	Riddle Run	Tawney Run	Cuys Run	Little Bull Creek	Bailey Run	Sandy Creek	Qigley Creek	Squaw Run	Guyasuta Run	Sipes Run	Pine Creek	Carty's Run	Plum Creek	Falling Springs Run	Blacks Run	Pucketa Run	Little Pucketa Run	Maximum	Minimum	Mean
Number / hour	533	180	387	0	687	371	427	0	335	335	90	47	137	273	0	0	1,045	967	1,045	0	323
Kilograms / hour	2.73	1.23	1.80	0	4.48	7.50	0.51	0	6.87	1.72	0.72	24.36	0.44	9.31	0	0	4.33	0.90	24.36	0	2.36
Number / hectare	6,326	2,375	5,077	0	5,968	5,083	2,202	0	4,431	4,638	473		419	1,915	0	0	4,524	8,600	8,600	0	3,06
Kilograms / hectare	32.42	16.23	23.64	0	38.97	102.72	2.61	0	90.80	23.81	3.78		1.36	65.21	0	0	18.73	8.02	102.72	0	25.19
Number of species	9	2	3	0	16	15	4	0	10	5	2	7	2	15	0	0	10	9	16	0	6,06
% Tot Wt Sport fish	0.0%	0.0%	0.0%	0.0%	45.35%	54.19%	0.0%	0.0%	1.31%	0.0%	0.0%	19.92%	0.00%	47.64%	0.0%		0.0%	0.0%	54.19%	0.0%	9.36%
% Tot Wt Carp/Sucker	0.0%	0.0%	4.44%	0.00%	9.81%	16.12%	0.0%	0.0%	82.37%	0.0%	0.0%	80.05%	0.0%	47.24%	0.0%		36.42%	0.0%	82.37%	0.0%	15.36%
% Tot Wt Minnows	98.29%	100.0%	95.56%	0.00%	44.16%	29.61%	100.0%	0.0%	15.22%	98.84%	100.0%	0.03%	100.0%	4.44%	0.0%		62.31%	95.76%	100.0%	0.0%	52.46%
% Tot Wt Darters	1.71%	0.00%	0.00%	0.00%	0.67%	0.08%	0.0%	0.0%	0.29%	1.16%	0.00%	0.00%	0.00%	0.18%	0.0%		1.27%	4.24%	4.24%	0.0%	0.53%
% Tot Wt Sculpin	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.80%	0.0%	0.0%	0.0%	0.0%	0.50%	0.0%		0.0%	0.0%	0.80%	0.0%	0.07%

Table 6
Index of Biotic Integrity (IBI) Metrics

Total Number of Species
Number of Darter/Sculpin Species
Number of Sunfish Species
Number of Sucker Species
Number of Minnow Species
Number of Intolerant Species
Percent Tolerant Species
Percent Omnivores/Generalists
Percent Insectivorous/Invertivorous Species
Percent Top Carnivores/Piscivores
Number of Individuals/300 meter (Including Tolerants)
Percent Blacknose Dace

Table 7

Comparison of Fishery Index of Biotic Integrity (IBI)* Values for Tributaries of the Monongahela and Allegheny Rivers in Allegheny County, Pennsylvania

Stream	Score	Drainage Basin
Little Bull Creek	48	Allegheny River
Plum Creek	46	Allegheny River
Bailey Run	42	Allegheny River
Little Pucketa Creek	40	Allegheny River
Mingo Creek	38	Monongahela River
Guyasuta Run	38	Allegheny River
Crawford Run	34	Allegheny River
Pucketa Creek	34	Allegheny River
Kelley Run	26	Allegheny River
Squaw Run	26	Allegheny River
Perry Mill Run	22	Monongahela River
Tawney Run	17	Allegheny River
Sandy Creek	18	Allegheny River
Pine Run	16	Monongahela River
Dry Run	14	Monongahela River
Lobbs Run	14	Monongahela River
Becks Run	12	Monongahela River
Streets Run	12	Monongahela River
West Run	12	Monongahela River
Sandy Creek (Curry Hollow)	12	Monongahela River
Thompson Run/Turtle Creek	12	Monongahela River
Crooked Run	12	Monongahela River
Sipes Run	12	Allegheny River
Girtys Run	12	Allegheny River
Riddle Run	12	Allegheny River
Peters Creek	10	Monongahela River
Thompson Run (Duquesne)	10	Monongahela River
Homestead Run	0	Monongahela River
Quigley Creek	0	Allegheny River
Guys Run	0	Allegheny River

* IBI determined from criteria established by the Ohio Environmental Protection Agency, with each station drainage area weighted for each metric (Ohio Environmental Protection Agency 1988). Cumulative score ratings are as follows: >50 exceptional, 35-49 good, 25-34 fair, 15-24 poor, and < 14 very poor.

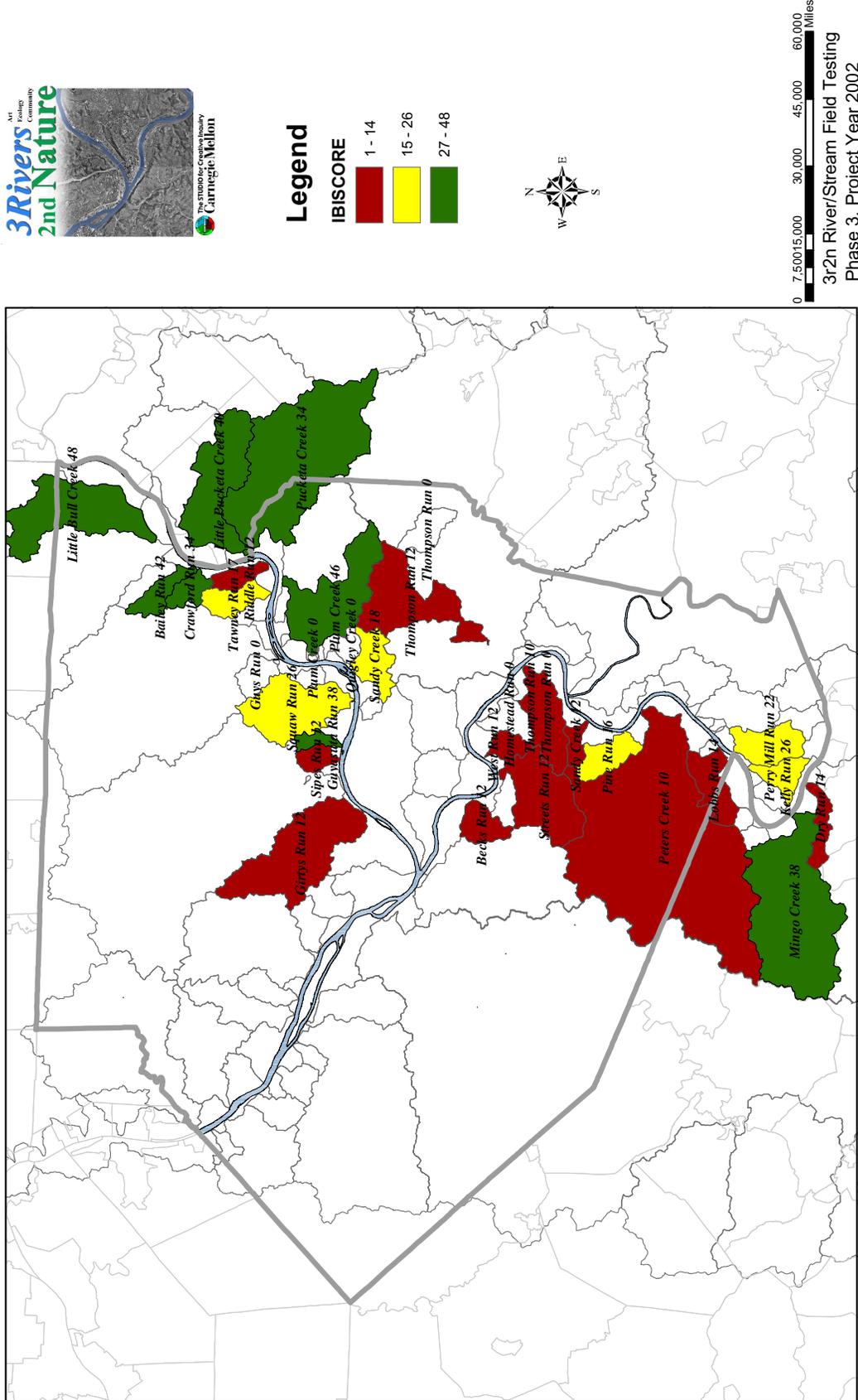


Fig. 2. Fishery Index of Biotic Integrity (IBI) Values, 2002.

VII. Appendices

**Appendix A. Individual Fish Sampling Station Collection
Data Summaries for Tributaries to the Monongahela River in
Allegheny County, Pennsylvania**

Three Rivers-Second Nature

FISH DATA SUMMARY

Kelly Run

17-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers									
White sucker	9	63.38	8.57%	72-92	38	17.19%	0.27	989	4.176
Minnows									
Creek chub	66	464.79	62.86%	30-94	152	68.78%	1.07	7,253	16.705
Blacknose dace	26	183.10	24.76%	27-74	25	11.31%	0.18	2,857	2.747
Darters									
Rainbow darter	3	21.13	2.86%	47-55	4	1.81%	0.03	330	0.440
Fantail darter	1	7.04	0.95%	67	2	0.90%	0.01	110	0.220
TOTALS	105	739			221		1.56	11,539	24.288
SPORT FISH	0								
CARP/SUCKERS	9	63.38	8.57%		38	17.19%	0.27	989	4.176
MINNOWS	92	647.89	87.62%		177	80.09%	1.25	10,111	19.452
DARTERS	4	28.17	3.81%		6	2.71%	0.04	440	0.659

SURVEY PARAMETERS

Date 17 July 2002	Effort - hours	0.142	Time: 1145-1153.5
Method: Backpack electrofishing AC 100 Volts 1.3 Amps			

Survey Participants: Koryak, Stafford, Hoskin

Stream length sampled (feet)	166	Average stream width (feet)	5.9	Area sampled (hectares)	0.00910	Watershed	Monongahela
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Flow: low and clear	pH: 8.05	Stream temp: 19.46 C	Air temp: 90's F
Dissolved Oxygen: 9.23 mg/L	Conductivity: 1,140 umhos/cm		

NOTES: Five species collected.

Three Rivers-Second Nature

FISH DATA SUMMARY

Becks Run

20-Jun-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	1	10.00	33.33%	77	5	62.50%	0.05	48	0.241
Blacknose dace	2	20.00	66.67%	50-60	3	37.50%	0.03	96	0.145
Darters	0								
TOTALS	3	30			8		0.08	145	0.386
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	3	30.00	100.0%		8	100.0%	0.08	145	0.386
DARTERS	0								
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours		0.1	Time: 1320-1330					
Method: Backpack electrofishing AC									
100 Volts 1.5 Amps									
Koryak, Stafford, Hoskin									
Stream length	240	Average stream width (feet)	9.3	Area sampled (hectares)	0.02074	Watershed	Monongahela		
Flow: low and clear	pH: 8.09		Stream temp: 21.21 C		Air temp: 80's F				
Dissolved Oxygen: 10.45 mg/L	Conductivity: 1,028 umhos/cm								
NOTES: Two species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Crooked Run
 17-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	5	74.63	25.0%	92-125	100	76.34%	1.49	382	7.637
Blacknose dace	15	223.88	75.0%	56-69	31	23.66%	0.46	1,146	2.367
Darters	0								
TOTALS	20	299			131		1.96	1,527	10.004
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	20	298.51	100.0%		131	100.0%	1.96	1,527	10.004
DARTERS	0								
SURVEY PARAMETERS									
Date	17 July 2002	Effort - hours	0.067	Time:	1010-1014				
Method: Backpack electrofishing AC 100 Volts 1.3 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	174	Average stream width (feet)	8.1	Area sampled (hectares)	0.01309	Watershed	Monongahela		
Flow: low and clear		pH: 8.01	Stream temp: 20.41 C	Air temp: 90's F					
Dissolved Oxygen: 8.38 mg/L									
NOTES: Two species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Thompson Run (Turtle Creek)
 17-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	14	72.92	16.87%	71-186	380	75.10%	1.98	379	10.295
Blacknose dace	69	359.38	83.13%	56-82	126	24.90%	0.66	1,869	3.414
Darters	0								
TOTALS	83	432			506		2.64	2,249	13.709
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	83	432.29	100.0%		506	100.0%	2.64	2,249	13.709
DARTERS	0								
SURVEY PARAMETERS									
Date	17 July 2002	Effort - hours	0.192	Time:	0930-0941.5				
Method: Backpack electrofishing AC 100 Volts 1.4 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	191	Average stream width (feet)	20.8	Area sampled (hectares)	0.03691	Watershed Monongahela			
Flow: low and clear		pH: 7.95		Stream temp: 18.74 C		Air temp: 80's F			
Dissolved Oxygen: 10.16 mg/L									
NOTES: Two species collected.									

Three Rivers-Second Nature

FISH DATA SUMMARY

Pigeon Creek

16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH									
Rainbow trout	1*								
Smallmouth bass	1*								
Carp/Suckers									
Carp	2								
Quillback	1								
Minnows									
	100's *								
Darters									
	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.183		Time: 1700-1711				
Method: Backpack electrofishing AC 75 Volts 2.3 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length	121	Average stream width (feet)	35.7	Area sampled (hectares)	0.04013	Watershed			
Flow: normal and clear		pH: 8.03		Stream temp: 24.44 C		Monongahela			
Dissolved Oxygen: 13.87 mg/L		Conductivity: 2,352 umhos/cm						Air temp: 90's F	
NOTES: At least five species observed. * Rainbow found dead on bottom of stream, smallmouth caught by angler. Hundreds of Notropis unaffected by electrofishing field.									

FISH DATA SUMMARY
Pigeon Creek
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH									
Rainbow trout	1*								
Smallmouth bass	1*								
Carp/Suckers									
Carp	2								
Quillback	1								
Minnows									
	100's *								
Darters									
	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.183		Time: 1700-1711				
Method: Backpack electrofishing AC 75 Volts 2.3 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length	121	Average stream width (feet)	35.7	Area sampled (hectares)	0.04013	Watershed	Monongahela		
Flow: normal and clear		pH: 8.03		Stream temp: 24.44 C					
Dissolved Oxygen: 13.87 mg/L		Conductivity: 2,352 umhos/cm				Air temp: 90's F			
NOTES: At least five species observed. * Rainbow found dead on bottom of stream, smallmouth caught by angler. Hundreds of Notropis unaffected by electrofishing field.									

Three Rivers-Second Nature
FISH DATA SUMMARY

Dry Run
 16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	16	95.81	11.94%	61-163	148	33.64%	0.89	1,156	10.688
Blacknose dace	118	706.59	88.06%	44-78	292	66.36%	1.75	8,522	21.088
Darters	0								
TOTALS	134	802			440		2.63	9,677	31.776
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	134	802.40	100.00%		440	100.00%	2.63	9,677	31.776
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.167			Time: 1610-1620			
Method: Backpack electrofishing AC 100 Volts 1.8 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length	184	Average stream width (feet)	8.1	Area sampled (hectares)	0.01385	Watershed	Monongahela		
sampled (feet)		pH: 8.04		23.81					
Flow: low and clear		Conductivity: 1,130 umhos/cm							Air temp: 90's F
Dissolved Oxygen: 8.48 mg/L									
NOTES: Two species collected.									

Three Rivers-Second Nature

FISH DATA SUMMARY

Mingo Creek
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH									
Brown trout	1	5.99	1.33%	279	228	21.78%	1.37	45	10.350
Rainbow trout	2	11.98	2.67%	280-305	485	46.32%	2.90	91	22.015
Carp/Suckers									
White sucker	2	11.98	2.67%	26-51	2	0.19%	0.01	91	0.091
Hog sucker	2	11.98	2.67%	198-217	194	18.53%	1.16	91	8.806
Minnows									
Bluntnose minnow	2	11.98	2.67%	46-53	2	0.19%	0.01	91	0.091
Creek chub	2	11.98	2.67%	44-46	2	0.19%	0.01	91	0.091
Common shiner	1	5.99	1.33%	153	42	4.01%	0.25	45	1.906
Blacknose dace	29	173.65	38.67%	30-72	37	3.53%	0.22	1,316	1.680
Darters									
Rainbow darter	30	179.64	40.00%	34-55	48	4.58%	0.29	1,362	2.179
Fantail darter	4	23.95	5.33%	50-61	7	0.67%	0.04	182	0.318
TOTALS	75	449			1,047		6.27	3,404	47.526
SPORT FISH									
SPORT FISH	3	17.96	4.00%		713	68.10%	4.27	136	32.365
CARP/SUCKERS	4	23.95	5.33%		196	18.72%	1.17	182	8.897
MINNOWS	34	203.59	45.33%		83	7.93%	0.50	1,543	3.768
DARTERS	34	203.59	45.33%		55	5.25%	0.33	1543	2.497
SURVEY PARAMETERS									
Date 16 July 2002	Effort - hours		0.167		1445-1455				
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	76	Average stream width (feet)	31.2	Area sampled (hectares)	0.02203	Watershed Monongahela			
Flow: low and clear	pH: 8.02		Stream temp: 24.01 C		Air temp: 90's F				
Dissolved Oxygen: 10.89 mg/L	Conductivity: 935 umhos/cm								
NOTES: Ten species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY

Lobbs Run
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
<u>SPORT FISH</u>	0								
<u>Carp/Suckers</u>									
White sucker	1	6.67	1.03%	77	3	0.77%	0.02	100	0.301
<u>Minnows</u>									
Creek chub	28	186.67	28.87%	55-177	273	70.36%	1.82	2,809	27.385
Blacknose dace	68	453.33	70.10%	50-74	112	28.87%	0.75	6,821	11.235
<u>Darters</u>	0								
TOTALS	97	647			388		2.59	9,730	38.921
<u>SPORT FISH</u>	0								
<u>CARP/SUCKERS</u>	1	6.67	1.03%		3	0.77%	0.02	100	0.301
<u>MINNOWS</u>	96	640.00	98.97%		385	99.23%	2.57	9,630	38.620
<u>DARTERS</u>	0								
SURVEY PARAMETERS									
Date 16 July 2002	Effort - hours		0.15	Time: 1350-1359					
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	145	Average stream width (feet)	7.4	Area sampled (hectares)	0.00997	Watershed	Monongahela		
Flow: low and clear	pH: 7.99		Stream temp: 23.76 C		Air temp: 90's F				
Dissolved Oxygen: 9.59 mg/L	Conductivity: 1,195 umhos/cm								
NOTES: Three species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Peters Creek
 16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers									
Carp	2	11.98	66.67%	406-432	2,500	98.62%	14.97	24	30.443
Freshwater drum	1	5.99	33.33%	130	35	1.38%	0.21	12	0.426
Minnows	0								
Darters	0								
TOTALS	3	18			2,535		15.18	37	30.869
SPORT FISH	0								
CARP/SUCKERS	3	17.96	100.0%		2,535	100.0%	15.18	37	30.869
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours		0.167					
Method: Backpack electrofishing AC 75 Volts 1.5 Amps							Time: 1315-1325		
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	232	Average stream width (feet)	38.1	Area sampled (hectares)	0.08212	Watershed	Monongahela		
Flow: clear		pH: 7.92		Stream temp: 24.11 C		Air temp: 90's F			
Dissolved Oxygen: 11.57 mg/L		Conductivity: 1,289 umhos/cm							

NOTES: Two species collected, all downstream of WWTP. Survey consisted of five minutes above and five

Three Rivers-Second Nature
FISH DATA SUMMARY

Pine Run
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers									
White sucker	20	80.00	24.69%	97-292	1,271	68.48%	5.08	925	58.765
Minnows									
Creek chub	24	96.00	29.63%	92-166	447	24.08%	1.79	1,110	20.667
Blacknose dace	37	148.00	45.68%	61-92	138	7.44%	0.55	1,711	6.380
Darters	0								
TOTALS	81	324			1,856		7.42	3,745	85.812
SPORT FISH	0								
CARP/SUCKERS	20	80.00	24.69%		1,271	68.48%	5.08	925	58.765
MINNOWS	61	244.00	75.31%		585	31.52%	2.34	2,820	27.048
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.25		Time: 1230-1245				
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	194	Average stream width (feet)	12	Area sampled (hectares)	0.02163	Watershed	Monongahela		
Flow: low and clear		pH: 7.81		Stream temp: 22.10 C		Air temp: 90's F			
Dissolved Oxygen: 8.94 mg/L		Conductivity: 1,206 umhos/cm							
NOTES: Three species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Sandy Creek (Curry Hollow)
 16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Blacknose dace	2	24.10	100.0%	70-75	9	100.0%	0.11	188	0.847
Darters	0								
TOTALS	2	24			9		0.11	188	0.847
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	2	24.10	100.0%		9	100.0%	0.11	188	0.847
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.083				Time: 1200-1205		
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	143	Average stream width (feet)	8	Area sampled (hectares)	0.01063	Watershed	Monongahela		
Flow: low and clear		pH: 7.79		Stream temp: 20.07 C		Air temp: 90's F			
Dissolved Oxygen: 9.14 mg/L		Conductivity: 1,634 umhos/cm							
NOTES: One species collected.									

Three Rivers-Second Nature

FISH DATA SUMMARY

Thompson Run (Duquesne)

16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers									
White sucker	1	8.55	100.0%	175	90	100.0%	0.77	40	3.581
Minnows	0								
Darters	0								
TOTALS	1	8.55			90		0.77	40	3.581
SPORT FISH	0								
CARP/SUCKERS	1	8.55	100.0%		90	100.0%	0.77	40	3.581
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date	16 July 2002	Effort - hours	0.117	Time:	1115-1122				
Method: Backpack electrofishing AC 75 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	161	Average stream width (feet)	16.8	Area sampled (hectares)	0.02513	Watershed	Monongahela		
Flow: high and turbid		pH: 7.89		Stream temp: 20.25 C		Air temp: 90's F			
Dissolved Oxygen: 9.11 mg/L		Conductivity: 1,296 umhos/cm							
NOTES: One species collected. Flow uncharacteristically high during survey, however rapid decline post survey.									

Three Rivers-Second Nature

FISH DATA SUMMARY

Homestead Run

16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows	0								
Darters	0								
TOTALS	0								
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002		Effort - hours	0.058				Time: 1045-1048.5		
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	??	Average stream width (feet)	??		Area sampled (hectares)	#VALUE!	Watershed	Monongahela	
Flow: low and clear		pH: 7.64			Stream temp: 22.87 C			Air temp: 80's F	
Dissolved Oxygen: 4.9 mg/L		Conductivity: 830 umhos/cm							
NOTES: No fish collected. No visible flow, only able to sample one small riffle and one large deep pool.									

Three Rivers-Second Nature

FISH DATA SUMMARY

West Run
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	8	56.34	23.53%	30-198	197	71.12%	1.39	337	8.310
Blacknose dace	26	183.10	76.47%	58-85	80	28.88%	0.56	1,097	3.375
Darters	0								
TOTALS	34	239			277		1.95	1,434	11.685
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	34	239.44	100.0%		277	100.0%	1.95	1,434	11.685
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002	Effort - hours		0.142	Time: 1015-1023.5					
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey									
Participants:	Koryak, Stafford, Hoskin								
Stream length sampled (feet)	315	Average stream width (feet)	8.1	Area sampled (hectares)	0.02371 Watershed		Monongahela		
Flow: low and clear	pH: 8.4		Stream temp: 19.54 C		Air temp: 80's F				
Dissolved Oxygen: malfunction	Conductivity: 1,164 umhos/cm								
NOTES: Two species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Streets Run
 20-Jun-02

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	2	14.08	3.70%	42-61	3	2.33%	0.02	40	0.061
Blacknose dace	52	366.20	96.30%	47-86	126	97.67%	0.89	1,051	2.547
Darters	0								
TOTALS	54	380			129		0.91	1,092	2.608
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	54	380.28	100.0%		129	100.0%	0.91	1,092	2.608
DARTERS	0								
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours	0.142	Time: 1400-1408.5						
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	383	Average stream width (feet)	13.9	Area sampled (hectares)	0.04946 Watershed Monongahela				
Flow: low and clear	pH: 7.98	Stream temp:	22.19 C	Air temp: 80's F					
Dissolved Oxygen: 9.84 mg/L	Conductivity: 1,373 umhos/cm								
NOTES: Two species collected.									

Three Rivers-Second Nature

FISH DATA SUMMARY

Streets Run
20-Jun-02

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	2	14.08	3.70%	42-61	3	2.33%	0.02	40	0.061
Blacknose dace	52	366.20	96.30%	47-86	126	97.67%	0.89	1,051	2.547
Darters	0								
TOTALS	54	380			129		0.91	1,092	2.608
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	54	380.28	100.0%		129	100.0%	0.91	1,092	2.608
DARTERS	0								
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours		0.142		Time: 1400-1408.5				
Method: Backpack electrofishing AC 100 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	383	Average stream width (feet)	13.9	Area sampled (hectares)	0.04946 Watershed Monongahela				
Flow: low and clear	pH: 7.98		Stream temp: 22.19 C		Air temp: 80's F				
Dissolved Oxygen: 9.84 mg/L	Conductivity: 1,373 umhos/cm								
NOTES: Two species collected.									

VII. Appendices

**Appendix B. Individual Fish Sampling Station Collection
Data Summaries for Tributaries to the Allegheny River in
Allegheny County, Pennsylvania**

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Little Pucketa Creek
 20-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	6	32.79	3.39%	56-68	13	7.88%	0.07	292	0.632
Blacknose dace	13	71.04	7.34%	53-59	25	15.15%	0.14	632	1.215
Bluntnose minnow	21	114.75	11.86%	37-57	20	12.12%	0.11	1,020	0.972
Emerald shiner	36	196.72	20.34%	40-53	30	18.18%	0.16	1,749	1.458
Sand shiner	87	475.41	49.15%	35-51	53	32.12%	0.29	4,227	2.575
Common shiner	2	10.93	1.13%	43-50	2	1.21%	0.01	97	0.097
Stoneroller	5	27.32	2.82%	58-85	15	9.09%	0.08	243	0.729
Darters									
Rainbow darter	5	27.32	2.82%	38-46	4	2.42%	0.02	243	0.194
Fantail darter	2	10.93	1.13%	40-55	3	1.82%	0.02	97	0.146
TOTALS	177	967			165		0.90	8,600	8.017
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	170	928.96	96.05%		158	95.76%	0.86	8,260	7.677
DARTERS	7	38.25	3.95%		7	4.24%	0.04	340	0.340
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours		0.183	Time: 1100-1111					
Method: Backpack electrofishing AC 150 Volts 1.0 Amps									
Survey Participants: Stafford, Hoskin, Koryak,									
Stream length	104	Average stream width (feet)		21.3	Area sampled (hectares)		0.02058	Watershed	
sampled (feet)					Stream temp: 19.17 C		Allegheny		
Flow: low and clear	pH: 7.99				Air temp: 80's F				
Dissolved Oxygen: 10.13 mg/L	Conductivity: 526 umhos/cm								
NOTES: Nine species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Pucketa Creek
 20-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers									
Hog sucker	3	15.00	1.44%	57-100	16	1.85%	0.08	65	0.346
White sucker	28	140.00	13.40%	62-180	299	34.57%	1.50	606	6.473
Minnows									
Creek chub	18	90.00	8.61%	57-167	168	19.42%	0.84	390	3.637
Blacknose dace	3	15.00	1.44%	48-67	5	0.58%	0.03	65	0.108
Bluntnose minnow	22	110.00	10.53%	44-87	40	4.62%	0.20	476	0.866
Mimic shiner	11	55.00	5.26%	41-43	6	0.69%	0.03	238	0.130
Sand shiner	40	200.00	19.14%	42-45	27	3.12%	0.14	866	0.585
Stoneroller	72	360.00	34.45%	60-85	293	33.87%	1.47	1,559	6.343
Darters									
Rainbow darter	10	50.00	4.78%	37-50	9	1.04%	0.05	216	0.195
Fantail darter	2	10.00	0.96%	36-51	2	0.23%	0.01	43	0.043
TOTALS	209	1,045			865		4.33	4,524	18.726
SPORT FISH	0								
CARP/SUCKERS	31	155.00	14.83%		315	36.42%	1.58	671	6.819
MINNOWS	166	830.00	79.43%		539	62.31%	2.70	3,594	11.668
DARTERS	12	60.00	5.74%		11	1.27%	0.06	260	0.238
SURVEY PARAMETERS									
Date	20 June 2002	Effort - hours	0.2	Time:	1010-1022				
Method: Backpack electrofishing AC 125 Volts 1.2 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length	110	Average stream width (feet)	45.2	Area sampled	0.04619	Watershed			
sampled (feet)		pH:	7.61	(hectares)		Allegheny			
Flow: low and clear		Stream temp:	17.33 C			Air temp: 80's F			
Dissolved Oxygen: 10.00 mg/L		Conductivity:	553 umhos/cm						
NOTES: Ten species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY

Blacks Run
20-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows	0								
Darters	0								
TOTALS	0								
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours		0.067	Time: 0930-0934					
Method: Backpack electrofishing AC 125 Volts 1.0 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length	123	Average stream width (feet)	7.7	Area sampled (hectares)		0.00880 Watershed			
Flow: low and clear	pH: 7.64		Stream temp: 14.9 C		Allegheny				
Dissolved Oxygen: 10.02 mg/L	Conductivity: 675 umhos/cm		Air temp: 80's F						
NOTES: No fish collected. Observed a few small crayfish. No water in the stream for the first 100 yards upstream of its confluence with Allegheny River.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Falling Springs Run
 20-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
<u>SPORT FISH</u>	0								
<u>Carp/Suckers</u>	0								
<u>Minnows</u>	0								
<u>Darters</u>	0								
TOTALS	0								
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date 20 June 2002	Effort - hours		0.042	Time: 0830-0832.5					
Method: Backpack electrofishing AC 125 Volts 0.8 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	129	Average stream width (feet)	2.9	Area sampled (hectares)	0.00348	Watershed	Allegheny		
Flow: low and clear	pH: 7.25		Conductivity: 597 umhos/cm		Stream temp: 15.96 C	Air temp: 80's F			
Dissolved Oxygen: 8.63 mg/L									
NOTES: No fish collected, however observed two small Northern Dusky salamanders in the water.									

Three Rivers-Second Nature FISH DATA SUMMARY Plum Creek - 19-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH									
Smallmouth bass	4	13.33	4.88%	117-342	1,107	39.65%	3.69	93	25.855
Rock bass	2	6.67	2.44%	153-178	216	7.74%	0.72	47	5.045
Hybrid sunfish	5	16.67	6.10%	40-48	7	0.25%	0.02	117	0.163
Carp/Suckers									
White sucker	1	3.33	1.22%	297	286	10.24%	0.95	23	6.680
Hog sucker	6	20.00	7.32%	98-294	1,033	37.00%	3.44	140	24.127
Minnows									
Bluntnose minnow	17	56.67	20.73%	32-57	17	0.61%	0.06	397	0.397
Fathead minnow	1	3.33	1.22%	47	1	0.04%	0.00	23	0.023
Common shiner	3	10.00	3.66%	44-53	3	0.11%	0.01	70	0.070
Sand shiner	17	56.67	20.73%	36-47	13	0.47%	0.04	397	0.304
Spotfin shiner	1	3.33	1.22%	68	3	0.11%	0.01	23	0.070
Longnose dace	2	6.67	2.44%	46-60	3	0.11%	0.01	47	0.070
Stoneroller	18	60.00	21.95%	74-93	84	3.01%	0.28	420	1.962
Darters									
Rainbow darter	3	10.00	3.66%	35-50	4	0.14%	0.01	70	0.093
Fantail darter	1	3.33	1.22%	50	1	0.04%	0.00	23	0.023
Sculpin									
Mottled sculpin	1	3.33	1.22%	102	14	0.50%	0.05	23	0.327
TOTALS	82	273			2,792		9.31	1,915	65.211
SPORT FISH	11	36.67	13.41%		1,330	47.64%	4.43	257	31.064
CARP/SUCKERS	7	23.33	8.54%		1,319	47.24%	4.40	163	30.807
MINNOWS	59	196.67	71.95%		124	4.44%	0.41	1,378	2.896
DARTERS	4	13.33	4.88%		5	0.18%	0.02	93	0.117
SCULPIN	1	3.33	1.22%		14	0.50%	0.05	23	0.327
SURVEY PARAMETERS									
Date 19 June 2002	Effort - hours		0.3	Time: 1500-1518					
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	164	Average stream width (feet)	28.1	Area sampled (hectares)	0.04281	Watershed	Allegheny		
Flow: low and clear	pH: 7.88		Stream temp: 21.35 C		Air temp: 80's F				
Dissolved Oxygen: 10.13 mg/L	Conductivity: 982 umhos/cm								
NOTES: Fifteen species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Girtys Run
 19-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Blacknose dace	8	68.38	50.00%	52-78	29	55.77%	0.25	209	0.759
Longnose dace	8	68.38	50.00%	62-71	23	44.23%	0.20	209	0.602
Darters	0								
TOTALS	16	137			52		0.44	419	1.360
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	16	136.75	100.00%		52	100.00%	0.44	419	1.360
DARTERS	0								
SURVEY PARAMETERS									
Date 19 June 2002		Effort - hours		0.117			Time: 1400-1407		
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	195	Average stream width (feet)	21.1	Area sampled (hectares)	0.03823	Watershed	Allegheny		
Flow: low and clear		pH: 7.89		Stream temp: 19.86 C		Air temp: 80's F			
Dissolved Oxygen: 9.42 mg/L		Conductivity: 859 umhos/cm							
NOTES: Two species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY

Pine Creek
19-Jun-02

SPECIES	TOTAL NUMBER	NUMBER PER HOUR	% BY NUMBER	RANGE (mm)	TOTAL WEIGHT (grams)	% OF TOTAL WEIGHT	KILOGRAMS PER HOUR	NUMBER PER HECTARE	KILOGRAMS PER HECTARE
SPORT FISH									
Smallmouth bass	3	10.00	21.43%	92-347	532	7.28%	1.77		
Rock bass	3	10.00	21.43%	190-195	442	6.05%	1.47		
Sauger	2	6.67	14.29%	309-337	467	6.39%	1.56		
Largemouth bass	1	3.33	7.14%	118	15	0.21%	0.05		
Carp/Suckers									
Carp	3	10.00	21.43%	485-533	5,850	80.05%	19.50		
Minnows									
Common shiner	1	3.33	7.14%	51	1	0.01%	0.00		
Sand shiner	1	3.33	7.14%	46	1	0.01%	0.00		
Darters									
Darters	0								
TOTALS	14	47			7,308		24.36		
SPORT FISH	9	30.00	64.29%		1,456	19.92%	4.85		
CARP/SUCKERS	3	10.00	21.43%		5,850	80.05%	19.50		
MINNOWS	2	6.67	14.29%		2	0.03%	0.01		
DARTERS	0								
SURVEY PARAMETERS									
Date	19 June 2002	Effort - hours	0.3	Time	1300-1318				
Method	Backpack electrofishing AC 100 Volts 1.5 Amps								
Survey Participants	Koryak, Stafford, Hoskin								
Stream length sampled (feet)	198	Average stream width (feet)	??	Area sampled (hectares)	Watershed Allegheny				
Flow: low and clear		pH: 7.82		Stream temp: 19.86 C	Air temp: 80's F				
Dissolved Oxygen: 9.58 mg/L		Conductivity: 780 umhos/cm							
NOTES: Seven species collected.									
Survey only consisted of two ten foot wide swaths primarily on left and right banks.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Sipes Run
 19-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	1	10.00	11.11%	144	38	52.78%	0.38	53	1.996
Blacknose dace	8	80.00	88.89%	65-77	34	47.22%	0.34	420	1.786
Darters	0								
TOTALS	9	90			72		0.72	473	3.782
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	9	90.00	100.00%		72	100.00%	0.72	473	3.782
DARTERS	0								
SURVEY PARAMETERS									
Date 19 June 2002		Effort - hours	0.1						
Method: Backpack electrofishing AC 125 Volts 1.5 Amps Time: 1215-1221									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	188	Average stream width (feet)	10.9	Area sampled (hectares)			0.0190	Watershed Allegheny	
Flow: low and clear		pH: 7.64		Stream temp: 17.6 C				Air temp: 80's F	
Dissolved Oxygen: 9.69 mg/L		Conductivity: 1,072 umhos/cm							
NOTES: Two species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Guyasuta Run
 19-Jun-2002

Species	Total Number	Number Per Hour	% BY Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	15	75.00	22.39%	73-162	209	60.76%	1.05	1,038	14.468
Blacknose dace	18	90.00	26.87%	55-72	50	14.53%	0.25	1,246	3.461
Longnose dace	2	10.00	2.99%	51-63	7	2.03%	0.04	138	0.485
Stoneroller	12	60.00	17.91%	67-94	58	16.86%	0.29	831	4.015
Darters									
Rainbow darter	20	100.00	29.85%	34-45	20	5.81%	0.10	1,384	1.384
TOTALS	67	335			344		1.72	4,638	23.813
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	47	235.00	70.15%		340	98.84%	1.70	3,253	23.536
DARTERS	20	100.00	29.85%		4	1.16%	0.02	1,384	0.277
SURVEY PARAMETERS									
Date 19 June 2002		Effort - hours	0.2						
Method: Backpack electrofishing AC 125 Volts 0.8 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	219	Average stream width (feet)	7.1	Area sampled (hectares)	0.01445	Watershed	Allegheny		
Flow: low and clear		pH: 7.51		Stream temp: 16.00 C		Air temp: 80's F			
Dissolved Oxygen: 9.96 mg/L		Conductivity: 792 umhos/cm							
NOTES: Five species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Squaw Run
 19-Jun-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH									
Bluegill	7	35.00	10.45%	51-65	18	1.31%	0.09	463	1.190
Carp/Suckers									
White sucker	29	145.00	43.28%	93-265	910	66.28%	4.55	1,918	60.183
Hog sucker	3	15.00	4.48%	71-227	221	16.10%	1.11	198	14.616
Minnows									
Bluntnose minnow	8	40.00	11.94%	53-71	22	1.60%	0.11	529	1.455
Creek chub	7	35.00	10.45%	76-155	145	10.56%	0.73	463	9.590
Blacknose dace	2	10.00	2.99%	56-60	5	0.36%	0.03	132	0.331
Longnose dace	2	10.00	2.99%	61-74	8	0.58%	0.04	132	0.529
Stoneroller	3	15.00	4.48%	69-114	29	2.11%	0.15	198	1.918
Darters									
Rainbow darter	5	25.00	7.46%	38-46	4	0.29%	0.02	331	0.265
Sculpin									
Mottled sculpin	1	5.00	1.49%	96	11	0.80%	0.06	66	0.727
TOTALS	67	335			1,373		6.87	4,431	90.804
SPORT FISH	7	35.00	10.45%		18	1.31%	0.09	463	1.190
CARP/SUCKERS	32	160.00	47.76%		1,131	82.37%	5.66	2,116	74.799
MINNOWS	22	110.00	32.84%		209	15.22%	1.05	1,455	13.822
DARTERS	5	25.00	7.46%		4	0.29%	0.02	331	0.265
SCULPIN	1	5.00	1.49%		11	0.80%	0.06	66	0.727
SURVEY PARAMETERS									
Date 19 June 2002		Effort - hours		0.2		Time: 1030-1042			
Method: Backpack electrofishing AC 100 Volts 0.8 Amps									
Survey Participants: Koryak, Stafford,									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Quigley Creek
 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows	0								
Darters	0								
TOTALS	0								
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	0								
DARTERS	0								
SURVEY PARAMETERS									
Date	23 May 2002	Effort - hours	0.058	Time:	1500-1503.5				
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	98	Average stream width (feet)	6.2	Area sampled (hectares)	0.00564	Watershed	Allegheny		
Flow: low and clear		pH: 8.09		Stream temp: 14.99 C					
Dissolved Oxygen: malfunction		Conductivity: 681 umhos/cm						Air temp: 80's F	
NOTES: No fish collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Sandy Creek
 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Bluntnose minnow	22	45-73%	45-73%	45-73	30				
Creek chub	1	13.33	3.13%	42	1	2.63%	0.01	69	0.069
Blacknose dace	8	106.67	25.00%	37-52	3	7.89%	0.04	550	0.206
Stoneroller	1			65	4				
Darters	0								
TOTALS	32	427			38		0.51	2,202	2.614
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	32	427	100.00%		38	100.00%	0.51	2,202	2.614
DARTERS	0	0							
SURVEY PARAMETERS									
Date	23 May 2002	Effort - hours	0.075	Time:	1425-1429.5				
Method: Backpack electrofishing AC 125 Volts 1.25 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	105	Average stream width (feet)	14.9	Area sampled (hectares)	0.01454	Watershed	Allegheny		
Flow: low and clear		pH: 8.51		Stream temp: 17.08 C		Air temp: 80's F			
Dissolved Oxygen: 6.79 mg/L		Conductivity: 904 umhos/cm							
NOTES: Four species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY - Bailey Creek - 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH									
Brown trout	1	5.99	1.61%	320	420	33.52%	2.51	82	34.430
Rainbow trout	1	5.99	1.61%	275	259	20.67%	1.55	82	21.232
Carp/Suckers									
White sucker	5	29.94	8.06%	59-205	202	16.12%	1.21	410	16.559
Minnows									
Bluntnose minnow	6	35.93	9.68%	47-61	11	0.88%	0.07	492	0.902
Creek chub	4	23.95	6.45%	96-135	88	7.02%	0.53	328	7.214
Emerald shiner	1	5.99	1.61%	55	1	0.08%	0.01	82	0.082
Mimic shiner	3	17.96	4.84%	45-50	2	0.16%	0.01	246	0.164
Sand shiner	1	5.99	1.61%	43	1	0.08%	0.01	82	0.082
Spotfin shiner	2	11.98	3.23%	53-67	7	0.56%	0.04	164	0.574
River shiner	2	11.98	3.23%		3	0.24%	0.02	164	0.246
Common shiner	1	5.99	1.61%	60	2	0.16%	0.01	82	0.164
Blacknose dace	6	35.93	9.68%	44-68	12	0.96%	0.07	492	0.984
Longnose dace	2	11.98	3.23%	44-54	5	0.40%	0.03	164	0.410
Stoneroller	26	155.69	41.94%	48-181	239	19.07%	1.43	2,131	19.592
Darters									
Fantail darter	1	5.99	1.61%	46	1	0.08%	0.01	82	0.082
TOTALS	62	371			1,253		7.50	5,083	102.717
SPORT FISH	2	11.98	3.23%		679	54.19%	4.07	164	55.662
CARP/SUCKERS	5	29.94	8.06%		202	16.12%	1.21	410	16.559
MINNOWS	54	323.35	87.10%		371	29.61%	2.22	4,427	30.413
DARTERS	1	5.99	1.61%		1	0.08%	0.01	82	0.082
SURVEY PARAMETER S									
Date 23 May 2002		Effort - hours		0.167	1100-1110				
Method: Backpack electrofishing									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Little Bull Creek
 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH									
Rainbow trout	3	10.00	1.46%	241-286	600	44.61%	2.00	87	17.383
Bluegill	1	3.33	0.49%	75	10	0.74%	0.03	29	0.290
Carp/Suckers									
White sucker	8	26.67	3.88%	65-72	28	2.08%	0.09	232	0.811
Hog sucker	5	16.67	2.43%	45-194	92	6.84%	0.31	145	2.665
Golden redhorse	1	3.33	0.49%	98	12	0.89%	0.04	29	0.348
Minnows									
Bluntnose minnow	23	76.67	11.17%	42-68	72	5.35%	0.24	666	2.086
Creek chub	11	36.67	5.34%	50-176	156	11.60%	0.52	319	4.520
Emerald shiner	23	76.67	11.17%	50-62	28	2.08%	0.09	666	0.811
Mimic shiner	83	276.67	40.29%	40-55	76	5.65%	0.25	2,405	2.202
Sand shiner	5	16.67	2.43%	41-49	5	0.37%	0.02	145	0.145
Blacknose dace	8	26.67	3.88%	45-60	14	1.04%	0.05	232	0.406
Longnose dace	1	3.33	0.49%	72	4	0.30%	0.01	29	0.116
Stoneroller	26	86.67	12.62%	48-181	239	17.77%	0.80	753	6.924
Darters									
Rainbow darter	6	20.00	2.91%	35-65	5	0.37%	0.02	174	0.145
Fantail darter	1	3.33	0.49%	60	2	0.15%	0.01	29	0.058
Greenside darter	1	3.33	0.49%	80	2	0.15%	0.01	29	0.058
TOTALS	206	687			1,345		4.48	5,968	38.967
SPORT FISH	4	13.33	1.94%		610	45.35%	2.03	116	17.673
CARP/SUCKERS	14	46.67	6.80%		132	9.81%	0.44	406	3.824
MINNOWS	180	600.00	87.38%		594	44.16%	1.98	5,215	17.209
DARTERS	8	26.67	3.88%		9	0.67%	0.03	232	0.261
SURVEY PARAMETERS									
Date 23 May 2002	Effort - hours	0.3	Time: 0940-0958						
Method: Backpack electrofishing AC 150 Volts 0.75 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	172	Average stream width (feet)	21.6	Area sampled (hectares)	0.03452	Watershed			
Flow: low and		pH: 7.56	Stream	Allegheny					

Three Rivers-Second Nature
FISH DATA SUMMARY

West Run
16-Jul-2002

Species	Total Number	Number per Hour	% by Number	RANGE (mm)	Total Weight (grams)	% of Total Weight	Kilograms per Hour	Number per Hectare	Kilograms per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	8	56.34	23.53%	30-198	197	71.12%	1.39	337	8.310
Blacknose dace	26	183.10	76.47%	58-85	80	28.88%	0.56	1,097	3.375
Darters	0								
TOTALS	34	239			277		1.95	1,434	11.685
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	34	239.44	100.0%		277	100.0%	1.95	1,434	11.685
DARTERS	0								
SURVEY PARAMETERS									
Date 16 July 2002	Effort - hours		0.142	Time: 1015-1023.5					
Method: Backpack electrofishing AC 125 Volts 1.5 Amps									
Survey									
Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	315	Average stream width (feet)	8.1	Area sampled (hectares)	0.02371 Watershed		Monongahela		
Flow: low and clear	pH: 8.4		Stream temp: 19.54 C		Air temp: 80's F				
Dissolved Oxygen: malfunction									
Conductivity: 1,164 umhos/cm									
NOTES: Two species collected.									

Three Rivers-Second Nature
 FISH DATA SUMMARY
 Tawney Run
 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers									
White sucker	5	33	8.62%	72-77	12	4.44%	0.08	438	1.050
Minnows									
Creek chub	23	153.33	39.66%	40-132	189	70.00%	1.26	2,013	16.544
Blacknose dace	30	200.00	51.72%	40-83	69	25.56%	0.46	2,626	6.040
Darters									
TOTALS	58	387			270		1.80	5,077	23.635
SPORT FISH	0								
CARP/SUCKERS	5	33	8.62%		12	4.44%	0.08	438	1.050
MINNOWS	53	353	91.38%		258	95.56%	1.72	4,639	22.585
DARTERS	0								
SURVEY PARAMETERS									
Date 23 May 2002	Effort -	hours	0.15		Time: 1300-1309				
Method: Backpack electrofishing AC 125 Volts 1.0 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	106	Average stream width (feet)	11.6	Area sampled (hectares)	0.01142	Watershed	Allegheny		
Flow: low and clear		pH: 8.06		Stream temp: 13.56 C		Air temp: 80's F			
Dissolved Oxygen: 12.56 mg/L		Conductivity: 549 umhos/cm							
NOTES: Three species collected.									

Three Rivers-Second Nature
FISH DATA SUMMARY
 Riddle Run
 23-May-2002

Species	Total Number	Number Per Hour	% By Number	RANGE (mm)	Total Weight (grams)	% Of Total Weight	Kilograms Per Hour	Number Per Hectare	Kilograms Per Hectare
SPORT FISH	0								
Carp/Suckers	0								
Minnows									
Creek chub	10	75.19	41.67%	77-142	115	70.12%	0.86	990	11.382
Blacknose dace	14	105.26	58.33%	37-81	49	29.88%	0.37	1,386	4.850
Darters	0								
TOTALS	24	180			164		1.23	2,375	16.232
SPORT FISH	0								
CARP/SUCKERS	0								
MINNOWS	24	180	100.00%		164	100.00%	1.23	2,375	16.232
DARTERS	0	0							
SURVEY PARAMETERS									
Date 23 May 2002	Effort - hours		0.133	Time: 1220-1228					
Method: Backpack electrofishing AC 125 Volts 0.75 Amps									
Survey Participants: Koryak, Stafford, Hoskin									
Stream length sampled (feet)	125	Average stream width (feet)	8.7	Area sampled (hectares)	0.01010	Watershed	Allegheny		
Flow: low and clear	pH: 8.16		Stream temp: 12.87 C		Air temp: 80's F				
Dissolved Oxygen: 12.17 mg/L	Conductivity: 481 umhos/cm								
NOTES: Two species collected.									

VII. Appendices

**Appendix C. Common and Scientific Names of Fishes
Collected from Small Urban/Suburban Streams of
Allegheny County, Pennsylvania in 2002**

Common and Scientific Names of Fishes Collected from Small Urban/Suburban Streams of Allegheny County, Pennsylvania in 2002

Salmonidae

Rainbow Trout	<i>Oncorhynchus gairdneri</i>
Brown Trout	<i>Salmo trutta</i>

Cyprinidae

Stoneroller	<i>Campostoma anomalum</i>
Carp	<i>Cyprinus carpio</i>
Emerald shiner	<i>Notropis atherinoides</i>
River shiner	<i>Notropis blennius</i>
Common shiner	<i>Notropis cornutus</i>
Rosyface shiner	<i>Notropis rubellus</i>
Spotfin shiner	<i>Notropis spilopterus</i>
Sand Shiner	<i>Notropis stramineus</i>
Mimic shiner	<i>Notropis volucellus</i>
Bluntnose minnow	<i>Pimephales notatus</i>
Fathead minnow	<i>Pimephales promelas</i>
Blacknose dace	<i>Rhinichthys atratulus</i>
Longnose dace	<i>Rhinichthys cataractae</i>
Creek chub	<i>Semotilus atromaculatus</i>

Castostomidae

Quillback	<i>Cariodes cypinus</i>
White sucker	<i>Catostomus commersoni</i>
Hogsucker	<i>Hypentelium nigricans</i>
Golden redhorse	<i>Moxostoma erythrurum</i>

Centrarchidae

Rock Bass	<i>Ambloplites rupestris</i>
Bluegill	<i>Lepomis macrochirus</i>
Smallmouth bass	<i>Micropterus dolmieu</i>
Largemouth bass	<i>Micropterus salmoides</i>

Sciaenidae

Freshwater drum	<i>Aplodenotus grunniens</i>
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Cottidae

Mottled sculpin	<i>Cottus bairdi</i>
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Percidae

Greenside darter	<i>Etheostoma blennioides</i>
Rainbow darter	<i>Etheostoma caeruleum</i>
Fantail darter	<i>Etheostoma flabellare</i>
Sauger	<i>Stizostedion canadense</i>