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Final Report Summarizing 2004 Ecological Studies in Support of the ETTP Site-Wide Remedial Investigation

M. J. Peterson
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J. G. Smith
G. R. Southworth

March 2005

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ORNL/TM-2005/67

Environmental Sciences Division

FINAL REPORT SUMMARIZING 2004 ECOLOGICAL STUDIES IN SUPPORT OF THE ETTP SITE-WIDE REMEDIAL INVESTIGATION

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FINAL REPORT SUMMARIZING 2004 ECOLOGICAL STUDIES IN SUPPORT OF THE ETTP SITE-WIDE REMEDIAL INVESTIGATION

INTRODUCTION

Ecological assessments were conducted in the summer of 2004 by Oak Ridge National Laboratory (ORNL) staff in support of the ETTP Site-Wide Remedial Investigation (led by Bechtel Jacobs Company LLC staff).

The summer 2004 sampling effort supported two major tasks:

1. Biological sampling necessary to complete an ecological risk assessment (ERA), including:
    a. assessment of fish community health at the K1007-P1 Pond, the K901A Pond, and the K720 Slough, and
    b. collection of forage fish for contaminant accumulation to assess risks to terrestrial piscivores at the same sites.
2. Ecological characterization of the K1007-P1 Pond in order to evaluate the assumptions supporting the eco-manipulation alternative to pond remediation, including:
    a. assessment of the fish community
    b. analysis of PCB accumulation in small fish or species
    c. assessment of the status of aquatic plants, and
    d. characterization of limnological conditions.

The purpose of the summer pond study is to address gaps in the knowledge necessary to make effective remedial decisions. Fish community and bioaccumulation studies were conducted to address both of the above tasks, and were conducted at all three ponds. Limnological and botanical studies were conducted at the K1007-P1 Pond only. A large part of this report is devoted to the ecological conditions of the P1 Pond, which is likely to have the greatest human and ecological health-related issues, and where more information is needed to make effective remedial decisions.

A more detailed rationale for the particular parameters measured for this study is provided in various report products, including the ETTP Site-Wide Remedial Investigation Work Plan (DOE/OR/01-2154&D2), the BJC/UT-B Work Authorization, a Statement of Work (SOW) for the Ecomanipulation Study (Peterson et al. April 16, 2004), and the proposal: "Risk Reduction through Ecological Manipulation of the K1007-P1 Pond – A Novel Approach to Achieving Site Closure by 2008" (Peterson et al. 2004).

METHODS

Evaluation of ecological risks associated with the ETTP ponds involved collection of fish for an analysis of fish community health and bioaccumulation. The fish communities of four ponds or pond-like habitats were sampled in August 2004 (RA; Figs. 1 and 2). Forage fish were collected from the same ponds to be analyzed for a suite of contaminants of concern.

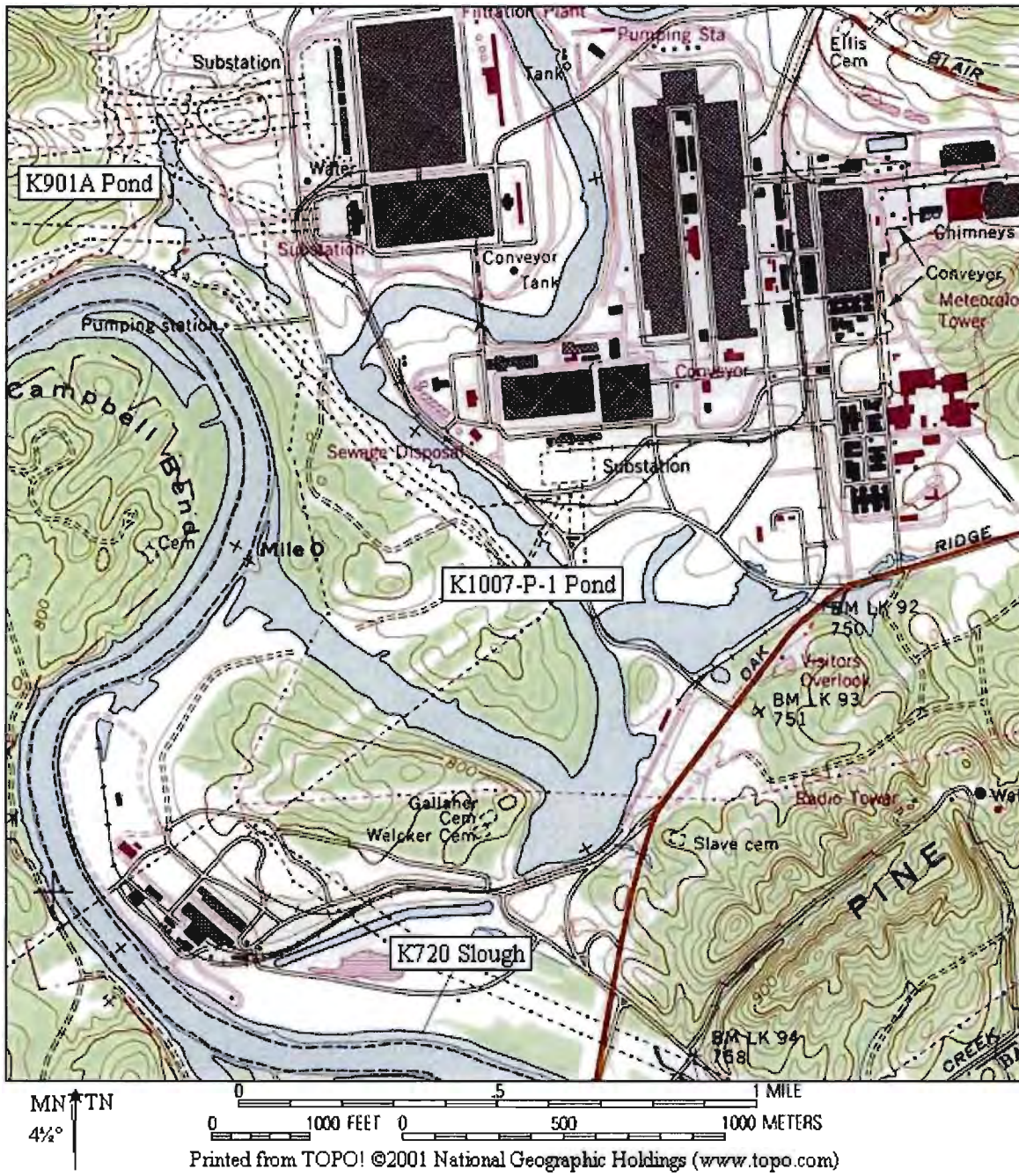

Fig. 1. Locations of ETTP pond habitats sampled in August-September 2004.

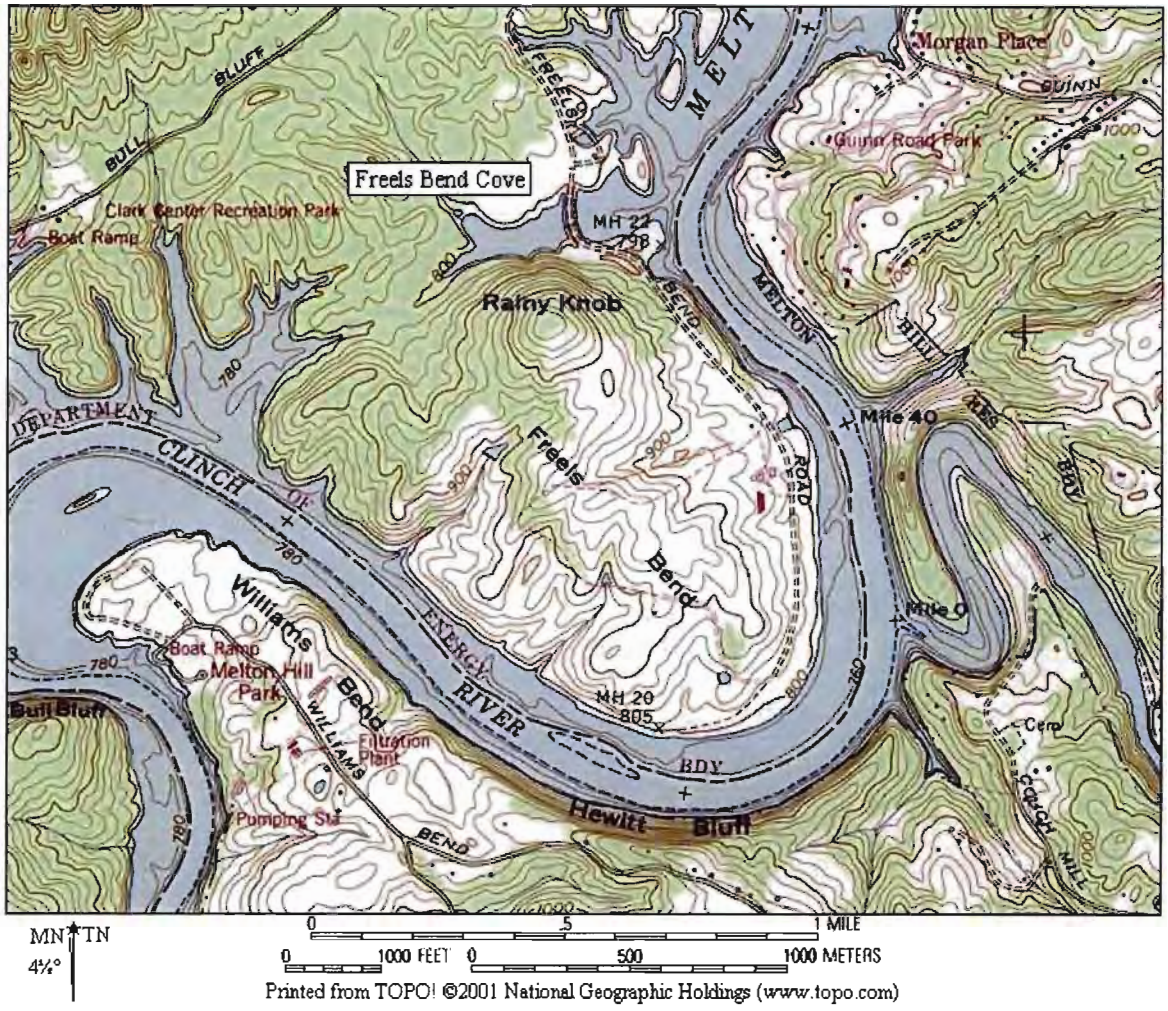

Fig. 2. Location of the Freels Bend impoundment used as a reference site for ETTP pond sampling in August 2004.

Three of the aquatic sites were associated with ETTP (Figure 1) and one site, Freels Bend, was selected as a reference (Fig. 2). The specific habitats included (1) the large pond southwest of the main ETTP complex (K1007-P1) that flows over a weir into Poplar Creek; (2) a smaller pond (K901A) that is west of the main ETTP facility and flows over a weir into the Clinch River; (3) a long narrow pond (K720 Slough) associated with the old K-25 steam plant area and flows through a large culvert into Poplar Creek; and (4) an impounded cove of Melton Hill Reservoir located on Freels Bend that receives runoff from several small streams, but not from any known industrial discharges, and flows through a culvert into the main channel of the reservoir.

Methods are described below for the four major subtasks supporting the summer 2004 pond studies: fish community survey, evaluation of contaminant accumulation in fish, evaluation of pond vegetation (P1 pond only), and evaluation of pond limnological conditions (P1 pond only). The K1007-P1 Pond was characterized in greater detail in order to evaluate previous assumptions supporting the eco-manipulation alternative to pond remediation.

Fish communities

One or two days of sampling were spent at each location using a variety of electrofishing techniques. At each site, a wade sample was conducted along a shallow (<1 m), 100-m section of shoreline using a Smith-Root barge electrofisher (Fig. 3). All specimens were captured and processed for species, length, and weight. Additional shore samples were conducted using a larger electrofisher mounted in a boat (Fig. 4). These samples were collected along 100-m transects set up parallel to shore and potentially covered deeper (>1 m) areas. All fish were kept and processed similarly to those collected in the wade sample, with the exception that for some species, weights were sub-sampled. The boat electrofisher was also used to sample 100-m transects located in the open areas of each site, with the intention of sampling the fish that were not strictly associated with habitat structure (e.g. gizzard shad). The final technique used at each site was a free-form, timed boat electrofishing sample covering both open water and shoreline habitats. This technique was more qualitative in nature but was useful in collecting additional species of fish not obtained by sampling the established transects. Fish collected were identified to species, but weights and lengths were not routinely taken.

All data were recorded on Newton portable computers and the data were uploaded to workstations to process using established Biological Monitoring and Abatement Program (BMAP) analysis and QA procedures. The field data were processed through the QA protocol and analyses were performed for species richness, density, biomass, community composition, and length frequencies of selected species (Ryon 2004).

Bioaccumulation studies

Gizzard shad (*Dorosoma cepedianum*) are a common prey item for many terrestrial piscivores; consequently, analysis of whole-body shad provides a good evaluation of the potential ecological risks associated with each of the ETTP ponds.

At each pond, gizzard shad were collected primarily during the timed boat electrofishing runs conducted for the fish community task, but extensive numbers were also collected by boat electrofishing during the same day after the fish community sampling was completed. Extensive electrofishing time was needed because small gizzard (10-15 cm), which were the size of fish targeted, were rarely observed or collected. Larger fish (>15 cm) were collected in order to complete the collections. Based on the fish surveys, these collected fish were the most likely size range to be readily available prey to terrestrial piscivores. Much of the area in each pond was electrofished at least once, and some areas were sampled multiple times.

Stunned fish were netted and placed in water-filled containers. Fish were later sorted and fish of the most desirable size range were kept for later processing; fish too large or too small fish were returned alive to the pond. Approximately 30-35 fish of similar size classes were taken from each pond. Two size classes of gizzard shad were targeted at the K1007-P1 Pond, so approximately 60-70 fish were collected there. Four spotted suckers were also collected from the K720 Slough. All fish that were kept were wrapped in aluminum foil and placed on ice for transport to the ORNL Aquatic Ecology Laboratory (Building 1504). A summary of the field collection information for the ecological risk assessment effort is provided in Table 1.

Fig. 3. Sampling of sites using a barge electrofisher to wade along shore transect.

Fig. 4. Sampling of sites using a boat electrofisher and a companion boat to aid in fish capture and transfer.

Table 1. Fish collection information for the ETTP Ponds risk assessment effort

Pond Site	Date collected	Species	Composite ID	Ave lgth (cm)	Ave wt (g)
K901A	8/6/04	Gizzard shad	11338	24.0	136.6
			11865	21.5	91.6
			11866	17.9	53.1
K720	8/13/04	Gizzard shad	11757	19.3	67.1
			11758	19.6	70.7
			11759	19.7	68.0
		Spotted sucker	11848	25.2	175.7
K1007-P1	8/11/04	Gizzard shad	11907	18.3	59.0
			11908	19.5	71.4
			11909	20.7	80.9
			11917	21.8	96.5
			11918	22.7	119.0
			11919	23.3	121.1
Freels Bend	8/3/04	Gizzard shad	11867	28.0	231.3
			11868	25.6	175.1
			11869	23.4	133.8

Fish were processed at the Laboratory within 24 hours of collection. Fish were sorted into three composites of 10 fish. Fish sizes varied and sorting was conducted to best maintain comparability between sites. After each fish was weighed and measured, the fish composite was wrapped in aluminum foil, assigned a sample number, and labeled with site, date, species and sample number information. The composite samples were then placed in a locked freezer until further processing. Frozen fish were later partially thawed, cut into small pieces, and homogenized. Subsamples of this ground tissue were placed in EPA-approved glass jars for each analytical suite (e.g., metals, dioxins/furans, etc.) to be performed.

The spotted suckers from the K720 Slough were processed slightly differently than the shad because of the small number of individuals and the large relative difference in individual size. Each fish was individually homogenized. A subsample of each homogenate was then weighed and combined and homogenized with a subsample of the same size from the other individuals in that composite group. Thus, composite homogenates were prepared from equal weights of individual homogenates.

In addition to the shad and sucker collections, small largemouth bass and bluegill sunfish were collected from the K1007-P1 Pond and analyzed for PCBs only (Table 2). This collection was conducted to evaluate food chain processes and PCB uptake in the pond. Bass and sunfish were collected by boat electrofishing near shore, but in a similar fashion as the gizzard shad collection. Fish were sorted in the field with the collection target of 6 individual fish of each species. Each fish was individually tagged with a unique five-digit tag wired to the lower jaw and placed on ice in an ice chest for transport to the ORNL Aquatic Ecology Laboratory. Once back at the Laboratory, each fish was weighed and measured, the scales were removed, and the fish was filleted. The muscle tissue of each fish was wrapped in aluminum foil and frozen. Largemouth bass filets were later homogenized prior to PCB subsample preparation.

Table 2. Fish collection information for evaluation of the ecomanipulation option to pond remediation
Size and weight of individual fish are given in Appendix A

Pond Site	Date collected	Species	No. males	Ave lgth (cm)	Ave wt (g)
K1007-P1	8/10/04	Bluegill	6/6	16.0	76.7
		Largemouth bass	2/6	22.3	239.4

All bioaccumulation fish samples were collected and processed according to project-specific standardized technical procedures developed by the BMAP to ensure quality and integrity (Peterson et al. 1998). Chain-of-custody documentation followed the samples from collection to submission to BJC staff and the analytical laboratory. BMAP quality assurance procedures are consistent with EPA recommendations for assessing chemical contaminant data for use in fish advisories (EPA 2000). The Freels Bend reference site should provide a good measure of contaminant accumulation in shad not affected by ETTP inputs or major industrial sources. Duplicate samples of fish tissue were also prepared for quality assurance purposes.

Evaluation of pond vegetation

A semi-quantitative survey of submerged and emergent vegetation in the pond was conducted in September 2004. The plant communities surrounding the pond were also characterized.

Evaluation of pond limnological conditions

The limnological conditions of the P1 Pond were characterized over a two-month period from late July through late September 2004. The characterization included measurements of a suite of chemical, physical, and biological conditions.

Study setup and design. Three permanent north-south oriented transects were established in the pond, and their locations were marked on the north shore with surveyor flags (Fig. 5). Within each transect, three equally spaced cells were established along each transect, and each cell was marked with a plastic, bright orange weighted buoy (Fig. 5). The distance from the north shore of each cell was determined with a Bushnell® Yard Pro 1000 Rangefinder. Water quality measurements and water samples were collected from each cell from a boat three times at ~20-day intervals from July 29 through September 16, 2004. Water quality, biological, and site-descriptive parameters that were measured included depth, temperature, conductivity, dissolved oxygen (DO), pH, turbidity, Secchi depth, total suspended solids (TSS), chlorophyll *a*, bacterial counts (*Escherichia coli* and total coliforms), and nutrient analysis (total phosphorus, soluble reactive phosphorus, ammonium, and nitrate). Written standard operating procedures were followed for collecting, measuring and analyzing all water quality parameters (Smith 2004 a-e).

Water Quality. Temperature, conductivity, and dissolved oxygen (DO) were measured with a YSI Model 85 meter; pH was measured with a Beckman Model 265 pH meter; and turbidity was measured with an HF Instruments Model DRT-15 turbidimeter. Water quality measurements were taken 7–15 cm below the surface of the water. Secchi depth was measured with a standard 200 mm Secchi disk attached to a nylon rope marked at 50-cm intervals. Distances between the 50-cm demarcations were measured to the nearest centimeter with a wooden meter stick to obtain the final cell depth.

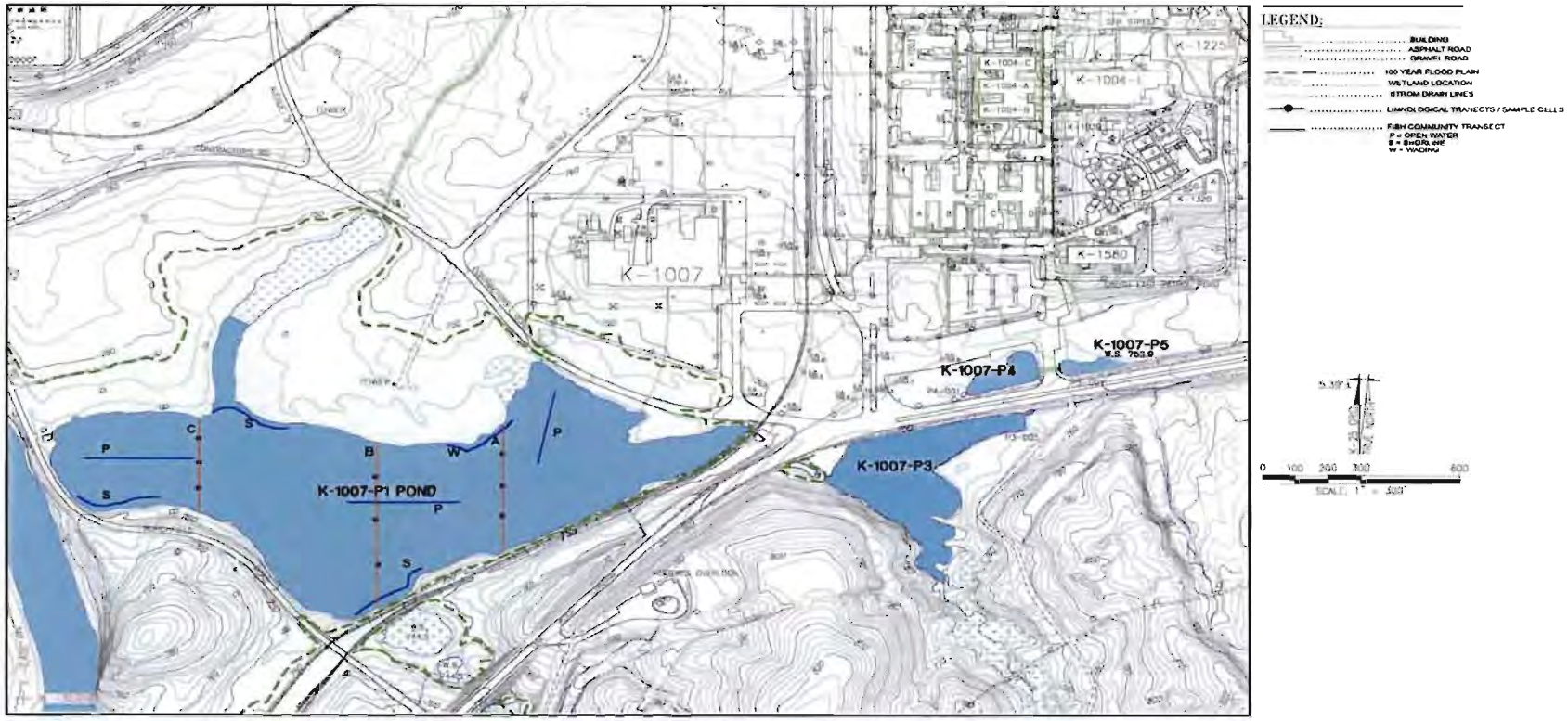

Fig. 5. Map of P1 Pond showing transect locations.

Individual water samples were collected from each transect cell at a depth of approximately 15 cm for analyses of TSS, chlorophyll *a*, bacterial counts, and nutrient analyses; latex gloves were worn while collecting all water samples. Samples were placed immediately on ice in a cooler after collection where they remained until further processing in a laboratory. Samples for TSS, chlorophyll *a*, and bacterial counts were collected from each cell in duplicate, and a single sample was collected for nutrient analysis.

Bacterial analyses were performed using Micrology Laboratory's Coliscan® water testing kits (http://www.micrologylabs.com/index.html). This bacterial analysis uses a patented media that contains a combination of chemicals and nutrients that react with coliforms and *Escherichia coli* (*E. coli*) to produce distinct colors. Water samples for bacterial analyses were collected from each cell before obtaining any water quality measurements or other water samples. Each sample was collected with a new sterile 20-mL plastic vial to avoid contamination from other potential sources. Uncapped bottles were placed under the water surface, opened, allowed to fill, and then capped while still under water. In the laboratory, a 1-mL sample was removed with a sterile disposable pipette, applied to individual containers containing the media, gently swirled by hand to mix the media and sample, and then poured into 50-mm sterile plastic petri dishes. The media was allowed to harden at room temperature (~1 hr), and then placed in an incubator (32-36°C) for 24 hr. At the end of 24 hr, the colonies in each dish were counted with the aid of a lighted 2X magnifier.

Water samples for TSS were collected in 250-mL opaque plastic bottles. Before collection, the bottles were thoroughly rinsed with pond water from the sampling location. In the laboratory, TSS was analyzed following standard EPA methods (ESS Method 340.2). Depending upon the quantity of solids in a sample, from 100–250 mL of water was filtered through pre-dried (24 hr at 60°C) and pre-weighed 0.45-µm glass fiber filter. Filtered samples were allowed to dry overnight (60°C) and reweighed to obtain the weight of solids.

Water samples for chlorophyll *a* were collected in 500 mL brown plastic bottles. Bottles were thoroughly rinsed with pond water from the sampling location before sample collection. Bottles were filled to near capacity with pond water. In the laboratory, sample volumes of 100–150 mL (depending upon the extent of clogging of filters) were filtered through 0.45-µm glass fiber filters. Chlorophyll on the filters was extracted in DMSO at 60°C overnight, and then a 10-mL aliquot was analyzed for chlorophyll *a* with a spectrophotometer. Corrections on chlorophyll estimates were made based on the results from DMSO blanks.

Water samples for nutrient analyses were collected in 250-mL opaque plastic bottles after the sample containers were thoroughly rinsed on site with pond water prior to sample collection. In the laboratory, a sample volume of 150 mL was filtered through a 0.45-µm glass fiber filter, and then frozen until analyzed. Ammonium concentration was determined using the phenate method (4500-NH_3.F) described in APHA (1995) and modified for analysis with a Bran+Luebbe AutoAnalyzer 3 (Bran+Luebbe Method G-171-96 Rev. 4). This method uses the Berthelot reaction in which a blue-green colored complex is formed and measured at 660 nm with the AutoAnalyzer. Nitrate concentration was determined with the Cadmium Reduction Method (4500-NO_3.E) described in APHA (1995) and modified for analysis with a Bran+Luebbe AutoAnalyzer 3 (Bran+Luebbe Method G-172-96 Rev. 5). This procedure uses a copper-cadmium coil to reduce nitrate to nitrite. The nitrite ion then reacts with sulfanilamide under acidic conditions to form a diazo compound, which couples with N-1-naphthylethylenediamine dihydrochloride to form a purple azo dye that is measured at 520 nm with the AutoAnalyzer. Soluble reactive phosphorus (SRP) was determined with the Ascorbic Acid Method (4500-P.E) described in APHA (1995) and modified for analysis with a Bran+Luebbe AutoAnalyzer 3 (Bran+Luebbe Method G-175-96 Rev. 5). This procedure is based on the colorimetric method in which a blue color is formed by the reaction of

ortho-phosphate, molybdate ion, and antimony ion followed by reduction with ascorbic acid at pH <1. The reduced blue phosphomolybdenum complex is read at 880 nm with the AutoAnalyzer. Finally, total phosphorus was determined with the Persulfate Digestion Method (4500-P.B.5) described in APHA (1995) and modified for analysis with a Bran+Luebbe AutoAnalyzer 3 (Bran+Luebbe Method G-092-93 Rev. 3). This procedure takes place in three stages. First, the sample is mixed with persulphate and irradiated in a UV digestor in which organic-bound phosphorus is released. Second, polyphosphates are converted to ortho-phosphate by acid hydrolysis. Third, the ortho-phosphate is determined by reaction with molybdate, antimiony, and ascorbic acid, producing a phosphomolybdenum blue complex that is measured colorimetrically at 660 nm with the AutoAnalyzer.

Flow measures. The volume of water flowing (i.e., discharge) into and exiting the pond was measured twice during the study: once during normal baseline conditions and a second time following a significant rain event. Flows representative of a significant rain event were collected on September 8, within 2 hr after rain associated with Hurricane Ivan ceased. Flows representing baseline conditions were measured on September 24. On both dates, DO, temperature, conductivity, and pH were measured, and water samples were collected for analyses of TSS and bacterial counts. The pond was visually inspected to locate potential sources of water flow into the pond. Flows were measured at each location with a Marsh-McBirney Model 201 portable flow meter along a transect. The locations identified as sources or potential sources of water to the pond were SD-490, SD-100, SD-120, and the P3 Pond. Measurements of flows from SD-490 and SD-120 were measured at 1-m intervals across a single transect in the inlets immediately adjacent to the discharge culverts. Flows from SD-100 were measured at 0.1 to 0.2-m intervals across a single transect in the outfall canal just north of Contractor Road. Flows from the P3 Pond were measured at ~0.5-m intervals across a single transect located just downstream of the pond's dam on the south side of Tennessee State Highway 58. Data for mean weekly flows at the P1 Pond were obtained from the ETTP Environmental Compliance group (M. L. Coffey, unpublished data). Mean flow for 9/02 – 9/09/04 was used for the high flow sampling date, and mean flow for 9/23 – 9/29/04 use used for the baseline sampling date.

Pond depth profile and aerial estimate. On August 31, water depths were taken at multiple locations in the P1 Pond to obtain a depth profile. Twelve transects aligned from north to south across the pond were established and marked with surveyor flags at regularly spaced distances from the dam; a depth profile of the SD-490 inlet was not obtained. The first transect was located ~5 m east of the dam, the next 10 transects were located at ~60-m intervals, and a 12th transect was established ~15 m further east of transect 11. Within each transect, depths were measured at intervals of ~10 m, and a depth was taken 2-3 m from north and/or south shores. A metal rod with two attached 2-m folding rulers was used to measure depths to the nearest centimeter from a boat. The distance from shore for each measurement was obtained with a Bushnell® Yard Pro 1000 Rangefinder.

The surface area of the P1 Pond was determined from a USGS 1:24,000 topographic map in Terrain Navigator Maptech® software. The area of the pond was measured 4 times with the software and then averaged.

Two-dimensional maps with depth contours were generated from the depth measurement with RockWorks2004^{TM} software (RockWare, Inc., Golden, Colorado). Georeferencing information for the pond were first obtained from the U.S. Geological Survey's TerraServer website (http://terraserver-usa.com/default.aspx) and imported into ArcView GIS software (version 3.0, ESRI Business Information Solutions, Vienna, Virginia). A data set of UTM coordinates for the location of each measured depth was then generated from the georeferencing data and depth measurements. The data base of coordinates was imported into RockWorks2004^{TM}, and the kriging method was used for interpolation and plotting of depth contours.

RESULTS

Fish communities

Species richness and community composition. The species richness, or number of species, indicates three of the four sites are very similar in the total number of fish species (Table 3). The species richness at each site was dominated by the sunfish family, with five or six species and two genera (*Lepomis* and *Pomoxis*). These species are well adapted to the slower water habitats and would be expected to be the primary components in the fish community of a pond. Other fish species typical of flowing water (e.g., darters) were only a minor component of the community.

Fish communities can also be evaluated by the presence/absence of species that are considered to be more tolerant to stress, such as high temperature, low dissolved oxygen, or elevated nutrient levels. All four sites had tolerant species, including gizzard shad, common carp, and green sunfish. The K901A Pond had the highest percentage of tolerant species, while the K720 Slough had the lowest percentage. Species that are particularly sensitive to environmental stress were limited in these surveys. Only the brook silverside and logperch would be rated as sensitive and were found only at Freels Bend and K720 Slough.

The K901A Pond had the fewest number of species and was missing entire taxonomic groups (e.g., suckers or Catostomidae). Generally, sites with limited richness such as this indicate a greater level of stress than the other sites, which were similar in total richness but differed in which species occurred in each pond. For example, the P-1 Pond had more catfish species, while the Freels Bend cove had more minnow species. More minnow species indicates a more balanced community where microhabitat differences are present that allow species with more specialized life cycle requirements to be competitive. In stressed systems, the fish communities tend to be dominated by a few species that are highly flexible in food and reproductive requirements (e.g., common carp) or feed on lower trophic levels (e.g., gizzard shad). A final factor to consider in evaluating the fish communities of these sites is the accessibility of the site to additional species. Both the K901A and P-1 ponds have more limited access than the two other sites because fish can only migrate into the ponds at very high flow conditions. This access restriction may be reflected in total species richness. Also, the lower species richness in the K901A Pond may have been influenced somewhat by the dewatering activities in 1997, although fish recolonized the pond quickly in 1998. The length of time (6+ years) has been sufficient for densities to recover and fish to reach full adult size. However, if predator populations recovered much more slowly than forage fish populations, the imbalance could have favored overpopulation and stunting of forage species.

Density. The abundance of the fish communities at each site was estimated using the number of fish per m of sample transect. These density estimates provide a means to evaluate the relative abundance at each site for each species. Because the sampling was conducted in the same manner at all sites, such comparisons are valid. However, due to differences among species in their susceptibility to collection, caution must be exercised in relating these numbers to absolute abundance of each species in the pond habitat. Unlike streams where populations are confined to narrow channels by banks and nets, open-water estimates can be influenced more by evading fish. Thus, the abundance of open-water schooling species (e.g., gizzard shad) or large, fast-swimming species (e.g., buffalo) is likely to be underestimated.

The density estimates indicate that the P-1 Pond has more fish than any of the other sampled sites (Table 4). The total density was slightly more than that found in the K901A pond and much higher than the other two sites. The higher numbers in these two ponds suggest that they are more productive, perhaps reflecting some nutrient enrichment. An analysis of the abundance of individual species indicated that the P-1 Pond had slightly more gizzard shad, bluegill, and largemouth bass than the other sites. The total

Table 3. Species richness of four pond-like habitats sampled in August 2004

	Freels Bend			K901A Pond			K1007-P1 Pond			K720 Slough		
Sampling technique[a]	Wade	Boat	Timed	Wade	Boat	Timed	Wade	Boat	Timed	Wade	Boat	Timed
Spotted gar (*Lepisosteus oculatus*)						X		X			X	
Gizzard shad (*Dorosoma cepedianum*)	X	X	X	X	X	X	X	X	X	X	X	X
Threadfin shad(*Dorosoma petenense*)										X	X	X
Grass carp (*Ctenopharyngodon idella*)		X	X									
Spotfin shiner (*Cyprinella spiloptera*)	X											
Common carp (*Cyprinus carpio*)	X	X	X			X		X	X		X	
Golden shiner (*Notemigonus crysoleucas*)				X		X						
Bluntnose minnow (*Pimephales notatus*)	X						X	X	X	X		
Fathead minnow (*Pimephales promelas*)	X											
Smallmouth buffalo (*Ictiobus bubalus*)			X					X	X		X	X
Spotted sucker (*Minytrema melanops*)							X	X		X	X	X
Yellow bullhead (*Ameiurus natalis*)							X	X				
Blue catfish (*Ictalurus furcatus*)									X			
Channel catfish (*Ictalurus punctatus*)											X	
Brook silverside (*Labidesthes sicculus*)	X									X		
Western mosquitofish (*Gambusia affinis*)				X				X		X		
Yellow bass (*Morone mississippiensis*)		X						X	X	X	X	
Green sunfish (*Lepomis cyanellus*)	X	X		X	X		X	X		X		
Warmouth (*Lepomis gulosus*)	X	X		X	X	X	X	X		X	X	
Bluegill (*Lepomis macrochirus*)	X	X		X	X	X	X	X	X	X	X	
Redear sunfish (*Lepomis microlophus*)	X	X		X		X		X			X	
Hybrid sunfish							X	X				
Largemouth bass (*Micropterus salmoides*)	X	X	X	X			X	X	X	X	X	
White crappie (*Pomoxis annularis*)	X	X	X		X	X		X	X	X	X	
Black crappie (*Pomoxis nigromaculatus*)						X		X		X	X	
Logperch (*Percina caprodes*)										X		
Freshwater drum (*Aplodinotus grunniens*)		X									X	
TOTAL	**12**	**11**	**6**	**8**	**5**	**9**	**8**	**16**	**9**	**14**	**16**	**4**
TOTAL (by Site)		*16*			*12*			*17*			*20*	

[a]Wade used a barge electrofisher to sample shallow (<1 m) shore habitats; Boat used a boat electrofisher to sample shore and open-water transects; Timed was sampling conducted in all areas, not confirmed to transects, and measured by duration of electrofishing.

numbers of all sunfish species were substantially higher in the P-1 and K901A ponds compared to the other sites (Fig. 6).

Biomass. The biomass of the fish communities was estimated using the total weight of fish per m of sample transect. The biomass estimates provide an evaluation of the production/abundance of the fish communities. As with density, the biomass was highest at the P-1 Pond (Table 4). However, unlike density, there was a large gap in biomass between the P-1 Pond and all other sites; the K720 Slough had the next highest biomass. The high biomass reflects both the presence of large species (e.g., smallmouth buffalo) and large individuals within a species (e.g., bluegill or largemouth bass).

Length frequency. The proportion of individuals in each size (length) class is a useful indicator of spawning success, growth, and age-specific mortality factors. For this study, we examined the length frequencies of two species that are primary components of the pond ecosystem, largemouth bass and bluegill. The bluegill is a dominant species in most pond ecosystems, well suited for both reproducing in shallow water and feeding from the surface or mid-water areas. Length-frequency analysis indicated that the most unusual pattern was observed at K901A (Fig. 7), where there are few fish larger than 10 cm, total length (TL). Usually this indicates a stunted population, where food availability limits growth and older fish remain at smaller sizes. In the P-1 Pond, the high population density of bluegill did not produce as severe a shift as in K901A, and there is a slightly higher percentage of fish that are >10 cm TL. A more even distribution of sizes was observed at Freels Bend (Fig. 7).

The length-frequency analysis for largemouth bass should indicate whether sufficient food is available for this large, dominant predator of the pond ecosystem. In the P-1 Pond, the analysis shows many more individuals in the larger (>32 cm TL) size classes than at other sites (Fig. 8). The pattern is otherwise normal, with more young fish and a gradual decline in percentage as fish age.

General condition. General condition was evaluated in the field but was not notable. This parameter of disease and parasite infestation is indicative of very poor environmental conditions that are stressful to fish and is not a sensitive measure of slight environmental degradation. Fish from all sites appeared normal with respect to this measure.

Bioaccumulation studies

Whole body analysis for risk assessment. The results of analyzing whole-body gizzard shad for a suite of contaminants is provided in two tables: one summarizing the metal results and the other summarizing the organics. Spotted sucker results from the K720 Slough are also provided in the tables. Mean concentrations and standard errors for each site-analyte combination are representative of three composite samples of 10 gizzard shad.

Metals. Most metals do not bioaccumulate in fish. Mercury and selenium are exceptions. Several others, such as cadmium, silver, and zinc, accumulate to higher concentrations when dissolved concentrations exceed ambient levels; however, they do not exhibit high bioaccumulation factors (ratio of metal in fish to its concentration in water). Whole-body analyses of fish capture the metal content of bones and scales, soft tissues (muscle and organs), and any inorganic matter (soil, sediment) present in the gut.

The metal results in fish from the ponds are shown in Table 5. The most significant finding of the metal analyses in whole gizzard shad is the presence of substantial concentrations of metals that are major soil constituents (aluminum, iron, and manganese). These metals do not occur at such high concentrations in fish flesh or bone, and their presence clearly indicates that the shad gut contents contained significant

Table 4. Density (fish/m) and biomass (g fish/m, in parentheses) of the fish communities in four pond-like habitats sampled in August 2004

Species	Freels Bend		K901A Pond		P-1 Pond		K720 Slough	
	Wade[a]	Boat	Wade	Boat	Wade	Boat	Wade	Boat
Spotted gar						<0.01 (1.12)		<0.01 (0.41)
Gizzard shad	0.01 (0.12)	0.01 (1.07)	0.02 (0.81)	0.03 (1.13)	0.05 (0.17)	0.02 (1.21)	0.03 (2.71)	<0.01 (0.31)
Threadfin shad							0.35 (0.55)	<0.01 (<0.01)
Grass carp		<0.01 (8.67)						
Spotfin shiner	0.09 (0.20)	0.01 (0.02)						
Common carp	0.01 (0.14)	0.04 (45.00)		<0.01 (10.50)		0.02 (64.67)		0.01 (58.93)
Golden shiner			0.03 (0.08)					
Bluntnose minnow	2.29 (1.94)	0.01 (<0.01)			0.19 (0.19)	0.01 (0.01)	0.22 (0.26)	
Fathead minnow	0.01 (0.04)	<0.01 (0.01)						
Smallmouth buffalo						0.01 (38.73)		0.04 (49.48)
Spotted sucker					0.01 (3.86)	0.01 (3.20)	0.04 (11.66)	0.01 (2.75)
Yellow bullhead					0.04 (0.14)	0.04 (0.73)		
Channel catfish								<0.01 (0.96)
Brook silverside	0.07 (0.03)						0.02 (0.02)	
Western mosquitofish			0.02 (0.01)	0.03 (<0.01)		0.01 (0.02)	0.05 (0.01)	
Yellow bass		<0.01 (0.42)					0.01 (0.69)	
Green sunfish	0.02 (0.13)	0.11 (2.08)	1.69 (8.82)	1.15 (6.83)	0.39 (1.34)	0.17 (1.44)	0.06 (0.32)	
Warmouth	0.12 (2.08)	0.09 (1.63)	0.35 (1.98)	0.33 (3.08)	0.12 (0.52)	0.47 (6.05)	0.20 (0.90)	0.01 (0.02)
Bluegill	0.62 (6.15)	0.29 (7.62)	3.60 (27.05)	2.38 (23.99)	2.90 (18.17)	4.39 (88.06)	0.77 (16.14)	0.12 (3.33)
Redear sunfish	0.03 (0.50)	0.02 (1.41)	0.09 (2.87)	0.13 (1.32)		0.02 (1.20)		0.03 (1.03)
Hybrid sunfish				0.01 (0.12)	0.0 (0.65)	0.01 (0.26)		
Largemouth bass	0.24 (1.09)	0.07 (11.30)	0.02 (7.31)	0.01 (2.01)	0.29 (10.81)	0.26 (63.06)	0.07 (0.51)	0.03 (2.47)
White crappie	0.02 (0.03)	0.07 (11.54)		0.01 (0.38)		0.01 (1.13)	0.11 (9.44)	0.08 (18.77)

Species	Freels Bend		K901A Pond		P-1 Pond		K720 Slough	
	Wade[a]	Boat	Wade	Boat	Wade	Boat	Wade	Boat
Black crappie				<0.01 (0.09)		0.01 (2.83)	0.01 (1.05)	<0.01 (0.51)
Logperch							0.02 (0.06)	
Freshwater drum		<0.01 (0.73)						0.01 (1.48)
TOTAL	**3.53 (12.45)**	**0.72 (91.50)**	**5.02 (48.93)**	**4.08 (49.45)**	**4.00 (35.85)**	**5.46 (274.3)**	**1.96 (44.32)**	**0.35 (140.4)**
TOTAL (by Site)	*4.25 (103.9)*		*9.10 (98.38)*		*9.46 (310.2)*		*2.31 (184.7)*	

[a]Wade used a barge electrofisher to sample shallow (<1 m) shore habitats; Boat used a boat electrofisher to sample shore and midwater transects.

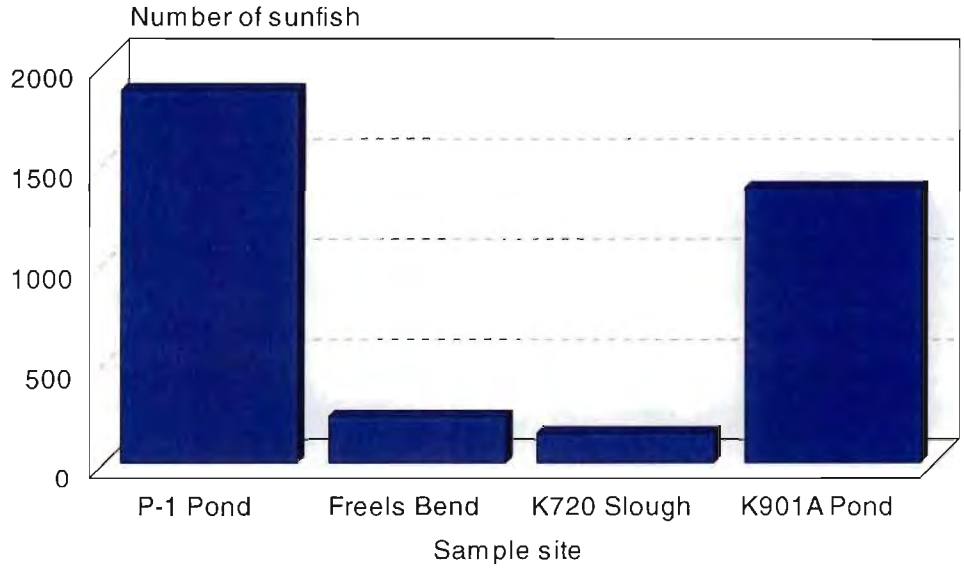

Fig. 6. Number of sunfish (*Lepomis spp.*) from electrofishing samples of four pond habitats, August 2004.

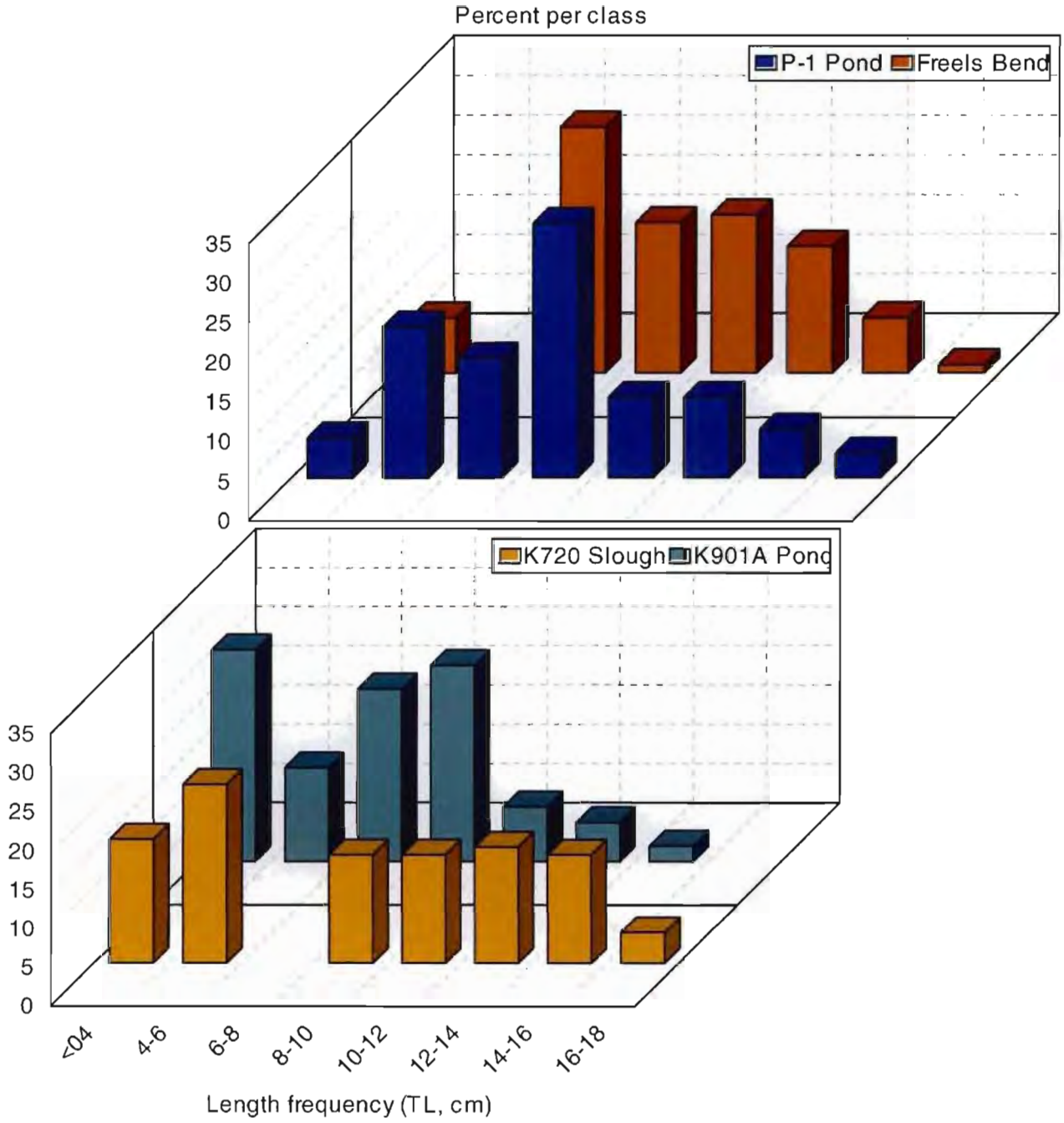

Fig. 7. Length-frequency histograms for bluegill in samples of four pond habitats, August 2004.

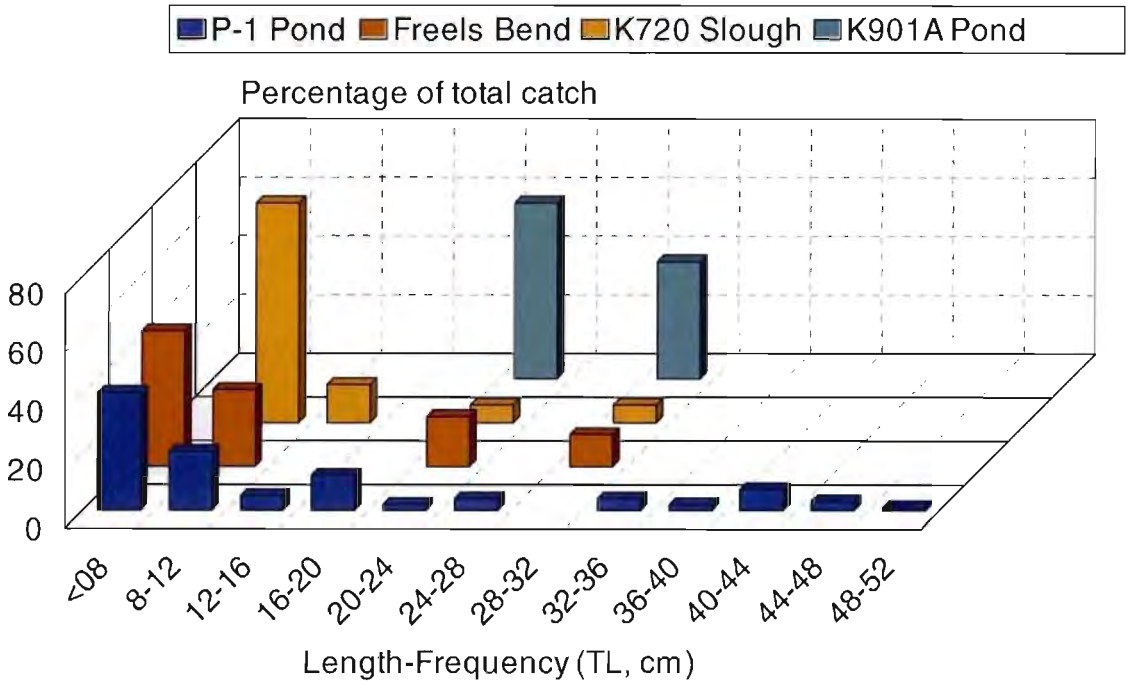

Fig. 8. Length-frequency histograms for largemouth bass in samples of four pond habitats in August 2004, highlighting larger size classes in the K1007-P1 Pond.

amounts of sediment-derived inorganic material at all sites. A comparison of the soil-associated metals concentrations found in gizzard shad with that of spotted sucker (a bottom-feeding fish that does not ingest sediment with its food) shows a dramatic difference (Fig. 9). Other studies have found that gizzard shad disturb and ingest sediment (Mundahl 1991), and the presence of soil-derived metals in shad from the P1 Pond indicates that they likely play a role in mobilizing sediment-associated PCBs.

Several metals were found at higher concentrations in fish from ETTP ponds than in reference pond fish. Most striking was the presence of silver in shad from the P1 Pond (Table 5). This metal is not typically elevated in fish on the ORR, and its presence may reflect its use in laboratory facilities that once discharged to that pond. Further sampling and analysis would be needed to ascertain whether the silver is from sediment in the guts of the fish or if it has actually accumulated in tissues. The presence of chromium in whole-body analyses of fish from K901A was not unexpected, given the prior history of the pond as a recipient of chromate-rich cooling tower blowdown. Fish from the P1 Pond were also slightly elevated in chromium, cadmium, lead, zinc, and uranium relative to the Freels Bend reference site. Uranium was also higher at the other two ETTP ponds and probably reflects elevated uranium concentrations in soils and sediments throughout the old K-25 site. Zinc was also slightly higher in fish from ETTP ponds. Zinc polyphosphate has been used as an anti-corrosion agent in process water used in DOE facilities in Oak Ridge, resulting in slightly elevated levels of zinc in fish near ORNL and the Y-12 Complex. Its use may account for the excess zinc in fish from the ETTP ponds. Parking lot runoff to the K1007-P1 Pond probably resulted in elevated lead in pond sediments which could account for the slightly higher lead concentrations in fish from that site. Elevated cadmium in fish typically is associated with dissolved inputs of cadmium at other sites on the ORR (Bear Creek, East Fork Poplar Creek), and the slightly higher levels in the P1 Pond may reflect a dissolved source.

Mercury concentrations in fish from the ETTP ponds were higher than those in shad from the Freels Bend reference site but were well below levels of concern at all sites. It is of interest, however, that

there appeared to be an inverse relationship between concentrations of selenium in shad and mercury content (Fig. 10). The selenium content of shad from the Freels Bend site was nearly twice the concentration that is typical of fish in this region. Selenium has a well known antagonistic relationship to the bioaccumulation and toxicity of mercury, and Melton Hill Reservoir has two potential selenium sources: the DOE filled coal ash pond draining to McCoy Branch and the Bull Run Steam Plant ash disposal area. Although it seems unlikely that such inputs are significant enough to alter mercury bioaccumulation in Melton Hill Reservoir, it may be worthwhile to evaluate available monitoring data for evidence that this is occurring.

Organics. PCB contamination of the K1007-P1 and K901A ponds is clearly evident in the whole body analyses of gizzard shad (Table 6). Fish from the P1 Pond averaged over 20 ppm total PCBs. Shad from the K901A Pond averaged about a factor of ten lower at ~2.5 ppm. PCBs characteristic of less chlorinated commercial PCB mixtures (Aroclor 1016/1242) were only found in fish from the K1007-P1 Pond. This type of PCB mixture is not typically found in fish from other DOE-impacted waters on the ORR, but has been observed in fish, clams, and SPMDs in previous monitoring at the K1007-P1 site. PCB concentrations in K720 Slough fish were also elevated over fish from the reference site (Freels Bend), but were at levels that would be expected in downstream water of Watts Bar Reservoir.

Table 5. Mean (+/- SE, N=3) concentrations of metals in composite samples of 10 whole gizzard shad

Units are mg/kg wet weight (*italicized results are µg/kg wet weight*)

Values in red are concentrations of metals in a single composite of spotted sucker

	K1007-P1 (large fish)	K1007-P1 (smaller fish)	K720	K901A	Freels Bend (reference site)
Aluminum	200 ± 10	137 ± 12	173 ± 7 17	147 ± 12	240 ± 6
Antimony	0.042 ± 0.001	0.054 ± 0.006	0.040 ± 0.002 0.046	0.040 ± 0.008	0.048 ± 0.006
Arsenic	0.32 ± 0.02	0.28 ± 0.02	0.43 ± 0.02 0.16	0.46 ± 0.03	0.37 ± 0.01
Barium	4.0 ± 0.29	3.0 ± 0.37	3.7 ± 0.06 1.2	4.3 ± 0.67	4.8 ± 0.25
Beryllium	0.019 ± 0.002 In blank	0.012 ± 0.001 In blank	0.018 ± 0.000 In blank 0.002	0.012 ± 0.002 In blank	0.024 ± 0.001 In blank
Boron	0.19 ± 0.01 In blank	0.15 ± 0.02 In blank	0.11 ± 0.01 In blank 0.05	0.18 ± 0.02 In blank	0.16 ± 0.01 In blank
Cadmium	0.036 ± 0.002	0.031 ± 0.001	0.016 ± 0.001 0.013	0.014 ± 0.001	0.013 ± 0.001
Calcium	11000 ± 0	9500 ± 350	8800 ± 460 7000	10500 ± 1400	9000 ± 670
Chromium	1.53 ± 0.03	1.17 ± 0.08	0.41 ± 0.02 0.21	10.2 ± 0.77	0.74 ± 0.05
Cobalt	0.28 ± 0.02	0.18 ± 0.01	0.24 ± 0.01 0.06	0.17 ± 0.01	0.51 ± 0.03
Copper	1.8 ± 0.3	1.5 ± 0.1	0.82 ± 0.0 0.62	1.1 ± 0.1	1.2 ± 0.1
Iron	530 ± 45	350 ± 26	393 ± 17 46	337 ±317	583 ± 17

	K1007-P1 (large fish)	K1007-P1 (smaller fish)	K720	K901A	Freels Bend (reference site)
Lead	1.23 ± 0.15	0.81 ± 0.07	0.41 ± 0.01 0.06	0.35 ± 0.03	0.61 ± 0.05
Lithium	0.34 ± 0.02	0.24 ± 0.02	0.31 ± 0.01 0.027	0.24 ± 0.03	0.37 ± 0.03
Magnesium	370 ± 10	333 ± 3.3	260 ± 12 270	390 ± 66	270 ± 6
Manganese	26.7 ± 1.3	19.0 ± 1.0	46.7 ± 2.3 6.4	13.0 ± 2.5	44.7 ± 1.9
Mercury	0.077 ± 0.002	0.054 ± 0.004	0.050 ± 0.003 0.084	0.042 ± 0.004	0.014 ± 0.002
Molybdenum	0.048 ± 0.001 In blank	0.053 ± 0.001 In blank	0.019 ± 0.02 In blank 0.016	0.041 ± 0.02 In blank	0.031 ± 0.01 In blank
Nickel	7.4 ± 0.82	5.1 ± 0.61	3.5 ± 0.71 0.9	2.4 ± 0.09	12.9 ± 4.1
Potassium	1900 ± 58	2000 ± 0	2200 ± 58 2500	2100 ± 33	2100 ± 33
Selenium	0.59 ± 0.04	0.57 ± 0.03	0.56 ± 0.01 0.64	0.74 ± 0.02	0.94 ± 0.04
Silver	0.15 ± 0.02	0.15 ± 0.01	<0.005 <0.005	<0.005	<0.005
Sodium	890 ± 18	780 ± 35	880 ± 15 770	890 ± 54	900 ± 23
Strontium	4.4 ± 0.1	3.4 ± 0.2	6.7 ± 0.3 5.3	4.3 ± 0.5	5.0 ± 0.1
Thallium	<0.038	<0.038	<0.038 <0.038	<0.038	<0.038
Uranium	*51.3 ± 11.0*	*27.3 ± 2.97*	*52.7 ± 3.0* *4*	*78.0 ± 4.6*	*19.7 ± 1.9*
Vanadium	0.48 ± 0.04	0.31 ± 0.03	0.39 ± 0.01 0.05	0.35 ± 0.03	0.63 ± 0.02
Zinc	17 ± 1.2	16 ± 0.3	12 ± 0.6 14	17 ± 0.3	8.9 ± 0.3

The K901A Pond received discharges from pentachlorophenol-impregnated cooling towers for many years, and thus was exposed to chlorinated dibenzofurans and dibenzodioxins that were major impurities in the pentachlorophenol. High resolution GC/MS analysis of shad extracts found tetra through octa-chlorinated congeners of these groups of contaminants in fish from all sites, albeit at extremely low concentrations (Table 6). The extremely toxic 2,3,7,8 tetrachlorodibenzodioxin was clearly evident in fish from the K901A Pond, but the mean concentration was only tenfold higher than that observed in fish from the uncontaminated Freels Bend reference site. Octachlorodibenzodioxin, one of the most abundant and bioaccumulative chlorinated dibenzodioxin congeners in pentachlorophenol, was not elevated above reference site levels in K901A fish. Chlorinated dibenzodioxins did not exceed reference site levels by more than twofold at the two other ETTP sites.

Chlorinated dibenzofurans were found at substantially higher concentrations than the reference site in both K1007-P1 and K901A fish. The origin of these materials is unknown, but fish from both sites contained high concentrations of PCBs, leading to the concern that the presence of chlorinated dibenzofurans is somehow associated with the presence of PCBs and their metabolic byproducts. PCB mixtures are known to contain chlorinated dibenzofurans (Korte et al. 1992) as trace contaminants

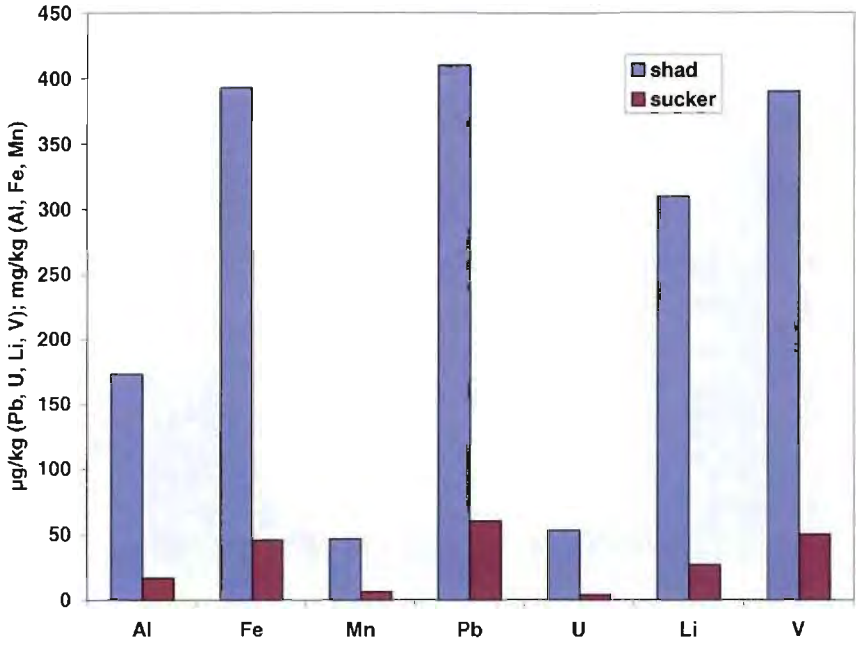

Fig. 9. Comparison of concentrations of soil-associated metals in gizzard shad and spotted sucker from the K720 pond at ETTP.

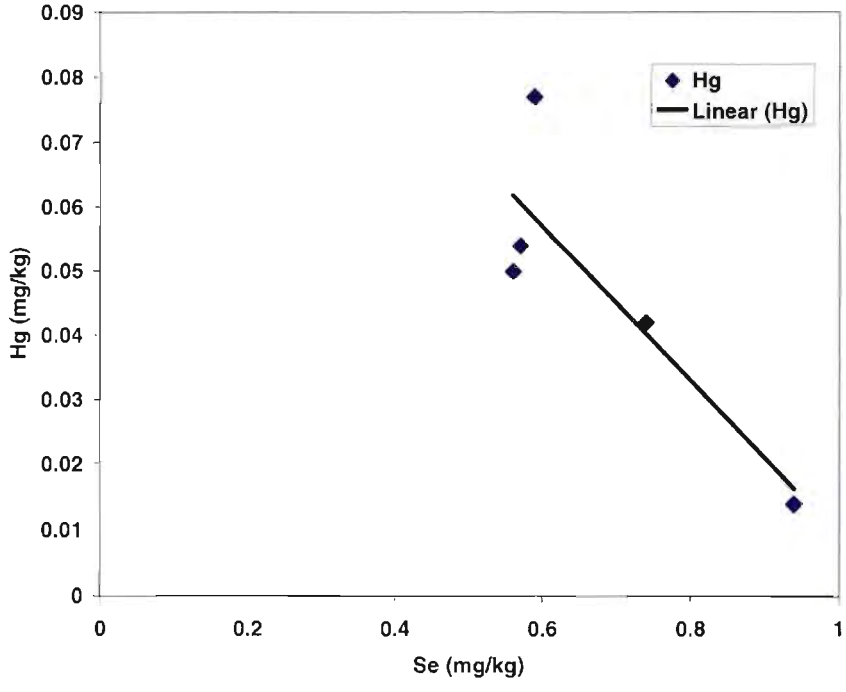

Fig. 10. Relationship between concentration of mercury and selenium in whole body gizzard shad from sites at ETTP and Melton Hill Reservoir.

Table 6. Mean (+/- SE, N = 3) concentrations of chlorinated organics in composite samples of 10 whole gizzard shad

Units are µg/kg wet weight for PCBs, ng/kg wet weight for chlorinated dioxins and furans

	K1007-P1 (large fish)	K1007-P1 (smaller fish)	K720	K901A	Freels Bend (reference site)
PCB 1242/1016	2500 ± 1000	4400 ± 1500	ND	ND	ND
PCB 1254	9500 ± 3600	14100 ± 2550	210 ± 40	ND	23 ± 2
PCB 1260	4100 ± 1400	5600 ± 800	120 ± 20	2400 ± 380	38 ± 3
Total PCB	16100	24100	330	2400	61
Octachlorodibenzofuran	2.1 ± 0.31	1.3 ± 0.14	0.5 ± 0.0	1.5 ± 0.1	0.4 ± 0.0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.13 ± 0.19	0.79 ± 0.03	0.36 ± 0.05	1.68 ± 0.23	0.15 ± 0.04
1,2,3,4,7,8,9-Heptachlorodibenzofuran	ND	ND	ND	ND	ND
1,2,3,4,7,8-Hexachlorodibenzofuran	ND	ND	ND	0.24 ± 0.05	0.08 ± 0.02
1,2,3,6,7,8-Hexachlorodibenzofuran	0.27 ± 0.04	0.31 ± 0.04	ND	0.32 ± 0.13	0.11 ± 0.03
1,2,3,7,8,9-Hexachlorodibenzofuran	ND	ND	ND	0.16 ± 0.02	ND
2,3,4,6,7,8-Hexachlorodibenzofuran	0.45 ± 0.08	0.42 ± 0.04	0.15 ± 0.02	0.53 ± 0.04	ND
1,2,3,7,8-Pentachlorodibenzofuran	3.97 ± 0.65	6.37± 0.53	0.54 ± 0.01	2.61 ± 0.30	0.34 ± 0.04
2,3,4,7,8-Pentachlorodibenzofuran	6.69 ± 1.33	9.02 ± 0.29	0.47 ± 0.03	4.09 ± 0.48	0.33 ± 0.04
2,3,7,8-Tetrachlorodibenzofuran	85 ± 13	134 ± 17	5.82 ± 0.21	21.7 ± 2.4	2.75 ± 0.11
Octachloro-dibenzo[b,e][1,4]dioxin	23.7 ± 3.2 In blank	17.6 ± 1.8 In blank	9.6 ± 0.04 In blank	17..3 ± 3.8 In blank	27.2 ± 2.4 In blank
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	3.31 ± 0.47	2.72 ± 0.15	1.07 ± 0.09	3.06 ± 0.34	1.44 ± 0.17
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.30 ± 0.05	0.28 ± 0.04	ND	0.28 ± 0.07	0.18 ± 0.00
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.79 ± 0.07	0.94 ± 0.03	0.32 ± 0.04	1.44 ± 0.20	0.37 ± 0.04
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.44 ± 0.03	0.53 ± 0.10	ND	0.52 ± 0.07	0.27 ± 0.06
1,2,3,7,8-Pentachlorodibenzo-p-	0.59 ± 0.12	0.73 ± 0.02	0.14 ± 0.02	0.95 ± 0.10	0.37 ± 0.05

	K1007-P1 (large fish)	K1007-P1 (smaller fish)	K720	K901A	Freels Bend (reference site)
dioxin					
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.26 ± 010	0.20 ± 0.06	ND	2.42 ± 0.25	0.22 ± 0.01
% Lipids	5.3 ± 1.0	6.9 ± 1.2	5.0 ± 1.8	6.1 ± 0.7	7.8 ± 0.3

(~5 ppm). The dibenzofuran content of Aroclor 1242 could account for the levels of dibenzofurans observed in fish, but it would require the dibenzofurans to bioaccumulate to the same extent as PCBs. The much lower bioaccumulation potential of the less fat-soluble dibenzofurans does not make this assumption plausible. However, the greater water solubility of polychlorinated dibenzofurans would also act to enrich the proportion of furans relative to PCBs in water contacting non-aqueous phase PCBs in sediments or upstream source areas, perhaps accounting for their accumulation in fish in the K1007-P1 Pond.

Assessment of PCBs in K1007-P1 fish for evaluation of the ecomanipulation remediation option. Monitoring of PCB concentrations in largemouth bass is conducted annually for the ETTP BMAP. In 2004, the mean PCB concentration in P1 Pond fish (4.55 μg/g) was higher than State consumption limits (~1 μg/g) and the FDA threshold limit of 2 ug/g. However, the mean PCB concentration in 2004 was substantially lower than the long-term average (Fig. 11). Concentrations of PCBs in largemouth bass have varied from year to year over time but have averaged consistently above 10 μg/g until this most recent (2004) sampling.

The role of incoming sources of PCBs via storm drains, relative to in-pond sediment sources, is an important consideration in evaluating remedial options. Caged clams are used annually by the BMAP to evaluate PCB fluxes in and out of the pond. Clam monitoring at storm drain outfalls discharging to the K1007-P1 Pond indicates continuing input of PCBs to the pond from storm drains, primarily SD-100, with significant but fewer substantial inputs from SD-120, SD-124, and SD-480 (Fig. 12). Clam monitoring at the pond exit point to Poplar Creek also indicates continuing PCB fluxes from the P1 Pond area to downstream waters.

Small largemouth bass and bluegill sunfish were collected from the K1007-P1 Pond as part of the ETTP RI study to evaluate food chain processes and PCB uptake in the pond. The effect of reducing the average size of bass in the K1007-P1 Pond on PCB concentrations can be seen in Table 8 and Fig. 13 where small bass contain PCB concentrations that are only about 20% of those observed in large bass. Bluegills, the most likely prey of bass in a shad-free pond, contain similarly low levels, even in relatively large, adult fish (Table 8 and Fig. 13).

The very high concentrations of PCBs previously observed in largemouth bass from the K1007-P1 Pond are consistent with the high levels of contamination in gizzard shad; however, the lower concentrations of PCBs observed in bass from that site in 2004 (Fig. 13) appear to be inconsistent with the high levels of PCBs in their prey. This difference can be explained, in part, by the relatively large size of the gizzard shad collected for PCBs, many individuals of which may be too large a prey for all but the largest bass. Another possibility is that the largemouth bass were feeding more heavily on alternative prey such as bluegills or very small shad in 2004, perhaps due to a poor shad year class.

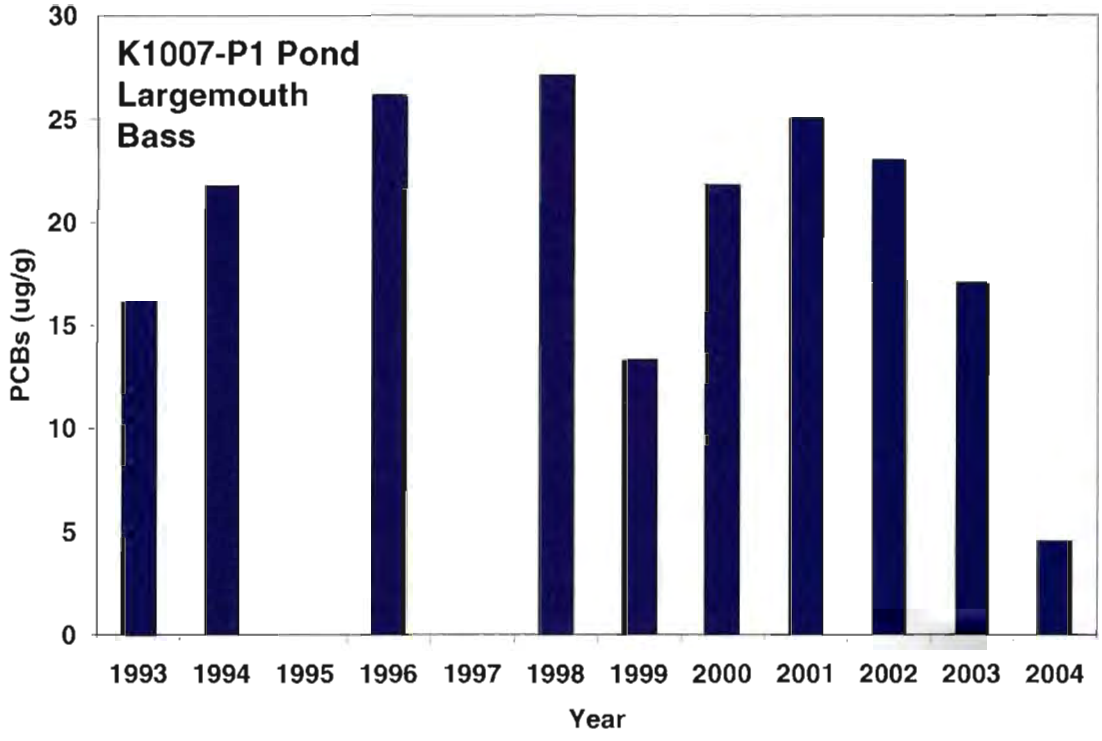

Fig. 11. Mean PCB concentrations in largemouth bass (*Micropterus salmoides*) from the K1007-P1 Pond, 1993-2004. Data from the ETTP BMAP.

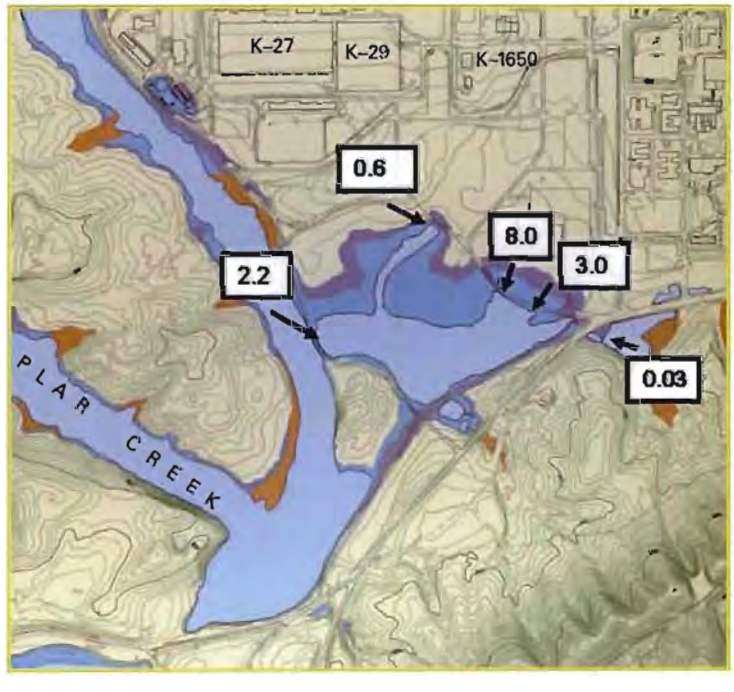

Fig. 12. Mean PCBs in caged Asiatic clams (n=two 10-clam composites) placed at outfalls into and out of the K1007-P1 Pond in the summer of 2004. Data from the ETTP BMAP.

Table 7. Mean concentrations of PCBs (µg/kg wet wt) in fillets of largemouth bass and bluegill collected in summer 2004 from the K1007-P1 Pond

	K1007-P1 large bass	K1007-P1 small bass	K1007-P1 bluegill
PCB 1242/1016	<170	34 ± 9	<75
PCB 1254	2170 ± 620	253 ± 35	402 ± 61
PCB 1260	2380 ± 680	152 ± 12	475 ± 81
Total PCB	4550	439	877

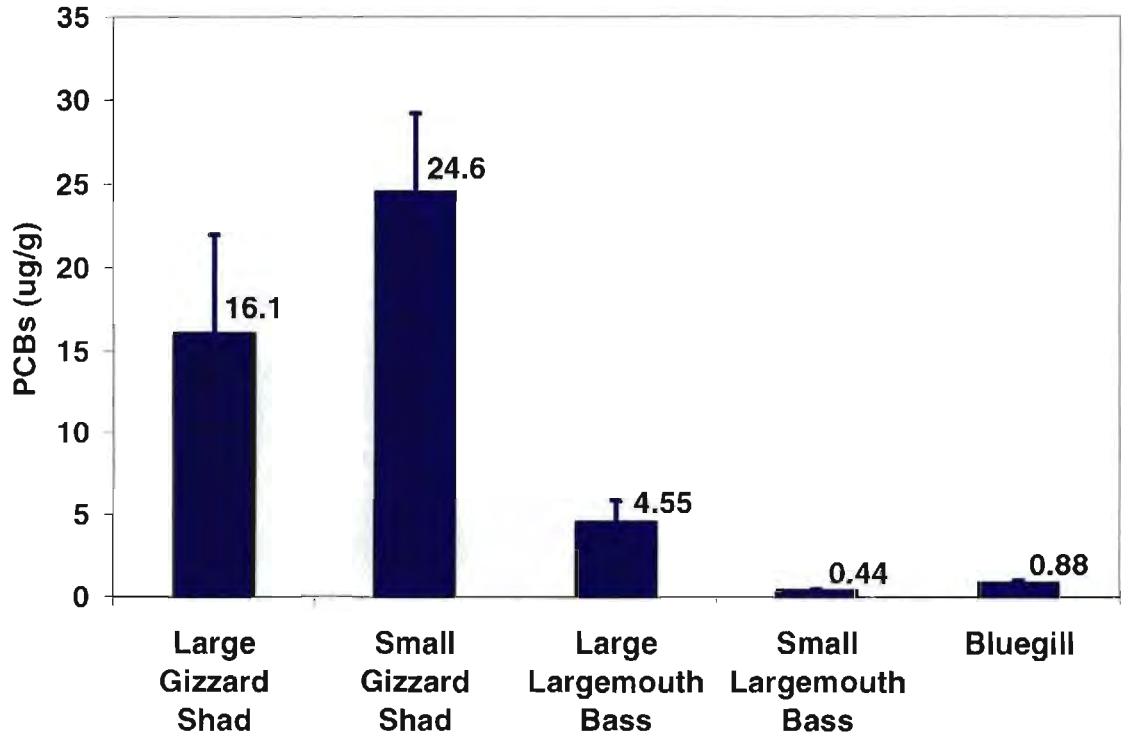

Fig. 13. Mean PCB concentrations (mg/kg) in whole shad (three 10-fish composites of slightly different size), fillets of largemouth bass (n=6 each size), and fillets of bluegill (n=6) collected from the K1007-P1 Pond, summer 2004.

Evaluation of pond vegetation

Only one small area in the K1007-P1 Pond proper, on a point at the east end of the pond, contained submerged, rooted vegetation (Figs. 14 and 15). Two species were present: *Chara sp.* (an alga) and species of *Potamogeton*. Occasionally between the rocks of the bank in other areas of the pond a fewer small individual plants of watercress (*Nasturtium offinalis*) were present. Because of the almost complete absence of rooted aquatic vegetation in the pond, no plots were established for more quantitative monitoring (any future vegetation changes can be compared to the presence of no plants in the summer of 2004).

The absence of vegetation throughout the P1 Pond is undoubtedly due to the presence of grass carp. The P3 – P5 ponds were extensively vegetated in 2004, likely due to grass carp mortality resulting from old age (grass carp were introduced to the upper ponds in 1989). Grass carp were observed grazing in shallow water in the P1 Pond, as were common carp (Fig. 15). Carp feeding in shallow zones moved through areas in groups of six or more, picking up and resuspending sediment with large "plumes" trailing behind each fish. The small area on the east point was the only area of the pond that was sufficiently shallow to prevent grass carp from feeding in the area.

Emergent plants were more prevalent in the waterways entering the P1 Pond, both at P3, where there is extensive aquatic vegetation, and at the small ponded areas to the southwest. This area is fed by a clear stream flowing from the upland areas south of route 58, and contains an extensive area of natural wetlands. A conspicuous emergent plant present in this area is water plantain (*Alisma subcordatum*).

Narrow fringe wetlands were evident around the P1 Pond, especially toward the east and north end, but these areas are tightly encroached upon by mowed areas and invasive plant species. In many areas, the vegetation is mowed to the pond shore. Fig. 14 shows the major plant community types surrounding the P1 Pond.

Evaluation of pond limnological conditions

Water Quality. Chemical and physical properties for the three permanent transects in the K1007-P1 Pond are presented in Tables 8 and 9. Except for nutrients, there was no consistent evidence of north-south trends for any transects; values were generally uniform from the north to the south side of the pond. Spatially from east to west, there was little difference among transects in temperature, conductivity, pH, or Secchi depth. DO was generally similar among transects, although it was notably lower at the deeper transects (A and B) on August 24. However, at the concentrations measured at those locations on that date (6.7 and 6.5 mg/L respectively), there was likely little stress to aquatic life in the pond. Conductivity values increased slightly through time but were still similar to conductivities typical of area bodies of water. The slight increase in conductivity through time is likely indicative of an increasing importance of ground water to the pond as the summer progressed. Turbidity and TSS tended to increase with increasing distance from the dam. Temporally, turbidity showed no clear trend of change, while TSS concentrations declined with time at Transects A and B, and showed no trend at Transect C.

Some spatial and temporal trends were observed in nutrient concentrations in the P1 Pond (Table 8). There was a tendency for all nutrients to be highest on the north side of the pond and lowest on the south side (raw data not shown) for Transects A and B, while such trends were either weak or non-existent along Transect C. From the east to the west ends of the pond, there was a tendency for nutrient concentrations to decline, but the greatest decline was from Transect B to Transect C. Temporally, total

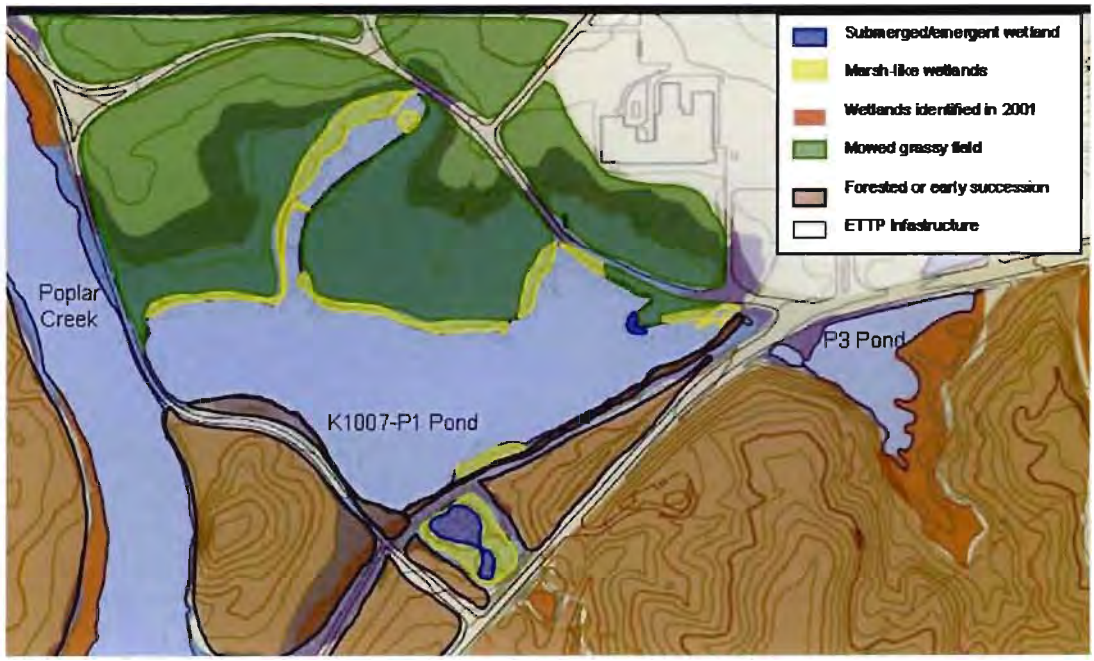

Fig. 14. Map showing major plant community types in and around the K1007-P1 Pond.

Fig. 15. Submerged vegetation in very shallow area on the east end of K1007-P1 Pond (left photo) and grass and common carp grazing (right photo). The vegetation is primarily *Chara sp.* (an alga). The white spots in the left photo are Canada goose feathers.

phosphorus (TP) and soluble reactive phosphorus (SRP) were highest on August 24 at all sites, and NO_3 was notably high in Transect A on August 24. Concentrations for most nutrients were lowest on September 16.

Total coliform counts exhibited distinct spatial (east to west) and temporal trends (Table 9), but no spatial trends within transects were evident. Highest counts were found at the shallow end of the pond and decreased towards the dam. Temporally, the highest counts were observed at all three transects on July 29, and the lowest counts were found on September 16. *E. coli,* which are present in the intestines of humans and other warm-blooded animals (and thus their feces), were present at all transects, although they were uncommon. EPA's single sample maximum allowable standard for *E. coli* is 576 colonies/100 mL for rarely used swimming areas and 406 colonies/100 mL for "light" swimming areas. The EPA and State of Tennessee recreational standard (whole body contact) for *E. coli* is 126 colonies/100 mL

Chlorophyll *a* concentrations exhibited strong temporal trends, but there was no clear indication of a spatial trend (Table 9). Chlorophyll concentrations were approximately two times higher in July than in August and September, while only a slight decline occurred from August to September.

To compare the water quality and biological results with expected conditions, the results for Secchi depth, chlorophyll *a*, and TP were analyzed with a Trophic State Index (TSI). Carlson (1977) developed the TSI and it is widely used to classify lakes and provide an estimate of their overall health. Separate index values are calculated for each parameter and can range from 0 (oligotrophic) to 100 (hypereutrophic). TSI values >40 are reflective of lower quality water. The TSI values obtained for the permanent transects are provided in Table 10. TSI values estimated from Secchi depth and chlorophyll *a* were indicative of eutrophic (TSI values of 60-70) to hypereutrophic (TSI values >70) conditions, while TSI values based on TP measurements were indicative of mesotrophic to eutrophic conditions.

Source flows and water quality. Obvious sources of flow to the K1007-P1 pond include the discharge from SD-100 and the outlet of the P3 Pond. Of those two sources, discharge from the P3 Pond was 5 and 11 times greater than at SD-100 during the high and low flow periods, respectively, (Table 11). The high-flow period did not provide the magnitude of flows hoped for. However, the approximately 10 cm of rain that fell in a 24-hr period due to the passing of Hurricane Ivan over the Oak Ridge area increased flow volumes at SD-100 and the P3 Pond by 240 and 71%, respectively, over the flows measured during the baseflow period. Based on flows measured from the four source locations and flows provided for the pond's dam, it was estimated that the four sources contributed ~83% of the total volume of water discharged from the P1 Pond on the high-flow day and ~73% on the baseline-flow day. These results indicate that other unidentified sources also contribute to the volume of water in the P1.

There were clear differences in some water quality measurements on the dates flows were measured (Table 11). The greatest differences were in DO and bacterial counts. During the high-flow period, DO concentrations were 4.8 mg/L at the P1 Pond dam and at the P3 Pond outfall. Dissolved oxygen concentrations below 5.0 mg/L can be exceptionally stressful and even lethal to biota if the condition persists for extended periods. Large fish are the most susceptible to low DO, and during the observed event, blue catfish exhibited behavior below the P1 dam consistent with DO stress (Fig. 16). The low DO concentration at this time was probably caused by extensive cloud cover that had occurred over a period of several days prior to sampling. Cloudy conditions limit photosynthesis, and any DO present can be consumed more rapidly than it is produced through photosynthesis. The combination of shallow water and wind action probably helped alleviate DO problems at the other sampling locations during this period.

Table 8. Chemical and physical data for permanent limnological transects in the K1007-P1 Pond
Values are means for each transect

Transect (distance from dam) / date[a]	Depth (cm)	Temperature (°C)	Conductivity (µS)	D.O. (mg/L)	pH	Turbidity (NTU)	Secchi depth (cm)	TSS (mg/L)	Nutrients (µg/L)			
									TP	SRP	NH_4	NO_3
A (506 m)												
July 29	113.3	28.2	196.3	9.9	8.9	25.7	39.3	37.9	21.2	10.2	7.6	27.6
August 24	119.7	27.0	220.3	6.7	8.5	24.7	51.3	24.2	29.4	14.6	12.7	89.6
September 16	109.7	27.9	239.4	9.9	8.7	22.7	42.3	23.5	22.1	9.0	2.9	6.0
B (305 m)												
July 29	191.3	28.2	197.8	8.2	8.7	21.0	44.0	20.8	20.0	8.4	12.3	22.8
August 24	194.0	27.1	217.0	6.5	8.4	21.6	57.3	19.7	27.1	11.5	3.8	9.0
September 16	188.0	28.3	234.7	10.0	8.7	19.7	43.7	17.1	20.1	4.7	0.6	3.8
C (152 m)												
July 29	238.7	28.2	198.2	8.4	8.6	17.0	46.3	16.0	18.7	7.5	5.6	19.1
August 24	251.3	27.0	215.8	7.9	8.7	14.6	62.0	12.3	26.1	10.2	5.9	11.4
September 16	238.3	29.0	237.3	9.9	8.8	19.2	45.7	20.8	18.7	4.6	0.5	3.1

[a]Transect A=easternmost transect from dam; Transect C=transect nearest dam.

Table 9. Bacteriological and chlorophyll *a* (Chl *a*) data for permanent limnological transects in the P1 Pond

Values are means for each transect

Transect (distance from dam) / date[a]	Coliforms (colonies/mL) *E. coli*	Coliforms (colonies/mL) Total	Chl *a* (µg/L)
A (506 m)			
July 29	0.5	122.2	80.5
August 24	0.2	32.5	43.8
September 16	0.0	10.0	41.4
B (305 m)			
July 29	0.2	32.7	85.8
August 24	0.2	25.3	54.4
September 16	0.3	10.3	38.1
C (152 m)			
July 29	0.0	16.0	82.7
August 24	0.3	15.3	45.8
September 16	0.5	7.7	38.3

[a]Transect A=easternmost transect from dam; Transect C=transect nearest dam.

Table 10. Trophic State Index (TSI) values for permanent limnological transects in the P1 Pond

Values are means for each transect

Transect (distance from dam)/date[a]	Secchi depth	Chlorophyll *a*	Total phosphorus
A (506 m)			
July 29	73	74	48
August 24	70	68	53
September 16	72	67	49
B (305 m)			
July 29	72	74	47
August 24	68	70	52
September 16	72	66	47
C (152 m)			
July 29	71	74	46
August 24	67	68	51
September 16	71	66	46

[a]Transect A=easternmost transect from dam; Transect C=transect nearest dam.

Total coliform and *E. coli* counts were exceptionally high on the date of the high-flow measurements (Table 11). The highest total coliform count was measured adjacent to SD-490, but high counts were also observed at SD-100 and SD-120. The highest *E. coli* count was measured at SD-100 on the high-flow day. Runoff from the adjacent grassy areas contaminated with goose feces is a likely source. Except for the P3 Pond outfall, bacterial counts measured on the low-flow day were considerably lower than on the high-flow day, low relative to those obtained from the permanent transects, and similar to those found at the P1 Pond dam, SD-100, and SD-120.

Depth profile. The P1 Pond has a length of ~638 m and an estimated surface area of 0.0934 km^2. Maximum depths (~200 cm) in the P1 Pond occurred between 65 and 125 m from the dam (Figs. 17 and 18). Depths around the perimeter of the pond were typically <60 cm at a distance of about 10 m from shore and at most locations of 545 m or more east of the dam. The area of the pond estimated to be ≤91 cm (~3 ft) deep is 0.0274 km^2 or ~30%.

An approximation of changes to the pond as a result of a 2.5 ft and 5 ft drop in pond surface water elevation is depicted in Figs. 19 and 20. Narrow channels of surface flow from the P3 Pond and incoming storm drains would be expected in the exposed areas of the pond.

SUMMARY

The summer 2004 ecological sampling effort supported two major tasks: (1) biological sampling necessary to complete an ecological risk assessment (ERA), and (2) ecological characterization of the K1007-P1 Pond in order to evaluate the assumptions supporting the eco-manipulation alternative to pond remediation.

Risk Assessment. For the ecological risk assessment, three ETTP ponds were compared to a reference site and evaluated as to contaminant accumulation in forage fish (to evaluate risks to terrestrial piscivores), and fish community health. As expected, the K1007-P1 Pond stands out as the most contaminated water body. The pond is also highly nutrient-enriched, as shown in the water quality studies, and the fish communities reflect that condition in having high fish biomass and a higher percentage of large fish. Select contaminants, such as chromium and PCBs, were also elevated in K901A fish relative to the reference, but in the case of PCBs, levels were more modest than those found at the P1 Pond. Of the four ponds surveyed, species diversity was the lowest at K901A, perhaps due to the greater restrictions to routine fish movement into the pond from downstream. In general, the K720 Slough was most like the reference site, with little bioaccumulation concern and a comparable fish community. PCBs were slightly elevated in K720 Slough fish over the reference site but were at or below levels found in fish from downstream waters (Poplar Creek/Clinch River). The fish community in the K720 Slough was even more diverse than the reference site, having more species and more sensitive species.

The fish community and bioaccumulation data presented in this report will be used to conduct a formal risk assessment as part of the ETTP Remedial Investigation.

Ecomanipulation remediation option. The purpose of the summer pond study was to address gaps in the knowledge necessary to make effective remedial decisions. There were a number of major assumptions regarding the current P1 Pond conditions that needed to be directly measured and validated in order to adequately consider the ecomanipulation option and to evaluate the likelihood of success of this option. The specific conditions that were assumed to contribute to the high PCB levels in fish (per the 2004 proposal), and an assessment of whether the assumption or condition was validated based on the pond study, is presented in Table 12.

Table 11. Flow and limnological data for known and suspected sources of water to the P1 Pond

Location/date[a]	Discharge (m^3/sec)	Mean depth (cm)	Temperature (°C)	Conductivity (µS/cm)	D.O. (mg/L)	pH	TSS (mg/L)	Coliforms (colonies/mL) *E. coli*	Coliforms (colonies/mL) Total
P1 Pond dam									
9/08/2004[b]	0.0662	-	24.8	211	4.8	7.5	30	3.5	72.5
9/24/2004[c]	0.0353	-	24.9	177	11.2	8.9	11.2	0	6
SD-490									
9/08/2004	0.0026	22.5	22.9	285	7.4	6.7	2.4	7.5	345
9/24/2004	0.0016	15.9	25.5	385	10.7	7.9	7.0	1	24.5
SD-100									
9/08/2004	0.0068	9.3	23.6	300	7.0	7.1	1.0	13.5	190
9/24/2004	0.002	3.3	23.2	318	8.1	7.9	1.0	1	18
SD-120									
9/08/2004	0.008	17.2	23.9	277	8.0	7.3	9.8	8	154.5
9/24/2004	0.0	12.9	28.2	257	12.1	8.7	10.0	1	16.5
P3 Pond outfall									
9/08/2004	0.0377	20.3	24.3	308	4.8	7.5	1.4	0	25.5
9/24/2004	0.022	10.6	23.1	263	9.4	8.9	5.0	0.5	17

[a]9/08/2004 = high flow conditions; 9/24/2005 = baseline flow conditions.
[b]Mean flow for 9/02 – 9/09/04.
[c]Mean flow for 9/23 – 9/29/04.

Fig. 16. Blue catfish swimming behavior downstream of the K1007-P1 coinciding with measured low DO levels at the outfall.

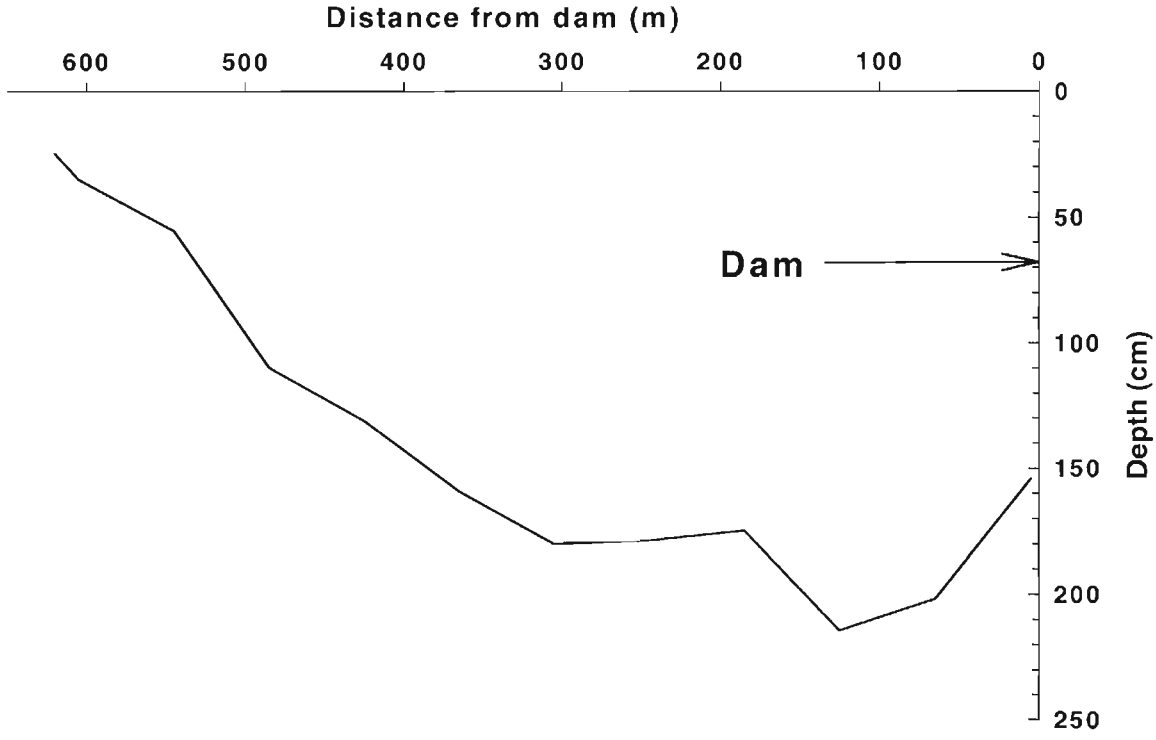

Fig. 17. Longitudinal depth profile for P1 Pond.
Plotted values are transect averages.

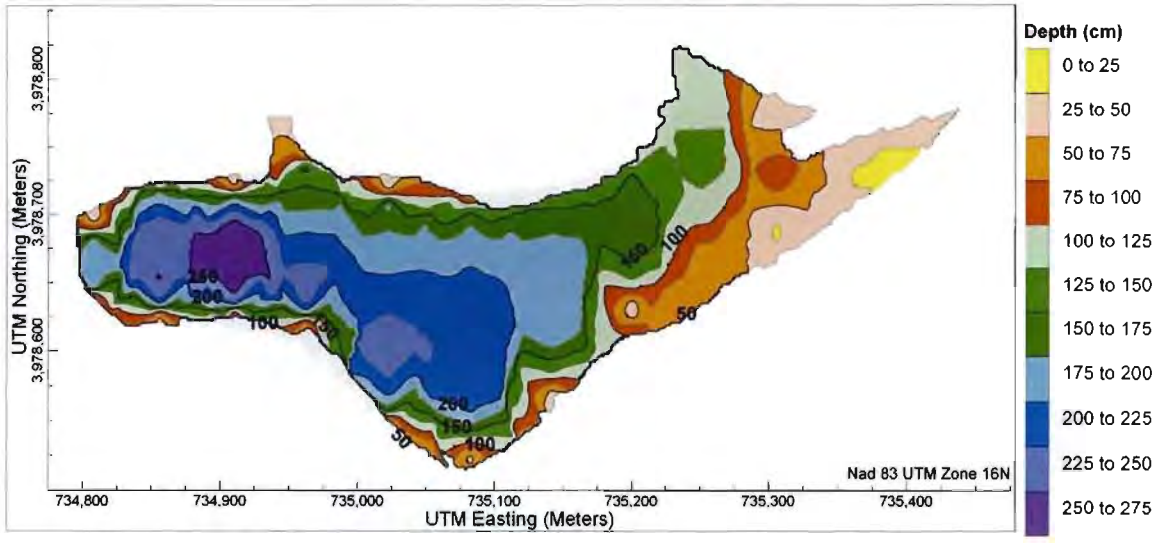

Fig. 18. Estimated depth contours (cm) of the P1 Pond.

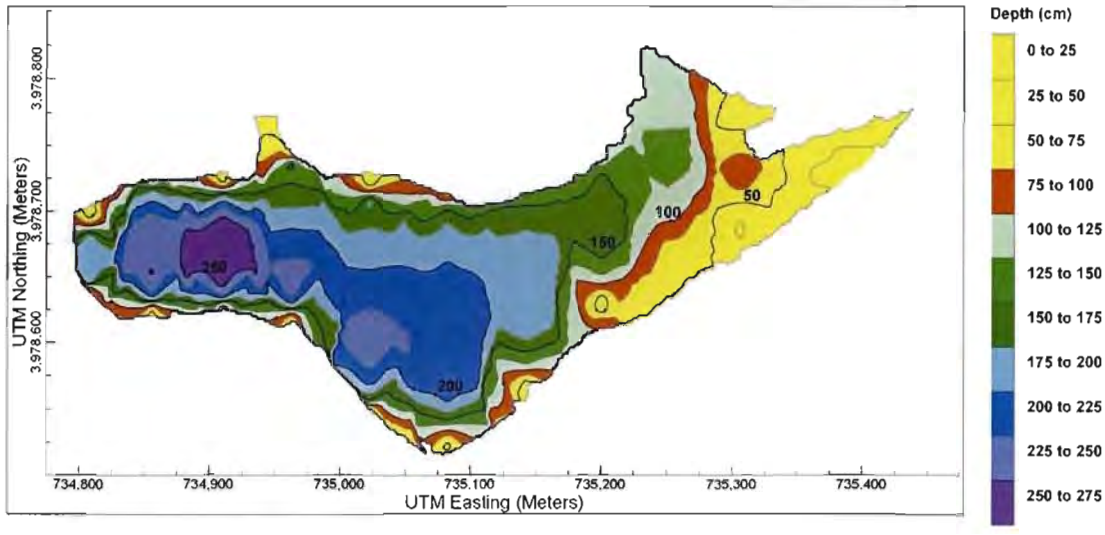

Fig 19. Base map representing a 75-cm (2.5 ft) drop in surface water elevation.
Areas highlighted in yellow would be "exposed" ground. Areas in "green" (100-200 cm) would be <3.2 ft deep and areas in blue (200-250 cm) would be up to 5.7 feet deep.

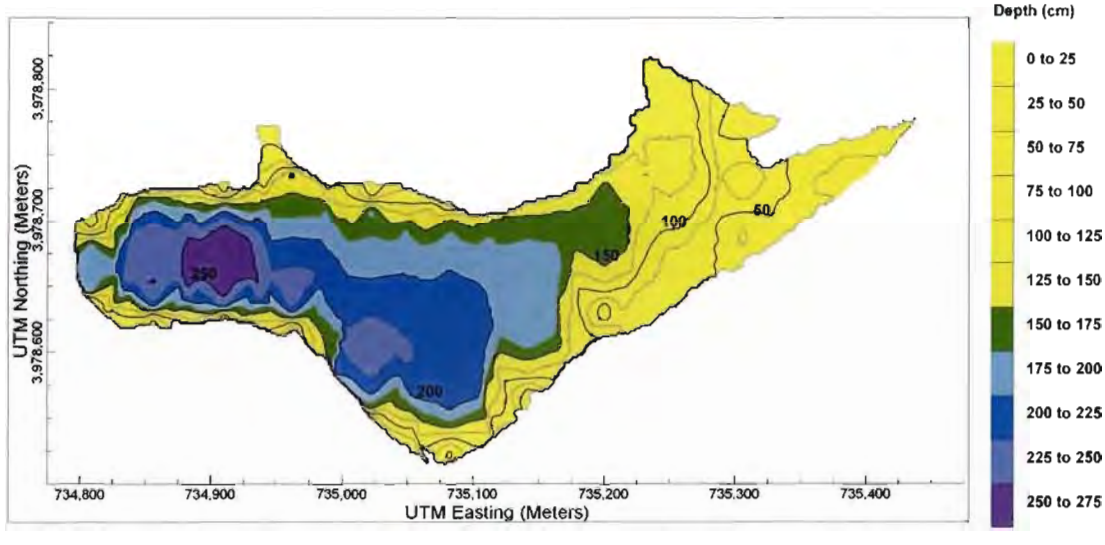

Fig 20. Base map representing a 150-cm (~5 ft) drop in surface water elevation.
Areas highlighted in yellow would be "exposed" ground.
Max depth in the remaining pond would be ~4 ft.

Table 12. Summary and validation of the major assumptions regarding current pond conditions
Results of the 2004 summer pond study were used to validate the assumptions

Conditions hypothesized to contribute to high levels of PCBs in K1007-P1 fish	Assessment of whether expected conditions were validated based on summer pond study
Fish community assumptions	
• The pond supports high numbers of non-native common carp and/or grass carp	• Verified the presence of both species; common carp were abundant, with highest biomass of four surveyed ponds
• Shad population numbers are high (due to high algal food sources and open water habitat)	• Verified presence of a substantial population of shad, although absolute numbers likely to be under-represented in present survey; highest density of all ponds surveyed
• Relatively high numbers of large and old largemouth bass that feed on shad are present	• The K1007- P1 Pond has a substantially higher proportion of large largemouth bass than any of the other ponds in the study
PCB transport and fate assumptions	
• PCB concentrations in shad are relatively high	• PCBs were very high in shad (~20 ppm)
• Shad interact with and ingest sediments	• High concentrations of soil-derived metals in whole shad indicate that they disturb and ingest sediments
• PCB concentrations in bluegill are relatively low	• PCB concentrations in bluegill fillets were <1 ppm
• PCB concentrations in largemouth bass are high	• PCBs in large bass were highest of ponds surveyed (4.5 ppm) but lower in 2004 than in previous years, possibly because of an unbalanced shad age/size distribution.
• Storm drain inputs and pond sediments are high in PCBs	• Caged clams contained up to four times higher concentrations of PCBs near outfalls than in pond discharge
• PCB fluxes to Poplar Creek are relatively high	• PCBs in clams at pond discharge indicate export to Poplar Creek

Conditions hypothesized to contribute to high levels of PCBs in K1007-P1 fish	Assessment of whether expected conditions were validated based on summer pond study
Pond vegetation assumptions	
• Submerged and emergent vegetation is near absent in the pond	• Verified in 2004 survey
• Summer conditions promote high suspended algal biomass (and potential DO problems?)	• High summer algal biomass was observed in the 2004 survey; low DO recorded at some locations
• Surrounding upland vegetation does not provide an adequate buffer to prevent erosion and use by geese	• Mowed lawn adjacent to the ponds was used heavily by geese (Fig. 15)
Pond limnological assumptions	
• The pond is comprised of almost all open water habitat (ideal for shad)	• Some woody and construction debris noted in pond but nearly entire acreage was open water habitat and adequate depth for shad
• The large portion of the pond is sufficiently shallow to allow for rooted emergent vegetation	• Approximately a third of the pond was found to be 3 ft deep or less on the survey dates; see bathymetric survey (Fig. 18)
• Suspended and flocculent sediment conditions are present	• Disturbance of sediments by carp was observed (Fig. 15). Soil in the gastrointestinal tracts of gizzard shad indicates re-suspension of sediments by this species
• High nutrient loading is present in the pond due to storm drain inputs and excessive numbers of geese	• Phosphorus concentrations are typical of enriched systems
• The total acreage of the pond represents the area where fish are available to human or ecological receptors	• Lowering the water level will reduce pond surface area substantially (Figs. 19 and 20).

Based on the data provided herein and summarized in Table 12, ecomanipulation appears to be a viable option for reducing pond risks due to PCB contamination. Potential manipulations (removal of fish species, planting of vegetation, etc.) need to be evaluated as to the likely effect and the relative cost, relative to other remedial options, as part of the ETTP Feasibility Study that will be conducted in spring 2005.

In addition to considering the benefits of PCB reductions in fish, other values that could be considered in evaluating remediation options include natural resource, aesthetic, regulatory (e.g., wetland mitigation), and recreational values. On the one hand the P1 pond is a highly enriched, eutrophic body of water that is in relatively poor ecological condition. On the other hand, the P1 Pond has natural resource value (e.g., waterfowl habitat). It appears to be not much different from its historical boundaries during high water flows and was likely to always have been wet or flooded ground prior to K-25 construction (Fig. 21). Addressing factors that contribute to poor water quality and habitat conditions, as proposed with the ecomanipulation option, could reduce unacceptable risks to humans and wildlife and at the same time enhance resource values.

Fig. 21. Aerial photo showing the P1 Pond and Poplar Creek area in 1942, prior to K-25 construction.

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APPENDIX A

RESULTS OF INDIVIDUAL ANALYSES

APPENDIX A.
RESULTS OF INDIVIDUAL ANALYSES

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	Lipids	%	0.41	
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1016	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1221	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1232	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1242	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1248	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1254	ug/kg	190	
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	PCB-1260	ug/kg	130	
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	Decachlorobiphenyl	ug/kg	10.5	
K1007-P1 POND	8/10/2004	Largemouth bass	M	29.0	344.0	REG	11910	K1007FA6101-1	Muscle	Tetrachloro-m-xylene	ug/kg	12.9	
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	Lipids	%	0.28	
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1016	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1221	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1232	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1242	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1248	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1254	ug/kg	160	
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	PCB-1260	ug/kg	110	
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	Decachlorobiphenyl	ug/kg	12.1	
K1007-P1 POND	8/10/2004	Largemouth bass	F	25.6	259.9	REG	11911	K1007FA6102-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.1	
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	Lipids	%	0.33	
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1016	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1221	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1232	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1242	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1248	ug/kg	16	U
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1254	ug/kg	190	
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	PCB-1260	ug/kg	150	
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	Decachlorobiphenyl	ug/kg	9.58	*
K1007-P1 POND	8/10/2004	Largemouth bass	M	28.1	275.7	REG	11912	K1007FA6103-1	Muscle	Tetrachloro-m-xylene	ug/kg	13.3	
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	Lipids	%	0.3	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1016	ug/kg	42	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1221	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1232	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1242	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1248	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1254	ug/kg	320	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	PCB-1260	ug/kg	180	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	Decachlorobiphenyl	ug/kg	10.9	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	24.9	203.0	REG	11913	K1007FA6104-1	Muscle	Tetrachloro-m-xylene	ug/kg	12.7	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	Lipids	%	0.3	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1016	ug/kg	39	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1221	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1232	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1242	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1248	ug/kg	32	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1254	ug/kg	290	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	PCB-1260	ug/kg	150	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	Decachlorobiphenyl	ug/kg	12.7	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	25.4	207.0	REG	11914	K1007FA6105-1	Muscle	Tetrachloro-m-xylene	ug/kg	13.9	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	Lipids	%	0.38	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1016	ug/kg	74	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1221	ug/kg	33	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1232	ug/kg	33	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1242	ug/kg	33	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1248	ug/kg	33	U
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1254	ug/kg	370	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	PCB-1260	ug/kg	190	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	Decachlorobiphenyl	ug/kg	12	
POND		bass											
K1007-P1	8/10/2004	Largemouth	F	22.6	146.9	REG	11915	K1007FA6106-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.4	
POND		bass											
K1007-P1	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	Lipids	%	0.24	
POND													
K1007-P1	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1016	ug/kg	32	U
POND													
K1007-P1	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1221	ug/kg	32	U
POND													
K1007-P1	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1232	ug/kg	32	U
POND													

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1242	ug/kg	32	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1248	ug/kg	32	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1254	ug/kg	200	
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	PCB-1260	ug/kg	320	
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	Decachlorobiphenyl	ug/kg	11.9	
K1007-P1 POND	8/10/2004	Bluegill	M	16.0	82.4	REG	11901	K1007FB6101-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.3	
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	Lipids	%	0.36	
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1016	ug/kg	71	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1221	ug/kg	71	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1232	ug/kg	71	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1242	ug/kg	71	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1248	ug/kg	71	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1254	ug/kg	560	
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	PCB-1260	ug/kg	610	
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	Decachlorobiphenyl	ug/kg	14.9	
K1007-P1 POND	8/10/2004	Bluegill	M	16.1	71.5	REG	11902	K1007FB6102-1	Muscle	Tetrachloro-m-xylene	ug/kg	16.1	
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	Lipids	%	0.3	
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1016	ug/kg	65	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1221	ug/kg	65	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1232	ug/kg	65	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1242	ug/kg	65	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1248	ug/kg	65	U
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1254	ug/kg	450	
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	PCB-1260	ug/kg	640	
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	Decachlorobiphenyl	ug/kg	13.4	
K1007-P1 POND	8/10/2004	Bluegill	M	16.7	80.2	REG	11903	K1007FB6103-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.1	
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	Lipids	%	0.37	
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1016	ug/kg	69	U
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1221	ug/kg	69	U
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1232	ug/kg	69	U
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1242	ug/kg	69	U
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1248	ug/kg	69	U
K1007-P1 POND	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1254	ug/kg	450	
K1007-P1	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	PCB-1260	ug/kg	470	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND K1007-P1	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	Decachlorobiphenyl	ug/kg	14	
POND K1007-P1	8/10/2004	Bluegill	M	15.1	61.8	REG	11904	K1007FB6104-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.3	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	Lipids	%	0.33	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1016	ug/kg	140	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1221	ug/kg	65	U
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1232	ug/kg	65	U
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1242	ug/kg	65	U
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1248	ug/kg	65	U
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1254	ug/kg	530	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	PCB-1260	ug/kg	550	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	Decachlorobiphenyl	ug/kg	12.9	
POND K1007-P1	8/10/2004	Bluegill	M	15.3	75.4	REG	11905	K1007FB6105-1	Muscle	Tetrachloro-m-xylene	ug/kg	14.5	
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	Lipids	%	0.18	
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1016	ug/kg	28	U
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1221	ug/kg	28	U
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1232	ug/kg	28	U
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1242	ug/kg	28	U
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1248	ug/kg	28	U
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1254	ug/kg	220	
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	PCB-1260	ug/kg	260	
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	Decachlorobiphenyl	ug/kg	10.5	
POND K1007-P1	8/10/2004	Bluegill	M	16.8	89.3	REG	11900	K1007FB6106-1	Muscle	Tetrachloro-m-xylene	ug/kg	13.5	
POND K1007-P1	8/10/2004	Gizzard shad	M	16.8	89.3	REG	11907	K1007FC6101-1	Whole	Lipids	%	9.2	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Lithium	mg/kg	0.23	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Boron	mg/kg	0.13	B
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Barium	mg/kg	2.3	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Cobalt	mg/kg	0.17	N
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Copper	mg/kg	1.3	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Nickel	mg/kg	6.2	*EN
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Silver	mg/kg	0.077	B
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Sodium	mg/kg	770	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Arsenic	mg/kg	0.28	
POND K1007-P1	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Cadmium	mg/kg	0.031	BN

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Calcium	mg/kg	9600	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Aluminum	mg/kg	130	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Antimony	mg/kg	0.045	BN
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Chromium	mg/kg	1.2	N
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Selenium	mg/kg	0.51	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Thallium	mg/kg	0.038	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Vanadium	mg/kg	0.28	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Beryllium	mg/kg	0.012	B
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Magnesium	mg/kg	340	EN
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Manganese	mg/kg	17	N
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Potassium	mg/kg	2000	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Strontium	mg/kg	3.2	N
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Molybdenum	mg/kg	0.053	B
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Iron	mg/kg	310	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Lead	mg/kg	0.94	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Zinc	mg/kg	16	N
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Uranium	ug/kg	25	*E
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Mercury	mg/kg	0.045	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1016	ug/kg	3200	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1221	ug/kg	820	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1232	ug/kg	820	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1242	ug/kg	820	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1248	ug/kg	820	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1254	ug/kg	9300	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	PCB-1260	ug/kg	4100	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.752	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.208	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.223	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.131	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.969	J
K1007-P1	8/10/2004	Gizzard		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,6,7,8-	ng/kg	0.329	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND		shad								Hexachlorodibenzofuran			
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.406	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.178	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.706	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	7.36	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.485	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	9.59	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.0921	U
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	166	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	72	
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	14.1	B
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.11	J
K1007-P1 POND	8/10/2004	Gizzard shad		18.3	59.0	REG	11907	K1007FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	2.42	BJ
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Lipids	%	6.5	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Lithium	mg/kg	0.28	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Iron	mg/kg	400	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Lead	mg/kg	0.76	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Zinc	mg/kg	16	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Boron	mg/kg	0.18	B
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Barium	mg/kg	3.5	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Cobalt	mg/kg	0.21	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Copper	mg/kg	1.7	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Nickel	mg/kg	4.1	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Silver	mg/kg	0.12	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Sodium	mg/kg	730	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Arsenic	mg/kg	0.31	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Cadmium	mg/kg	0.033	B
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Calcium	mg/kg	8800	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Aluminum	mg/kg	160	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Antimony	mg/kg	0.051	B
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Chromium	mg/kg	1.3	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Selenium	mg/kg	0.62	
K1007-P1	8/10/2004	Gizzard		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Thallium	mg/kg	0.038	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND		shad											
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Vanadium	mg/kg	0.36	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Beryllium	mg/kg	0.014	B
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Magnesium	mg/kg	330	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Manganese	mg/kg	20	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Potassium	mg/kg	2000	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Strontium	mg/kg	3.3	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Molybdenum	mg/kg	0.051	B
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Uranium	ug/kg	24	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Mercury	mg/kg	0.057	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1016	ug/kg	3700	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1221	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1232	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1242	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1248	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1254	ug/kg	15000	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	PCB-1260	ug/kg	5800	
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	2.93	BJ
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.849	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.394	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.261	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.102	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.98	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.36	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.717	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.14	U
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.723	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	6.18	J
K1007-P1 POND	8/10/2004	Gizzard shad		19.5	71.4	REG	11908	K1007FC6102-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.381	J
K1007-P1	8/10/2004	Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	2,3,4,7,8-	ng/kg	8.75	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND K1007-P1	8/10/2004	shad Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	Pentachlorodibenzofuran 2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.229	J
POND K1007-P1	8/10/2004	shad Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	127	J
POND K1007-P1	8/10/2004	shad Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	73	
POND K1007-P1	8/10/2004	shad Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	19.2	B
POND K1007-P1	8/10/2004	shad Gizzard		19.5	71.4	REG	11908	K1007FC6102-2	Whole	Octachlorodibenzofuran	ng/kg	1.54	J
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Lipids	%	5.1	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Lithium	mg/kg	0.2	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Iron	mg/kg	340	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Lead	mg/kg	0.72	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Zinc	mg/kg	17	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Boron	mg/kg	0.13	B
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Barium	mg/kg	3.3	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Cobalt	mg/kg	0.17	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Copper	mg/kg	1.5	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Nickel	mg/kg	5	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Silver	mg/kg	0.12	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Sodium	mg/kg	850	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Arsenic	mg/kg	0.25	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Cadmium	mg/kg	0.028	B
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Calcium	mg/kg	10000	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Aluminum	mg/kg	120	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Antimony	mg/kg	0.065	B
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Chromium	mg/kg	1	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Selenium	mg/kg	0.57	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Thallium	mg/kg	0.038	U
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Vanadium	mg/kg	0.28	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Beryllium	mg/kg	0.011	B
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Magnesium	mg/kg	330	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Manganese	mg/kg	20	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Potassium	mg/kg	2000	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Strontium	mg/kg	3.7	
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Molybdenum	mg/kg	0.054	B
POND K1007-P1	8/10/2004	shad Gizzard		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Uranium	ug/kg	33	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Mercury	mg/kg	0.059	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1016	ug/kg	7900	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1221	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1232	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1242	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1248	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1254	ug/kg	18000	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	PCB-1260	ug/kg	6800	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	2.81	BJ
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.77	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.169	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.368	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.103	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.881	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.23	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.471	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.14	U
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.76	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	5.56	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.379	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	8.72	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.28	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	109	J
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	73	
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	19.5	B
K1007-P1 POND	8/10/2004	Gizzard shad		20.7	80.9	REG	11909	K1007FC6103-2	Whole	Octachlorodibenzofuran	ng/kg	1.14	J
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Lipids	%	6.3	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Lithium	mg/kg	0.31	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Iron	mg/kg	440	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Lead	mg/kg	1	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Zinc	mg/kg	15	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Boron	mg/kg	0.18	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Barium	mg/kg	3.8	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Cobalt	mg/kg	0.24	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Copper	mg/kg	1.5	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Nickel	mg/kg	6.4	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Silver	mg/kg	0.12	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Sodium	mg/kg	860	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Arsenic	mg/kg	0.3	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Cadmium	mg/kg	0.034	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Calcium	mg/kg	11000	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Aluminum	mg/kg	180	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Antimony	mg/kg	0.032	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Chromium	mg/kg	1.5	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Selenium	mg/kg	0.57	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Thallium	mg/kg	0.038	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Vanadium	mg/kg	0.41	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Beryllium	mg/kg	0.016	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Magnesium	mg/kg	350	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Manganese	mg/kg	24	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Potassium	mg/kg	2000	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Strontium	mg/kg	4.1	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Molybdenum	mg/kg	0.046	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Uranium	ug/kg	33	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Mercury	mg/kg	0.076	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1016	ug/kg	4300	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1221	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1232	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1242	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1248	ug/kg	1600	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1254	ug/kg	16000	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REG	11917	K1007FD6101-1	Whole	PCB-1260	ug/kg	6600	
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	2.69	BJ
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.782	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.181	U
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.274	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.102	U
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.744	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.299	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.402	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.13	U
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.647	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	4.88	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.394	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	7.64	
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.216	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	101	J
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	72	
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	17.8	B
POND K1007-P1	8/10/2004	shad Gizzard		21.8	96.5	REG	11917	K1007FD6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.35	J
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Lipids	%	6.4	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Lithium	mg/kg	0.35	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Iron	mg/kg	580	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Lead	mg/kg	1.5	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Zinc	mg/kg	19	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Boron	mg/kg	0.2	B
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Barium	mg/kg	4.6	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Cobalt	mg/kg	0.32	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Copper	mg/kg	2.4	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Nickel	mg/kg	6.7	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Silver	mg/kg	0.17	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Sodium	mg/kg	920	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Arsenic	mg/kg	0.35	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Cadmium	mg/kg	0.041	B
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Calcium	mg/kg	11000	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Aluminum	mg/kg	210	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Antimony	mg/kg	0.032	B
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Chromium	mg/kg	1.6	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Selenium	mg/kg	0.66	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Thallium	mg/kg	0.038	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Vanadium	mg/kg	0.52	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Beryllium	mg/kg	0.021	B
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Magnesium	mg/kg	380	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Manganese	mg/kg	28	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Potassium	mg/kg	1900	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Strontium	mg/kg	4.5	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Molybdenum	mg/kg	0.048	B
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Uranium	ug/kg	50	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Mercury	mg/kg	0.08	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1016	ug/kg	2400	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1221	ug/kg	780	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1232	ug/kg	780	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1242	ug/kg	780	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1248	ug/kg	780	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1254	ug/kg	9000	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	PCB-1260	ug/kg	3700	
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Decachlorobiphenyl	ug/kg	0	X
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	4.23	BJ
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.45	J
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.215	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.217	J
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.123	U
POND K1007-P1	8/10/2004	shad Gizzard		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-	ng/kg	0.923	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
										dioxin			
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.181	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.488	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.153	U
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.756	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	4.33	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.607	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	8.38	
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.441	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	93.5	J
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	89	
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	28.6	B
K1007-P1 POND	8/10/2004	Gizzard shad		22.7	119.0	REG	11918	K1007FD6102-2	Whole	Octachlorodibenzofuran	ng/kg	2.56	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Lipids	%	3.3	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Lithium	mg/kg	0.36	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Iron	mg/kg	570	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Lead	mg/kg	1.2	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Zinc	mg/kg	16	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Boron	mg/kg	0.18	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Barium	mg/kg	3.7	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Cobalt	mg/kg	0.29	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Copper	mg/kg	1.6	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Nickel	mg/kg	9	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Silver	mg/kg	0.16	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Sodium	mg/kg	880	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Arsenic	mg/kg	0.31	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Cadmium	mg/kg	0.034	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Calcium	mg/kg	11000	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Aluminum	mg/kg	210	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Antimony	mg/kg	0.061	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Chromium	mg/kg	1.5	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Selenium	mg/kg	0.54	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Thallium	mg/kg	0.038	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Vanadium	mg/kg	0.51	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Beryllium	mg/kg	0.02	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Magnesium	mg/kg	380	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Manganese	mg/kg	28	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Potassium	mg/kg	1800	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Strontium	mg/kg	4.5	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Molybdenum	mg/kg	0.051	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Uranium	ug/kg	71	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Mercury	mg/kg	0.075	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1016	ug/kg	900	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1221	ug/kg	330	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1232	ug/kg	330	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1242	ug/kg	330	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1248	ug/kg	330	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1254	ug/kg	3600	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	PCB-1260	ug/kg	1900	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	3.02	BJ
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.16	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.241	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.396	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.138	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.713	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.316	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.43	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.174	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.351	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	2.71	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.352	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	4.06	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.107	U
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	60.3	J
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	70	
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	24.8	B
K1007-P1 POND	8/10/2004	Gizzard shad		23.3	121.1	REG	11919	K1007FD6103-2	Whole	Octachlorodibenzofuran	ng/kg	2.23	J
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Lipids	%	5.8	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Lithium	mg/kg	0.28	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Silver	mg/kg	0.14	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Sodium	mg/kg	860	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Arsenic	mg/kg	0.28	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Cadmium	mg/kg	0.034	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Calcium	mg/kg	9900	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Aluminum	mg/kg	180	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Antimony	mg/kg	0.035	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Chromium	mg/kg	1.5	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Selenium	mg/kg	0.65	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Thallium	mg/kg	0.038	U
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Vanadium	mg/kg	0.41	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Beryllium	mg/kg	0.016	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Magnesium	mg/kg	340	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Manganese	mg/kg	23	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Potassium	mg/kg	2000	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Strontium	mg/kg	3.8	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Molybdenum	mg/kg	0.049	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Iron	mg/kg	460	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Lead	mg/kg	1.1	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Zinc	mg/kg	15	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Boron	mg/kg	0.16	B
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Barium	mg/kg	3.7	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Cobalt	mg/kg	0.26	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Copper	mg/kg	1.5	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Nickel	mg/kg	6.8	
K1007-P1 POND	8/10/2004	Gizzard shad		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Uranium	ug/kg	33	
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Mercury	mg/kg	0.065	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1016	ug/kg	4000	
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1221	ug/kg	1600	U
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1232	ug/kg	1600	U
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1242	ug/kg	1600	U
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1248	ug/kg	1600	U
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1254	ug/kg	15000	
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	PCB-1260	ug/kg	6000	
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	3.23	BJ
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.08	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.36	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.163	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0859	U
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.972	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.454	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.488	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.182	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.657	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	5.87	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.585	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	9.29	
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.159	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	121	J
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	104	
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	21.8	B
POND		shad											
K1007-P1	8/10/2004	Gizzard		21.8	96.5	REP	11917	K1007FE6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.46	J
POND		shad											
K-720	8/13/2004	Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Lipids	%	1.7	
SLOUGH		shad											
K-720	8/13/2004	Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Lithium	mg/kg	0.31	
SLOUGH		shad											
K-720	8/13/2004	Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Iron	mg/kg	410	
SLOUGH		shad											
K-720	8/13/2004	Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Lead	mg/kg	0.4	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Zinc	mg/kg	12	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Boron	mg/kg	0.1	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Barium	mg/kg	3.7	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Cobalt	mg/kg	0.25	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Copper	mg/kg	0.88	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Nickel	mg/kg	4.8	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Silver	mg/kg	0.0051	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Sodium	mg/kg	890	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Arsenic	mg/kg	0.44	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Cadmium	mg/kg	0.014	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Calcium	mg/kg	8400	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Aluminum	mg/kg	180	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Antimony	mg/kg	0.037	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Chromium	mg/kg	0.43	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Selenium	mg/kg	0.57	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Thallium	mg/kg	0.038	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Vanadium	mg/kg	0.39	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Beryllium	mg/kg	0.018	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Magnesium	mg/kg	270	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Manganese	mg/kg	46	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Potassium	mg/kg	2300	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Strontium	mg/kg	6.3	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Molybdenum	mg/kg	0.016	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Uranium	ug/kg	47	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Mercury	mg/kg	0.054	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1016	ug/kg	17	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1221	ug/kg	17	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1232	ug/kg	17	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1242	ug/kg	17	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1248	ug/kg	17	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1254	ug/kg	140	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	PCB-1260	ug/kg	130	
SLOUGH K-720	8/13/2004	shad Gizzard		19.3	67.1	REG	11757	K720FA6101-1	Whole	Decachlorobiphenyl	ug/kg	14.8	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-1	Whole	Tetrachloro-m-xylene	ug/kg	13.7	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	0.908	BJ
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.439	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.148	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.122	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0764	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.354	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0836	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.223	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.097	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.168	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.535	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.175	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.52	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.0878	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	6.04	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	70	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	9.71	BJ
K-720 SLOUGH	8/13/2004	Gizzard shad		19.3	67.1	REG	11757	K720FA6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.511	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Lipids	%	7.7	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Lithium	mg/kg	0.33	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Silver	mg/kg	0.0051	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Sodium	mg/kg	900	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Arsenic	mg/kg	0.46	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Cadmium	mg/kg	0.017	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Calcium	mg/kg	9300	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Aluminum	mg/kg	180	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Antimony	mg/kg	0.038	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Chromium	mg/kg	0.43	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Selenium	mg/kg	0.57	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Thallium	mg/kg	0.038	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Vanadium	mg/kg	0.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Beryllium	mg/kg	0.018	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Magnesium	mg/kg	280	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Manganese	mg/kg	51	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Potassium	mg/kg	2200	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Strontium	mg/kg	7.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Molybdenum	mg/kg	0.021	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Iron	mg/kg	410	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Lead	mg/kg	0.43	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Zinc	mg/kg	13	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Boron	mg/kg	0.12	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Barium	mg/kg	3.8	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Cobalt	mg/kg	0.25	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Copper	mg/kg	0.79	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Nickel	mg/kg	3.2	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Uranium	ug/kg	54	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Mercury	mg/kg	0.044	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1016	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1221	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1232	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1242	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1248	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1254	ug/kg	220	E
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1260	ug/kg	150	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Decachlorobiphenyl	ug/kg	15.9	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	Tetrachloro-m-xylene	ug/kg	14.7	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-1	Whole	PCB-1254	ug/kg	280	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.2	BJ
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.381	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.139	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.122	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0962	U
K-720	8/13/2004	Gizzard		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,6,7,8-	ng/kg	0.356	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
SLOUGH		shad								Hexachlorodibenzo-p-dioxin			
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.101	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.12	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.126	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.114	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.555	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.12	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	2,3,4.7,8-Pentachlorodibenzofuran	ng/kg	0.435	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.1	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	6.01	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	64	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	9.55	BJ
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REG	11758	K720FB6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.499	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Lipids	%	5.5	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Lithium	mg/kg	0.28	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Iron	mg/kg	360	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Lead	mg/kg	0.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Zinc	mg/kg	11	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Boron	mg/kg	0.1	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Barium	mg/kg	3.6	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Cobalt	mg/kg	0.23	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Copper	mg/kg	0.8	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Nickel	mg/kg	2.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Silver	mg/kg	0.0084	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Sodium	mg/kg	850	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Arsenic	mg/kg	0.38	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Cadmium	mg/kg	0.017	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Calcium	mg/kg	8700	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Aluminum	mg/kg	160	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Antimony	mg/kg	0.044	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Chromium	mg/kg	0.38	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.7	68.0	REG	11759	K720FC6101-1	Whole	Selenium	mg/kg	0.54	
K-720	8/13/2004	Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Thallium	mg/kg	0.038	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Vanadium	mg/kg	0.37	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Beryllium	mg/kg	0.018	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Magnesium	mg/kg	240	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Manganese	mg/kg	43	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Potassium	mg/kg	2100	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Strontium	mg/kg	6.5	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Molybdenum	mg/kg	0.021	B
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Uranium	ug/kg	57	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Mercury	mg/kg	0.052	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1016	ug/kg	16	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1221	ug/kg	16	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1232	ug/kg	16	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1242	ug/kg	16	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1248	ug/kg	16	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1254	ug/kg	120	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	PCB-1260	ug/kg	86	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Decachlorobiphenyl	ug/kg	14.7	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-1	Whole	Tetrachloro-m-xylene	ug/kg	13.2	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.11	BJ
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.269	J
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.103	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.0984	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.08	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.244	J
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.08	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.0943	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.104	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.143	J
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.54	J
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.158	J
K-720	8/13/2004	Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	2,3,4,7,8-	ng/kg	0.46	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	Pentachlorodibenzofuran 2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.0704	U
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	5.41	J
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	76	
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	9.65	BJ
SLOUGH K-720	8/13/2004	shad Gizzard		19.7	68.0	REG	11759	K720FC6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.518	J
SLOUGH K-720	8/13/2004	shad Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Lipids	%	2.1	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Lithium	mg/kg	0.027	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Chromium	mg/kg	0.21	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Selenium	mg/kg	0.64	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Thallium	mg/kg	0.038	U
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Vanadium	mg/kg	0.046	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Beryllium	mg/kg	0.0019	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Magnesium	mg/kg	270	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Iron	mg/kg	46	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Lead	mg/kg	0.061	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Zinc	mg/kg	14	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Boron	mg/kg	0.049	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Barium	mg/kg	1.2	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Cobalt	mg/kg	0.06	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Copper	mg/kg	0.62	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Nickel	mg/kg	0.89	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Silver	mg/kg	0.0051	U
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Sodium	mg/kg	770	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Arsenic	mg/kg	0.16	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Cadmium	mg/kg	0.013	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Calcium	mg/kg	7000	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Aluminum	mg/kg	17	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Antimony	mg/kg	0.046	B
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Manganese	mg/kg	6.4	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Potassium	mg/kg	2500	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Strontium	mg/kg	5.3	
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Molybdenum	mg/kg	0.016	U
SLOUGH K-720	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Uranium	ug/kg	4	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Mercury	mg/kg	0.084	
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1016	ug/kg	17	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1221	ug/kg	17	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1232	ug/kg	17	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1242	ug/kg	17	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1248	ug/kg	17	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1254	ug/kg	8.3	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	PCB-1260	ug/kg	22	
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Decachlorobiphenyl	ug/kg	13.5	
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-1	Whole	Tetrachloro-m-xylene	ug/kg	13	
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	0.243	BJ
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.193	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.111	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.0831	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0718	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.0868	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0774	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.0808	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.0898	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.118	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.262	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0894	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.193	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.0736	U
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	2.36	J
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	74	
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	1.77	BJ
K-720 SLOUGH	8/13/2004	Spotted sucker		25.2	175.7	REG	11848	K720FD6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.176	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Lipids	%	7.5	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Lithium	mg/kg	0.3	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Beryllium	mg/kg	0.017	B

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Magnesium	mg/kg	280	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Manganese	mg/kg	49	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Potassium	mg/kg	2200	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Strontium	mg/kg	7.5	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Molybdenum	mg/kg	0.023	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Iron	mg/kg	370	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Lead	mg/kg	0.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Zinc	mg/kg	12	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Boron	mg/kg	0.11	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Barium	mg/kg	3.6	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Cobalt	mg/kg	0.23	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Copper	mg/kg	0.74	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Nickel	mg/kg	2.9	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Silver	mg/kg	0.0076	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Sodium	mg/kg	890	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Arsenic	mg/kg	0.42	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Cadmium	mg/kg	0.015	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Calcium	mg/kg	9500	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Aluminum	mg/kg	170	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Antimony	mg/kg	0.036	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Chromium	mg/kg	0.4	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Selenium	mg/kg	0.53	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Thallium	mg/kg	0.038	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Vanadium	mg/kg	0.37	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Uranium	ug/kg	54	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Mercury	mg/kg	0.058	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1016	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1221	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1232	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1242	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1248	ug/kg	16	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1254	ug/kg	170	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	PCB-1260	ug/kg	110	
K-720	8/13/2004	Gizzard		19.6	70.7	REP	11758	K720FE6101-1	Whole	Decachlorobiphenyl	ug/kg	15.4	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
SLOUGH		shad											
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-1	Whole	Tetrachloro-m-xylene	ug/kg	14.2	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.21	BJ
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.27	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.15	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.12	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0946	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.323	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.104	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.174	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.135	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.159	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.217	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.121	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.451	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.0863	U
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	6.05	J
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	63	
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	12.6	B
K-720 SLOUGH	8/13/2004	Gizzard shad		19.6	70.7	REP	11758	K720FE6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.567	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Lipids	%	6.6	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Lithium	mg/kg	0.23	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Iron	mg/kg	310	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Lead	mg/kg	0.34	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Zinc	mg/kg	18	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Boron	mg/kg	0.18	B
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Barium	mg/kg	3.7	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Cobalt	mg/kg	0.16	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Copper	mg/kg	1.1	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Nickel	mg/kg	2.2	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-1	Whole	Silver	mg/kg	0.0051	U
K-901A	8/6/2004	Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Sodium	mg/kg	920	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Arsenic	mg/kg	0.45	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Cadmium	mg/kg	0.014	B
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Calcium	mg/kg	9600	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Aluminum	mg/kg	140	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Antimony	mg/kg	0.057	B
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Chromium	mg/kg	11	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Selenium	mg/kg	0.74	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Thallium	mg/kg	0.038	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Vanadium	mg/kg	0.33	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Beryllium	mg/kg	0.0099	B
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Magnesium	mg/kg	360	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Manganese	mg/kg	11	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Potassium	mg/kg	2200	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Strontium	mg/kg	3.8	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Molybdenum	mg/kg	0.033	B
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Uranium	ug/kg	78	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Mercury	mg/kg	0.045	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1232	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1242	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1248	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1254	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1260	ug/kg	2300	
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1016	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-1	Whole	PCB-1221	ug/kg	320	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	3.43	BJ
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.99	J
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.156	U
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.3	J
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.34	J
K-901A	8/6/2004	shad Gizzard		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-	ng/kg	1.55	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
										dioxin			
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.282	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.415	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.116	U
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	1.13	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	3.17	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.606	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	4.55	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	2.44	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	24.2	J
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	73	
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	23.5	B
K-901A	8/6/2004	Gizzard shad		21.5	91.6	REG	11865	K901FA6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.37	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Lipids	%	7	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Lithium	mg/kg	0.29	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Iron	mg/kg	410	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Lead	mg/kg	0.4	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Zinc	mg/kg	17	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Boron	mg/kg	0.22	B
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Barium	mg/kg	5.6	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Cobalt	mg/kg	0.19	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Copper	mg/kg	1.3	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Nickel	mg/kg	2.5	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Silver	mg/kg	0.0051	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Sodium	mg/kg	970	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Arsenic	mg/kg	0.52	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Cadmium	mg/kg	0.015	B
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Calcium	mg/kg	12000	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Aluminum	mg/kg	170	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Antimony	mg/kg	0.032	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Chromium	mg/kg	11	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Selenium	mg/kg	0.78	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Thallium	mg/kg	0.038	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Vanadium	mg/kg	0.42	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Beryllium	mg/kg	0.015	B
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Magnesium	mg/kg	520	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Manganese	mg/kg	18	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Potassium	mg/kg	2100	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Strontium	mg/kg	5.3	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Molybdenum	mg/kg	0.048	B
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Uranium	ug/kg	86	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Mercury	mg/kg	0.047	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1016	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1221	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1232	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1242	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1248	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1254	ug/kg	660	U
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	PCB-1260	ug/kg	3100	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.652	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.186	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.772	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	2.51	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.528	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	4.6	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	2.85	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	24	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	67	
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	17.8	B
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.55	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	3.38	BJ
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.82	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.142	U

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.152	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.157	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	1.72	J
K-901A	8/6/2004	Gizzard shad		24.0	136.6	REG	11338	K901FB6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.124	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Lipids	%	4.7	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Arsenic	mg/kg	0.4	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Cadmium	mg/kg	0.012	B
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Calcium	mg/kg	9700	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Aluminum	mg/kg	130	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Antimony	mg/kg	0.032	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Chromium	mg/kg	8.7	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Selenium	mg/kg	0.7	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Thallium	mg/kg	0.038	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Vanadium	mg/kg	0.31	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Beryllium	mg/kg	0.011	B
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Magnesium	mg/kg	300	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Manganese	mg/kg	10	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Potassium	mg/kg	2100	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Strontium	mg/kg	3.7	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Molybdenum	mg/kg	0.041	B
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Lithium	mg/kg	0.2	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Iron	mg/kg	290	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Lead	mg/kg	0.3	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Zinc	mg/kg	17	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Boron	mg/kg	0.14	B
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Barium	mg/kg	3.5	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Cobalt	mg/kg	0.15	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Copper	mg/kg	0.96	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Nickel	mg/kg	2.4	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Silver	mg/kg	0.0051	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Sodium	mg/kg	790	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Uranium	ug/kg	70	
K-901A	8/6/2004	Gizzard		17.9	53.1	REG	11866	K901FC6101-1	Whole	Mercury	mg/kg	0.033	B

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
		shad											
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1016	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1221	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1232	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1242	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1248	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1254	ug/kg	330	U
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	PCB-1260	ug/kg	1800	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Decachlorobiphenyl	ug/kg	0	X
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-1	Whole	Tetrachloro-m-xylene	ug/kg	0	X
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	2.38	BJ
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	1.22	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.183	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.389	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.22	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	1.05	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.566	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.491	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.168	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.943	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	2.16	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.46	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	3.13	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	1.98	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	17	J
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	66	
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	10.5	B
K-901A	8/6/2004	Gizzard shad		17.9	53.1	REG	11866	K901FC6101-2	Whole	Octachlorodibenzofuran	ng/kg	1.48	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-1	Whole	Lipids	%	7.3	
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-1	Whole	Iron	mg/kg	600	
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-1	Whole	Lead	mg/kg	0.71	
FREELS	8/3/2004	Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Zinc	mg/kg	9.1	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Boron	mg/kg	0.15	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Barium	mg/kg	5	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Cobalt	mg/kg	0.57	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Copper	mg/kg	1.3	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Nickel	mg/kg	21	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Silver	mg/kg	0.0051	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Sodium	mg/kg	940	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Arsenic	mg/kg	0.36	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Cadmium	mg/kg	0.015	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Calcium	mg/kg	9300	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Aluminum	mg/kg	240	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Antimony	mg/kg	0.037	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Chromium	mg/kg	0.83	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Selenium	mg/kg	1	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Thallium	mg/kg	0.038	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Vanadium	mg/kg	0.64	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Beryllium	mg/kg	0.026	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Magnesium	mg/kg	270	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Manganese	mg/kg	46	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Potassium	mg/kg	2000	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Strontium	mg/kg	4.8	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Molybdenum	mg/kg	0.028	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Lithium	mg/kg	0.4	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Uranium	ug/kg	22	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Mercury	mg/kg	0.018	B
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1016	ug/kg	16	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1221	ug/kg	16	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1232	ug/kg	16	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1242	ug/kg	16	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1248	ug/kg	16	U
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1254	ug/kg	27	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	PCB-1260	ug/kg	44	
BEND FREELS	8/3/2004	shad Gizzard		28.0	231.3	REG	11867	RSFA6101-1	Whole	Decachlorobiphenyl	ug/kg	14.3	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-1	Whole	Tetrachloro-m-xylene	ug/kg	13.8	
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.71	BJ
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.196	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.125	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.184	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.126	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.452	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.158	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.401	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.136	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.382	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.403	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.134	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.378	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.22	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	2.97	J
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	65	
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	29.3	B
FREELS BEND	8/3/2004	Gizzard shad		28.0	231.3	REG	11867	RSFA6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.457	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Lipids	%	8.4	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Iron	mg/kg	600	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Lithium	mg/kg	0.4	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Lead	mg/kg	0.57	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Zinc	mg/kg	9.4	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Boron	mg/kg	0.17	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Barium	mg/kg	5.1	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Cobalt	mg/kg	0.47	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Copper	mg/kg	1.2	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Nickel	mg/kg	9	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Silver	mg/kg	0.0051	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Sodium	mg/kg	900	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Arsenic	mg/kg	0.37	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Cadmium	mg/kg	0.012	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Calcium	mg/kg	9400	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Aluminum	mg/kg	250	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Antimony	mg/kg	0.058	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Chromium	mg/kg	0.72	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Selenium	mg/kg	0.96	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Thallium	mg/kg	0.038	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Vanadium	mg/kg	0.65	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Beryllium	mg/kg	0.024	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Magnesium	mg/kg	280	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Manganese	mg/kg	41	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Potassium	mg/kg	2100	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Strontium	mg/kg	5	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Molybdenum	mg/kg	0.033	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Uranium	ug/kg	21	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Mercury	mg/kg	0.013	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1016	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1221	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1232	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1242	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1248	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1254	ug/kg	20	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	PCB-1260	ug/kg	35	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Decachlorobiphenyl	ug/kg	15.3	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-1	Whole	Tetrachloro-m-xylene	ug/kg	14	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.5	BJ
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.0682	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.0848	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.184	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.048	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.334	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0442	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.226	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.0728	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.456	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.27	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0666	U
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.357	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin	ng/kg	0.196	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	2,3,7,8-Tetrachlorodibenzofuran	ng/kg	2.71	J
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-p-dioxin-CL37	%	69	
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	Octachloro-dibenzo[b,e][1,4]dioxin	ng/kg	29.9	B
FREELS BEND	8/3/2004	Gizzard shad		25.6	175.1	REG	11868	RSFB6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.351	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Lipids	%	7.6	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Lithium	mg/kg	0.32	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Iron	mg/kg	550	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Lead	mg/kg	0.55	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Zinc	mg/kg	8.3	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Boron	mg/kg	0.16	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Barium	mg/kg	4.3	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Cobalt	mg/kg	0.5	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Copper	mg/kg	1.1	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Nickel	mg/kg	8.6	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Silver	mg/kg	0.0051	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Sodium	mg/kg	860	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Arsenic	mg/kg	0.38	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Cadmium	mg/kg	0.011	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Calcium	mg/kg	8200	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Aluminum	mg/kg	230	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Antimony	mg/kg	0.05	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Chromium	mg/kg	0.67	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Selenium	mg/kg	0.86	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Thallium	mg/kg	0.038	U
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-1	Whole	Vanadium	mg/kg	0.59	

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
BEND		shad											
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Beryllium	mg/kg	0.022	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Magnesium	mg/kg	260	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Manganese	mg/kg	47	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Potassium	mg/kg	2100	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Strontium	mg/kg	5.1	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Molybdenum	mg/kg	0.031	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Uranium	ug/kg	16	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Mercury	mg/kg	0.0097	B
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1016	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1221	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1232	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1242	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1248	ug/kg	16	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1254	ug/kg	23	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	PCB-1260	ug/kg	35	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Decachlorobiphenyl	ug/kg	15.7	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-1	Whole	Tetrachloro-m-xylene	ug/kg	13.4	
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	ng/kg	1.12	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,4,6,7,8-Heptachlorodibenzofuran	ng/kg	0.174	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,4,7,8,9-Heptachlorodibenzofuran	ng/kg	0.111	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.177	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,4,7,8-Hexachlorodibenzofuran	ng/kg	0.0703	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	ng/kg	0.315	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,6,7,8-Hexachlorodibenzofuran	ng/kg	0.136	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	ng/kg	0.194	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,7,8,9-Hexachlorodibenzofuran	ng/kg	0.114	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzo-p-dioxin	ng/kg	0.27	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	1,2,3,7,8-Pentachlorodibenzofuran	ng/kg	0.35	J
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	2,3,4,6,7,8-Hexachlorodibenzofuran	ng/kg	0.0962	U
FREELS BEND	8/3/2004	Gizzard shad		23.4	133.8	REG	11869	RSFC6101-2	Whole	2,3,4,7,8-Pentachlorodibenzofuran	ng/kg	0.256	J
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-	ng/kg	0.24	J

Sta_Name	Date	Species	Sex	Length (cm)	Weight (g)	Smp_ Type	BMP ID	Proj_ Sample_ID	Tissue	Chemical_Name	Units	Results	Rslt qual
BEND		shad								p-dioxin			
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-2	Whole	2,3,7,8-	ng/kg	2.58	J
BEND		shad								Tetrachlorodibenzofuran			
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-2	Whole	2,3,7,8-Tetrachlorodibenzo-	%	59	
BEND		shad								p-dioxin-CL37			
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-2	Whole	Octachloro-	ng/kg	22.3	
BEND		shad								dibenzo[b,e][1,4]dioxin			
FREELS	8/3/2004	Gizzard		23.4	133.8	REG	11869	RSFC6101-2	Whole	Octachlorodibenzofuran	ng/kg	0.453	J
BEND		shad											

Keycodes for Rsltqual:

B = Analyte also found in blank
J = Estimated concentration
U = Analyte not detected
X = Internal standard not quantified because of dilution
E = Analyte exceeds calibration range
N = Spike recovery outside control limits

APPENDIX B

LENGTHS AND WEIGHTS IN COMPOSITES FOR SPECIAL ETTP SITE-WIDE REMEDIAL INVESTIGATION - ECOLOGICAL SAMPLING

APPENDIX B.
LENGTHS AND WEIGHTS IN COMPOSITES FOR
SPECIAL ETTP SITE-WIDE REMEDIAL INVESTIGATION - ECOLOGICAL SAMPLING

Date	Site	Species	BMAP Tag #	Length (cm)	Weight (g)
8/3/04	Freels Bend	Gizzard shad	11867	29.3	228.2
				30.6	314.5
				29.1	254.3
				25.3	185.0
				29.0	216.4
				25.9	191.4
				29.0	249.8
				26.6	214.2
				27.1	222.0
				27.9	236.8
			mean	**28.0**	**231.3**
8/3/04	Freels Bend	Gizzard shad	11868	25.7	180.8
				26.0	185.1
				25.9	171.9
				25.6	167.7
				25.1	155.1
				25.7	170.8
				26.9	207.0
				26.0	201.1
				24.6	146.6
				24.8	164.8
			mean	**25.6**	**175.1**
8/3/04	Freels Bend	Gizzard shad	11869	21.1	91.2
				21.0	91.0
				20.9	83.7
				21.0	89.8
				23.2	118.1
				24.5	151.1
				23.5	150.3
				26.3	172.4
				26.1	200.9
				26.0	189.6
			mean	**23.4**	**133.8**
8/6/04	K901A	Gizzard shad	11338	21.9	103.1
				23.0	119.8
				22.7	119.5
				23.4	126.4
				23.2	110.7
				27.2	205.5
				22.8	108.9
				27.1	184.4
				24.1	133.8
				24.1	153.9
			mean	**24.0**	**136.6**

Date	Site	Species	BMAP Tag #	Length (cm)	Weight (g)
8/6/04	K901A	Gizzard shad	11865	21.4	96.6
				21.4	87.5
				22.0	98.4
				22.2	97.5
				21.8	101.1
				22.6	111.0
				21.2	82.6
				21.3	92.4
				20.4	75.5
				20.6	73.6
			mean	**21.5**	**91.6**
8/6/04	K901A	Gizzard shad	11866	19.4	62.7
				17.0	46.0
				19.0	56.6
				16.1	42.2
				19.6	66.0
				19.6	73.2
				15.0	29.3
				17.6	51.7
				16.6	40.9
				19.4	62.0
			mean	**17.9**	**53.1**
8/11/04	1007-P1	Gizzard shad	11917	21.5	98.9
				21.4	88.5
				22.0	90.0
				22.1	96.5
				21.8	103.1
				21.6	94.3
				21.7	102.3
				22.0	90.1
				21.8	107.6
				21.8	93.8
			mean	**21.8**	**96.5**
8/11/04	1007-P1	Gizzard shad	11918	23.8	141.4
				24.5	145.6
				23.5	121.5
				23.4	132.1
				21.2	102.8
				22.3	119.7
				21.8	101.9
				22.5	116.6
				22.2	105.5
				21.7	103.2
			mean	**22.7**	**119.0**

Date	Site	Species	BMAP Tag #	Length (cm)	Weight (g)
8/11/04	1007-P1	Gizzard shad	11919	23.0	118.0
				23.5	108.7
				22.8	117.0
				24.7	154.7
				24.0	147.0
				23.9	125.6
				22.0	107.8
				23.4	108.4
				23.9	123.5
				21.8	100.6
			mean	**23.3**	**121.1**
8/11/04	1007-P1	Gizzard shad	11907	18.5	64.8
				17.5	52.5
				17.7	48.9
				18.2	55.1
				18.1	55.2
				18.7	61.5
				18.5	64.0
				19.0	63.1
				18.5	63.6
				18.4	61.0
			mean	**18.3**	**59.0**
8/11/04	1007-P1	Gizzard shad	11908	18.4	59.6
				19.0	62.3
				18.7	67.2
				20.5	75.6
				20.0	76.8
				20.8	81.3
				20.0	76.0
				19.9	85.0
				19.2	67.5
				18.7	62.8
			mean	**19.5**	**71.4**
8/11/04	1007-P1	Gizzard shad	11909	20.5	91.2
				21.1	85.1
				20.1	74.3
				20.5	85.9
				20.5	74.6
				20.0	69.0
				20.8	80.3
				21.4	86.6
				21.0	76.4
				20.8	85.1
			mean	**20.7**	**80.9**

Date	Site	Species	BMAP Tag #	Length (cm)	Weight (g)
8/13/04	K720	Gizzard shad	11757	18.2	55.0
				20.7	83.0
				19.7	73.6
				19.8	73.3
				18.7	62.1
				20.3	72.9
				17.7	54.1
				17.1	54.3
				20.2	69.9
				20.4	72.9
			mean	**19.3**	**67.1**
8/13/04	K720	Gizzard shad	11758	17.3	49.2
				15.6	44.6
				20.7	84.4
				20.1	78.9
				20.0	70.1
				21.4	87.8
				20.1	75.3
				21.2	77.9
				20.4	71.9
				19.5	67.0
			mean	**19.6**	**70.7**
8/13/04	K720	Gizzard shad	11759	20.0	68.7
				20.5	70.2
				18.6	66.0
				19.5	70.5
				20.0	68.4
				19.5	56.5
				19.8	62.2
				21.5	87.4
				21.6	91.0
				16.0	38.6
			mean	**19.7**	**68.0**
8/13/04	K720	Channel catfish	11847	34.0	280.5
8/13/04	K720	Spotted sucker	11848	27.4	198.8
				30.5	297.0
				24.7	150.2
				18.2	56.7
			mean	**25.2**	**175.7**

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