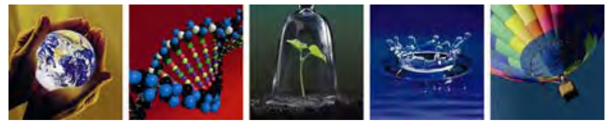

BASELINE ECOLOGICAL RISK ASSESSMENT
Undeveloped Stony Creek Floodplain
Noblesville, Indiana

Prepared for:

Bridgestone Americas
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Nashville, Tennessee

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ACRONYMS AND ABBREVIATIONS

%	percent
95% UCL	95% upper confidence limit on the mean
AOC	Administrative Order on Consent
AUF	area use factor
BAF	bioaccumulation factor
BCA	bias-corrected accelerated
BERA	baseline ecological risk assessment
CILTI	Central Indiana Land Trust Incorporated
cm	centimeter
COPC	chemical of potential concern
CSM	conceptual site model
DBH	diameter at breast height
DQO	data quality objectives
EC10	effect concentrations associated with a 10% difference in response from the control
EC20	effect concentration associated with a 20% difference in response from the control
ENVIRON	ENVIRON International Corporation
EPC	exposure point concentration
ERA	ecological risk assessment
ESL	ecological screening level
ft	foot or feet
Firestone	Bridgestone America's Tire Operation, LLC
g	gram(s)
g/kg-day	gram(s) per kilogram body weight per day
GPS	Global Positioning System
HQ	hazard quotient
IDEM	Indiana Department of Environmental Management
IDNR	Indiana Department of Natural Resources
in	inch(es)
kcal/g	kilocalorie(s) per gram
kcal/kg-day	kilocalorie(s) per kilogram body weight per day
kg/day	kilogram(s) per day
km	kilometer(s)
K_{ow}	octanol-water partitioning coefficient
LOAEL	lowest observed adverse effect level
m	meter(s)
mg/kg	milligram(s) per kilogram
mg/kg-day	milligram(s) per kilogram body weight per day
mg COPC/kg food	milligrams of COPC per kilogram of food
NOAEL	no observed adverse effect level
NWI	National Wetland Inventory
PCB	polychlorinated biphenyl

QA/QC	quality assurance/quality control
ROI	receptor of interest
SCSIP	Stony Creek Supplemental Investigation Project
SETAC	Society of Environmental and Toxicology and Chemistry
SLERA	Screening-level ecological risk assessment
SWAC	spatially-weighted average concentration
TEF	toxic equivalency factor
TOC	total organic carbon
TRV	toxicity reference value
UCL	upper confidence limit
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
µg/kg	microgram per kilogram

EXECUTIVE SUMMARY

ENVIRON International Corporation (ENVIRON) prepared this baseline ecological risk assessment (BERA) for the undeveloped floodplain of Stony Creek between the confluence with Wilson Ditch and Allisonville Road (the study area), in Noblesville, Indiana, on behalf of Bridgestone Americas Tire Operations, LLC (Firestone). The purpose of this BERA is to evaluate potential ecological risks from exposure to polychlorinated biphenyls (PCBs) in floodplain soil and terrestrial prey in the study area. This BERA was conducted because further ecological evaluation was determined to be necessary based on concentrations of PCBs in some floodplain soil samples collected from the study area exceeded the U.S. Environmental Protection Agency (USEPA) Region 5's Ecological Screening Level (ESL) for soil.

The BERA has four main elements: 1) problem formulation; 2) exposure assessment; 3) effects assessment; and 4) risk characterization. The approach used in this BERA is consistent with USEPA (1992, 1997, 1998, and 2001) guidance. This BERA evaluates whether PCBs in soil and terrestrial prey are likely to adversely affect birds and mammals that may forage within the study area.

Problem formulation provides the foundation for the BERA by selecting chemicals of potential concern (COPCs), defining the conceptual site model, identifying receptors of interest (ROIs), and selecting assessment and measurement endpoints for subsequent evaluation. Consistent with the 2001 Administrative Order on Consent (AOC), PCBs are the sole COPC outside of the Firestone property boundaries. Consequently, all investigation and remediation programs conducted downstream of the Firestone property boundaries have focused exclusively on PCBs, and they are the only target analyte and the only COPC.

Environmental media relevant to this BERA for which analytical data are available include floodplain soil, terrestrial invertebrates, and small mammals. Mean and 95 percent upper confidence limits on the mean (95% UCL) concentrations of PCBs in floodplain surface soil are 2.5 milligrams per kilogram (mg/kg) and 5.5 mg/kg, respectively. Mean and 95% UCL concentrations of PCBs in invertebrates are 0.44 mg/kg and 0.70 mg/kg, respectively. Mean and 95% UCL concentrations of PCBs in small mammals are 0.35 mg/kg and 0.81 mg/kg, respectively. Mean and 95% UCL concentrations are used to characterize the most likely and high end exposures, respectively.

The following assessment and measurement endpoints are evaluated in this BERA:

1. Survival and reproduction of invertivorous and carnivorous bird populations foraging in the floodplain of Stony Creek: Comparison of estimated PCB doses for American robins and American kestrels to species-specific toxicity data (expressed as doses) derived from the scientific literature.

2. Survival and reproduction of insectivorous and carnivorous mammal populations foraging in the floodplain of Stony Creek: a) Comparison of estimated PCB doses for short-tailed shrew, red fox, mink, and Indiana bat to toxicity data (expressed as doses) derived from the scientific

literature; b) comparison of estimated PCB body burdens in mink to toxicity data (expressed as tissue concentrations) derived from the scientific literature.

Risks to invertivorous birds are evaluated based on estimated exposures of American robins to PCBs. The exposure calculations incorporate site-specific biological tissue data (terrestrial invertebrates) and soil data collected throughout the Stony Creek study area. In the absence of any avian toxicity studies suitable for derivation of a dose response curve, risks are characterized by comparing the most likely and high end doses that may occur from dietary exposure to literature-derived no observed adverse effect level (NOAEL) and lowest observed adverse effect level (LOAEL) values. Hazard quotient (HQs)—the ratio of estimated exposure to the effects metric—for robins range from 0.04 to 0.6, depending upon the exposure estimate and effects metric used. Most likely and high end exposure estimates are both well below the NOAEL and the LOAEL. Therefore, adverse effects are not predicted for individuals or populations of American robins and other invertivorous birds that forage within the Stony Creek floodplain.

Risks to carnivorous birds are evaluated based on estimated exposures of American kestrels to PCBs. The calculations incorporate site-specific biological tissue data (terrestrial invertebrates and small mammals) collected throughout the Stony Creek study area. In the absence of any avian toxicity studies suitable for derivation of a dose response curve, risks are characterized by comparing the most likely and high end doses that may occur from dietary exposure to NOAEL and LOAEL values from a species-specific toxicity study (Fernie et al. 2001, 2003). HQs for kestrels range from 0.003 to 0.3. Because both the most likely and high end doses are below the selected NOAEL and LOAEL values, there are unlikely to be adverse effects in even the most highly exposed individual kestrels and other carnivorous birds, including bald eagles, foraging within the Stony Creek floodplain.

Risks to carnivorous small mammals are evaluated based on estimated exposures for short-tailed shrews. The calculations incorporate site-specific biological tissue data (terrestrial invertebrates and small mammals) and soil data collected throughout the Stony Creek study area. Risks are characterized by comparing the most likely and high end doses that may occur from dietary exposure to a dose response curve based on reductions in litter size in Sherman rats (*Rattus sp.*) (Linder et al. 1974). The most likely and high end exposure estimates for short-tailed shrew are well below the EC10 (i.e., effect concentrations associated with a 10% difference in response [i.e., reproduction] from the control) and EC20 (i.e., effect concentrations associated with a 20% difference in response from the control) from the dose response curve. Litter sizes are expected to be within 1% of control groups, which is well within the range of natural variability. In addition, a field study from another floodplain with PCB soil concentrations greater than those along Stony Creek, and with PCB body burdens in shrews up to two orders of magnitude higher than those observed along Stony Creek, reported no detectable effects on shrew population demographics (Boonstra and Bowman 2003). Therefore, there are unlikely to be any adverse effects in even the most highly exposed individual shrews or other carnivorous small mammals foraging within the Stony Creek floodplain.

Risks to carnivorous medium-sized mammals are evaluated based on multiple lines of evidence and two ROIs—red fox and mink. Because mink are known to be particularly sensitive to PCBs, they are evaluated separately from other medium-sized carnivorous mammals. The calculations incorporate site-specific biological tissue data (terrestrial invertebrates and small mammals) and soil data collected throughout the Stony Creek study area. Potential risks to fox are characterized by comparing the most likely and high end doses that may occur from dietary exposure to a dose response curve derived from Linder et al. (1974) to predict reductions in litter size relative to controls and the EC10 and EC20 from the curve. The most likely and high end exposure estimates for red fox are well below the EC10 and EC20. Litter sizes are expected to be within 1% of controls, which is well within the range of natural variability. Therefore, there are unlikely to be any adverse effects in even the most highly exposed individual red foxes or other medium-sized non-mustelid mammals foraging within the study area.

Risks to mink are characterized by comparing most likely and high end doses and body burdens to dose response curves, in order to predict reductions in kit survival per mated female and the EC10 and EC20 from the curves. Under the most likely exposure scenario, the number of surviving kits per mated female is predicted to be within 1% of control animals, based on dietary dose and body burden estimates. This negligible reduction in productivity is well within the range of natural variability. Reproduction for the most highly exposed individual mink is predicted to be reduced by 44% based on the dose estimates and by 33% based on the body burden estimates. Because the body burden estimates provide a better fit of PCB exposure to toxic response data than the dietary dose metrics (Fuchsman et al. 2008), the body burden-based findings are given greater weight than the dose-based findings. Given the size of the study area relative to the minimum reported home range area for mink, the high end exposure scenario likely represents only one to three mink that forage exclusively within the study area. Even this estimate is conservative, given that a central tenet of ecology, optimal foraging theory (MacArthur and Pianka 1966), asserts that organisms forage in the manner that maximizes their energy intake per unit time. Thus, a mink's reliance on the study area for 100% of prey consumed, when superior foraging habitat (i.e., the White River) exists nearby, would be ecologically inefficient and contrary to optimal foraging theory. Thus, the one to three mink that forage exclusively within the study area, in all likelihood, are purely hypothetical. If such mink do exist, however, they represent less than 3% of the regional population of mink. This estimate is based on the riparian habitat within a 10-mile radius of the study area, land cover, proximity to waterbodies, and the home range area for mink (Allen 1986), which together indicate that the surrounding land supports approximately 113 mink. Population-level effects are customarily judged based on effects on 10% to 20% of the local population. Thus, even if there are three mink that forage exclusively in the study area, any reduction in productivity that they experience would not cause population-level effects. Therefore, it is concluded that adverse effects in mink populations potentially foraging within the Stony Creek floodplain are unlikely.

Risks to bats are evaluated based on potential exposures for the federally protected Indiana bat. The calculations incorporate site-specific biological tissue data (terrestrial invertebrates) collected throughout the Stony Creek study area. Given the Indiana bat's protected status, risks are characterized based on highly conservative estimates of most likely and high end doses, relative to the NOAEL reported by Linder et al. (1974). The most likely and high end HQs for the Indiana bat are 0.4 and 1.2, respectively. Given that only the NOAEL is employed in this analysis and it is approximately 5-fold lower than the LOAEL reported in the same study (Linder et al. 1974), and given that the high end area use factor (AUF) of 1.0 represents a mathematical upper-bound value that is not supported by a site-specific and species-specific study of Indiana bat home range areas (Sparks et al. 2005), the finding of a high end HQ that marginally exceeds 1 is not biologically significant. Thus adverse effects are not predicted for individual Indiana bats that may forage within the study area.

Based on the overall weight-of-evidence presented in this BERA, wildlife populations foraging in the study area are unlikely to be adversely affected by current concentrations of PCBs in soil or diet. Although productivity in mink potentially foraging exclusively within the Stony Creek study area may be reduced by 33%, adverse population-level effects in mink are unlikely. The results of this BERA support a conclusion that, other than continued monitoring of fish in Stony Creek (as stipulated in the existing AOC for the creek), no further investigation is warranted.

Despite these conclusions, samples from two areas of the CEA do have elevated PCB soil concentrations (i.e., soil samples UFP-24 and UFP-41). While these areas do not pose a risk to the environment (or to human health, as demonstrated in the *Human Health Risk Assessment Undeveloped Floodplain of Stony Creek, Noblesville, Indiana* [ENVIRON 2009]), the presence of elevated levels of PCBs may be of concern to nearby residents and to the public in general. Therefore, corrective measures options for the undeveloped floodplain of Stony Creek will be evaluated in a forthcoming Corrective Measures Proposal (which will also address corrective measures for the residential floodplain of Stony Creek, and Stony Creek itself).

1.0 INTRODUCTION

On behalf of the Bridgestone Americas Tire Operations, LLC (Firestone), ENVIRON International Corporation (ENVIRON) prepared this baseline ecological risk assessment (BERA) for the undeveloped portion of the floodplain of Stony Creek, on the west side of the creek between its confluence with Wilson Ditch and Allisonville Road, located in Noblesville, Indiana (the study area) (Figure 1-1). The 24-hectare (59-acre) study area is divided into two areas (Figure 1-2). The larger area (designated the Conservation Easement Area) is compensatory wetland leased by the city of Noblesville for 50 years. This area is also subject to a conservation easement in favor of the Central Indiana Land Trust, Inc. (CILTI), and therefore is not open to the general public. The smaller area (designated the Island Area) is surrounded by two branches of Stony Creek and is owned in separate parcels by five residents of neighboring Audubon Court.

As described by U.S. Environmental Protection Agency (USEPA) (1997), "ecological risk assessment [ERA] is the qualitative and/or quantitative appraisal of the actual or potential impacts of contaminants from a hazardous waste site on plants and animals other than humans and domesticated species."

The conceptual approach to conducting ERAs involves: 1) defining the system to be studied; 2) identifying the study's goals and objectives; 3) providing the details of the analysis; and 4) describing conclusions of the analysis. This approach to ERA can also be divided into four process elements (USEPA 1992):

1. Problem formulation – establishes the goals, breadth, and focus of the assessment; a systematic planning step that identifies the major factors to be considered in a particular assessment, which is linked to the regulatory and policy context of the assessment.
2. Exposure assessment – evaluates the interaction of the stressor with the ecological component.
3. Effects assessment – analyzes the relationship between the stressor and the assessment and measurement endpoints identified during problem formulation.
4. Risk characterization – evaluates the likelihood of adverse effects occurring as a result of exposure to a stressor.

Taking into account the four components of ERA and the guidance documents discussed below, the overall goal of this BERA is to characterize the nature and extent of any risks posed to wildlife inhabiting the study area from polychlorinated biphenyls (PCBs) in floodplain soil or prey. This BERA focuses exclusively on PCBs because the March 29, 2001 administrative order on consent (AOC) focuses on PCBs as the sole COPC outside of the Firestone property boundaries. Consequently, all investigation and remediation programs carried out downstream of the Firestone property boundaries have focused exclusively on PCBs, and they are the only target analyte and the only COPC.

The specific purpose of this BERA is to determine whether there are concentrations of PCBs in floodplain soil that are likely to adversely affect ecological receptors that forage within the floodplain and, if so, the nature and severity of any predicted effects. This BERA focuses on terrestrial exposures, rather than aquatic exposures associated with Stony Creek sediment and biota, because the AOC specified final corrective measures related to Wilson Ditch and Stony Creek, as follows:

- Relocation (rechanneling) portions of Wilson Ditch
- Excavation and backfilling additional portions of Wilson Ditch
- Fish and sediment monitoring in Stony Creek

The decision to rely on monitored natural recovery for Stony Creek was based on two main factors: 1) the observation that concentrations of PCBs in sediment and fish were declining and would decline even more rapidly after the cleanup of Wilson Ditch; and 2) calculations that showed that projected human health risks from recreational use of Stony Creek were below the concentration that USEPA deems significant.

1.1 Underlying Guidance for Ecological Risk Assessment

This BERA follows the general framework described above and is consistent with guidance for ERA issued by USEPA, including:

- *Framework for Ecological Risk Assessment* (USEPA 1992);
- *Ecological Risk Assessment Guidance for Superfund* (USEPA 1997);
- *Guidelines for Ecological Risk Assessment* (USEPA 1998); and
- *The Role of Screening-Level Risk Assessments and Refining Contaminants of Concern in Baseline Ecological Risk Assessments* (USEPA 2001).

Indiana Department of Environmental Management (IDEM) has not yet issued guidance for conducting ERAs. ERAs are discussed only in very general terms in IDEM's *RISC Technical Guide* (2001).

This BERA builds upon and is consistent with past investigations. Modifications to some of the earlier sampling protocols were made to meet the data quality objectives (DQOs) for the BERA.

1.2 Summary of Screening-Level Ecological Risk Assessment

ENVIRON prepared a streamlined screening-level ecological risk assessment (SLERA) as part of the *Risk Assessment Work Plan* (ENVIRON 2008). The goal of the streamlined SLERA was to determine whether further evaluation was warranted, in the form of a BERA. The streamlined SLERA compared the soil data available at that time to the applicable ecological screening level (ESL),[1] concluding that a BERA was indeed warranted due to exceedance of the ESL.

In summary, as part of the Stony Creek Supplemental Investigation Project (SCSIP) Round 2 sampling event, PCB concentrations ranging from below detection (at a detection limit of 0.69 milligram per kilogram [mg/kg]) to 12 mg/kg and averaging 4.5 mg/kg were reported for six samples collected from the southwestern portion of the Island Area. PCBs were not detected in any of the three samples from the Conservation Easement Area (FP-7-Original, FP-8-Original, FP-9-Original).

USEPA Region 5 has identified an ESL of 0.000332 mg/kg for PCBs in soil, based on exposure to a masked shrew (*Sorex cinereus*)[1]. Some PCB soil concentrations measured in the undeveloped floodplain exceed this ESL. Therefore, the SLERA concluded that further investigation of the study area was warranted in the form of a BERA.

1.3 Report Organization

This BERA is organized as follows. Section 2 presents background information, including setting and chemical characterization. Section 3 is the problem formulation, which identifies ecological receptors of interest (ROIs), the conceptual site model (CSM), and assessment and measurement endpoints. Section 4 characterizes exposure, by quantifying the concentrations or doses of PCBs that ROIs may contact. Section 5 characterizes effects and defines effects metrics. Section 6 integrates the exposure and effects information to determine whether ROIs are likely to be adversely affected and, if so, the nature and severity of those risks. Section 6 also discusses sources of uncertainty and conservatism that are built into the BERA. Section 7 presents conclusions of this BERA, and Section 8 lists references. A photographic log for the study area is provided as Appendix A. Appendix B is the database of analytical results; Appendix C provides documentation of the search for threatened, endangered, and special concern species; while Appendix D presents the results from the mink (*Mustela vison*) habitat suitability survey of the study area. Finally, Appendix E presents the calculations for estimating PCB homologue distributions in fish from Stony Creek.

[1] http://www.epa.gov/reg5rcra/ca/ESL.pdf

On behalf of Firestone, ENVIRON prepared this site-specific BERA for the undeveloped portion of the floodplain of Stony Creek, in Noblesville, Indiana (the study area). This BERA was conducted because a streamlined SLERA found that concentrations of PCBs in some floodplain soil samples collected from the study area exceeded USEPA Region 5's ESL, which is protective of the masked shrew. This BERA has four main elements: 1) problem formulation; 2) exposure assessment; 3) effects assessment; and 4) risk characterization. The approach used in this BERA is consistent with USEPA (1992, 1997, 1998, 2001) guidance. This BERA evaluates whether PCBs in floodplain soil and terrestrial prey are likely to adversely affect birds and mammals that may forage within the study area.

2.0 STUDY AREA BACKGROUND

This section describes the physical and ecological setting of the study area and surrounding properties, as well as chemical characterization data. Information presented in this section is largely derived from field work conducted in October 2008. Historically, PCBs were released to Wilson Ditch. Wilson Ditch flows south before joining Stony Creek, which flows south/southeast through the study area. Thus, PCBs were conveyed into Stony Creek. Stony Creek floods frequently (i.e., generally on an annual basis); during such flooding events, Stony Creek sediment is deposited on the Stony Creek floodplain. As a result, PCBs may have been deposited on the floodplain.

2.1 Setting

The study area is currently undeveloped; no evidence was identified that suggests it has ever been developed. Based on publicly available digital historical aerial photographs provided by the Indiana Geographical Society[2], the study area has been undeveloped at least since 1936. Appendix A provides photographs of the study area, taken in October 2008.

The study area is defined by the western floodplain of Stony Creek between the confluence with Wilson Ditch and Allisonville Road. This reach of Stony Creek is approximately 1.29 kilometers (km) (0.8 miles) in length and 6 meters (m) (20 feet [ft]) to 12 m (40 ft) wide, depending on season and precipitation. As illustrated in Figure 2-1, much of the floodplain associated with Stony Creek is identified on a National Wetland Inventory (NWI) map as Palustrine Forested, Broad-Leaved Deciduous, Seasonally Flooded (PFO1C). A small area of Palustrine Emergent, Temporarily Flooded (PEMA) wetland is located adjacent to some homes on Audubon Court. The study area is generally wooded and flat. To the west of the approximately 15-hectare (37-acre) forested area, there is roughly 9 hectares (22 acres) of oldfield habitat. This field was an agricultural hayfield through the 1990s but has been planted with tree seedlings as part of a compensatory wetlands mitigation program.

The study area represents a relatively narrow corridor of undeveloped land within a surrounding residential and commercial setting. As illustrated in Figure 2-2, the entire study area is zoned for flood hazard. Single family residential zones lie to the south, east, and north of the study area, while general business and heavy industrial zones lie to the northwest and west of the study area.

In December 2004, Residue and CILTI executed and recorded a Deed of Conservation Easement whereby Residue gave CILTI the right to preserve and protect conservation values on the property (the Conservation Easement). In April 2005, Residue and the City of Noblesville executed a Grant of Fifty Year Conservation Easement (the Mitigation Easement) allowing Noblesville to implement a wetland mitigation plan on the property to fulfill Noblesville's mitigation requirements in connection with the filling of off-site wetlands.

[2] http://129.79.145.7/arcims/IHAPI/index.html

The forested and oldfield habitats that divide the study area today are clearly visible in all historical photographs since the 1930s. Forested habitat runs adjacent to the western bank of Stony Creek, as well as within the Island Area and the northern portion of the study area. Oldfield habitat occupies the western portion of the study area within the Conservation Easement to Allisonville Road. Lines of woody debris from past flood events were observed in October 2008 approximately 3 m (10 ft) to 6 m (20 ft) from Stony Creek along the western bank of the creek near Allisonville road, as well in several places within the Island Area. Undercutting of relatively high banks (i.e., 1.25 m [4 ft] to 1.5 m [5 ft]) of Stony Creek within the study area provides evidence of previous events of elevated, fast-flowing water in the creek. No standing water, water lines, or evidence of movement of floodplain soil (e.g., via erosion, heavy equipment, etc.) were observed in the study area during the October 2008 sampling.

The forested habitat is dominated by deciduous trees, including American sycamore (*Platanus occidentalis*), eastern cottonwood (*Populus deltoides*), and silver maple (*Acer saccharinum*). Diameter at breast height (DBH) for a majority of the trees ranges from approximately 25 centimeters (cm) (10 inches [in]) to 183 cm (72 in). The understory of the forested habitat consists of herbaceous vegetation, including grasses (*Poaceae sp.*), vines (e.g., greenbrier [*Smilax sp.*], Virginia creeper [*Parthenocissus quinquifolia*]), and wildflowers (e.g., violets [*Viola sp.*], avens [*Avens* sp.], wild ginger [*Asarum canadense*]), and small woody shrubs (e.g., blackberry [*Rubis sp.*]). Generally, the understory vegetation is dense and reaches approximately 0.9 m (3 ft) high. Fallen woody debris litters much of the forested study area.

The oldfield habitat is dominated by grasses, goldenrod (*Solidago sp.*), and wildflowers (e.g., violets, black-eyed susans [*Rudbeckia sp.*]). Small trees are scattered throughout the field, with a DBH of approximately 15 cm (6 in) to 20 cm (8 in). The herbaceous vegetation in the field is dense and reaches approximately 1.5 m (5 ft) to 1.8 m (6 ft) high.

In October 2008, white-tailed deer (*Odocoileus virginianus*) were frequently observed within both the forested and oldfield habitats. Evidence of deer (i.e., paths, beds) was also observed. Raccoon (*Procyon lotor*) and waterfowl tracks, as well as possible mink tracks, were located near Stony Creek. Other wildlife observed include red-winged blackbirds (*Agelaius phoeniceus*), pileated woodpeckers (*Dryocopus pileatus*), American robins (*Turdus migratorius*), and mallards (*Anas platyrhynchos*).

Figure 2-3 illustrates the study area's topography, which is flat to gently sloping throughout much of the study area.

2.2 Chemical Characterization

Environmental media in the study area have been sampled in 2006, 2007, and 2008 for purposes of characterizing concentrations of PCBs. All analytical results for the study area are presented in Appendix B. However, this BERA largely relies on the 2008 data set for reasons detailed in this subsection. Sampling locations and results are illustrated in Figures 2-4 (soil only) and 2-5 (all media). Table 2-1 summarizes analytical results employed in this BERA, with respect to range of detected concentrations of PCBs, frequency of detection, mean, median, and 95 percent upper confidence limits on the mean (95% UCLs) concentrations.

2.2.1 Soil Sampling and Analysis (2006-2008)

Study area floodplain soil samples were collected under two sampling programs. Limited sampling was conducted in 2006 as part of the SCSIP Round 2 sampling. The more comprehensive 2008 floodplain soil sampling was conducted in direct support of this BERA, in accordance with the USEPA-approved Risk Assessment Work Plan (ENVIRON 2008).

2006 Soil Sampling

Nine surface (0 to 15 cm [6 in]) soil samples were collected from the undeveloped floodplain area located northwest of Stony Creek as part of the SCSIP Round 2 sampling event. The sampling program was relatively limited in scope, however, as it was not designed to characterize soil PCB concentrations throughout the undeveloped Stony Creek floodplain. Six samples were collected from the southwestern corner of the Island area and three samples were collected from the Conservation Easement Area. All soil samples collected in 2006 were analyzed for PCB Aroclors.

2008 Soil Sampling

In October 2008, ENVIRON collected 37 floodplain surface (0 to 15 cm [6 in]) soil samples from the Conservation Easement Area and 8 soil samples from the Island Area. The floodplain soil sampling and analytical methods did not deviate from the plans detailed in the *Risk Assessment Work Plan* (ENVIRON 2008).

Soil samples were collected using a hand auger. Sampling locations were aligned along transects spaced approximately every 100 m (109 yards), running the length of Stony Creek within the study area. Sample locations along each transect were spaced with a higher density along the creek channel and lower density with distance from the channel. It was expected that the highest concentrations of PCBs in floodplain soil would occur within these most frequently flooded areas. Thus, this sampling design was used to enhance spatial delineation of PCBs in floodplain soil. One outcome of this design is that it yields a more conservative and health protective analysis than would result from area gridded or random design.

Samples were collected from the upper 15 cm (6 in) because ecological receptors primarily forage within this depth of soil (Edwards et al. 1969). Deeper soil was not sampled to characterize exposures to burrowing mammals because the underground nests and runways used by shrews are usually in the upper 10 cm (4 in) of soil (USEPA 1997). In this floodplain environment where subsurface soils are frequently saturated, both shrews and their prey are unlikely to spend significant amounts of time in the deeper soils due to the high moisture content.

All 45 soil samples were analyzed for PCB homologues and a subset of 10 samples were also analyzed for PCB Aroclors. Alpha Analytical (Mansfield, Massachusetts) conducted the homologue analyses using USEPA Method 680, total organic carbon (TOC) using USEPA SW-846 9060, and moisture using Standard Method 2540 B3. Heritage Analytical (Indianapolis, Indiana) conducted the Aroclor analyses using modified USEPA Method 8082 for Aroclors and moisture using Standard Method 2540 B. The rationale for selecting these analytical methods is detailed in the *Risk Assessment Work Plan* (ENVIRON 2008).

Total PCB homologue concentrations in soil ranged from 0.0098 mg/kg to 41 mg/kg. Concentrations of PCBs in all but two samples were below 5 mg/kg. The two highest measured concentrations (28 mg/kg and 41 mg/kg) were detected adjacent to and immediately downstream of the Island Area, respectively. Concentrations generally decrease with distance from Stony Creek, consistent with the expected mechanism of transport (i.e., deposition of sediment on the floodplain during flooding of Stony Creek). Concentrations also generally decrease with the direction of flow of Stony Creek (i.e., from north to south).

Homologue and Aroclor analyses for floodplain soil samples are in general agreement. The larger sample size analyzed for homologues likely contributes to the greater variability observed in the homologue results (i.e., the probability of observing extreme low or high results increases with increasing sample size per USEPA 2007a, Lynch and Fortune 2004). Additionally, the lower detection limit allowed by homologue analysis yielded a lower minimum detected concentration and a higher frequency of detection, as compared to the Aroclor analysis. Nonetheless, central tendency measures of homologue and Aroclor results are generally consistent, with homologue and Aroclor mean concentrations of 2.5 mg/kg and 2.0 mg/kg, respectively, and homologue and Aroclor median concentrations of 0.63 mg/kg and 1.2 mg/kg, respectively. Given the general agreement between the two analytical methods, as well as the lower detection limit for the homologue analysis, this BERA preferentially employs the homologue results for purposes of characterizing exposure to floodplain soil.

2.2.2 Biota Sampling and Analysis (2008)

Biological tissue was sampled in October 2008 in order to characterize chemical concentrations in potential food items for wildlife. As detailed in the *Risk Assessment Work Plan* (ENVIRON 2008), biota targeted for collection during the October 2008 sampling event consisted of terrestrial invertebrates and small mammals. Terrestrial invertebrate and small mammal samples were co-located with surface soil samples, to the greatest extent possible.

Ten samples of terrestrial invertebrates were collected using a shovel or stainless steel trowel to repeatedly turn over surface soil. Soil was then gently broken apart. The visible invertebrates (i.e., earthworms, insects, insect larvae) were picked out by hand. To the extent possible, soil attached to the invertebrates was manually removed (but not rinsed off). At each location, all invertebrates were composited for analysis to both simulate the feeding behavior of the ROIs and to ensure sufficient sample mass (50 grams [g] per sample) for analysis. All invertebrate

[3] http://standardmethods.org

samples consisted primarily of earthworms, both in number of individuals and overall sample mass.

As described in the *Risk Assessment Work Plan,* small mammals were collected using an array of snap traps baited with peanut butter. Traps were checked at least each morning and each evening. Small mammals collected at each location were individually placed into plastic zip-top bags. Species, weight, length (body, tail, and hind foot), and gender were recorded. One white-footed mouse (*Peromyscus leucopus*) was collected at each of five locations, whereas one short-tailed shrew (*Blarina brevicauda*) was collected at each of three locations (Appendix B). Each small mammal sample was submitted individually for tissue analyses, consistent with the *Risk Assessment Work Plan* (ENVIRON 2008).

Figure 2-5 presents the individual biota sample locations and concentrations along with the co-located soil concentrations. Concentrations of PCBs in terrestrial invertebrates and small mammals were generally similar. Concentrations of PCBs in terrestrial invertebrates tended to decrease with distance from Stony Creek. Small mammal concentrations varied with the feeding guild of the organism. Shrews are carnivorous; they feed mostly on insects, worms, other invertebrates, and even small mammals and birds (USEPA 1993). Mice are generally herbivorous, feeding mostly on seeds, fruits, vegetation, and fungi, although they also occasionally consume invertebrates (USEPA 1993). Concentrations of PCBs in two of the three shrews analyzed were substantially higher than those in the other mammal samples. This is not unexpected, given their carnivorous dietary habits. While concentrations in the three shrews were positively correlated with soil and invertebrate PCB concentrations, no such relationships were observed in mice.

2.2.3 Data Handling Practices

A number of data handling practices and quality control measures were employed as follows:

- For tissue analysis, sample container blanks were submitted for the PCB analyses.
- Sample storage containers included glass jars, aluminum foil, and plastic zip-top bags and were used as specified by each analytical laboratory.
- Sufficient sample volume was collected for laboratory quality control purposes including laboratory duplicate samples and matrix spike/matrix spike duplicate samples.
- Sampling locations were staked and locations were recorded using a Global Positioning System (GPS) receiver with submeter horizontal accuracy (Trimble GeoXH system).
- All field observations, including sample location, sample matrix, and sampling time, were recorded in a field notebook at the time of sample collection.
- All chain of custody paperwork was subject to quality assurance/quality control (QA/QC) to ensure consistent and proper sample identification.

- Soil results were reported on a dry weight basis, while biota concentrations were reported on a wet weight basis.
- Field duplicate results were averaged.
- For the homologue results, the concentration of total PCBs in each sample was calculated by summing the concentrations of the individual homologues. One-half the detection limit was applied as a proxy for all other non-detect results.
- For the Aroclor results, the concentration of total PCBs in each sample was calculated by summing the individual detected Aroclor results in that sample. If no Aroclors were detected, a proxy value of one-half the maximum detection limit was used to represent total PCBs in that sample.
- ProUCL was used to calculate 95% UCL concentrations. In particular, 95% UCL concentrations are based on the bias-corrected accelerated (BCA) bootstrap method with 10,000 iterations.

The study area is defined by the western floodplain of Stony Creek between the confluence with Wilson Ditch and Allisonville Road. It represents a relatively narrow corridor of undeveloped land within a surrounding residential and commercial setting and is subject to frequent flooding. The habitats present within the study area include deciduous forest closest to Stony Creek and oldfield habitat in the western area furthest from the creek. Environmental media for which analytical data are available include floodplain soil, terrestrial invertebrates, and small mammals. Target analytes in the various media are PCBs, lipids, TOC, and grain size. Mean and 95% UCL concentrations of PCBs in floodplain surface soil are 2.5 mg/kg and 5.5 mg/kg, respectively. Mean and 95% UCL concentrations of PCBs in invertebrates are 0.44 mg/kg and 0.70 mg/kg, respectively. Mean and 95% UCL concentrations of PCBs in small mammals are 0.35 mg/kg and 0.81 mg/kg, respectively.

3.0 PROBLEM FORMULATION

Problem formulation provides the foundation for the BERA by selecting COPCs, defining the CSM, identifying ROIs, and selecting assessment and measurement endpoints for subsequent evaluation. As noted in Section 1.0, the overall goal of problem formulation is to establish the goals, breadth, and focus of the BERA, based on potentially complete exposure pathways and ecological effects (USEPA 1997).

3.1 Selection of Chemicals of Potential Ecological Concern

As noted in Section 1.0, this BERA focuses exclusively on PCBs, consistent with the 2001 AOC, which also focuses on PCBs as the sole COPC outside of the Firestone property boundaries. Consequently, all investigation and remediation programs conducted downstream of the Firestone property boundaries focus exclusively on PCBs, and they are the only target analyte and the only COPC.

3.2 Conceptual Site Model

A CSM is a written description and visual representation of predicted relationships between ecological entities and the stressors to which they may be exposed. A complete exposure pathway is one in which chemicals can be traced or are expected to travel from a primary or secondary source to a receptor (USEPA 1997). Therefore, a chemical and an exposure point (e.g., surface soil, prey), a receptor, and an exposure route through which the receptor takes up the chemical must all be present in order for a pathway to be complete.

This CSM describes the potential for PCBs to migrate from their source(s) to receptors inhabiting the study area. Because PCBs have been detected in study area soil and biota, it must be concluded that migration pathways are complete and have already transported PCBs from source area(s) to the study area. Potential migration pathways, as well as the pathways by which ecological receptors could be exposed to those PCBs, are depicted in Figure 3-1.

The historical release of PCBs from the Firestone facility located along Wilson Ditch, less than one mile north of its confluence with Stony Creek, is the primary source into Wilson Ditch. Wilson Ditch flows into Stony Creek at the northern tip of the Island Area, the northeastern-most area of the undeveloped Stony Creek floodplain. Stony Creek floods frequently (i.e., generally on an annual basis); during such flooding Stony Creek sediment is deposited on the floodplain. Given the tendency of PCBs to bind to organic matter, the primary migration pathway is assumed to be the transport of suspended sediment in Wilson Ditch and Stony Creek, followed by deposition on the floodplain during flooding events.

PCBs in soil may be taken up by biota via various exposure pathways, such as diet, incidental ingestion, and direct contact. Biota potentially acts as both a receptor and a secondary source of chemical contamination. Although plants generally can be exposed to chemicals in soil through direct contact with and uptake by roots, uptake of PCBs by plants is insignificant due to the very low solubility of PCBs in water. Studies on plants grown in soil containing PCBs indicate that plant uptake is very limited (ATSDR 2007).

Terrestrial invertebrates may be exposed via direct contact with floodplain soil, as well as ingestion of prey. Wildlife are potentially exposed via inhalation, dermal contact, and ingestion of prey, drinking water, and incidental soil ingestion. Although inhalation and dermal exposures may occur, these routes are poorly characterized for most wildlife species and, in any event, the low volatility of PCBs suggests that inhalation is not a dominant exposure pathway. Dermal exposure is also likely to be minor, given that the skin of birds is covered by feathers and scales and the skin of mammals is covered by fur. Thus, the diet is the primary exposure pathway for wildlife exposure, while incidental ingestion of soil (e.g., while grooming) is a secondary exposure pathway.

3.3 Receptors of Interest

Most terrestrial ecosystems support a variety of organisms that could be exposed to chemicals in the environment; such receptors may include plants, invertebrates, amphibians, reptiles, birds, and mammals. However, it is not feasible to complete risk calculations for all potentially exposed species. Moreover, such an effort would be duplicative because of the similarity of exposure patterns among closely related species and among those within similar feeding guilds. For these reasons, ROIs are selected in this BERA to represent entire classes of organisms (i.e., functional groups). Findings for these ROIs are protective of other species in the same group. Additional selection criteria for ROIs include sensitivity, exposure potential, expected presence at the study area, ecological relevance, trophic level, feeding habits, and availability of life history and ecotoxicological information. The selected ROIs are the American robin, American kestrel (*Falco sparverius*), short-tailed shrew, red fox (*Vulpes vulpes*), mink, and Indiana bat (*Myotis sodalist*). The rationale for selecting these ROIs and excluding other candidates is provided in this subsection.

<u>American robin</u>
As an invertivorous bird, the American robin feeds on worms and other terrestrial invertebrates. Robins are common throughout the United States during the breeding season (spring, summer, and fall) and inhabit a variety of habitats including those present at the study area, such as moist forests, swamps, and open woodland (USEPA 1993). For these reasons, robins are selected for evaluation in this BERA as an ROI, representing the feeding guild of invertivorous songbirds.

<u>American kestrel</u>
The American kestrel is the most common falcon species in open and semi-open areas throughout North America. Kestrels prey on a variety of small animals including invertebrates (worms, spiders, beetles), amphibians, reptiles, and small to medium-sized birds. Compared to other birds of prey, the smaller body weight of the American kestrel yields a higher body weight-normalized ingestion rate and, therefore, a more conservative exposure assessment. Additionally, Fernie et al. (2001, 2003) provides a species-specific no observed adverse effect

level (NOAEL) for kestrels exposed to PCBs, which is used in Section 5.0 of this BERA and eliminates the need to extrapolate between species. This small falcon is selected for evaluation in this BERA as an ROI, representing the feeding guild of carnivorous birds. The kestrel is also selected as a surrogate for the bald eagle (*Haliaeetus leucocephalus*), which is protected under the Bald and Golden Eagle Protection Act[4].

Short-tailed shrew

The short-tailed shrew is a small insectivorous mammal common throughout much of North America. It eats insects, worms, snails, and other invertebrates. Its exposure to chemicals through the diet is enhanced by its small foraging range, low body weight, and high food ingestion rate. Shrews generally avoid predation through defense adaptations (venomous bite, strong musky odor); thus, compared to other small mammal species, they generally are not a significant food source to higher trophic level organisms. The short-tailed shrew is selected for evaluation in this BERA as a ROI, representing carnivorous small mammals.

Red fox

The red fox is the most widely distributed carnivore in the world, and it is present throughout North America. Although it feeds mainly on mice and voles (*Microtus pennsylvanicus*), it also feeds on insects, fruits, berries, seeds, and nuts. Thus, the red fox is selected for evaluation in this BERA as an ROI, representing the feeding guild of carnivorous middle-sized mammals.

Mink

The mink is the most abundant and widespread carnivorous mammal in North America (USEPA 1993). Mink are opportunistic carnivores that prey on a wide range of organisms including small mammals, birds, amphibians, invertebrates, fish, and reptiles. A survey of mink habitat suitability in the undeveloped Stony Creek floodplain conducted in October 2008 indicated that there is suitable mink habitat throughout much of the study area with habitat suitability scores ranging from 0.5 (moderate) in the southern portion of the study area to 1.0 (optimal) within or adjacent to the Island Area in the north (Appendix D). There is robust toxicological data on the effects of PCBs on mink, which eliminates the need to extrapolate between species. Thus, the mink is selected for evaluation in this BERA as an ROI representing the feeding guild of carnivorous middle-sized mammals.

Indiana bat

To our knowledge, the Indiana bat has not been observed in the study area. However, Pruitt (2009), provided as Appendix C, notes that the study area lies within the Indiana bat's range and appears to provide suitable foraging habitat for this federally endangered species. Indiana bats forage for flying insects over wooded stream corridors, as well as woodlots, forests, and

[4] Pruitt (2009), provided as Appendix C to this BERA, reported that the bald eagle "could possibly be found" within one-half mile of the study area. However, given the dense canopy of the study area and lack of extensive open water adjacent to it, as well as extensive open water habitat nearby (i.e., the White River), it is highly unlikely that any bald eagles living in the area would consume significant quantities of prey from the study area. Nonetheless, in order to ensure the protectiveness of this BERA, the American kestrel serves as a surrogate for this and other larger birds of prey potentially inhabiting the area.

pastures. Despite a paucity of toxicological information on bats in general or this species in particular, the Indiana bat is selected for evaluation in this BERA as an ROI representing threatened and endangered species.

Candidates Not Selected as ROIs

As noted in the introduction to this subsection, it is not feasible to complete risk calculations for all potentially exposed species and such an effort would be duplicative. Therefore, a number of candidate species or groups were considered, but not selected, as ROIs in this BERA. Among the candidates ruled out from further consideration are aquatic organisms, amphibians and reptiles, plants, and soil invertebrates, as detailed below.

As noted in the introduction to this BERA, this report focuses exclusively on terrestrial organisms, in order to achieve the goal of characterizing ecological risk posed by PCBs in floodplain soil and associated biota. Evaluation of Stony Creek sediment and biota is outside of the scope of this assessment because the 2001 AOC already specified management actions related to Stony Creek sediment and biota. Consequently, aquatic organisms, such as benthic invertebrates, fish, and aquatic insects are not selected as ROIs in this BERA. By extension, threatened or endangered aquatic organisms also are not selected as ROIs. While the U.S. Fish and Wildlife Service (USFWS) did not report the presence of any threatened or endangered aquatic organisms (Pruitt 2009, Appendix C), the Indiana Department of Natural Resources (IDNR) reported the following protected species within one-half mile of the study area [turquoise bluet (*Enallagma divagans*), little spectacle case (*Villosa lienosa*), rabbitsfoot (*Quadrula cylindrical cylindrical*), clubshell (*Pleurobema clava*), round hickorynut (*Obovaria subrotunda*), and kidneyshell (*Ptychobranchus fasciolaris*) (Hellmich 2009, Appendix C). The first listed is a damselfly, while the others are mollusks.

While reptiles and amphibians are important ecological receptors, effects data for reptiles and adult amphibians are extremely limited (Sparling et al. 2000). Therefore, risks for the omnivorous amphibian and reptile receptors at the study area from exposure to PCBs in floodplain soil are not quantified. However, the limited ecotoxicological data available for amphibians and reptiles generally indicate that they are less sensitive to chemical-induced toxicity than are higher trophic level organisms. Thus, it is assumed that toxicity and risk to these groups are less than, or similar to, those estimated for the selected ROIs and that risk findings for higher trophic level organisms are protective of amphibians and reptiles.

Plant communities provide food for herbivores and essential habitat for many animal species. However, as described in the CSM above (Section 3.2), uptake of PCBs by plants is not expected to be a significant pathway for PCBs to higher trophic level organisms. In addition, limited ecotoxicological data are available for non-crop plant species and for ecologically-relevant endpoints. The ecotoxicological data that are available for plants generally suggest that they are less sensitive to chemical-induced toxicity than are higher trophic level organisms. Thus, risk findings for higher trophic level organisms are generally protective of plants.

However, plants are evaluated as a food source for American robin, short-tailed shrew, and red fox. Thus, their important role in the ecology of the study area is considered in this BERA.

Soil-associated invertebrates, such as earthworms, live in constant and direct contact with surface soil that may be impacted by PCBs. The soil invertebrate community influences the suitability of soils for various plant species and serves as a prey base for higher trophic level organisms. Limited ecotoxicological data are generally available for terrestrial invertebrates. The ecotoxicological data that are available generally suggest that terrestrial invertebrates are less sensitive to chemical-induced toxicity than are higher trophic level organisms. Thus, risk findings for higher trophic level organisms are generally protective of soil invertebrates. In this BERA, soil invertebrates are evaluated as a food source to American robin, American kestrel, short-tailed shrew, and red fox. Thus, as in the case of plants, the important role of invertebrates in the ecology of the study area is considered in this BERA.

3.4 Assessment and Measurement Endpoints

Assessment endpoints are the explicit expression of ecological entities (e.g., mammal populations) and attributes (e.g., reproductive ability) to be protected (USEPA 1992, 1997, 2004). The selection of assessment endpoints depends on knowledge about the local environment, chemicals released (including ecotoxicological properties and concentrations that cause adverse impacts), and the societal values that will drive risk management decision-making (Suter et al. 1995). As noted by USEPA (1992), assessment endpoints are the ultimate focus in risk characterization and link the measurement endpoints to the risk management process. Consistent with USEPA (1998) guidelines, three principal criteria were used to select assessment endpoints for this BERA: 1) ecological relevance, 2) susceptibility to known or potential stressors, and 3) relevance to management goals. The selected assessment endpoints are:

- Survival and reproduction of invertivorous and carnivorous bird populations foraging in the floodplain of Stony Creek; and
- Survival and reproduction of insectivorous and carnivorous mammal populations foraging in the floodplain of Stony Creek.

Populations are groups of interbreeding individuals of a single species, occurring within a geographic area. As discussed in the opening of Barnthouse et al. (2008),

> "Regulations, policies, directives, and guidance documents frequently discuss the need for ecological risk assessments to consider risks to populations, not simply to individual organisms or organism-level attributes. The reason for this is that, from a management perspective, the population-level attributes such as abundance, persistence, age composition, and genetic diversity are usually more relevant than are the health or persistence of individual organisms."

Based on this rationale, this BERA focuses on assessment endpoints with attributes relevant to populations (i.e., survival, reproduction). However, in the case of protected species (i.e., bald eagle and Indiana bat for this BERA), the populations are assumed to already be sufficiently stressed (irrespective of chemical exposures) that adverse effects to individual organisms could have population-level consequences.

A measurement endpoint is a measurable ecological characteristic that is related to the characteristic chosen as the assessment endpoint and is a measure of biological effects. Comparisons of estimated exposures with toxicological information on PCBs serve as the primary type of measurement endpoint in this BERA. Multiple measurement endpoints are selected to reduce uncertainty in conclusions for individual measurement endpoints.

Measurement endpoints selected to evaluate the survival and reproduction of invertivorous and carnivorous bird populations foraging in the floodplain of Stony Creek are:

- Comparison of estimated most likely and high end doses of PCBs by American robins from ingestion of soil and diet to toxicity data (expressed as dose) derived from the scientific literature
- Comparison of estimated most likely and high end doses of PCBs by American kestrels from ingestion of diet to toxicity data (expressed as dose) derived from the scientific literature

Measurement endpoints selected to evaluate the survival and reproduction of carnivorous mammal populations foraging in the floodplain of Stony Creek are:

- Comparison of estimated most likely and high end doses of PCBs by short-tailed shrews from ingestion of diet and soil to toxicity data (expressed as dose) derived from the scientific literature
- Comparison of estimated most likely and high end doses of PCBs by red fox to toxicity data (expressed as dose) derived from the scientific literature
- Comparison of estimated most likely and high end doses of PCBs by mink to toxicity data (expressed as dose) derived from the scientific literature
- Comparison of estimated most likely and high end body burdens of PCBs in mink to toxicity data (expressed as tissue concentration) derived from the scientific literature
- Comparison of estimated most likely and high end doses of PCBs by Indiana bat to no-effect toxicity data (expressed as dose) derived from the scientific literature

The remainder of the BERA presents the analysis of these measurement endpoints in order to draw conclusions regarding the likelihood and severity of any adverse ecological effects resulting from current study area conditions. Section 4.0 presents the exposure assessment, while Section 5.0 presents the effects assessment. The risk characterization (Section 6.0) integrates findings related to exposure and effects, and also evaluates the sources and implications of uncertainty in the overall BERA.

Problem formulation provides the foundation for the BERA by selecting COPCs, defining the CSM, identifying ROIs, and selecting assessment and measurement endpoints for subsequent evaluation. Consistent with the 2001 AOC, which focuses on PCBs as the sole COPC outside of the Firestone property boundaries, this BERA focuses solely on PCBs. Consequently, all investigation and remediation programs conducted downstream of the Firestone property boundaries focus exclusively on PCBs, and they are the only target analyte and the only COPC. The following assessment and measurement endpoints are evaluated in this BERA:

1. Survival and reproduction of invertivorous and carnivorous bird populations foraging in the floodplain of Stony Creek: comparison of estimated most likely and high end doses of PCBs by American robins and American kestrels to toxicity data (expressed as doses) derived from the scientific literature.

2. Survival and reproduction of insectivorous and carnivorous mammal populations foraging in the floodplain of Stony Creek: a) Comparison of estimated most likely and high end doses of PCBs by short-tailed shrew, red fox, mink, and Indiana bat to toxicity data (expressed as doses) derived from the scientific literature; b) comparison of estimated most likely and high end body burdens of PCBs in mink to toxicity data (expressed as tissue concentrations) derived from the scientific literature.

4.0 EXPOSURE ASSESSMENT

Exposure assessment is the process of measuring or estimating the magnitude, frequency, and duration of exposures to chemicals in the environment (USEPA 1992). This BERA focuses on PCB doses associated with the exposure pathways of consumption of food (i.e., diet) and incidental ingestion of floodplain soil for each of the six ROIs. For mink, exposure is also expressed as body burden, which is modeled from estimated doses. All methods and results related to the exposure assessment are detailed in this section.

4.1 Method for Calculating Doses

The primary focus of this exposure assessment is ingestion of prey. The dietary exposure pathway is by far the most important exposure pathway for bioaccumulative substances, such as PCBs (Moore et al. 1997, 1999). Although exposure via incidental ingestion of soil while foraging or preening/grooming is expected to be minor, this pathway is included in the dose equation used in this BERA, in the interest of completeness and to ensure the conservatism of the result.

This BERA evaluates daily doses of PCBs based on most likely and high end estimates, using the methodology described by USEPA (1993). Most likely doses describe the more realistic and population-focused perspective for risk management decision-making, while high end doses help characterize the uncertainty in the overall analysis and exposures to the most highly exposed individual organisms.

The dose equation used in this BERA integrates exposures across the two pathways (i.e., diet, incidental soil ingestion), based on Equation 1:

Eqn. 1

$$DI = [\sum(C_i \times F_i \times FIR) + (C_s \times SIR)] \times AF \times AUF \times (1/BW)$$

Where:

DI = daily intake (i.e., dose) (milligram per kilogram body weight per day or mg/kg-day)

C_i = concentration of PCBs in food item i (mg/kg; wet weight)

F_i = fraction of diet comprised of food item i (unitless)

FIR = food ingestion rate (kilogram per day or kg/day; wet weight)

C_s = concentration of PCBs in soil (mg/kg; dry weight)

SIR = soil ingestion rate (kg/day; dry weight)

AF = absorption factor (unitless)

AUF = area use factor (unitless)

BW = body weight (kg)

Following the description of the method used to calculate body burdens below, the basis for all input values used in calculating the doses and body burdens is presented in Sections 4.3 through 4.9. The calculated doses and body burdens for each ROI are generated in Tables 4-1 through 4-10.

4.2 Method for Calculating Body Burden

In this BERA, exposure of mink to PCBs is expressed as body burdens, in addition to doses. As reviewed by Fuchsman et al. (2008), several options are available for modeling mink body burdens of PCBs; the different methods vary in their correlation with adverse effects. The most effective exposure metric is the estimation of total PCB concentrations in mink whole body tissue, based on known concentrations of PCB homologues (e.g., total tetrachlorobiphenyls, total pentachlorobiphenyls) in the mink's diet. Thus, in this BERA, the total PCB body burden in mink is calculated as:

Eqn. 2

$$C_{wb} = \sum_{i}^{10} C_{diet_i} \frac{A_i D}{K_i}\left(1 - e^{-K_i t}\right)$$

Where:

C_{wb} = mink whole body concentration of PCBs (mg/kg)

C_{diet} = concentration of PCB homologue group i in diet (microgram per kilogram or µg/kg)

A = assimilation efficiency (fraction)

D = daily intake (mg/kg-day)

K = elimination rate (fraction/day)

t = exposure duration (days).

Fuchsman et al. (2008) provide homologue-specific values for toxic equivalency factor (TEF), A, and K. Exposure duration is assumed to equal three years (1,095 days), which is the typical lifespan of mink in the wild (Lariviere 1999). The homologue-specific dietary concentrations and daily intakes were calculated from the homologue concentrations in the eight small mammal samples collected in 2008.

4.3 Exposure Point Concentrations

Exposure point concentrations (EPCs) are concentrations in environmental media to which ROIs may be exposed. EPCs are based on data collected during the 2008 sampling program conducted in support of this BERA. Although some floodplain soil samples were also collected in 2006, the distribution of the 2008 floodplain soil samples is most spatially representative. Furthermore, given the frequent flooding of the study area, the most recent data set is most temporally representative of current conditions.

The typical concept of ecological exposure is that wildlife contact impacted media within their territory on a periodic and random basis. Because of the nature of such contact, an organism's exposure to PCBs does not occur at a single fixed location (except in the case of sessile species), but instead at a variety of points throughout the ROI's territory. There is, therefore, an approximately equal likelihood that contact with PCBs will occur at any given point within the ROI's territory on any given day. This effective averaging of exposure occurs in individual organisms (as one organism forages throughout its home range) and across populations (as multiple organisms forage throughout multiple territories).

It follows that mean and 95% UCL concentrations of PCBs detected in soil and biota serve as most likely and high end EPCs in this BERA. The use of mean concentrations as EPCs is appropriate for most ROIs because they are typically mobile and are exposed to varying concentrations of PCBs, thereby effectively averaging their exposures throughout a given area and time interval. In the case of threatened or endangered species[5], the high end EPC is more relevant, because their already stressed condition suggests that adverse effects in a small number of the most highly exposed individual organisms could translate to population level impacts. In the interest of completeness and to aid in the uncertainty analysis, both mean and high end EPCs are applied to all ROIs.

The dietary composition—and therefore the underlying basis for the EPCs—differs for each ROI, as detailed in Sections 4.5 through 4.10. In summary, EPCs for American robins are based on terrestrial invertebrates and soil. EPCs for American kestrels are based on terrestrial invertebrates and small mammals. EPCs for short-tailed shrews and red fox are based on plants, terrestrial invertebrates, small mammals, and surface soil. EPCs for mink are based on small mammals.[6] EPCs for Indiana bats are based on terrestrial invertebrates.

Several ROIs (e.g., robins, kestrels, and shrews) are assumed to consume plants as part of their diets (USEPA 1993). Because plant samples were not collected from the study area for tissue analysis, a soil-to-plant bioaccumulation factor (BAF) was used to estimate terrestrial plant concentrations from floodplain soil concentrations. Specifically, the concentration of PCBs in study area plants was estimated by multiplying the mean and 95% UCL concentrations of PCBs in soil by the BAF, according to methods described by USEPA (2005). The estimated BAF for PCBs from soil (on a dry weight basis) to plants (on a wet weight basis) is 0.01. EPCs for all media and potential prey items are listed in Table 4-1.

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[5] Threatened or endangered species evaluated in this BERA are the Indiana bat and the bald eagle (as represented by the surrogate species, the American kestrel).

[6] Depending on the habitat and available prey at a given site, fish may comprise between 0% and 100% of the mink's diet. However, because this BERA focuses on ecological risks posed by PCBs in floodplain soil and terrestrial biota, EPCs are not generated for fish in the main analysis. Rather, the effect of PCBs in the fish portion of the mink's diet is considered as part of the uncertainty analysis (Section 6.7.3).

4.4 Food and Soil Ingestion Rates

Food ingestion rates for wildlife ROIs are calculated based on their metabolic rate and the metabolic energy provided by their prey, as described in USEPA (1993) and as shown in Equations 3 through 5 below. In general, modeled food ingestion rates such as those used in this BERA are preferable to empirical measurements for captive animals, because metabolic requirements are expected to be diminished in captive animals. In particular, in contrast with wild animals, captive animals do not need to hunt for prey, defend territories, defend themselves from predation, or compete for resources. The resulting diminished metabolic requirements translate to decreased food ingestion rates. Because dose is linearly related to the food ingestion rate, underestimation of the food ingestion rate (i.e., based on empirical measurements for captive animals) would result in underestimation of the dose. Table 4-2 calculates food ingestion rates for all ROIs and also lists empirical measurements reported by USEPA (1993) for comparative purposes. However, only the calculated food ingestion rates for free-living animals are employed in the dose calculations.

Eqn. 3

$$IR_f = NIR_{total} \times BW \times 0.001$$

Where:

NIR_{total} = total normalized ingestion rate (grams per kilogram body weight per day or g/kg-day); and

Eqn. 4

$$NIR_{total} = \frac{NFMR}{\sum (P_k \times ME_k)}$$

Where:

NFMR = normalized free-living metabolic rate of predator (kilocalorie per kilogram body weight per day [kcal/kg-day]),

P_k = proportion of diet of k^{th} prey item (unitless), and

ME_k = metabolic energy of k^{th} prey item (kilocalorie per gram [kcal/g] wet weight); and

Eqn. 5

$$ME = GE \times AE$$

Where:

GE = gross energy (kcal/g wet weight), and

AE = assimilation efficiency (unitless).

Soil ingestion is assumed to occur if the ROI's feeding strategy or preening behavior promotes incidental ingestion of soil. With the exception of the Indiana bat, all ROIs included in this BERA are assumed to consume prey from the floodplain and are, therefore, assumed to incidentally ingest soil in the process. Bats feed exclusively on flying insects, while foraging on the wing. Therefore, there is virtually no opportunity for Indiana bats to incidentally ingest floodplain soil. Therefore, in the case of the Indiana bat dose calculation, Equation 1 is modified to exclude (C_s x IR_s).

Biota samples collected and used in this BERA (soil invertebrates and small mammals) were not rinsed or depurated (i.e., gut contents were not purged) prior to submittal for analysis. Therefore, these biota samples incorporate the portion of soil that would be associated with ingesting these types of biota. For ROIs whose diets are assumed to include some portion of plants (i.e., robin, shrew, and fox), additional incidental soil ingestion was evaluated. The incidental soil ingestion parameter reported in the literature was adjusted downward commensurately with the percent of plants in the diet, as summarized below.

USEPA (1993) cites data for soil ingestion rates that were unpublished at the time USEPA released its 1993 guidance document, but were subsequently published by Beyer et al. (1994). Hence, for this BERA, appropriate soil ingestion rates are obtained from Beyer et al. (1994) or USEPA (2007b) guidance for developing ecological soil screening levels. Beyer et al. (1994) present rates of combined sediment and soil ingestion as a percentage of ingested food, on a dry weight basis. Rather than the deriving soil ingestion rate as a percentage of all ingested food (which would overestimate soil ingestion in this BERA), Beyer's soil ingestion rates were applied only to the plant portion of the diet.

In this BERA, soil PCB concentrations and soil ingestion rates are both presented on a dry weight basis, while diet PCB concentrations plant (and other food) ingestion rates are presented on a wet weight basis. Therefore, for the purpose of calculating soil ingestion rates, the plant ingestion rates described above are multiplied by a wet to dry weight conversion factor of 0.2 (Boese and Lee 1992) prior to applying the soil intake rates developed by Beyer et al. (1994). It should also be noted that Beyer et al. (1994) does not list soil ingestion rates for all of the same species evaluated as ROIs in this BERA. Therefore, it is necessary to select from those species evaluated by Beyer et al. (1994) accordingly to their similarity to the ROIs, with respect to foraging behavior and diet.

The absorption factor describes the proportion of PCBs ingested that are assumed to be absorbed into the blood stream. For all ROIs, a conservative value of 1.0 is employed as the absorption factor. This assumption likely overestimates exposure, as laboratory toxicity tests often use highly available forms of a test chemical, whereas PCBs in environmental media may be significantly less bioavailable due to the presence of organic carbon in soil and prey. The basis for all remaining exposure factor values used in this BERA is detailed in the following subsections.

4.5 American Robin Exposure Factor Values

Exposure of American robins to PCBs is evaluated in this BERA by calculating doses from diet and soil ingestion, as presented in Table 4-3. The basis for the selected exposure parameter values is provided below.

4.5.1 American Robin Food and Soil Ingestion Rates

The food ingestion rate for robins was calculated based on the proportion of diet composed of plants and invertebrates, the gross energy in each food group, the efficiency with which robins assimilate the gross energy in each food group, and the normalized free-living metabolic rate of robins. This derivation is presented in Table 4-2. The basis for each of these parameter values is described below.

Diet – During spring and summer months, invertebrates comprise an average of 72% of the robin's diet throughout the U.S. Plants (mainly fruit) comprise an average of 28% of the diet (USEPA 1993). Because susceptibility to PCBs is likely to be enhanced during the breeding/nesting season due to additional stresses associated with breeding, nest building, defending territory, and feeding young, dietary composition for spring and summer are used in this BERA.

Gross energy of dietary item – The gross energy assumed for plants in this BERA, 1.1 kcal/g (wet weight), equals the mean value reported by USEPA (1993) for fruit pulp and skin. The gross energy assumed for invertebrates, 1.3 kcal/g (wet weight), equals the average of values reported by USEPA (1993) for terrestrial invertebrates including earthworms, grasshoppers, crickets, and adult beetles. Both values are based on USEPA's (1993) compilation and review of studies.

Assimilation efficiency for dietary items – The terrestrial plant assimilation efficiency of 64% used in this BERA is based on USEPA's (1993) reported value for birds consuming fruit pulp and skin. The terrestrial invertebrate assimilation efficiency of 72% is based on USEPA's (1993) reported value for birds consuming terrestrial insects.

Normalized free-living metabolic rate – A metabolic rate of 713 kcal/kg-day equals the mean of estimated values for adult male and female robins (USEPA 1993).

For this BERA, soil ingestion by robins is estimated as 28% (i.e., the fraction of diet comprised of plants; see Section 4.4) of Beyer et al.'s (1994) estimates of soil ingestion by American woodcock (*Scolopax minor*). These authors do not provide an estimate of soil ingestion specific to robins. During the breeding season, robins feed predominantly on terrestrial invertebrates, as do American woodcock (USEPA 1993). However, the much longer bill of the woodcock is used to probe into soil and leaf litter while foraging, whereas robins typically glean the surface of soil and leaf litter with their considerably shorter bills. Therefore, the incidental soil ingestion estimate for woodcock is expected to be a conservative surrogate for soil ingestion by robins. An absolute soil ingestion rate of 0.0004 kg/day based on the fraction of diet comprised of plants (see Section 4.4) is applied in this BERA based on Beyer et al.'s (1994) estimate of 10.4% of diet on a dry weight basis.

4.5.2 American Robin Body Weight and Area Use Factor

The body weight of 0.077 kg used in this BERA is the mean of body weights for adult male and female robins, as reported in USEPA (1993).

USEPA (1993) reports a foraging range of 0.15 hectare (0.37 acres) for adult robins feeding nestlings. Because the study area is 24 hectares (59 acres) in area, one or more robins could derive all of its prey from within the study area. Therefore, an AUF of 1.0 is employed in this BERA for the most likely and high end scenarios.

4.6 American Kestrel Exposure Factor Values

Exposure of American kestrels to PCBs is evaluated in this BERA by calculating doses from diet, as presented in Table 4-4. The basis for each of the exposure parameter values applied to American kestrels is provided below.

4.6.1 American Kestrel Food Ingestion Rates

The food ingestion rate for American kestrels was calculated based on the proportion of diet composed of terrestrial invertebrates and small mammals, the gross energy in each food group, the efficiency with which kestrels assimilate the gross energy in each food group, and the normalized free-living metabolic rate of American kestrels. This derivation is presented in Table 4-2. The basis for each of these parameter values is described below.

Diet – Because susceptibility to PCBs is likely to be enhanced during the breeding and nesting season due to additional stresses associated with breeding, nest building, defending territory, and feeding young, a dietary composition for spring and summer are used in this BERA. ENVIRON compiled spring and summer dietary data from all sources summarized in Volume II of USEPA's (1993) *Wildlife Exposure Factors Handbook*. The values that we employed reflect the average spring and summer diet for kestrels across all available studies [i.e., two spring data sets reported by Bohall-Wood and Collopy (1987) and the summer data set reported by

Toland (1987)]. According to those studies, during the spring and summer months, invertebrates comprise an average of 49% of the kestrel's diet based on studies from Florida, California, and Missouri; small mammals make up the remaining 51% of kestrels' diet (USEPA 1993). Therefore, for this BERA, American kestrels were assumed to consume terrestrial invertebrates and small mammals. Although shrew tissue samples collected from the study area were included in the calculation of small mammal tissue concentrations, it is worth noting that shrews are malodorous and venomous (Whitaker and Hamilton 1998, Cleveland Museum of Natural History 2009). These two defensive traits cause most predators to avoid them. Given that concentrations of PCBs are consistently higher in shrews than in white-footed mice, this practice may result in overestimation of the actual concentration of PCBs in the small mammal component of the kestrel's diet.

Gross energy of prey – The gross energy assumed for terrestrial invertebrates in this BERA, 1.3 kcal/g wet weight, equals the average of wet weight adjusted gross efficiencies for terrestrial invertebrates including earthworms, grasshoppers, crickets, and adult beetles (USEPA 1993). The gross energy assumed for small mammals, 1.7 kcal/g (wet weight), is the value for mice, voles, and rabbits reported in USEPA (1993).

Assimilation efficiency for prey – The assimilation efficiency of 72% for terrestrial invertebrates is based on USEPA's (1993) reported value for birds consuming terrestrial insects. The small mammal assimilation efficiency of 78% corresponds to the value for birds of prey consuming birds and small mammals (USEPA 1993).

Normalized free-living metabolic rate – A metabolic rate of 319 kcal/kg-day equals the mean of estimated values for adult male and female American kestrels (USEPA 1993).

4.6.2 American Kestrel Body Weight and Area Use Factor

The body weight of 0.12 kg used in this BERA is the mean of body weights for adult male and female American kestrels, as reported in multiple studies cited by USEPA (1993).

Foraging ranges for American kestrels vary considerably with season and habitat type. Three studies cited by USEPA (1993) report average territory sizes ranging from 13 hectares (32 acres) to 154 hectares (380 acres) in winter and ranging from 131 hectares (323 acres) to 201 hectares (498 acres) in summer. Craighead and Craighead's (1956) study, conducted in Michigan woodlots and fields in summer, is most relevant to this BERA, given the geographic proximity, similarity in habitat types, and season (i.e., reproduction is assumed most susceptible during the breeding season, as noted above). Craighead and Craighead (1956) reported territory sizes ranging from 21 hectares (52 acres) to 215 hectares (531 acres), averaging 131 hectares (323 acres). Minimum and average territory sizes were used to generate high end and most likely AUFs, accordingly. Given the similarity of the lower end of the reported territory range to the size of the study area (24 hectares [59 acres]), a high end AUF of 1.0 is applied to American kestrels in this BERA. The most likely AUF is 0.18 (59 ÷ 323)

As noted in Section 3.3, the American kestrel serves as a surrogate for the bald eagle, which is protected under the Bald and Golden Eagle Protection Act and may forage within one-half mile of the study area. USEPA (1993) reports very large territory areas and winter home ranges for bald eagles (i.e., thousands of acres in area). Thus, in the unlikely event that a bald eagle should occasionally forage in or near the study area, any prey derived from the study area will represent a very small fraction (less than 5%) of the bald eagle's overall diet. Thus, use of most likely and high end AUFs of 0.18 and 1.0 for American kestrels also yields a very conservative exposure estimate for bald eagles.

4.7 Short-Tailed Shrew Exposure Factor Values

Exposure of short-tailed shrews to PCBs is evaluated in this BERA by calculating doses from diet and soil ingestion, as presented in Table 4-5. The basis for each of the exposure parameter values selected is provided below.

4.7.1 Short-Tailed Shrew Food and Soil Ingestion Rates

The food ingestion rate for short-tailed shrews was calculated based on the proportion of diet composed of terrestrial plants, terrestrial invertebrates, and small mammals, the gross energy in each food group, the efficiency with which shrews assimilate the gross energy in each food group, and the normalized free-living metabolic rate of short-tailed shrews. This derivation is presented in Table 4-2 and the basis for each of the parameter values is described below.

Diet – Based on the description of the diet composition of short-tailed shrews in the summer from two studies cited in USEPA (1993), terrestrial plants, terrestrial invertebrates, and terrestrial vertebrates comprise 13%, 82%, and 5% of the diet of short-tailed shrews, respectively. Terrestrial plants consumed included unspecified vegetable matter, vegetation, and fungi. Invertebrates consumed include earthworms, slugs and snails, and insects. Vertebrates consumed include small mammals, such as mice and voles (USEPA 1993).

Gross energy of dietary items – The gross energy available from terrestrial plants consumed by shrews is 1.4 kcal/g (wet weight). This is the average wet weight-adjusted gross efficiency for all terrestrial plants in USEPA (1993). The gross energy assumed for invertebrates, 1.3 kcal/g (wet weight), equals the average of values reported by USEPA (1993) for terrestrial invertebrates including earthworms, grasshoppers, crickets, and adult beetles. The gross energy for small mammals of 1.7 kcal/g (wet weight) is the average energy content for small mammals including mice, voles, and rabbits (USEPA 1993).

Assimilation efficiency for dietary items – The assimilation efficiency for shrews eating terrestrial plants is 76%, corresponding to the average efficiency for herbivorous rabbits, voles, and rats (USEPA 1993). The terrestrial invertebrate assimilation efficiency of 87% is based on USEPA's (1993) reported value for small mammals consuming insects. Finally, the small mammal assimilation efficiency of 84% is based on USEPA's (1993) value for mammals consuming small birds and mammals.

Normalized free-living metabolic rate – The metabolic rate of 640 kcal/kg-day is the average of two laboratory-based estimates of average daily metabolic rate for short-tailed shrews (USEPA 1993).

Soil ingestion by short-tailed shrews is estimated as 13% (i.e., the fraction of diet comprised of plants; see Section 4.4) of the 90th percentile estimate of soil ingestion by short-tailed shrews, as reported by USEPA (2007b). The absolute soil ingestion rate of 0.000007 kg/day based on the fraction of diet comprised of plants (see Section 4.4) is applied in this BERA based on USEPA's (2007b) 90th percentile estimate of 3.0% of diet on a dry weight basis.

4.7.2 Short-Tailed Shrew Body Weight and Area Use Factor

The body weight of 0.017 kg used in this BERA is the mean of body weights for adult male and female short-tailed shrews as reported in multiple studies cited by USEPA (1993).

Based on estimates summarized by USEPA (1993), home ranges for short-tailed shrews range from 0.03 hectares to 1.78 hectares (0.07 acres to 4.4 acres). Given the considerably greater size of the study area (24 hectares [59 acres]) as compared to the reported home ranges, an AUF of 1.0 is employed in this BERA for shrews, for the most likely and high end scenarios.

4.8 Red Fox Exposure Factor Values

Exposure of red fox to PCBs is evaluated in this BERA by calculating doses from diet and soil ingestion, as presented in Table 4-6. The basis for each of the selected exposure parameter values is provided below.

4.8.1 Red Fox Food Ingestion and Soil Rates

The food ingestion rate for red fox was calculated based on the proportion of diet composed of terrestrial plants, invertebrates, and small mammals, the gross energy in each food group, the efficiency with which fox assimilate the gross energy in each food group, and the normalized free-living metabolic rate of red fox. This derivation is presented in Table 4-2. The basis for each of these parameters is described below.

Diet – For this BERA, dietary preferences are estimated based on reported diet compositions from numerous field studies throughout North America and summarized by USEPA (1993). Because susceptibility to PCBs is likely to be enhanced during the breeding season due to additional stresses associated with breeding, defending territory, and feeding young, the average dietary composition for spring and summer is used in this BERA. The average adult red fox diet in the spring and summer consists of 10% terrestrial plants, 5% terrestrial invertebrates, and 85% mammals. Terrestrial plants consumed by the fox include fruits and vegetation. Insects and worms are the primary terrestrial invertebrates consumed by the fox. Mammals consumed by the fox include voles, rabbits, mice, squirrels, carrion, birds, and even larger mammals, such as deer (USEPA 1993). For the purposes of this BERA, foxes were assumed to consume short-tailed shrews and white-footed mice in the proportion that they were trapped (i.e., three shrews, five mice). As noted in Section 4.6.1, shrew tissue data were included in the estimate of small mammal tissue concentrations, despite the defensive traits of shrews that cause most predators to avoid them. Thus, the small mammal tissue concentrations used in this BERA likely overestimate the actual concentration of the small mammal component of the red fox's diet.

Gross energy of dietary items – The gross energy available from terrestrial plants consumed by the red fox is 1.4 kcal/g (wet weight). This value is the average wet weight-adjusted gross efficiency for all terrestrial plants in USEPA (1993). The gross energy assumed for invertebrates, 1.3 kcal/g (wet weight), equals the average of values reported by USEPA (1993) for terrestrial invertebrates including earthworms, grasshoppers, crickets, and adult beetles. The gross energy for small mammals of 1.7 kcal/g (wet weight) is the average energy content for small mammals including mice, voles, and rabbits (USEPA 1993).

Assimilation efficiency for dietary items – The assimilation efficiency for fox eating terrestrial plants is assumed to be 76%, which corresponds to the average efficiency for herbivorous rabbits, voles, and rats (USEPA 1993). The terrestrial invertebrate assimilation efficiency of 87% is based on USEPA's (1993) reported value for small mammals consuming insects. Finally, the small mammal assimilation efficiency of 84% is based on USEPA's (1993) value for mammals consuming small birds and mammals.

Normalized free-living metabolic rate – The selected value of 165 kcal/kg-day represents the mean of estimated values for free-living adult male and female red fox, as reported by USEPA (1993).

Beyer et al. (1994) estimated that soil ingestion by red fox comprised 2.8% of the diet on a dry weight basis. In this BERA, plant ingestion rates were multiplied by a wet to dry weight conversion factor of 0.2 (Boese and Lee 1992) prior to applying the soil ingestion rate developed by Beyer et al. (1994). The resultant value was multiplied by 10% (the fraction of diet comprised of plants) for reasons discussed in Section 4.4. An absolute soil ingestion rate of 0.0003 kg/day (dry weight) is used in this BERA.

4.8.2 Red Fox Body Weight and Area Use Factor

The red fox body weight of 4.5 kg used in this BERA equals the mean of adult male and female red fox body weights reported in multiple studies cited by USEPA (1993).

USEPA (1993) lists three studies on the territory area of red fox. Of the studies listed, Ables (1969) is most relevant with respect to location and habitat, in that it was conducted in diverse habitats in Wisconsin, whereas the other two studies were conducted in British Columbia and Minnesota. Ables' (1969) reported minimum and mean year-round territory areas for female red fox are 57 hectares (140 acres) and 96 hectares (237 acres), respectively. Thus, based on the study area size (24 hectares [59 acres]), most likely and high end AUF of 0.25 and 0.42, respectively, are used in this BERA for red fox. Because considerably larger home ranges have been reported in other studies (i.e., up to 1821 hectares [4,500 acres] in one study; USEPA

1993), the AUFs applied in this BERA may substantially overestimate actual exposure of the red fox to PCBs.

4.9 Mink Exposure Factor Values

Exposure of mink to PCBs is evaluated in this BERA by calculating doses from diet, as presented in Table 4-7. The basis for the selected exposure parameter values is provided below.

4.9.1 Mink Food Ingestion Rates

The food ingestion rate for mink was calculated based on the proportion of diet composed of small mammals, the gross energy in small mammals, the efficiency with which mink assimilate the gross energy in small mammals, and the normalized free-living metabolic rate of mink. This derivation is presented in Table 4-2. The basis for each of these parameters is described below.

Fish comprise between 0% and 100% of the mink's diet (Lariviere 1999). However, because this BERA focuses on ecological risks posed by PCBs in floodplain soil and terrestrial biota, the primary analysis presented focuses on an entirely terrestrial diet for study area mink. The effect of PCBs in the fish portion of the mink's diet is considered as part of the uncertainty analysis (Section 6.7.3). Therefore, Table 4-2 also presents an alternative food ingestion rate that includes some fish in the diet for use in Section 6.7.3.

Diet – As opportunistic carnivores, the composition of the mink's diet varies with availability of different types of prey, location, and season (USEPA 1993). They have been reported to feed on a wide variety of prey including fish, mammals ranging from mice to muskrats (*Ondatra zibethicus*), crayfish, birds and bird eggs, amphibians, and reptiles. For the purposes of this BERA, it is assumed that mink consume a diet dominated by small mammals, and that they consume short-tailed shrews and white-footed mice in the proportion that they were trapped (i.e., three shrews, five mice). As noted in Section 4.6.1, shrew tissue data were included in the estimate of small mammal tissue concentrations, despite the defensive traits of shrews that cause most predators to avoid them. Thus, the small mammal tissue concentrations used in this BERA likely overestimate the actual concentration of the small mammal component of the mink's diet.

Gross energy of prey – The gross energy available from small mammals consumed by mink is 1.7 kcal/g (wet weight). This is the average energy content for typical small mammal prey for mink including mice, voles, and rabbits (USEPA 1993).

Assimilation efficiency for prey – A value of 84% is used for the assimilation efficiency of mink consuming small mammals (USEPA 1993).

Normalized free-living metabolic rate – The selected value of 247 kcal/kg-day represents the mean of estimated values for free-living adult male and female mink, as reported by USEPA (1993).

4.9.2 Mink Body Weight and Area Use Factor

Because the most sensitive reproductive endpoint in mink (kit survival) depends on maternal exposures and transmission of PCBs to kits via nursing, only the body weights of adult female mink are pertinent to the mink's exposure assessment. In estimating the body weight, it is also more appropriate to consider wild mink rather than captive mink, because captive mink expend less energy to acquire food and shelter. Consequently, the modeled body weight of free-living female mink developed by USEPA contractors (Weston 2004) – 0.69 kg – is used in this BERA. For the reasons described above, this value is more appropriate than the average of male and female body weights for captive mink (1.354 kg) that is cited by USEPA (1993) and reported by Hornshaw et al. (1983). Regardless, because body weight appears in the calculation of food ingestion rate (which is a factor within the numerator of the dose equation), as well as in the denominator of the dose equation, body weight effectively cancels out.

Table 4-8 presents a range of documented home range areas for mink from Europe and North America presented on either an aerial basis (i.e., acres) or on a length of shoreline basis (i.e., km). Mink home ranges based on linear data represent foraging ranges along shorelines; thus, they are most relevant to the aquatic prey of mink. Mink home ranges based on areal data are most relevant to the terrestrial prey of mink. Because the March 29, 2001 AOC already specifies final corrective measures for Stony Creek, the spatial scope of this BERA focuses on terrestrial habitats. In order to support risk management decisions associated with terrestrial habitats, it is appropriate to focus on the terrestrial prey of mink and to base the mink's home range on area, rather than length of river. All available aerial data for mink home ranges compiled by USEPA (1993) were considered in defining the high end AUF (Table 4-8), including both prairie pothole and riverine habitats (Arnold and Fritzell 1987, Arnold 1986, Eagle unpubl.). Because the most likely AUF was based on central tendency estimates of home range areas, Mitchell's (1961) study on a Montana riverine habitat could not be factored into the most likely AUF, as it only reported minimum home range areas. The effects of using a linear home range to derive the AUFs are discussed in Section 6.7.

The area of the study area (24 hectares [59 acres]) is approximately equal to some of the lower-bound estimates of home range size listed in Table 4-8. Therefore, a high end AUF of 1.0 is employed in this BERA. A most likely AUF was calculated by first calculating the mean of the minimum and maximum home range areas reported by Arnold (1986) and Eagle (unpublished data, as cited in USEPA 1993), and then calculating the mean of the three studies for which means home range areas were either reported or could be calculated (i.e., Arnold and Fritzell 1987, Arnold 1986, Eagle unpublished data, as cited in USEPA 1993). The grand mean home range area equals 687 hectares (1,698 acres). The 24-hectare (59-acre) study area represents just 3% of the overall mean home range area. It is therefore possible that average mink will derive as little as 3% of their diet from the study area. However, recognizing that mink are opportunistic predators and the study area provides suitable habitat for mink (Appendix C), a most likely AUF of 0.10 is applied to mink in this BERA.

4.9.3 Mink Body Burden

Mink PCB doses are presented in Table 4-7. As described in Section 4.2, potential risks to mink were evaluated based on both doses and body burdens. Table 4-9 presents the body burdens in mink calculated based on homologue concentrations. The equation and underlying assumptions are detailed in Section 4.2, as well as Table 4-9. Homologue-specific values for TEF, A, and K are derived from Fuchsman et al. (2008). Exposure duration is set equal three years, which is the typical lifespan of mink in the wild (Lariviere 1999).

4.10 Indiana Bat Exposure Factor Values

Exposure of Indiana bats to PCBs is evaluated in this BERA by calculating doses from diet, as presented in Table 4-10. The basis for the exposure parameter values selected is provided below.

4.10.1 Indiana Bat Food Ingestion Rates

The food ingestion rate for Indiana bats was calculated based on a diet composed exclusively of terrestrial invertebrates, the gross energy in those invertebrates, the efficiency with which bats assimilate the gross energy in invertebrates, and the normalized free-living metabolic rate of bats. This derivation is presented in Table 4-2. The basis for each of these parameters is described below.

Diet – Indiana bats feed exclusively on flying insects. Because Indiana bats tend to feed along water bodies[7], they may consume insects with exclusively terrestrial life histories, as well as insects with aquatic larvae. However, because this BERA focuses on effects of PCBs in floodplain soil and terrestrial biota, this analysis focuses on a terrestrial diet for Indiana bats foraging in the study area. This BERA uses available terrestrial invertebrate tissue data to represent dietary concentrations for the Indiana bat. Since soil invertebrates live within the upper horizon of floodplain soil, their tissue concentrations are likely to be higher than those of flying insects (i.e., the prey of bats). Thus, the approach used in this BERA is conservative and likely overestimates the actual dietary concentration for any bats that forage within the study area.

Gross energy of prey – The gross energy available from terrestrial insects consumed by bats is 1.3 kcal/g (wet weight). This is the average of values reported by USEPA (1993) for terrestrial invertebrates including earthworms, grasshoppers, crickets, and adult beetles.

Assimilation efficiency for prey – A value of 87% is used for the assimilation efficiency of small mammals consuming insects (USEPA 1993).

Normalized free-living metabolic rate – No data were identified in the scientific literature on free-living metabolic rates in Indiana bats (or any other bat). Therefore, the metabolic rate for another small mammal (short-tailed shrew) is employed in this BERA to represent the metabolic

[7] http://www.fws.gov/midwest/endangered/mammals/inba/inbafctsht.html

rate of the Indiana bat. The selected value of 640 kcal/kg-day represents the mean of estimated values for free-living adult male and female shrews, as reported by USEPA (1993).

4.10.2 Indiana Bat Body Weight and Area Use Factor

The body weight of 0.009 kg used in this BERA is based on estimates from the USFWS that Indiana bats typically weigh only one quarter of an ounce[6] which is approximately equal to 0.007 kg.

A most likely AUF of 0.47 is used for Indiana bats in this BERA. This factor was developed by dividing the area of suitable habitat onsite (24 hectares [59 acres]) by the minimum foraging range of 51 hectares (126 acres) reported for adult females near the Indianapolis Airport in 2002 (Sparks et al. 2005). In that study foraging ranges were determined by radio-tracking 11 bats for 2 to 7 nights; foraging ranges varied from 51 hectares (126 acres) to 728 hectares (1,800 acres) and averaged 335 hectares (828 acres). The minimum reported foraging range was used to determine the most likely AUF for this BERA, because the Indiana bat is a protected species. As such, protection of individual Indiana bats is appropriate. In addition, a high end AUF of 1.0 was employed in this BERA, based on the maximum value that is mathematically possible. Based on Sparks et al. (2005) site-specific and species-specific research, it is not realistic to expect any individual bat to derive 100% of its prey from the study area. Consequently, this high end AUF is hypothetical and is presented only for purposes of defining the mathematical upper-bound exposure.

> The exposure assessment estimates the magnitude, frequency, and duration of ROI exposures to PCBs primarily derived via diet. PCB doses for wildlife (as represented by the robin, kestrel, shrew, fox, mink, and Indiana bat) are modeled based on diet and, for certain species, incidental ingestion of soil. PCB concentrations in prey and soil are based on analytical results of onsite biota and soil samples, respectively. PCB concentrations in plants were estimated by multiplying BAFs by concentrations in soil. Mean and 95% UCL concentrations in prey are evaluated to characterize the most likely and high end exposures. Exposure of mink to PCBs was estimated based on both dose and body burden. In all cases, conservative assumptions were used to estimate the extent to which ROIs are exposed to PCBs from the study area.

5.0 EFFECTS ASSESSMENT

The effects assessment evaluates the potential for PCBs to cause adverse effects in ROIs and estimates the relationship between the extent of exposure and severity of effects. This section opens with a brief overview of key properties of PCBs before presenting the effects assessment methodology, which is followed by effects assessments specific to birds and mammals. The effects assessments summarize key ecotoxicological studies published in the scientific literature on the effects of PCBs on birds and mammals and descriptions of the manner in which those studies are used to estimate ecological risks.

5.1 Overview of PCB Structure and Chemical/Physical Properties

The structure of PCBs (i.e., two hexagonal aromatic rings of carbon atoms connected by a single bond) is highly stable. PCBs consist of 209 possible chemical structures (known as congeners), defined by the number and position of chlorine atoms on the biphenyl molecule. Between 1 and 10 chlorine atoms have the potential to substitute for hydrogen atoms on the biphenyl rings. PCBs are subdivided into groups called homologues based on the number of chlorine atoms per biphenyl molecule. Typically, industrial PCBs were sold in complex mixtures known as Aroclors, composed of 50 to 60 congeners and classified by percentage of chlorine. The physicochemical properties of PCBs govern their behavior in the environment. Compared to many other organic compounds, PCBs have low water solubility, high octanol-water partition coefficient (K_{ow}) and very low degradation rates (MacKay et al. 1992).

5.2 Effects Assessment Methods

In order to evaluate potential risks to wildlife foraging in the study area, the exposures estimated in Section 4 are compared to metrics that describe the chronic toxicity of PCBs. Chronic toxicity values are derived from the peer-reviewed ecotoxicological literature. This section summarizes the basis for evaluating ecotoxicity studies and selecting effects metrics from the most appropriate studies. To the extent supported by the scientific literature, dose response curves (i.e., lines or curves that show the range of toxicological responses elicited by a range of doses) are preferentially employed as effects metrics. Dose response curves can be derived from a single study or from a compilation of studies focusing on the same endpoint. If data are insufficient to derive dose response curves, NOAELs and lowest observed adverse effect levels (LOAELs) are employed instead, as further discussed below.

5.2.1 Basis for Evaluating Ecotoxicity Studies

The effects assessment is inherently data dependent, in that the specific practices and metrics used depend upon the available ecotoxicological studies. Thus, effects assessment begins with the compilation and evaluation of published ecotoxicological studies. This BERA follows recommendations offered by Sample et al. (2007) with respect to the selection of the most appropriate ecotoxicity data from the studies considered:

- The effects assessment relies on primary data sources to the greatest extent possible, to allow consideration of a wide range of attributes for each study.

- Preference is given to those studies in which the exposure pathway and the chemical form correspond to the expected exposure pathway and form in the field.
- Because dietary exposures are expected to dominate in the field, studies that evaluate dietary exposures are preferred over those based on dosing via gelatin capsule or intravenous or subcutaneous injection.
- Studies reporting PCB concentrations in each treatment dose are preferred over those reporting only nominal doses.
- Studies reporting body mass of test animals are preferred over those that do not.
- Studies that directly measure the daily ingested dose are preferred over those that use *ad libitum* dosing without measuring food or water intake by test organisms.
- Long-term, chronic studies are preferred over acute studies.
- Studies that measure the most sensitive adverse effects are preferred over those that evaluate less sensitive endpoints. Endpoints that are not or cannot be shown to be adverse (e.g., enzyme induction, specific immunological changes, etc.) are excluded. Generational reproductive studies are generally inclusive of other potentially adverse endpoints and are given highest consideration.
- Dose response curves are only generated from studies that use at least five treatment levels (including a control).
- Studies are only included if sufficient information is provided to allow comparison with other data and assess the quality of the data.
- Corroboration of adverse effects with dose and across studies is critical. Studies that deviate significantly from those reported elsewhere are given less weight than those that are of higher quality and report similar results.
- Data from the most sensitive wild species and life stages are preferred.

5.2.2 Development and Use of Dose Response Curves

Dose response curves are graphical illustrations of the relationships between dose or body burden (on the x-axis) and response (on the y-axis). Response is generally defined as the percent reduction in an endpoint relative to the control. Dose response curves can be generated from a single study (if it employed at least five dosing groups, including controls) or by combining findings from multiple studies, provided that similar endpoints were evaluated in the different studies. Use of dose response relationships is preferable to reliance on NOAELs and/or LOAELs, because such metrics are constrained by the selection of treatment levels in the laboratory study and based on statistical significance of toxic endpoints between these treatments (Allard et al. 2007a).

The peer-reviewed scientific literature provides sufficient data to develop dose response curves for mammals, but not for birds. Dose response curves for mink were derived from Fuchsman et al. (2008). Although species-specific toxicity data are not available for the other mammalian ROIs, a dose response curve was generated from a multi-generation reproduction study on rats (Linder et al. 1974). The dose response model was developed based on non-linear regression using the statistical software R (R Development Core Team 2008). Once the dose response curves were established, EC10 values (i.e., effect concentrations associated with a 10% difference in response [i.e., reproduction] from the control) and EC20 values (i.e., effect concentrations associated with a 20% difference from the control) were identified from each curve.

The use of EC10 and EC20 values in this BERA is based on a review of regulatory precedents to establish minimum acceptable ecological effect levels for remedial decisions at hazardous waste sites (Suter et al. 1995). Twenty percent was determined to be the minimum detectable effect level in the chronic and subchronic toxicity tests and field-based bioassessment protocols that are typically used to detect effects in ecological endpoints (Suter et al. 1995). One advantage of using the dose response curve as the basis for the effects assessment is that any percentage of effect can be readily identified and used, depending upon the degree of protection preferred. Thus, the more conservative EC10 is also used in this BERA to allow evaluation of subtle effects that may not be detectable.

5.2.3 Selection and Use of NOAELs and LOAELs

In the absence of sufficient data to support development of dose response curves, it is generally necessary to rely on NOAELs and LOAELs to characterize toxicity and risk. This BERA selects and reports both NOAEL and LOAEL values for those ROIs lacking sufficient data to support dose response curves.

In selecting the underlying study or studies, preference is given to those that use multiple dose groups and identify both a NOAEL and LOAEL within the same study. However, if the available toxicity studies for a given ROI report only a LOAEL, this BERA extrapolates a NOAEL based on the assumption that the NOAEL is ten-fold lower than the LOAEL. LOAELs are not, however, extrapolated from reported NOAELs. The use of extrapolated NOAELs is preferable to leaving a ROI unevaluated or evaluated solely based on a LOAEL, in that it offers a bounding estimate for evaluating the potent of adverse effects.

Selection of NOAELs and LOAELs in this BERA generally follows Allard et al.'s (2007b) recommendations, such as:

- Toxicity data are not extrapolated between taxonomic classes.
- Allometric dose-scaling with body mass is not employed.
- Chronic effects are not extrapolated from acute data.

- Uncertainty factors are not applied for inter-species extrapolation without scientific justification.
- Supporting information involved in the corroboration of data used is provided.
- All data, calculations, and assumptions are transparent and reproducible.

NOAELs and LOAELs are reported as—or converted to—mg/kg-day. These units of dose allow comparisons among organisms of different body sizes (Sample et al. 1996). In cases where the most applicable study or studies state the effect level or no effect level as a dietary concentration (i.e., in units of milligrams of COPC per kilogram of food [mg COPC/kg food]), the concentration of the effect level and no effect level is converted to a test species dose:

Eqn. 6

$$\text{Dose} = \frac{C \times IR}{BW}$$

Where:

Dose = test species dose of PCBs (mg/kg-day)

C = concentration of PCBs in food (mg/kg)

IR = ingestion rate of food by the test species (kg/day)

BW = body weight of the test species (kg)

5.3 Avian Effects Assessment

The avian ecotoxicological data are insufficient to develop dose response curves describing the effects of PCBs on birds. Therefore, NOAELs and LOAELs are used in this BERA to characterize PCB ecotoxicity. Even studies reporting NOAELs and LOAELs are relatively limited for birds, with many of the published studies reporting exposure as a dietary concentration, and not reporting the food ingestion rate and body weight data that allow accurate conversion from dietary concentration to dose. Studies on domesticated species, particularly white leghorn chickens (*Gallus domesticus*), dominate the available literature. An additional limitation shared by several studies relates to testing only one or two dose groups, such that the resultant NOAEL or LOAEL is unbounded. A total of 14 studies were identified that supported the derivation of toxicity reference values (TRVs) based on reproductive endpoints on birds (Table 5-1).

Fernie et al. (2001, 2003) examined multi-generational reproductive effects to American kestrels from *in ovo* exposure to a 1:1:1 mixture of Aroclor 1248:1254:1260. Adult kestrels were fed PCB-spiked food at 7 mg/kg-day for 100 days until their eggs hatched. Second generation kestrels were paired with unexposed kestrels with reproductive experience. Twenty-five percent of the *in ovo* PCB-exposed females failed to lay any eggs. Clutch initiation was delayed, and clutch sizes and fledging success were reduced in both male and female PCB-exposed birds.

Because this study did not yield a NOAEL, the NOAEL was conservatively assumed to be ten-fold lower than the LOAEL of 7 mg/kg-day. Thus, the estimated NOAEL for kestrels is 0.7 mg/kg-day and the measured LOAEL is 7.0 mg/kg-day. Given that Fernie et al. (2001, 2003) tested the same species as one of the ROIs (i.e., American kestrel) and tested a mixture that included the less chlorinated commercial PCB mixture Aroclor 1248, the reported LOAEL and estimated NOAEL are selected as the basis for the TRVs for the American kestrel.

Selecting TRVs for the American robin is less straightforward: Henning et al. (2003) describes a field study of productivity of robins exposed to more highly chlorinated but weathered commercial PCB mixtures (i.e., Aroclor 1254), while the available studies on less chlorinated commercial mixtures (i.e., Aroclor 1242 and 1248) have not evaluated robins or other species in the same taxonomic order (Passeriformes) or feeding guild (invertivore). Thus, to minimize uncertainty in the subsequent analysis, one must consider whether greater variability in NOAELs and/or LOAELs is associated with extrapolation across species or across Aroclors. Based on the studies for which data are available to support dose-based TRVs for PCB mixtures (i.e., those listed in Table 5-1), interspecies variability in sensitivity varies by 6-fold to 350-fold (for a given Aroclor), while inter-Aroclor variability in toxicity varies from none to 5-fold. Thus, the toxicity of PCBs to birds appears to vary to a greater degree across species than across Aroclors. Indeed, Head (2006) demonstrated significant variability in the sensitivity of different avian species and feeding guilds to PCBs. Based on this reasoning, the greatest certainty in the robin analysis would result from using the Henning et al. (2003) robin study as the basis for the robin TRV. Henning et al. (2003) found no adverse effects on reproduction (with respect to clutch size, hatching success, and fledging success) of robins exposed to approximately 7.8 mg/kg-day total PCBs (i.e., the NOAEL).

To ensure the protectiveness of this BERA, the NOAEL of 0.765 mg/kg-day reported by McLane and Hughes (1980) for effects of Aroclor 1248 on screech owl (*Megascops asio*) reproduction is employed in this BERA as a NOAEL-based TRV for robins. McLane and Hughes (1980) monitored clutch sizes and hatchability in captive screech owls fed 3.0 mg/kg Aroclor 1248. No adverse effects were observed at this dietary level. Because the authors did not report food ingestion rates or body weights for the birds they tested, information on these parameters was drawn from the life history account posted on Birds of North America (Gehlbach 1995), which reports food ingestion rates of 25% to 26% of body mass for two females and a male and body weights of 185 g and 194 g for two females. Averages of these reported values were employed, yielding a NOAEL dose of 0.765 mg/kg-day. Because McLane and Hughes (1980) support an unbounded NOAEL, the actual effect threshold may be any dose above the reported NOAEL; hence, use of this value as a NOAEL-based TRV is conservative and health protective. Fernie et al.'s (2001, 2003) reported LOAEL of 7 mg/kg-day (discussed above) is selected as the basis for the LOAEL-based TRV for robins.

Other researchers have evaluated PCB toxicity in domestic and wild bird species (Table 5-1); those studies were judged less applicable than the studies selected as the basis for the avian TRVs (e.g., Fernie et al. 2001, 2003; McLane and Hughes 1980) and Henning et al. 2003.

Dahlgren and Linder (1971) evaluated hatchability of eggs laid by adult ring-necked pheasants (*Phasianus colchicus*) exposed to Aroclor 1254 via single gelatin capsules administered weekly for 17 weeks. The equivalent doses were 1.8 mg/kg-day and 7.1 mg/kg-day.[8] The higher dose caused reduced production and survival of offspring. At the lower dose, a slight but statistically significant reduction in egg hatchability was noted during one of two trials. However, no significant effects on egg production or chick survival were observed, and the overall number of surviving chicks per hen was actually slightly higher than in the control group. Based on the overall effects on reproductive success, the NOAEL and LOAEL are identified as 1.8 and 7.1 mg/kg-day, respectively, a result generally consistent with Fernie et al.'s (2001, 2003). However, in light of the dosing method (i.e., capsules administered weekly) and the availability of high quality species-specific alternative studies, Dahlgren and Linder (1971) was not used in this BERA as the basis for avian TRVs.

Tori and Peterle (1983) paired mourning doves (*Zenaida macroura*) that were fed 0 mg/kg, 10 mg/kg, or 40 mg/kg of Aroclor 1254 for 42 days and observed the courting and nesting behavior of the doves for the next 30 days. Doves fed 10 mg/kg PCBs spent a significantly increased number of days in the courtship phase, with only four of the eight pairs progressing into the nesting phase. These four nesting pairs took approximately twice as long to initiate next building, which subsequently delayed egg laying. Food ingestion rates and body weights were not reported in this study. Generic values from USEPA (1993) for these parameters were used to estimate the LOAEL of 2.6 mg/kg-day listed in Table 5-1. This study was not used in this BERA due to the availability of high quality species-specific alternative studies.

Haseltine and Prouty (1980) fed 24 pairs of adult mallards a diet containing 0 mg/kg or 150 mg/kg Aroclor 1242 for 12 weeks, during which egg laying was induced. There was no difference between the two groups in the time taken to lay the clutch, nor was there a difference in fertility, embryo mortality, or hatching success. No difference in survival or weight gain to three weeks of age was observed between young mallards hatched from eggs laid by PCB-treated hens and control hens. Body weights of tested mallards were reported as fortnightly averages for males and females, controls and treated; the grand mean body weight for treated females of 1.151 kg and a calculated normalized food ingestion rate of 32.2% of body mass were used to calculate the unbounded NOAEL dose of 42 mg/kg-day. Because this NOAEL is so much greater than all others reported in the literature (Table 5-1), we conclude that mallards are significantly more tolerant of PCB toxicity than are other avian species tested and are not an appropriate basis for avian TRVs in this BERA.

Custer and Heinz (1980) also studied mallards, administering 25 mg/kg Aroclor 1254 for at least one month, and observing no detrimental effect on reproductive success or nest attentiveness. The treatment caused no effect on number of hens laying, date of first egg laid, clutch size, fertility, or time off nest. Neither body weights nor food ingestion rates were reported by the

[8] Body weights were not reported by Dahlgren and Linder (1971). Dose estimates were calculated based on an assumed female body mass of 1 kg (Sample et al. 1996).

authors. Employing the same values applied above to the Haseltine and Prouty (1980) findings (i.e., body weight of 1.151 kg and normalized food ingestion rate of 32.2% of body mass) yields a unbounded NOAEL dose of 8.1 mg/kg-day. Because only a single dose was tested and no effects were observed at that dose, it is possible that the actual threshold for toxicity of Aroclor 1254 in mallards is significantly higher than this value. Indeed, the work of Haseltine and Prouty (1980) suggests that mallards are significantly more tolerant of PCB toxicity than are other avian species tested. In light of the apparent high tolerance of mallards to PCBs, Custer and Heinz (1980) also does not provide an appropriate basis for an avian TRV for this BERA.

Koval et al. (1987) fed live-trapped mourning doves food containing 10 mg/kg Aroclor 1254 for 28 days prior to breeding. Fewer of the treated birds laid eggs (50% vs. 77%) and effects on breeding behavior, time to egg laying, and circulating progesterone levels were observed in the PCB-treated birds. Because neither food intake rates nor body weights were reported by the authors, information on these parameters was drawn from the life history account reported by the Birds of North America (Otis et al. 2008), in order to yield an unbounded LOAEL of 1.6 mg/kg-day. Because Koval et al. (1987) yields an unbounded LOAEL for a species and Aroclor mixture that differ from those that are the subject of this BERA, it does not provide an appropriate basis for an avian TRV for this BERA.

Hornung et al. (1998) dosed adult ring-necked pheasant hens with 0.06, 0.6, or 6 mg PCB 105/kg hen/week for 10 weeks. PCBs were administered weekly via gelatin capsules. Fertilized egg production, embryo mortality, and chick mortality in the treatment groups did not differ significantly from controls. Thus, the 6 mg/kg-week dose represents the NOAEL; when divided by 7 day/week, it converts to a daily dose of 0.857 mg/kg-day. Because the dosing method does not simulate feeding in the wild, a single pentachlorinated congener was tested, and the test species differs from the ROIs evaluated in this BERA, this study does not provide an appropriate basis for an avian TRV for this BERA.

Studies conducted on white leghorn chickens (Lillie et al. 1974, Britton and Huston 1973, Scott 1977, Platanow and Reinhart 1973) were not used in this BERA due to the significantly greater sensitivity to PCBs of domesticated chickens than wild bird populations (Bosveld and Van den Berg 1994). As recognized in USEPA’s (1995) *Great Lakes Water Quality Initiative Technical Support Document for Wildlife Criteria*: “many traditional laboratory species…are bred from a fairly homogeneous gene-pool. Use of a [test dose] derived from a ‘wildlife’ species is thought to provide a more realistic representation of the dose response relationship which may occur in the natural environment” (USEPA 1995, p. 11). However, studies conducted on chickens are summarized in Table 5-1 because they aid in understanding the relative variability in PCB toxicity across species and across Aroclor mixtures.

5.4 Mammalian Effects Assessment

This subsection details effects metrics derived for short-tailed shrews, red foxes, mink, and Indiana bats. Toxicity of PCBs to short-tailed shrews and red foxes is based on a dose response curve developed from Linder et al.’s (1974) study on Sherman rats. Toxicity of PCBs to mink is evaluated based on a published dose response curve relating PCB exposure to reproductive effects in mink (Fuchsman et al. 2008). Toxicity of PCBs to Indiana bats is based on Linder et al.'s (1974) NOAEL, rather than the dose response curve, because a higher degree of protection is appropriate for threatened and endangered species as compared to species that are not of special concern.

The effects of PCBs on short-tailed shrews, red fox, and Indiana bats is evaluated in this BERA based on reproductive studies in which small mammals were administered PCBs in their diet (Table 5-2). Although Linder et al. (1974) tested Aroclor 1254, which is more highly chlorinated than the PCB mixture originally released at the site, it is used as the basis for the effects assessments for all mammalian ROIs except mink, because this multigenerational reproduction study on Sherman rats was the only small mammal study that supported development of a dose response curve. Linder et al. (1974) also tested Aroclor 1260 and determined it to be less toxic than Aroclor 1254. The resultant NOAEL and LOAEL for Aroclor 1254 were 0.32 mg/kg-day and 1.5 mg/kg-day, respectively. As noted above, this NOAEL is used in this BERA to predict risks to the Indiana bat.

Linder et al. (1974) evaluated several reproductive endpoints (Table 5-3). Separate controls were used for the comparison of each exposure duration and trial. Reproductive effects were evaluated at birth, three days following birth, and weaning. For the purposes of this analysis, the endpoints reported at the time of weaning were evaluated for their relationship to dose because they integrate effects over a longer period of time and, thus, are more inclusive of potential adverse effects. Three endpoints were evaluated: 1) numbers of litters weaned per female; 2) size of the litter at weaning; and 3) survival until weaning (Table 5-3). All three endpoints provide similar results, with a nearly uniform 20% variation in response relative to control at the three lowest doses, significant variability in response at the fourth dose, and 100% mortality at the highest dose (Figure 5-1). However, only litter size provided a robust relationship between dose and response using nonlinear regression analysis. It was not possible to reliably fit the numbers of litters or survival metrics to dose response curves due to the variability in the data. Table 5-4 presents the regression results for litter size, while Figure 5-1 illustrates the regression analysis. Based on this dose response curve, the EC10 for effects on litter size is 2.0 mg/kg-day and the EC20 is 3.6 mg/kg-day.

The regression analyses for Linder et al.'s (1974) data are generally consistent with findings by Voltura and French (2007). In a single-generation study, Voltura and French (2007) observed no adverse reproductive effects in white-footed mice administered 1.4 mg/kg-day, with a measurable decrease in reproductive success at 3.4 mg/kg-day. Specifically, compared to control mice, breeding success in mice administered a dose of 3.4 mg/kg-day declined by 26%. Linzey (1988) also exposed white-footed mice to 1.4 mg/kg-day in a multigenerational study and observed a reduction in reproductive success. McCoy et al. (1995) observed impaired reproduction in oldfield mice (*Peromyscus polionotus*) exposed over multiple generations to Aroclor 1254 at a dose of 0.68 mg/kg-day.

Particular effort was dedicated to finding scientific literature on potential PCB toxicity in bats. There are several field studies reporting potential toxic effects of PCBs related to body burden concentrations of PCBs in bats (as summarized in Eisler 1986, Hudson River Natural Resource Trustees 2007) but no known studies evaluating toxic effects relative to administered or dietary doses of PCBs in bats. Therefore, the toxicity literature that provides the basis for the shrew and fox assessment provides the basis for the effects assessment for the Indiana bat, as well. This practice is consistent with the approach used in the revised BERA for the Hudson River (TAMS Consultants and Menzie-Cura 2000). In that assessment, risks to bat were evaluated based on the NOAEL from the multigenerational study of reproduction in rats (Linder et al. 1974). In this BERA, the same NOAEL of 0.32 mg/kg-day is used to assess the potential for adverse risks to the Indiana bat from PCBs.

Focusing on the toxicity of PCBs to mink, Fuchsman et al. (2008) compiled information from 16 published studies evaluating effects of PCBs on reproductive success. More than 50 tests were included in the data set (Table 5-5). Effects were assessed based on the number of surviving kits per mated female. Figure 5-2 illustrates the dose response relationships for mink exposed to PCBs based on average daily intake of PCBs and PCB body burdens. Toxicity was defined as a reduction in productivity of more than 30%, because smaller effects were not reliably detectable based on experimental variability. Kit growth was also evaluated and was found to be a less sensitive endpoint. Exposures were expressed using various metrics to compare which method best explained the variation in observed effects. The exposure metrics included measures of dietary and internal dose, as well as measures based on total PCBs and PCB congeners. Fuchsman et al. (2008) concluded that body burden based approaches are more effective than dietary dose metrics as evidenced by both a smaller range of NOAEL uncertainty (i.e., magnitude by which the highest NOAEL exceeds the lowest NOAEL) and the better fit of total PCB metrics to toxic response data than dietary dose metrics (e.g., as illustrated in Figure 5-2).

Several general observations regarding mink toxicity can be gleaned from Fuchsman et al.'s (2008) review of the 16 published studies. The lowest "toxic" daily dose in the data set (associated with approximately 50% reduction in reproductive success) is 0.057 mg/kg-day (Halbrook et al. 1999). However, this result does not appear to represent PCB-related toxicity, as 0.057 mg/kg-day was the lowest dose administered, and three higher doses resulted in no adverse effects (Halbrook et al. 1999). The highest NOAEL below this level is 0.053 mg/kg-day, from a study in which mink were fed PCB-contaminated seal blubber (Brunström et al. 2001). For comparison, a lack of reproductive toxicity was observed in other tests at a dose as high as 0.83 mg/kg-day (Käkelä et al. 2002), while the central tendency effect concentration to 50% of population tested (EC50) is estimated as 0.17 mg/kg-day (Fuchsman et al. 2008). Thus, there is a high degree of variability in the dose response relationship when the dose is expressed in terms of total PCBs in the diet.

This BERA uses mink toxicity data from Fuchsman et al. (2008) based on exposure expressed as daily dietary intake (i.e., dose) of total PCBs and as whole body PCB concentrations (i.e., body burden in mink). As illustrated in Figure 5-2, Fuchsman et al.'s dose response curve based on average daily dose of total PCBs yields EC10 and EC20 values of 0.032 mg/kg-day and 0.059 mg/kg-day, respectively. As also illustrated in Figure 5-2, the dose response curve based on body burden of total PCBs yields EC10 and EC20 values of 0.68 mg/kg and 0.90 mg/kg, respectively.

The effects assessment evaluates the potential for PCBs to cause adverse effects in ROIs and estimates the relationships between the extent of exposure and severity of effects. Effects in wildlife are characterized based on the available ecotoxicological literature. Potential risks to birds are evaluated based on NOAELs and LOAELs derived from studies on each of the avian ROIs (i.e., robins and kestrels), because no studies are available that allow derivation of a dose response curve for effects of PCBs on birds. With the exception of the Indiana bat, mammalian toxicity is evaluated based on dose response curves compiled from the PCB toxicity literature. Toxicity of PCBs to short-tailed shrews and red foxes is based on a dose response curve developed from Linder et al.'s (1974) study on Sherman rats. Toxicity of PCBs to mink is evaluated based on a dose response curve relating PCB exposure to reproductive effects in mink (Fuchsman et al. 2008). Toxicity of PCBs to Indiana bats is based on Linder et al.'s (1974) NOAEL, rather than the dose response curve, because a higher degree of protection is expected for threatened and endangered species as compared to species that are not of special concern.

6.0 RISK CHARACTERIZATION

Risk characterization integrates the outcomes of the exposure assessment and the effects assessment to determine the likelihood, severity and spatial extent of any predicted adverse effects. The risk characterization is conducted for each of the assessment endpoints evaluated, based on multiple measurement endpoints. In cases where individual measurement endpoints for a given assessment endpoint agree, certainty in the overall conclusion is enhanced. In cases where lines of evidence conflict, the relative strength of the individual lines of evidence is qualitatively weighed in order to yield conclusions based on the preponderance of evidence. Evaluation of key uncertainties is an important element of the risk characterization. Therefore, the risk characterization includes quantitative and qualitative analyses of sources of uncertainty in the BERA and the effects of that uncertainty on the risk conclusions (i.e., whether each source of uncertainty is likely to lead to an overestimation or underestimation of risk). This section first describes the risk characterization methodology employed in this BERA, followed by risk characterization discussions for each assessment endpoint, and closing with the uncertainty analysis.

6.1 Risk Characterization Methodology

In the first element of risk characterization, exposure and effects estimates are mathematically compared. The ratio of an exposure estimate to an effects metric is sometimes referred to as a hazard quotient (HQ); in such cases, HQs below 1 indicate that adverse effects are unlikely and no further ecological evaluation is warranted. Except in cases where all exposure estimates are less than all effects metrics (i.e., all HQs are below 1), the HQ terminology can be overly simplistic, however. A pitfall of HQ terminology is its reduction of many complex sources of information (related to both exposure and toxicity, often integrating many different studies) to binary terms (i.e., the HQ is either greater or less than 1), without regard for the incidence, severity, or spatial distribution of any predicted adverse effects. Thus, this BERA employs HQ terminology judiciously, using the term in tables to describe the ratio of an exposure estimate to an effects metric, but minimizing its use in the narrative discussion.

Exposure estimates that are below both the EC10 and EC20 or are below both the NOAEL and the LOAEL are unlikely to result in adverse effects in individual organisms or the local population. Table 6-1 is a rubric that facilitates interpretation of the implications of exposure estimates (either most likely or high end) that exceed effects metrics (EC10, EC20, NOAEL, LOAEL). In general, high end exposure estimates are most relevant to threatened, endangered or special concern species, for which management goals address individual organisms. Most likely exposure estimates are most relevant to all other species, for which management goals generally address populations. Only the upper effects metrics (i.e., EC20 and LOAEL) reflect adverse effects that have the potential to be consistently detectable in a local population. Lower effects metrics (i.e., EC10 and NOAEL) reflect more subtle effects that generally are not discernable against the backdrop of natural variability. Thus, as shown in Table 6-1:

- If the **most likely** exposure estimate for a given ROI exceeds either the **LOAEL or EC20**, there is a potential for detectable effects in the local population.
- If the **most likely** exposure estimate for a given ROI exceeds either the **NOAEL or EC10** (but not the LOAEL or EC20), there is a potential for subtle effects in the local population.
- If the **high end** exposure estimate for a given ROI exceeds either the **LOAEL or EC20**, (but the most likely exposure estimate does not), there is a potential for detectable effects in only the most highly exposed individual organisms.
- If the **high end** exposure estimate for a given ROI exceeds either the **NOAEL or EC10** (but not the LOAEL or EC20, and the most likely exposure estimate does not), there is a potential for subtle effects in only the most highly exposed individual organisms.

The distinctions provided above are intended to aid risk management decisions, as well as prioritize any further ecological evaluation that may be considered, based on the outcome of this BERA.

Where dose response curves are available—as in the case of shrews, fox, and mink—the percent responses (effects) relative to controls are predicted using Equation 7:

Eqn. 7

$$y = \left[100 + \frac{-99}{1 + \exp(-(a + b \times \ln(x)))}\right]$$

Where:

y	=	effect level (% of control response)
a	=	exposure metric constant based on nonlinear regression
b	=	exposure metric constant based on nonlinear regression
x	=	point estimate for dose (mg/kg-day) or body burden (mg/kg)

In these cases, each of the exposure estimates are plotted on the dose response curves, in order to illustrate predicted effects (relative to controls) associated with each exposure estimate. This information helps to extend the risk characterization beyond a simple binary metric and allows consideration of which organisms in the population are expected to be adversely affected, and the severity of those expected effects.

6.2 Risks to Invertivorous Birds (American Robin)

The potential for adverse effects in invertivorous birds was evaluated using the American robin as an ROI and by comparing most likely and high end doses to the NOAEL derived from McLane and Hughes (1980) and the LOAEL derived from Fernie et al. (2001, 2003). HQs for robins range from 0.04 to 0.6, depending upon the exposure estimate and effects metric used. Most likely and high end exposure estimates are both well below the NOAEL and the LOAEL,

(Table 6-3). Average and high end HQs generated from the Henning et al. (2003) robin NOAEL are 0.03 and 0.06, respectively. Adverse effects are not predicted for individual organisms or populations of invertivorous birds.

6.3 Risks to Carnivorous Birds (American Kestrel)

The potential for adverse effects in carnivorous birds was evaluated using the American kestrel as the ROI and by comparing most likely and high end doses to the NOAEL and LOAEL derived from Fernie et al. (2003). Most likely and high end exposure estimates are both well below the estimated NOAEL and the LOAEL (Table 6-2). All HQs for kestrels are well below the benchmark of acceptable hazard (1); they range from 0.003 to 0.3, depending upon the exposure estimate and effects metric used. Thus, adverse effects are not predicted for individual organisms or populations of carnivorous birds.

As discussed in Section 3.3, the kestrel serves as a surrogate for the bald eagle, which is protected under the Bald and Golden Eagle Protection Act. Pruitt (2009) reported that the bald eagle could possibly be found within one-half mile of the study area. Given the protected status of this species, management of individual organisms is appropriate. Thus, evaluation of potential effects to bald eagles focuses on the high end exposure estimate. Because the high end exposure estimate for carnivorous birds is well below both the NOAEL and the LOAEL, even the most highly exposed individual carnivorous birds are not expected to experience either subtle or detectable adverse effects. Thus, any bald eagles that forage within the study area are not expected to be adversely affected by PCBs. However, given the dense canopy of the study area and lack of extensive open water adjacent to it, as well as extensive open water habitat nearby (i.e., the White River), it is highly unlikely that any bald eagles living in the region would consume significant quantities of prey from the study area.

6.4 Risks to Carnivorous Small Mammals (Short-tailed Shrew)

The potential for adverse effects in carnivorous small mammals was evaluated using short-tailed shrews as the ROI and focusing on three lines of evidence:

1. Comparison of estimated doses to the dose response curve to predict reductions in litter size relative to controls;
2. Comparison of estimated doses to the EC10 and EC20 to yield HQs; and
3. Evaluation of findings from a published field study of population dynamics in short-tailed shrews inhabiting a floodplain impacted by PCBs (Boonstra and Bowman 2003).

First, potential adverse effects on reproduction in short-tailed shrews was evaluated by comparing most likely and high end doses to the dose response curve developed from Linder et al. (1974) (Figure 6-1). As illustrated in Figure 6-1 and Table 6-2, predicted litter sizes in study area shrews with most likely and high end doses are over 99% of the litter size of control animals. This nominal predicted difference is not likely to be detectable, particularly in light of natural population variability. Thus, this line of evidence indicates that adverse effects are not predicted for individual organisms or populations of carnivorous small mammals, as represented by the short-tailed shrew.

Second, HQs are calculated based on the EC10 and EC20 from the dose response curve developed from Linder et al. (1974) (Table 6-3). All HQs for shrews are well below the benchmark of acceptable hazard (1). HQs range from 0.06 to 0.2, depending on the exposure estimate and effects metric used. The HQ analysis is consistent with the dose response analysis, which concluded that much less than a 10% or 20% effect level is expected.

Findings from the first two lines of evidence are supported by a field study of population dynamics in short-tailed shrews inhabiting a floodplain impacted by PCBs (Boonstra and Bowman 2003). These authors evaluated short-tailed shrew population dynamics at six sites within the floodplain of the Housatonic River in Massachusetts, by live trapping and measuring population density, survival, sex ratio, reproduction, and growth. Boonstra and Bowman (2003) established live trapping grids on three sites with high PCB concentrations (spatially weighted average concentrations [SWACs] in surface soil ranging from 17.6 mg/kg to 38.3 mg/kg) and three sites with low PCB concentrations (SWACs of 1.5 mg/kg to 2.5 mg/kg). All measures of population dynamics for both groups were well within the ranges reported in the literature for short-tailed shrews that are not exposed to PCBs. They found no evidence that PCBs resulted in adverse effects on population demography. Boonstra and Bowman (2003) concluded that the Housatonic River floodplain supports healthy and abundant populations of shrews. By way of comparison, the SWAC in surface soil of the Stony Creek floodplain is 1.3 mg/kg, which is less than the SWACs measured at all Housatonic River floodplain sites. In addition, Boonstra and Bowman (2003) state that tissue concentrations in shrews collected two years prior to their field study from three of the same locations they sampled averaged between 7.01 mg/kg to 113.0 mg/kg. These concentrations are up to two orders of magnitude greater than the maximum concentration of 1.4 mg/kg from shrews collected in the Stony Creek floodplain (Table 2-1). Given the lower concentrations of PCBs in Stony Creek floodplain soil and shrews, as compared to Housatonic River floodplain soil, as well as the absence of adverse effects of PCBs on shrews inhabiting the Housatonic River floodplain, adverse effects also are not expected in shrews inhabiting the Stony Creek floodplain. Thus, the findings from all three lines of evidence corroborate the conclusion that carnivorous small mammals, as represented by the short-tailed shrew, are not likely to be adversely affected by current concentrations of PCBs in study area soil and prey.

6.5 Risks to Carnivorous Medium-Sized Mammals (Red Fox and Mink)

The potential for adverse effects in carnivorous medium-sized mammals was evaluated using two ROIs, the red fox and the mink. Six lines of evidence were considered in this BERA:

1. Comparison of estimated doses in the red fox to the dose response curve to predict reductions in reproduction relative to controls;

2. Comparison of estimated doses in the red fox to the EC10 and EC20 to yield HQs;
3. Comparison of estimated doses in the mink to the dose response curve to predict reductions in surviving kits per mated female, relative to controls;
4. Comparison of estimated doses in the mink to the EC10 and EC20 to yield HQs;
5. Comparison of estimated body burdens in the mink to the dose response curve to predict reductions in surviving kits per mated female, relative to controls; and
6. Comparison of estimated body burdens in the mink to the EC10 and EC20 to yield HQs;

First, potential adverse effects on reproduction in the red fox was evaluated by comparing most likely and high end doses to the dose response curve developed from Linder et al. (1974) (Figure 6-1). As illustrated in Figure 6-1 and Table 6-2, predicted litter sizes in study area red fox with most likely and high end doses are 99.5% or more of the litter sizes in control animals. Thus, this line of evidence indicates that adverse reproductive effects are not predicted for individual or populations of carnivorous medium-sized mammals, as represented by the red fox.

Second, HQs are calculated based on the EC10 and EC20 from the dose response curve developed from Linder et al. (1974) (Table 6-2). All HQs for the red fox are well below the benchmark of acceptable hazard (1). HQs range from 0.003 to 0.02, depending on the exposure estimate and effects metric used. The HQ analysis is consistent with the dose response analysis, in that adverse effects are not predicted for individual organisms or populations of red foxes.

Third, potential adverse effects on reproduction in mink (specifically, surviving kits per mated female) was evaluated by comparing most likely and high end doses to the dose response curve developed by Fuchsman et al. (2008) (Figure 6-2). As illustrated in top graph in Figure 6-2 and in Table 6-5, under the most likely exposure scenario, surviving kits per mated female is predicted to be 99% that of control animals, a negligible (i.e., 1%) reduction that is not likely to be detectable within the local population. Among the most highly exposed individual mink, however, the number of surviving kits per mated female is predicted to be reduced to 56% that of control animals (i.e., 44% reduction). Because mink are not threatened, endangered, or of special concern, wildlife management typically focuses on populations, rather than individual mink. Thus, this dose-based finding for high end exposures to mink serves as a bounding estimate, rather than a supportable basis for risk management decisions. As previously noted, Fuchsman et al. (2008) found that the dose-based exposure metrics were less strong predictors of effects than the body burden-based exposure metrics. Thus, this line of evidence is given lower weight than the body burden-based line of evidence.

Fourth, the same dose-based exposure estimates for mink are compared to the EC10 and EC20 from the dose response curve developed by Fuchsman et al. (2008) (Table 6-4). The results parallel the conclusions from the third line of evidence, given that both are based on the same data sets. Dose-based HQs for mink range from 0.1 to 4, depending on the exposure estimate and effects metric used. Based on the risk characterization rubric provided in Table 6-1 and the range of dose-based HQs, effects are not likely detectable in the local mink population, although the most highly exposed individual mink may experience adverse effects.

As discussed in Section 5.4, in their recent evaluation of the effectiveness of various exposure metrics in predicting toxic effects in mink exposed to PCBs, Fuchsman et al. (2008) concluded that body burden based approaches are more effective than dietary dose metrics as evidenced by both a smaller range of NOAEL uncertainty (i.e., magnitude by which the highest NOAEL exceeds the lowest NOAEL) and the better fit of total PCB metrics to toxic response data than dietary dose metrics (e.g., as illustrated in Figure 5-2). The fifth and sixth lines of evidence are based on mink body burden analyses and, therefore, more accurately characterize risk to mink than do the third and fourth lines of evidence.

Fifth, potential adverse effects on surviving kits per mated female mink was evaluated by comparing most likely and high end body burdens to the dose response curve developed by Fuchsman et al. (2008) (Figure 6-2). As illustrated in bottom graph in Figure 6-2 and in Table 6-5, under the most likely exposure scenario, surviving kits per mated female is predicted to be equal to that of control animals (i.e., no reduction). Among the most highly exposed individual mink, however, the number of surviving kits per mated female is predicted to be reduced to 67% that of control animals (i.e., 33% reduction). As previously noted, because mink are not threatened, endangered, or of special concern, wildlife management typically focuses on populations, rather than individual mink. Thus, the finding for high end exposures to mink serves as a bounding estimate, rather than a supportable basis for risk management decisions. This bounding estimate has greater certainty than that based on dose, in which a 44% reduction in productivity was predicted.

Sixth, the same body burden-based exposure estimates for mink are compared to the EC10 and EC20 from the dose response curve developed by Fuchsman et al. (2008) (Table 6-4). Body burden-based HQs for mink range from 0.1 to 1.7, depending on the exposure estimate and effects metric used. Based on the risk characterization rubric provided in Table 6-1 and the range of dose-based HQs, effects are not likely detectable in the local mink population, although the most highly exposed individual mink may experience adverse effects. Given that even the highest of the HQs only slightly exceeds the benchmark of acceptable hazard (1), this line of evidence provides only weak evidence of potential adverse effects in even the most highly exposed individual mink.

In considering the six lines of evidence discussed above, the following overarching conclusions can be drawn regarding potential risk to medium-sized carnivorous mammals. Red fox and other carnivores that are not mustelids are not predicted to be adversely affected by current concentrations of PCBs in prey derived from the study area. Certainty in this conclusion is high, due to: 1) agreement among metrics based on the most likely exposure, high end exposure, EC10 and EC20; 2) negligible responses and very low HQs predicted; and 3) the conservative assumptions employed, as detailed in Section 6.7. Mink and other mustelids are known to be particularly sensitive to the effects of PCBs (Aulerich and Ringer 1977, Basu et al. 2007). Thus, the generally higher effects predicted for mink, as compared to red fox, are expected.

Four lines of evidence specific to mink consistently predicted negligible effects under the most likely exposure scenario, and adverse effects for the most highly exposed individual mink. In order to place the findings for the most highly exposed individual mink in fuller context, it is helpful to consider whether any such mink actually exist and, if so, what proportion of the regional mink population they represent. In this way, one can more accurately judge whether predictions for individual mink can be extended to population-level effects.

Towards that end, we first compared the size of the study area (59 acres) relative to the lowest minimum home range area (19 acres) reported in the literature (Mitchell 1961 for heavy vegetation, as summarized by USEPA 1993). Theoretically, approximately three minimum-sized home ranges could fit within the study area, suggesting that, at most, three high end mink could derive all of their prey from the study area. It is worth noting that most studies summarized in Table 4-8 indicate that the study area would be unlikely to support more than one mink.

Next, we considered whether it is plausible that one to three mink would in fact derive all of their prey from the study area, in light of the availability of superior foraging habitat nearby. Given the size of the White River, it would appear to offer far more abundant prey, at a lower energetic capture cost for the mink, than could be obtained within the study area. Thus, the mink that theoretically forages exclusively within the study area is faced with more limited prey choices and abundance and greater intra- and interspecific competition, as compared to the mink that forages along the White River. According to one of the fundamental tenets of ecology, optimal foraging theory (MacArthur and Pianka 1966), organisms forage in a manner that maximizes their energy intake per unit time. In other words, they behave in such a way as to find, capture, and consume food containing the most calories while expending the least possible amount of time and energy in doing so. Thus, reliance on the study area for 100% of prey consumed, when superior foraging habitat exists nearby, would be ecologically inefficient and contrary to optimal foraging theory. Therefore, the high end exposure scenario for mink is probably hypothetical.

Although the foregoing analyses indicate that the high end exposure scenario for mink likely represents just one to three hypothetical mink, in the interest of protecting mink populations, it is helpful to explore whether a 33% reduction in the productivity in those three mink (if they actually exist) would affect the regional mink population. Noting that litter sizes in mink typically range from 2 to 8 (Mitchell 1961), it would seem unlikely that a 33% effect level would detectable in individual mink, let alone within the regional population. Nonetheless, to better understand the significance of adverse effects in productivity of three mink relative to the regional population, we first searched for mink population surveys in the region. To our knowledge, studies of the local population of mink in the Noblesville, Indiana area have not been conducted, nor have habitat suitability surveys been conducted in any local areas other than the study area. Therefore, ENVIRON estimated the number of mink in the local population, as defined by a 10-mile radius surrounding the study area, considering appropriate riparian habitat in the greater Noblesville area (as defined by the U.S. Fish and Wildlife Service Habitat Suitability Index model; Allen 1986) and the home range area for mink. Based on land cover and proximity to waterbodies, the area within 10 miles of the study area has sufficient foraging habitat to support 113 mink. Therefore, the maximum of three hypothetical mink that forage exclusively in the study area represent just 2.7% of the mink population that may inhabit a 10-mile radius surrounding the study area. Population-level effects are customarily judged based on effects on 10% or 20% of the local population. Thus, even if there are three mink that forage exclusively in the study area, it is highly unlikely that any adverse effects to these individual mink would result in population level impacts, particularly given that mink are not endangered, threatened, or of special concern.

6.6 Risks to Bats (Indiana Bat)

The potential for adverse effects in bats was evaluated based on the federally protected Indiana bat. Given this species' protected status, this analysis compares most likely and high end exposure estimates to the NOAEL reported by Linder et al. (1974). This approach is extremely protective, in that it judges whether any Indiana bat could be exposed to PCBs above the NOAEL. As illustrated in Table 6-3, the most likely and high end HQs for the Indiana bat are 0.4 and 1.2, respectively. Given that only the NOAEL is employed in this analysis and it is approximately 5-fold lower than the LOAEL reported in the same study (Linder et al. 1974), and given that the high end AUF (i.e., 1.0) represents a mathematical upper-bound value that is not supported by a site-specific and species-specific study of Indiana bat home range areas (Sparks et al. 2005), the finding of a high end HQ that marginally exceeds 1 is not biologically significant. Thus, adverse effects are not predicted for individual Indiana bats that may forage within the study area.

6.7 Uncertainty Analysis

Uncertainty can be introduced into a BERA at every step in the process, as information of varying quality is gathered from diverse sources in order to be integrated into a complex framework. Conservative assumptions are generally employed to compensate for uncertainty and to ensure the protectiveness of the overall assessment. This section identifies major sources of uncertainty and their expected effects on risk estimates.

6.7.1 Uncertainty Associated with Data Collection and Analysis

Uncertainty associated with data collection and analysis largely relates to sampling design and representativeness, the basis for EPCs, and treatment of non-detect results. These sources of uncertainty are minor and/or tend to result in overestimation of exposure and risk.

The analytical data collection effort for this BERA was designed to minimize uncertainties related to PCB bioaccumulation and bioavailability. EPCs for prey items were measured for terrestrial invertebrates and small mammals. These concentrations are assumed to be representative of prey items ingested by wildlife, when in fact a much wider variety of prey items are ingested. While it is not possible to measure concentrations in all prey items for all ROIs, we attempted to measure concentrations in those prey items most likely to accumulate PCBs. Thus, these EPCs are likely conservative.

With the exception of plants, measured biota concentrations were used instead of literature-derived BAFs to estimate dietary concentrations. The use of BAFs to estimate plant tissue concentrations introduces very limited uncertainty into the overall assessment, given the low uptake of PCBs by plants and the relatively low proportion of diets of ROIs comprised of plants.

The arithmetic mean concentrations of PCBs in each environmental medium are used in this BERA to represent most likely EPCs. The 95% UCL on the arithmetic mean is used in this BERA to represent high end EPCs. The high end exposure estimates likely overestimates population-wide exposures, as well as exposures of individual birds and mammals over the course of an entire season.

As discussed in Section 2.2.1, soil samples were collected from transects with high sampling density closest to Stony Creek and low sampling density more distant from the creek. Consequently, the resultant arithmetic average and 95% UCL likely overestimate actual exposure. For example, the SWAC for soil in the study area is 1.3 mg/kg, as compared to arithmetic mean and 95% UCL concentrations of 2.5 mg/kg and 5.5 mg/kg, respectively.

6.7.2 Uncertainty Associated with Exposure Assessment

Uncertainty associated with the exposure assessment relates to assumptions related to dietary preferences, ingestion rates, and AUFs. These sources of uncertainty are minor and/or tend to result in overestimation of exposure and risk. Of these, assumptions related to the dietary preferences of mink perhaps have the greatest risk management implications. Therefore, Section 6.7.3 provides a detailed analysis of the effect of assuming that local mink consume fish as part of their diet.

In general, dietary preferences affect exposure estimates because different food types contain different concentrations of PCBs. Dietary preferences used in this BERA were selected to represent typical foraging behavior for each ROI. Carnivorous ROIs were assumed to eat short-tailed shrews and white-footed mice in the proportion that they were trapped (i.e., three shrews, five mice). This assumption likely leads to overestimation of actual exposure for carnivorous ROIs, given that concentrations of PCBs in shrew are consistently higher than in mice, as well as the shrew's defensive tactics that cause most predators to avoid them.

The ingestion rates used in this BERA are mean estimates derived using allometric equations based on mean metabolic rates and the mean metabolic energy of various general prey types (e.g., aquatic invertebrates, wild seeds, fruit pulp and skin). Table 4-2 compares calculated ingestion rates to measured values reported in the literature for captive animals. Modeled ingestion rates are consistently within (and generally at the high end of) the range of measured literature values. This strong agreement between modeled and measured ingestion rates, across all ROIs, suggests there is little uncertainty associated with this parameter.

There are uncertainties associated with any assumptions about use of a particular area by an ROI. In general, AUFs employed in this BERA contribute to the accuracy of potential risk estimates, in that they acknowledge that many ROIs are unlikely to spend their time exclusively within the study area boundaries. To help account for the effects of the AUF on overall risk estimates, most likely and high end AUFs were calculated based on the mean and minimum reported home range areas, respectively.[9] It is also worth noting that the use of an area by an ROI is influenced not only by the size of the area relative to the size of its foraging range, but also by the quality of habitat and availability of prey relative to the availability of additional habitat and prey in surrounding areas. This factor was explicitly considered with respect to mink, through a habitat suitability survey. That survey, detailed in Appendix D, confirmed the suitability and quality of habitat in the study area for mink.

An additional minor source of uncertainty associated with the mink AUF relates to whether this species' home range area is expressed linearly or aerially. As discussed in detail in Section 4.9.2, an aerial home range area was employed in this BERA because the objective of the BERA is to support a risk management decision for the undeveloped floodplain of Stony Creek, but not Stony Creek itself, since a final corrective measure has already been selected for Stony Creek. It should be noted that, regardless of whether the AUF is calculated from the aerial or linear home range estimates, the high end AUF remains 1.0. The linear home range estimate would yield a most likely AUF of 0.4, as compared to the most likely AUF of 0.1 used in this BERA and resulting from the aerial home range estimate. Regardless of whether a most likely AUF of 0.1 or 0.4 is used, the most likely HQ remains less than 1.0 and the most likely kit production remains 100% that of controls. Thus, the underlying basis for the mink's AUF does not affect the conclusions of the mink measurement endpoints.

In the case of the Indiana bat, the use of a mathematical upper-bound value of 1.0 as the high end AUF adds considerable conservatism to the exposure assessment for bats. This highly conservative approach was taken in recognition of the special protection status of the Indiana bat. It is worth noting, however, that a site-specific and species-specific study by Sparks et al. (2005) on the home range area of Indiana bats reports mean and minimum home range areas of 335 ha and 51 ha, respectively. Dividing the study area size of 24 ha by these home range areas yields alternative (and more realistic) most likely and high end AUFs of 0.07 and 0.47. Use of these alternative AUFs would result in most likely and high end HQs of 0.05 and 0.6 for the Indiana bat, both of which are well below 1.0. Thus, the use of a mathematical upper-bound value of 1.0 as the high end AUF for Indiana bats predicts a high end HQ marginally greater than 1.0, whereas a high end AUF based on a site-specific and species-specific study predicts a high end HQ substantially below 1.0.

[9] Except in the case of the Indiana bat, as detailed below.

6.7.3 Alternative Exposure Analysis for Mink

As stated previously in Section 4.9, the primary analysis for mink focused on an entirely terrestrial diet for study area mink because this BERA focuses solely on ecological risks posed by PCBs in floodplain soil and terrestrial biota. However, given the proximity of the study area to Stony Creek, fish may comprise at least a portion of the mink's diet. In general, fish comprise between 0% and 100% of the mink's diet (Lariviere 1999). This section of the uncertainty analysis evaluates the potential impacts to mink from PCBs if fish are included as a portion of the mink's diet. This alternative exposure analysis is evaluated by considering two measurement endpoints:

1. Comparison of estimated dietary doses of PCBs to the EC10 and EC20 from the dose response curve to predict reductions in surviving kits per mated female, relative to controls; and

2. Comparison of estimated body burdens in the mink to the EC10 and EC20 from the dose response curve to predict reductions in surviving kits per mated female, relative to controls.

Previously collected fish tissue data from Stony Creek were not used in this analysis because both sediment and biota are currently part of an AOC addressing source control and monitored recovery for Stony Creek. Fish and sediment monitoring are part of the AOC, which stipulates that monitoring must be conducted until PCB concentrations have dropped below 2 mg/kg. For this alternative exposure analysis, potential risks to mink were evaluated under the naturally recovered conditions where fish tissue concentrations do not exceed the target fish tissue limit for total PCBs. Therefore, the EPCs for fish prey were conservatively set equal to 2 mg/kg total PCBs. The homologue distribution was assumed to be comparable to the composition observed in recently collected fish samples as described in Appendix E.

Table 6-6 presents the exposure assessment assumptions and calculations for this alternative exposure analysis for mink. For the purposes of this uncertainty analysis, it is assumed that fish comprise 25% of the mink's diet and that small mammals make up the remaining 75%. Given the resource limitations associated with the relatively small size of Stony Creek, it is unlikely that fish would comprise more than 25% of the diet of mink foraging within the Stony Creek study area. Differences in exposure assumptions from those used in Section 4.9 are described below. For the purposes of this uncertainty analysis, only the most likely exposure scenario was employed, as it provides the most realistic estimate of exposure for mink populations foraging in the Stony Creek floodplain.

Food ingestion rate – A food ingestion rate for mink was derived based on the proportion of diet composed of fish and terrestrial prey (i.e., small mammals), the gross energy in each food group, the efficiency with which mink assimilate the gross energy in each food group, and the normalized free-living metabolic rate of mink. This derivation is presented in Table 4-2. The basis for each of these parameters is described below:

Fraction of diet as small mammals and fish – For the purposes of this alternatives analysis, it is assumed that mink consume a diet composed of 75% terrestrial prey (i.e., small mammals) and 25% aquatic prey (i.e., fish).

Gross energy of fish prey – The gross energy available from fish consumed by mink is assumed to be 1.2 kcal/g wet weight, which is the average energy content for bony fishes (USEPA 1993).

Assimilation efficiency for fish prey – An assimilation efficiency of 91% for fish is based on the average efficiency associated with mammals consuming fish (USEPA 1993).

As described in Appendix E, PCB homologue distributions associated with a total PCB concentration of 2 mg/kg in fish were identified based on fish tissue concentrations measured in 2006. Fish have been collected from Stony Creek during two separate monitoring events since the completion of remedial actions in Wilson ditch in 2005. Fish collected in 2006 were analyzed for PCB congeners and fish collected in 2007 were analyzed for Aroclors. The 2006 congener data provided the basis for estimating homologue distributions in fish as each of the 209 congeners can be categorized by their homologue group. This homologue distribution was applied to a total PCB concentration of 2 mg/kg to characterize body burdens for mink.

Table 6-6 presents the most likely total PCB dose estimates for mink. Potential adverse effects on surviving kits per female mink are again evaluated by comparing dose estimates to the dose response curve developed by Fuchsman et al. (2008) (Figure 5-2). Comparison of the estimated most likely total dose in Table 6-6 to the dose response curve values demonstrates that under this alternative exposure scenario, surviving kits per mated female is predicted to be 96% of the levels in controls. The estimated most likely dose estimate is 0.014 mg/kg-day and the HQs based on both the EC10 and EC20 are 0.4 and 0.2, respectively confirming that there is no potential risk for adverse effects to mink populations foraging within the study area under post natural recovery conditions in Stony Creek.

The more reliable exposure metric of total PCB body burden provides similar results (Table 6-7). Comparison of the estimated most likely body burden concentrations in Table 6-7 with the dose response curve developed by Fuchsman et al. (2008) (Figure 5-2) demonstrates that under this alternative exposure scenario, surviving kits per mated female is not predicted to differ from that of control animals (100% of the control levels). Similarly, the estimated most likely body burden is 0.081 mg/kg and HQs based on both the EC10 and EC20 are equal to 0.1, confirming that there is no potential risk of adverse effects to mink populations foraging within the study area under post natural recovery conditions in Stony Creek.

Therefore, based on both measurement endpoints summarized above and the risk characterization rubric provided in Table 6-1, once fish tissue concentrations are reduced to 2.0 mg/kg as detailed in the AOC, adverse effects are not likely detectable in the local mink population.

6.7.4 Uncertainty Associated with Effects Assessment

Uncertainty associated with the effects assessment largely relates to species sensitivity, use of NOAELs and LOAELs where data do not support development of dose response curves, practices employed in developing dose response curves, and variable toxicity of different PCB mixtures. Each of these sources of uncertainty is described below. As detailed in this subsection, uncertainty associated with the effects assessment tends to result in overestimation of toxicity and risk.

When multiple toxicity studies were available for consideration in the effects assessment, efforts were made to pick the study or studies that had the most appropriate test species, study duration, and endpoint. For most chemicals, available studies are most often conducted on common laboratory species (mice, rats, and chickens) that tend to be more sensitive due to inbreeding and a lack of adaptation. Because of this inherent sensitivity, benchmarks are likely to overestimate, rather than underestimate, risks to ROIs.

For example, conservative TRVs were purposefully selected for the American robin. As discussed in Section 5.3, in the absence of any direct data on the effects of lower chlorinated commercial mixtures (i.e., Aroclor 1242, 1248) on robins, it was necessary to choose between a field study of productivity of robins exposed to more highly chlorinated but weathered commercial PCB mixtures (i.e., Aroclor 1254) (Henning et al. 2003) and laboratory studies on reproductive effects of less chlorinated commercial mixtures (i.e., Aroclor 1248 mixed 1:1:1 with Aroclor 1254 and 1260) on avian species that are not in the same taxonomic order as robins (Fernie et al. 2001, 2003).

Based on the studies that provide sufficient data to generate dose-based TRVs for PCB mixtures (i.e., those listed in Table 5-1), variability in toxicity of different Aroclor mixtures varies from none to 5-fold, with more highly chlorinated commercial mixtures generally more toxic than less chlorinated commercial mixtures. Lillie et al. (1974) fed white leghorn chickens diets containing either 2 mg/kg or 20 mg/kg of one of eight different commercial mixtures of PCBs and observed no significant effects on egg production or hatchability in chickens fed the 2 mg/kg diet of Aroclors 1242, 1248, and 1254 (equivalent to a dose of 0.12 mg/kg-day). Productivity was impaired at the 20 mg/kg diet (equivalent to a dose of 1.2 mg/kg-day) for these same three Aroclors, indicating that differences in toxicity of these three Aroclors were not detectable at the doses tested. The greatest difference in toxicity of two Aroclor mixtures on a given species was observed for mallards. Haseltine and Prouty (1980) reported a NOAEL of 42 mg/kg-day for mallards exposed to Aroclor 1242. Custer and Heinz (1980) reported a NOAEL of 8.1 mg/kg-day for mallards exposed to Aroclor 1254. Thus, in mallards, Aroclor 1254 was found to be approximately five-fold more toxic than Aroclor 1242. However, both of these values are unbounded NOAELs and therefore, do not accurately define the true effect threshold for either Aroclor mixture.

By comparison, interspecies variability in sensitivity varies by 6-fold to 350-fold, for a given Aroclor. Focusing on those studies for which sufficient data are available to generate TRVs, the smallest interspecies variability in sensitivity for a given Aroclor mixture is observed for Aroclor 1248, for which Lillie et al. (1974) supports a NOAEL of 0.12 mg/kg-day for chickens and McLane and Hughes (1980) supports a NOAEL of 0.765 mg/kg-day for screech owls (a 6-fold difference). The greatest interspecies variability in sensitivity for a given Aroclor is observed for Aroclor 1242, for which Lillie et al. (1974) again supports a NOAEL of 0.12 mg/kg-day for chickens and Haseltine and Prouty (1980) reported a NOAEL of 42 mg/kg-day for mallards (a 350-fold difference).

Given that variability in endpoints is greater across species than across Aroclor mixtures, and given that more highly chlorinated Aroclor mixtures are generally more toxic to birds than less chlorinated Aroclor mixtures, use of the Henning et al. (2003) study as a basis for the robin TRV would be appropriately conservative and would limit uncertainty in the overall assessment. Use of the Henning et al. (2003) NOAEL as a TRV would result in average and high end HQs of 0.03 and 0.06, respectively. Nonetheless, in order to add further conservatism to the BERA, lower (i.e., more protective) TRVs based on screech owls (McLane and Hughes 1980) and American kestrels (Fernie et al. 2001, 2003) exposed to lower chlorinated Aroclors provided the basis for the TRVs used to evaluate effects on robins. Even so, HQs based on these highly conservative TRVs for robins range from 0.04 to 0.6, indicating that adverse effects are not likely for either individual organisms or populations of invertivorous birds, such as American robins.

Practices employed in the selection of TRVs for mammals are also appropriately conservative. Mink are known to be unusually sensitive to PCBs and were assessed based on mink toxicity studies. Although red fox are taxonomically more similar to mink than they are to small mammals (the basis for their effects assessment), there is no documented evidence of any extra sensitivity of foxes to PCBs. The approach used in this BERA, where other medium-sized mammals (i.e., fox) are evaluated separately from mink, is consistent with other ERAs focusing on potential risks associated with PCBs (TAMS Consultants and Menzie-Cura 2000, Weston 2004).

The derivation and application of dose-based benchmarks conform to the general recommendations of a workgroup that convened an interactive poster session at the 2007 annual meeting of the Society of Environmental Toxicology and Chemistry (Allard et al. 2007). Benchmarks were preferentially developed from underlying dose response relationships (i.e., point estimate EDx values, which are defined as x% reduction in an endpoint relative to control) whenever possible. Use of full dose response relationships is preferable to reliance on NOAELs and/or LOAELs, because these metrics are constrained by the selection of treatment levels in the laboratory study and are based on statistical significance of toxic endpoints between these treatments (Allard et al. 2007). However, when data limitations precluded the consideration of dose response relationships, it was necessary to rely on NOAELs and/or LOAELs. In these cases, preference was given to those studies that use multiple dose groups and identify both a NOAEL and LOAEL within the same study. However, if the available toxicity studies for a given ROI report only a LOAEL, this BERA extrapolates a NOAEL based on the assumption that the NOAEL is ten-fold lower than the LOAEL. LOAELs are not, however, extrapolated from reported NOAELs. The use of extrapolated NOAELs is preferable to leaving a ROI unevaluated or evaluated solely based on a LOAEL, in that it offers a bounding estimate for evaluating the potent of adverse effects.

Dose response curves were used for small mammals, fox, and mink to describe predicted responses based on specific doses used in the underlying study. As such, the resultant dose response curves are only as reliable as the underlying data. While the dose response curve developed by Fuchsman et al. (2008) for mink was based on 16 studies and 50 discrete tests, the curve developed from Linder et al. (1974) was based on a single study with five dose groups. Furthermore, Fuchsman et al. (2008) critically reviewed all of the underlying mink reproductive toxicity studies, such that their quality and validity are considered high. There is less certainty in the quality of the Linder et al. (1974) study used to develop the shrew and fox dose response curve, particularly since it was published more than 30 years ago when PCB analytical methods were considerably less well developed than they are today.

One of the simplifying assumptions in developing the dose response curves pertains to the handling of data where responses in test groups exceeded those in control groups. That is, in the Linder et al. (1974) study, litter sizes in low level test groups were sometimes larger than those in the corresponding control group. Prior to the regression analysis, the response values were adjusted by adopting a value of 100% of control as the maximum result because results above those of the control were considered to represent natural variability, rather than a PCB-related effect. In addition, the upper asymptote for the dose response relationship was set at 100% of control based on the data adjustments described above. Because response values that exceed control values were truncated at 100% of control, the dose response curve based on Linder et al. (1974) likely yields conservative estimates of effect concentrations, particularly at the upper end of the response curve (i.e., the EC10 and EC20).

The analysis of PCB concentrations is complicated by the large number of individual congeners that may be present. Effects data for PCBs are sometimes limited to certain Aroclors and individual congeners, with research generally focusing on the most toxic PCB mixtures. As a result, the effects concentrations identified for this BERA are likely to be overly conservative. This source of uncertainty is limited in the mink effects assessment because the dose response curve approach accounts for the bioaccumulation and toxicity potential of site-specific PCB mixtures (as represented by measured homologue concentrations). This approach reduces the uncertainty associated with the mink toxicity threshold from an uncertainty range of approximately 15-fold to 3-fold (Fuchsman et al. 2008)

6.7.5 Uncertainty Associated with Risk Characterization

Uncertainties related to the risk characterization relate to the assessment of potential risks of populations rather than individuals for most ROIs (excluding the Indiana bat) and natural variability within populations. The uncertainties also relate to the natural mitigating circumstances such as adaptation and limited resources that impact population dynamics. This section summarizes those uncertainties in greater detail. Uncertainties related to risk characterization are generally expected to overestimate potential risks to natural populations.

This BERA is intended to primarily assess risks to populations, except in the case of endangered, threatened, and special concern species, for which management of individual organisms is appropriate. However, the toxicological evaluation of chemical concentrations generally relies on information that is most applicable to individual organisms. One of the greatest uncertainties associated with evaluating risks to wildlife is the assumption that, as doses and HQs increase, an increasing number of individuals could experience adverse effects, and as more individuals are affected, there are greater risks to the population. To some extent, the use of dose response curves accounts for some of this uncertainty because estimated exposures can be compared to a wide range of doses and their predicted effect levels. Comparisons to NOAELs and LOAELs, however, only provide a basis for estimating a potential toxicity threshold[10] and cannot provide any indication of the potential degree of toxicity when estimated doses exceed the threshold (Allard et al. 2007b). By considering most likely exposures, we estimate exposures (and risks) to average individuals within the population. It is assumed that, if the average individual within the population is not adversely affected, then the population as a whole also is not likely to be adversely affected.

Density-dependent biological processes, such as competition for limited food resources, can at least partially offset reductions in the reproductive output of individual organisms. For instance, extensive long-term monitoring of striped bass (*Morone saxatilis*) populations in the Hudson River revealed no PCB-related effects, despite the documentation of adverse effects on individual organisms in laboratory tests (Barnthouse et al. 2003). Similarly, despite the elevated concentrations of PCBs in shrews collected from the floodplain of the Housatonic River and potential effects on body mass in males from PCBs, there was no detectable impact on overall population demographics (Boonstra and Bowman 2003). The relationship between individual and population-level effects is thus a significant source of uncertainty in this BERA and may lead to overestimation of risks.

[10] Below which risks are not expected.

Risk characterization involves the integration of exposure and effects data to determine the likelihood of adverse effects. Conclusions regarding ecological risks are reached by considering the overall weight-of-evidence for each measurement endpoint. Neither birds nor mammals are expected to be adversely affected by current concentrations of PCBs in study area soil and prey. For mink, four lines of evidence consistently predicted negligible effects under the most likely exposure scenario, and adverse effects for the most highly exposed individual mink. Given that the small size of the study area likely limits the total number of mink that exclusively forage there to only one to three hypothetical mink, representing less than 3% of the local mink population within 10 miles, any adverse effects predicted for the most highly exposed individual mink are unlikely to propagate to the population level. The alternative exposure scenario assessing risks from fish ingestion in the future provides further evidence that mink populations are not likely to be adversely affected even if they consume fish from Stony Creek.

7.0 SUMMARY AND CONCLUSIONS

This BERA evaluated potential ecological risks from exposure to PCBs within the Stony Creek study area in Noblesville, Indiana. Potential risks were evaluated for six ROIs (American robin, American kestrel, short-tailed shrew, red fox, mink, and Indiana bat). The approaches used to characterize risks for each receptor group and conclusions regarding their potential risks are summarized below.

7.1 Invertivorous Birds

Potential risks to invertivorous birds were evaluated based on estimated exposures of American robins to PCBs. Risks were characterized by estimating the most likely and high end doses that may occur from dietary exposure and comparing these estimated doses to literature-derived NOAEL and LOAEL values. No studies were identified that supported the derivation of dose response curves for effects of PCBs on birds. The risk calculations incorporated site-specific biological tissue data (terrestrial invertebrates) collected throughout the Stony Creek study area. HQs for robins ranged from 0.04 to 0.6, depending upon the exposure estimate and effects metric used. Most likely and high end exposure estimates are both well below the NOAEL and the LOAEL. Thus, adverse effects are not predicted for individual organisms or populations of invertivorous birds.

7.2 Carnivorous Birds

Potential risks to carnivorous birds were evaluated based on estimated exposures of American kestrels to PCBs. Risks were characterized by estimating the most likely and high end doses that may occur from dietary exposure and comparing these estimated doses to NOAEL and LOAEL values from a species-specific toxicity study (Fernie et al. 2001, 2003). The calculations incorporated site-specific biological tissue data (terrestrial invertebrates, small mammals) collected throughout the Stony Creek study area. Because both the most likely and high end exposures resulted in estimated doses below the selected NOAEL and LOAEL, there are unlikely to be any adverse effects in even the most highly exposed individual kestrels and other carnivorous birds (including bald eagles) that may forage within the Stony Creek floodplain.

7.3 Carnivorous Small Mammals

Potential risks to carnivorous small mammals were evaluated based on estimated exposures of short-tailed shrews to PCBs. Risks were characterized by estimating the most likely and high end doses that may occur from dietary exposure and comparing these estimated doses to a dose response curve based on reductions in litter size in Sherman rats (Linder et al. 1974). Estimated doses were considered relative to controls and the EC10 and EC20 from the curve in evaluating potential risks. Litter sizes are expected to be within 1% of control groups, which is well within the range of natural variability. In addition, a field study from another floodplain with PCB soil concentrations similar to those or greater than along Stony Creek, and with PCB body burdens in shrews up to two orders of magnitude higher than those observed along Stony Creek, indicated that there were no detectable impacts on shrew population demographics

(Boonstra and Bowman 2003). Therefore, there are unlikely to be any adverse effects in even the most highly exposed individual shrews or other carnivorous small mammals foraging within the Stony Creek floodplain.

7.4 Carnivorous Medium-Sized Mammals

Potential risks to carnivorous medium-sized mammals were evaluated based on multiple lines of evidence and twos ROIs—red fox and mink. Because mink are known to be particularly sensitive to PCBs, they were evaluated separately from other medium-sized carnivorous mammals. Potential risks to fox were evaluated by comparing the most likely and high end doses that may occur from dietary exposure to a dose response curve to predict reductions in litter size relative to controls and the EC10 and EC20 from the curve. The most likely and high end exposure estimates for red fox were well below both the EC10 and EC20 from the dose response curve. Litter size is expected to be within 1% of control groups, well within the range of natural variability. Therefore, there are unlikely to be any adverse effects in even the most highly exposed individual red foxes or other medium-sized non-mustelid mammals foraging within the Stony Creek floodplain.

Risks to mink were characterized by estimating the most likely and high end doses and body burdens that may occur from dietary exposure and comparison to dose response curves to predict reductions in kit survival per mated female and the EC10 and EC20 from the curves. Under the most likely exposure scenario, reproduction (as surviving kits per mated female) is predicted to be within 1% of control animals based on both dietary dose and body burden estimates, well within the range of natural variability. Reproduction for the most highly exposed individual mink is predicted to be reduced by 33%, when exposure is expressed as body burden.

The risk characterization results for mink predicted negligible effects under the most likely exposure scenario and potential adverse effects for the most highly exposed individual mink (i.e., those that forage exclusively on the highest PCB concentration prey items within the Stony Creek study area). However, given the size of the study area relative to the minimum reported home range area for mink, the high end exposure scenario likely represents just one to three mink that forage exclusively within the study area. Even this estimate is conservative, given that a central tenet of ecology, optimal foraging theory (MacArthur and Pianka 1966), asserts that organisms forage in the manner that maximizes their energy intake per unit time. Thus, reliance on the study area for 100% of prey consumed, when superior foraging habitat (i.e., the White River) exists nearby, would be ecologically inefficient and contrary to optimal foraging theory. Thus, the one to three mink that forage exclusively within the study area are, in all likelihood, purely hypothetical. If such mink did exist, however, they would represent less than 3% of the regional population of mink inhabiting the area within 10 miles of the study area. This estimate is based on the riparian habitat within a 10-mile radius of the study area, land cover, proximity to waterbodies, and the home range area for mink (Allen 1986), which together indicate that the surrounding land supports approximately 113 mink. Population-level effects are customarily judged based on effects on 10% to 20% of the local population. Thus, even if there are three mink that forage exclusively in the study area, any reduction in productivity that they experience would not propagate out to population-level effects. Therefore, adverse effects in mink populations potentially foraging within the Stony Creek floodplain are unlikely.

An uncertainty analysis was conducted to consider risks to mink based on exposure to both floodplain prey items and to fish in Stony Creek. Based on estimated future fish tissue concentrations (a PCB concentration of 2 mg/kg specified in the AOC for Stony Creek), mink populations are unlikely to be adversely affected by PCBs in terrestrial and aquatic prey.

7.5 Bats

Potential risks to bats were evaluated based on estimated exposures for the federally protected Indiana bat. The calculations incorporated site-specific biological tissue data (terrestrial invertebrates) collected throughout the Stony Creek study area. In light of the Indiana bat's protected status, risks were characterized based on highly conservative estimates of most likely and high end doses, relative to the NOAEL reported by Linder et al. (1974). The most likely and high end HQs for the Indiana bat are 0.4 and 1.2, respectively. Given that only the NOAEL is employed in this analysis and it is approximately 5-fold lower than the LOAEL reported in the same study (Linder et al. 1974), and given that the high end AUF of 1.0 represents a mathematical upper-bound value that is not supported by a site-specific and species-specific study of Indiana bat home range areas (Sparks et al. 2005), the finding of a high end HQ that marginally exceeds 1 is not biologically significant. Thus, adverse effects are not predicted for individual Indiana bats that may forage within the study area.

7.6 Conclusions

Based on the results of this BERA, wildlife populations that forage within the Stony Creek study area are not likely to be adversely affected by PCBs in the floodplain. In addition, individual Indiana bats that forage in the study area are not likely to be adversely affected by PCBs in the terrestrial invertebrates that they consume. A 33% reduction in productivity is predicted for the most highly exposed one to three mink that theoretically derive all of their prey from the study area. However, such mink are, in all likelihood, hypothetical and if they do exist, they represent less than 3% of the local mink population that forage within 10 miles of the study area. Consequently, individual level effects in the most highly exposed mink are not expected to propagate to the population level. The results of this BERA support a conclusion that, other than continued monitoring of fish in Stony Creek (as stipulated in the existing AOC for the creek), no further ecological evaluation within the study area is warranted.

Despite these conclusions, samples from two areas of the CEA do have elevated PCB soil concentrations (i.e., soil samples UFP-24 and UFP-41). While these areas do not pose a risk to the environment (or to human health, as demonstrated in the *Human Health Risk Assessment Undeveloped Floodplain of Stony Creek , Noblesville, Indiana.* [ENVIRON 2009]), the presence of elevated levels of PCBs may be of concern to nearby residents and to the public in general. Therefore, corrective measures options for the undeveloped floodplain of Stony Creek will be evaluated in a forthcoming Corrective Measures Proposal (which will also address corrective measures for the residential floodplain of Stony Creek, and Stony Creek itself).

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Tables

Table 2-1. Summary of Analytical Results

Environmental Medium	Chemical	Units	Frequency of Detection	% Detection	Mean Conc.	95% UCL Conc.[a]	Median Conc.	Minimum Detected Conc.	Maximum Detected Conc.
Soil									
	Total PCBs (Homologues)	mg/kg	45 / 45	100%	2.5	5.5	0.63	0.0098	41
	Total PCBs (Aroclors)	mg/kg	12 / 19	63%	2.0	3.6	1.2	0.28	12
	Total Organic Carbon	%	45 / 45	100%	2.7	2.9	2.8	1.2	3.8
Invertebrates									
	Total PCBs (Homologues)	mg/kg	10 / 10	100%	0.44	0.70	0.38	0.0079	1.4
	Percent Lipids	%	10 / 10	100%	2.8	3.1	2.6	1.9	3.7
	Percent Moisture	%	10 / 10	100%	72.1	73.6	71.3	66.9	76.4
Small Mammals									
	Total PCBs (Homologues)	mg/kg	8 / 8	100%	0.35	0.81	0.033	0.019	1.4
	Percent Lipids	%	8 / 8	100%	4.4	5.22	4.5	2.4	6.4
	Percent Moisture	%	8 / 8	100%	66.4	67.85	66.9	60.3	70.8

a. 95% UCL: 95 percent upper confidence limit of the arithmetic mean; calculated using BCA Bootstrap Method with 10,000 iterations.
%: percent
BCA: bias-corrected accelerated
PCB: polychlorinated biphenyl
mg/kg: milligram per kilogram

Table 4-1. Exposure Point Concentrations for Total PCBs (mg/kg)

Environmental Medium	Number of Samples	Most Likely	High End[a]
Soil[b]	45	2.5	5.5
Terrestrial Plants[c]	N/A	0.026	0.057
Invertebrates	10	0.44	0.70
Small Mammals	8	0.35	0.81

a. High-end estimates based on 95% UCL concentration.

b. Soil EPCs based on total homologues

c. Terrestrial plant EPCs based on soil EPC and bioaccumulation factor of 0.01 (USEPA 1993)

BCA: bias-corrected accelerated
EPC: exposure point concentration
mg/kg: milligram per kilogram
N/A: not available (no terrestrial plants sampled)
PCB: polychlorinated biphenyl

95% UCL: 95 percent upper confidence limit of the arithmetic mean concentration calculated using BCA Bootstrap Method with 10,000 iterations.

Table 4-2. Calculated and Measured Food Ingestion Rates

Receptor	Prey type	Proportion of Diet	Gross Energy (kcal/g ww)	Assimilation Efficiency	Metabolic Energy (kcal/g ww)	Normalized Free-living Metabolic Rate (kcal/kg-day)	Total Normalized Ingestion Rate (g/kg-day)	Total Normalized Ingestion Rate (g/g-day)	Measured Ingestion Rate (USEPA 1993) (g/g-day)
American Robin						713 [f]	803	0.80	0.89 - 1.59
	Terrestrial Plants	28% [a]	1.1 [b]	64% [d]	0.70				
	Terrestrial Invertebrates	72% [a]	1.3 [c]	72% [e]	0.96				
American Kestrel						367 [j]	319	0.32	0.29 - 0.31
	Terrestrial Invertebrates	49% [a]	1.3 [c]	72% [h]	0.96				
	Small Mammals	51% [a]	1.7 [g]	78% [i]	1.33				
Short-Tailed Shrew						640 [j]	552	0.55	0.49 - 0.62
	Terrestrial Plants	13% [a]	1.4 [k]	76% [l]	1.0				
	Terrestrial Invertebrates	82% [a]	1.3 [c]	87% [m]	1.2				
	Small Mammals	5% [a]	1.7 [g]	84% [n]	1.4				
Red Fox						165 [j]	120	0.12	0.069 - 0.16
	Terrestrial Plants	10% [a]	1.4 [k]	76% [l]	1.0				
	Terrestrial Invertebrates	5% [a]	1.3 [c]	87% [m]	1.2				
	Small Mammals	85% [a]	1.7 [g]	84% [n]	1.4				
Mink						247 [j]	173	0.17	0.12 - 0.22
	Mammals	100%	1.7 [g]	84% [n]	1.43				
	Fish	0%	1.2 [p]	91% [q]	1.09				
	Alternate scenario for uncertainty analysis	Fish: 25%	Mammals: 75%				184	0.18	
Indiana Bat						640 [j]	551	0.55	0.5[r]
	Terrestrial Invertebrates	100%	1.3 [c]	87% [m]	1.2				

a. Average of spring and summer (breeding season) adult diet percentages (USEPA 1993)
b. Fruit pulp and skin (USEPA 1993)
c. Average terrestrial invertebrate value (USEPA 1993)
d. Value for birds eating fruit pulp and skin (USEPA 1993)
e. Value for birds eating terrestrial insects (USEPA 1993)
f. Free-living metabolic rate (USEPA 1993)
g. Average small mammal value (USEPA 1993)
h. Value for birds eating terrestrial insects (USEPA 1993)
i. Value for birds of prey eating birds/small mammals (USEPA 1993)
j. Average male and female free-living metabolic rate (USEPA 1993)
k. Average of wet weight adjusted gross efficiencies for all terrestrial plants (USEPA 1993)

Table 4-2. Calculated and Measured Food Ingestion Rates

l. Value for rabbits/voles/rats and herbivory (USEPA 1993)
m. Value for small mammals consuming insects (USEPA 1993)
n. Value for mammals consuming small birds/mammals (USEPA 1993)
n. Value for waterfowl eating aquatic invertebrates (USEPA 1993)
o. Value for shrimp, isopods, and amphipods (USEPA 1993)
p. Value for bony fish (USEPA 1993)
q. Value for mammals consuming fish (USEPA 1993)
r. USFWS (http://www.fws.gov/midwest/endangered/mammals/inba/inbafctsht.html)

%: percent
kcal/g ww: kilocalorie per gram (wet weight)
kcal/kg-day: kilocalorie per kilogram body weight per day
g/kg-day: gram per kilogram body weight per day
g/g-day: gram per gram body weight per day
USEPA: United States Environmental Protection Agency
USFWS: United States Fish and Wildlife Service

Table 4-3. Exposure Parameter Values and Estimated Doses for American Robins

Parameter		Values	Units	Source
Body Weight	BW	0.077	kg	USEPA 1993
Total Normalized Ingestion Rate	NIR	0.80	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.062	kg ww/day	BW x NIR
Fraction of Diet as Terrestrial Plants	Ftp	28%	unitless	USEPA 1993
Fraction of Diet as Terrestrial Invertebrates	Fti	72%	unitless	USEPA 1993
Soil Ingestion Rate	SIR fraction	0.104	proportion plant diet	Beyer et al. 1994[a]
	SIR	0.0004	kg dw/day	
Foraging Range	FR	0.37	acres	USEPA 1993
Area Use Factor	AUF	1.0	unitless	FR < Site Area

Estimated Dose by Pathway

	Surface Soil		Terrestrial Plants		Terrestrial Invertebrates		All Pathways	
Exposure Unit	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**
EPCs (mg/kg)	2.5	5.5	0.026	0.057	0.4	0.7		
Dose (mg/kg-day)	0.012	0.026	0.0059	0.0130	0.25	0.40	0.27	0.44
% of Dose	4%	6%	2%	3%	93%	91%	100%	100%

Dose = [(Csl x SIR) + (Ctp x Ftp x FIR) + (Cti x Fti x FIR)] x 1/BW x AUF
a. Assumed similar to American woodcock
%: percent
Csl: soil concentration
Cti: terrestrial invertebrate concentration
Ctp: terrestrial plant concentration
kg: kilogram
g/g-day: gram water per gram of body weight per day
kg dw/day: kilograms (dry weight) per day
kg ww/day: kilograms (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
EPC: exposure point concentration
USEPA: United States Environmental Protection Agency
Site Area: approximately 24 hectares (59 acres)

Table 4-4. Exposure Parameter Values and Estimated Doses for American Kestrels

Parameter	Symbol	Values	Units	Source
Body Weight	BW	0.12	kg	USEPA 1993
Total Normalized Ingestion Rate	NIR	0.32	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.038	kg ww/day	BW x NIR
Fraction of Diet as Terrestrial Invertebrates	Fti	49%	unitless	USEPA 1993
Fraction of Diet as Small Mammals	Fsm	51%	unitless	USEPA 1993
Area Use Factor (Most Likely)	AUF1	0.18	unitless	USEPA 1993[a]
Area Use Factor (High End)	AUF2	1.0	unitless	USEPA 1993[b]

Estimated Dose by Pathway

	Terrestrial Invertebrates		Small Mammals		All Pathways	
Exposure Unit	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**
EPCs (mg/kg)	0.44	0.70	0.35	0.81		
Dose (mg/kg-day)	0.012	0.11	0.010	0.13	0.02	0.24
% of Dose	54%	45%	46%	55%	100%	100%

Dose = [(Cti x Fti x FIR) + (Csm x Fsm x FIR)] x 1/BW x AUF

a. Based on average territory size in Michigan field study of 131 hectares (323 acres) (Craighead and Craighead 1956, as cited in USEPA 1993)

b. Based on minimum territory size in Michigan field study of 21 hectares (52 acres) (Craighead and Craighead 1956, as cited in USEPA 1993)

%: percent

Csm: small mammmal concentration

Cti: terrestrial invertebrate concentration

kg: kilogram

g/g-day: gram water per gram of body weight per day

kg dw/day: kilograms (dry weight) per day

kg ww/day: kilograms (wet weight) per day

mg/kg: milligram per kilogram

mg/kg-day: milligram per kilogram body weight per day

EPC: exposure point concentration

USEPA: United States Environmental Protection Agency

Site Area: approximately 24 hectares (59 acres)

Table 4-5. Exposure Parameter Values and Estimated Doses for Short-Tailed Shrews

Parameter	Symbol	Values	Units	Source
Body Weight	BW	0.017	kg	USEPA 1993
Total Normalized Ingestion Rate	NIR	0.55	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.009	kg ww/day	BW x NIR
Fraction of Diet as Terrestrial Plants	Ftp	13%	unitless	USEPA 1993
Fraction of Diet as Terrestrial Invertebrates	Fti	82%	unitless	USEPA 1993
Fraction of Diet as Small Mammals	Fsm	5%	unitless	USEPA 1993
Soil Ingestion Rate	SIR fraction	0.03	proportion plant diet	USEPA 2007b[a]
	SIR	0.000007	kg dw/day	
Foraging Range	FR	0.96	acres	USEPA 1993
Area Use Factor	AUF	1.0	unitless	FR < Site Area

Estimated Dose by Pathway

	Surface Soil		Terrestrial Plants		Terrestrial Invertebrates		Small Mammals		All Pathways	
Exposure Unit	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**
EPCs (mg/kg)	2.5	5.5	0.026	0.057	0.44	0.70	0.35	0.81		
Dose (mg/kg-day)	0.001	0.002	0.0019	0.0041	0.20	0.32	0.010	0.022	0.21	0.35
% of Dose	1%	1%	1%	1%	94%	92%	5%	6%	100%	100%

Dose = [(Csl x SoIR) + (Ctp x Ftp x FIR) + (Cti x Fti x FIR) + (Csm x Fsm x FIR)] x 1/BW x AUF
a. This value represents the 90th percentile of soil ingestion rates among short-tailed shrews.
%: percent
Csl: soil concentration
Cti: terrestrial invertebrate concentration
Ctp: terrestrial plant concentration
kg: kilogram
g/g-day: gram water per gram of body weight per day
kg dw/day: kilograms (dry weight) per day
kg ww/day: kilograms (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
EPC: exposure point concentration
USEPA: United States Environmental Protection Agency
Site Area: approximately 24 hectares (59 acres)

Table 4-6. Exposure Parameter Values and Estimated Doses for Red Foxes

Parameter	Symbol	Values	Units	Source
Body Weight	BW	4.5	kg	USEPA 1993
Total Normalized Ingestion Rate	NIR	0.12	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.542	kg ww/day	BW x NIR
Fraction of Diet as Terrestrial Plants	Ftp	10%	unitless	USEPA 1993
Fraction of Diet as Terrestrial Invertebrates	Fti	5%	unitless	USEPA 1993
Fraction of Diet as Small Mammals	Fsm	85%	unitless	USEPA 1993
Soil Ingestion Rate	SIR fraction	0.028	proportion plant diet	Beyer et al. 1994
	SIR	0.0003	kg dw/day	
Area Use Factor (Most Likely)	AUF1	0.25	unitless	USEPA 1993[a]
Area Use Factor (High End)	AUF2	0.42	unitless	USEPA 1993[b]

Estimated Dose by Pathway

	Surface Soil		Terrestrial Plants		Terrestrial Invertebrates		Small Mammals		All Pathways	
Exposure Unit	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**	**Most Likely**	**High End**
EPCs (mg/kg)	2.5	5.5	0.026	0.057	0.44	0.70	0.35	0.81		
Dose (mg/kg-day)	0.00004	0.00015	0.000077	0.00029	0.00065	0.0018	0.0089	0.035	0.01	0.04
% of Dose	0%	0%	1%	1%	7%	5%	92%	94%	100%	100%

Dose= [(Csl x SIR) + (Ctp x Ftp x FIR) + (Cti x Fti x FIR) + (Csm x Fsm x FIR)] x 1/BW x AUF

a. Based on average territory size in Wisconsin field study of 96 hectares (237 acres) (Ables 1969, as cited in USEPA 1993).

b. Based on minimum territory size in Wisconsin field study of 57 hectares (140 acres) (Ables 1969, as cited in USEPA 1993).

%: percent
Csl: soil concentration
Csm: small mammal concentration
Ctp: terrestrial plant concentration
kg: kilogram
g/g-day: gram water per gram of body weight per day
kg dw/day: kilograms (dry weight) per day
kg ww/day: kilograms (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
EPC: exposure point concentration
USEPA: United States Environmental Protection Agency
Site Area: approximately 24 hectares (59 acres)

Table 4-7. Exposure Parameter Values and Estimated Doses for Mink

Parameter	Symbol	Values	Units	Source
Body Weight	BW	0.69	kg	Weston 2004
Total Normalized Ingestion Rate	NIR	0.17	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.12	kg ww/day	BW x NIR
Fraction of Diet as Small Mammals	Fsm	100%	unitless	
Area Use Factor (Most Likely)	AUF1	0.1	unitless	a
Area Use Factor (High End)	AUF2	1.0	unitless	b

Estimated Dose by Pathway

Diet Scenario	Small Mammals		All Pathways	
	Most Likely	High End	Most Likely	High End
EPCs (mg/kg)	0.35	0.81		
Dose (mg/kg-day)				
100% Small Mammals	0.0061	0.14	0.0061	0.14
% of Dose				
100% Small Mammals	100%	100%	100%	100%

Dose= (Csm x Fsm x FIR) x 1/BW x AUF
a. Based on average home range for mink as described in Section 4.9.2.
b. Based on minimum home range size for mink as described in Section 4.9.2.
%: percent
Csm: small mammal concentration
kg: kilogram
mg/kg: milligram per kilogram
g/g-day: gram water per gram of body weight per day
kg dw/day: kilograms (dry weight) per day
kg ww/day: kilograms (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
USEPA: United States Environmental Protection Agency
EPC: exposure point concentration
Site Area: approximately 24 hectares (59 acres)

Table 4-8. Mink Home Range Sizes

Type	Source	Mean	Minimum	Maximum	Units	Number of Individuals	Density	Habitat	Location	Age/Sex/note
Home Range Area	Arnold & Fritzell 1987[a]	1903			ac	5	0.003 #/ac	prairie potholes	Manitoba, CA	AM
	Arnold 1986[a]		781	4019	ac			prairie potholes	Manitoba, CA	AM Breeding
	Eagle (unpub)[a]		640	940	ac			prairie potholes	North Dakota	
	Mitchell 1961[a]		19		ac	1		riverine	Montana	AF- heavy veg
	Mitchell 1961[a]		50		ac	1		riverine	Montana	AF- sparse veg
Home Range Length	Birks & Linn 1982[a]	2.5	1.9	2.9	km	3	1 #/km	riverine	England	AM
	Birks & Linn 1982[a]	2.2	1.5	2.9	km	2	0.9 #/km	riverine	England	AF
	Gerell 1970[a]	2.6	1.8	5	km			riverine	Sweden	AM
	Gerell 1970[a]	1.2	1.1	1.4	km			riverine	Sweden	JM
	Gerell 1970[a]	1.9	1.0	2.8	km			riverine	Sweden	AF
	Linn and Birks 1981[a]		2.8	5.9	km	8	2.0 #/km	riverine	England	AB
	Stevens et al 1997	7.9	5.7	11	km	3	0.4 #/km	riverine	Tenessee	AJM
	Yamaguchi and Macdonald 2003	6.8	4.5	8.6	km	3	0.5 #/km	riverine	England	AM
	Yamaguchi and Macdonald 2003	2.7	0.8	4.3	km	8	4 #/km	riverine	England	AF
Territory to support pair	Maser et al 1981		1.6		km			riverine	Oregon	pair

a. As summarized by USEPA (1993)
ac: acres
km: length of shoreline in kilometers
A: adult
M: male
F: female
J: juvenile
B: both male and female
#: number

Table 4-9. Estimated PCB Body Burdens in Mink Based on PCB Homologue Concentrations

PCB Homologue	Homologue Concentration in Diet (mg/kg ww)	Homologue Daily Intake (mg/kg-day)	Estimated Whole-body Total PCBs in Mink (mg/kg)[a]
Most Likely EPCs			
Monochlorobiphenyls	0.000092	0.0000016	0.0000028
Dichlorobiphenyls	0.000092	0.0000016	0.0000005
Trichlorobiphenyls	0.0026	0.00004	0.000020
Tetrachlorobiphenyls	0.064	0.0011	0.0020
Pentachlorobiphenyls	0.21	0.0036	0.012
Hexachlorobiphenyls	0.064	0.0011	0.031
Heptachlorobiphenyls	0.0087	0.00015	0.0040
Octachlorobiphenyls	0.0018	0.000031	0.00085
Nonachlorobiphenyls	0.00072	0.000012	0.00037
Decachlorobiphenyl	0.000092	0.0000016	0.000047
Total PCBs			**0.050**
High End EPCs			
Monochlorobiphenyls	0.000093	0.000016	0.000028
Dichlorobiphenyls	0.000093	0.000016	0.000005
Trichlorobiphenyls	0.0055	0.0010	0.0004
Tetrachlorobiphenyls	0.15	0.026	0.046
Pentachlorobiphenyls	0.49	0.08	0.28
Hexachlorobiphenyls	0.15	0.026	0.71
Heptachlorobiphenyls	0.019	0.0032	0.086
Octachlorobiphenyls	0.0040	0.00069	0.019
Nonachlorobiphenyls	0.0014	0.00024	0.0073
Decachlorobiphenyl	0.000093	0.000016	0.00048
Total PCBs			**1.2**

a. Homologue body burdens in mink are estimated according to:

$$C_{wb} = \sum_{i}^{n} C_{diet_i} \frac{A_i D}{K_i}\left(1 - e^{-K_i t}\right)$$

where C_{wb} = whole-body concentration (mg/kg); C_{diet} = homologue concentration in diet (mg/kg);
A = assimilation efficiency; D = daily intake (mg/kg-day); K = elimination rate (fraction/day);
and t = exposure duration (days).

Exposure duration is assumed to equal 3 years (1095 days).

EPC: exposure point concentrations

mg/kg: milligram per kilogram

mg/kg-day: milligram per kilogram body weight per day

PCB: polychlorinated biphenyl

ww: wet weight

Table 4-10. Exposure Parameter Values and Estimated Doses for Indiana Bats

Parameter	Symbol	Values	Units	Source
Body Weight	BW	0.007	kg	USFWS
Total Normalized Ingestion Rate	NIR	0.55	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.004	kg ww/day	BW x NIR
Fraction of Diet as Terrestrial Invertebrates	Fti	100%	unitless	USEPA 1993
Foraging Range	FR	126	acres	Sparks et al. 2005
Area Use Factor (Most Likely)	AUF1	0.47	unitless	Site Area / FR
Area Use Factor (High End)	AUF2	1.0	unitless	upper bound assumption

Estimated Dose by Pathway

Exposure Unit	Terrestrial Invertebrates		All Pathways	
	Most Likely	High End	Most Likely	High End
EPCs (mg/kg)	0.44	0.7		
Dose (mg/kg-day)	0.11	0.39	0.11	0.39
% of Dose	100%	100%	100%	100%

Dose= (Cti x Fti x FIR) x 1/BW x AUF
%: percent
Cti: terrestrial invertebrate concentration
kg: kilogram
g/g-d: gram water per gram of body weight per day
kg dw/day: kilograms (dry weight) per day
kg ww/day: kilograms (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
EPC: exposure point concentration
USEPA: United States Environmental Protection Agency
USFWS: United States Fish and Wildlife Service species fact sheet
(http://www.fws.gov/midwest/endangered/mammals/inba/inbafctsht.html)
Site Area: approximately 24 hectares (59 acres)

Table 5-1. Summary of Avian Ecotoxicity Studies on PCBs

					As Reported			
Chemical Form	**Test Species**	**Exposure Route**	**Exposure Duration (days)**	**Study Endpoint**	**NOAEL**	**LOAEL**	**Units**	**Reference**
Aroclor 1242	Mallard	Diet	84	reproduction	42	NR	mg/kg-day	Haseltine and Prouty 1980
Aroclor 1242	White leghorn chicken	Diet	112	egg production and hatchability	0.12	1.2	mg/kg-day	Lillie et al. 1974
Aroclor 1242	White leghorn chicken	Diet	42	hatchability	0.3	0.6	mg/kg-day	Britton and Huston 1973
Aroclor 1248	White leghorn chicken	Diet	112	egg production and hatchability	0.12	1.2	mg/kg-day	Lillie et al. 1974
Aroclor 1248	White leghorn chicken	Diet	56	hatchability	0.06	0.6	mg/kg-day	Scott 1977
Aroclor 1248	Screech owl	Diet	2 breeding seasons	reproduction	0.765	NR	mg/kg-day	McLane and Hughes 1980
Aroclors 1248, 1254, 1260 (1:1:1 mixture)	American kestrel	Maternal exposure	100	reproduction, developmental toxicity	NR	7	mg/kg-day	Fernie et al. 2001, 2003
Aroclor 1254	Mallard	Diet	30	reproduction	8.1	NR	mg/kg-day	Custer and Heinz 1980
Aroclor 1254	Ring-necked pheasant	Oral as capsule administered weekly	119	egg hatchability	1.8	7.1	mg/kg-day	Dahlgren and Linder 1971
Aroclor 1254	White leghorn chicken	Diet	112	egg production and hatchability	0.12	1.2	mg/kg-day	Lillie et al. 1974
Aroclor 1254	White leghorn chicken	Diet	273	egg production	NR	0.3	mg/kg-day	Platanow and Reinhart 1973
Aroclor 1254	Mourning dove	Diet	42	courting and nesting behavior	NR	1.6	mg/kg-day	Tori and Peterle 1983
Aroclor 1254	Mourning dove	Diet	28	courting and nesting behavior	NR	1.6	mg/kg-day	Koval et al. 1987
Aroclor 1254 (weathered)	American robin	Diet	Breeding season	reproduction	7.8	NR	mg/kg-day	Henning et al. 2003
PCB 105 (penta-)	Ring-necked pheasant	Oral as capsule administered weekly	70	developmental and reproductive toxicity	0.857	NR	mg/kg-day	Hornung et al. 1998

LOAEL: lowest observed adverse effect level
mg/kg-day: milligram per kilogram body weight per day
NOAEL: no observed adverse effect level
NR: not reported
PCB: polychlorinated biphenyl

Table 5-2. Summary of Mammalian Ecotoxicity Studies on PCBs[a]

Chemical Form	Test Species	Exposure Route	Exposure Duration (days)	Study Endpoint	As Reported NOAEL	As Reported LOAEL	Reference	Units
Aroclor 1248	Monkey	Oral	420	reproduction	NR	0.1	Barsotti et al. 1976	mg/kg-day
Aroclor 1254	Rat	Oral	multi-generation	reproduction	0.32	1.5	Linder et al. 1974	mg/kg-day
Aroclor 1254	Mouse	Oral		reproduction	NR	1.4	Linzey 1988	mg/kg-day
Aroclor 1254	Mouse	Oral	365	reproduction	NR	0.68	McCoy et al. 1995	mg/kg-day
Aroclor 1254	Mouse	Oral		reproduction	1.4	3.4	Voltura and French 2007	mg/kg-day

a. Excluding studies on mink (see Table 5-5)
LOAEL: lowest observed adverse effect level
mg/kg-day: milligram per kilogram body weight per day
NOAEL: no observed adverse effect level
NR: not reported
PCB: polychlorinated biphenyl

Table 5-3. Effects of PCB Exposures on Reproductive Success of Rats

Aroclor 1254 Concentration in Food (mg/kg)	Average Daily Dose Aroclor 1254 (mg/kg-day)	Exposure Duration (days)	Number of Females	Litters Weaned		Litter Size at Weaning		Survival until Weaning	
				Number	% of Control	Number of Pups	% of Control	% Within Group	% of Control
100	7.2	67	10	8	114%	8.1	76%	85.9%	90%
500	37	67	10	0	0%	0	0%	0.0%	0%
20	1.5	62	20	19	112%	11.5	97%	98.6%	104%
100	7.6	62	20	19	112%	10.3	87%	96.1%	101%
1	0.06	67	20	15	83%	9.1	82%	98.6%	100%
5	0.32	67	20	17	94%	10.8	97%	99.4%	100%
100	7.2	186	10	6	86%	8	69%	68.1%	68%
20	1.5	188	20	18	106%	10.1	91%	96.3%	106%
100	7.6	188	20	19	112%	7	63%	73.5%	81%
1	0.06	201	20	17	94%	9.8	89%	88.0%	99%
5	0.32	201	20	19	106%	10.2	93%	91.4%	103%
20	1.5	129	20	17	94%	10.1	83%	94.5%	97%
100	7.6	129	20	4	22%	5.6	46%	77.8%	80%
1	0.06	125	20	15	79%	11.5	100%	98.9%	101%
5	0.32	125	19	17	94%	11.7	102%	96.6%	99%
20	1.5	274	20	12	75%	8.5	75%	88.7%	100%
100	7.6	274	20	2	13%	3.5	31%	100.0%	113%

Source: Linder et al. 1974
%: percent
mg/kg: milligrams per kilogram
mg/kg-day: milligrams per kilogram body weight per day
PCB: polychlorinated bipenyl

Table 5-4. Nonlinear Regression Results for PCB Exposure Metrics versus Reproductive Success of Laboratory Mammals

Species Tested	Receptor	Exposure Metric	Units	n	a	b	EC10	EC20	Source
Rat	Short-tailed Shrew and Red Fox	Daily Intake: Total PCBs	mg/kg-day	17	-3.140	1.371	2.0	3.6	Linder et al. 1974
Mink	Mink	Daily Intake: Total PCBs	mg/kg-day[a]	59	-6.795	1.327	0.032	0.059	Fuchsman et al. 2008
		Whole Body Total PCBs	mg/kg	27	-1.0763	2.830	0.68	0.90	Fuchsman et al. 2008

[a] Mink daily intake regression equation parameters from Fuchsman et al. (2008) were based on µg/kg-day intake values (Table 5-5). The EC10 and EC 20 values were converted to mg/kg-day to be consistent with the other assessment endpoints in this risk assessment.
a: nonlinear regression constant
b: nonlinear regression constant
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control, respectively.
mg/kg: milligrams per kilogram
mg/kg-day: milligrams per kilogram body weight per day
n: sample size
PCB: polychlorinated biphenyls
µg/kg-day: micrograms per kilogram body weight per day

Table 5-5. Effects of PCB Exposures on Reproductive Success of Mink

Authors	Form of PCBs Administered	Exposure Duration (days)	Total PCB Concentration in Food (mg/kg)	Average Daily Dose Total PCBs (µg/kg-day)	Whole-body Total PCBs (mg/kg)	Surviving kits/mated female[a] (% of control)
Technical PCB Mixtures						
Aulerich and Ringer	Aroclor 1242:1248:1254	156	10:10:10	3913	26	0.0
(1977)	Aroclor 1254	280	5.0	724	7	0.0
	Aroclor 1254	280	10	1491	15	0.0
	Aroclor 1254	130	15	1957	20	0.0
	Aroclor 1221	297	2.0	261	0	235.0
	Aroclor 1242	297	2.0	261	0	203.0
	Aroclor 1254	297	2.0	261	3	0.0
Jensen et al. (1977)	Clophen A50/A60	66	11	3300	53	0.0
Bleavins et al. (1980)	Aroclor 1242	247	5.0	938	1	0.0
	Aroclor 1242	247	10	1875	2	0.0
	Aroclor 1242	192	20	3750	4	0.0
	Aroclor 1242	138	40	7500	9	0.0
Den Boer (1984)	Clophen A60	400	0.25	25	1	99.0
	Clophen A60	35	61	6076	94	0.0
	Clophen A60	51	20	2025	38	0.0
	Clophen A30	51	61	6076	7	0.0
	Clophen A30	51	20	2025	2	0.0
Aulerich et al. (1985)	Aroclor 1254	102	2.5	307	3	0.0
Wren et al. (1987a)	Aroclor 1254	185	1.0	180	2	111.0
Kihlstrom et al. (1992)	Clophen A50	88	12	2094	20	0.0
	Aroclor 1254	94	9.6	1308	13	0.0
Brunstrom et al. (2001)	Clophen A50	550	0.77	81	1	56.8
	Clophen A50	550	2.3	267	3	0.0
Kakela et al. (2002)	Aroclor 1242	147	2.9	826	1	73.0

Table 5-5. Effects of PCB Exposures on Reproductive Success of Mink

Authors	Form of PCBs Administered	Exposure Duration (days)	Total PCB Concentration in Food (mg/kg)	Average Daily Dose Total PCBs (µg/kg-day)	Whole-body Total PCBs (mg/kg)	Surviving kits/mated female[a] (% of control)
PCB Mixtures Bioaccumulated in Prey						
Platonow and Karstad (1973)	Beef (low)	105	0.64	96	NR	0.0
	Beef (high)	105	3.6	536	NR	0.0
Hornshaw et al. (1983)	Carp	250	1.5	269	NR	0.0
	Sucker	250	0.63	113	NR	48.0
	Perch scraps	250	0.69	121	NR	52.0
	Whitefish racks	250	0.48	82	NR	43.0
	Alewife fishmeal	250	0.21	36	NR	102.0
	Perch and sucker	290	0.66	137	NR	0.0
Den Boer (1984)	Flatfish liver	400	0.25	25	NR	81.0
Heaton et al. (1995)	Carp (low)	182	0.72	130	NR	25.0
	Carp (medium)	182	1.5	260	NR	12.0
	Carp (high)	182	2.6	320	NR	0.0
Restum et al. (1998)	Carp (low)	182	0.25	59	NR	147.0
	Carp (medium)	182	0.50	118	NR	99.0
	Carp (high)	182	1.0	235	NR	37.0
	Carp (low)	550	0.25	59	NR	92.0
	Carp (medium)	550	0.50	118	NR	4.0
	Carp (high)	550	1.0	235	NR	7.0
	Carp (low)	365 (F1)	0.25	59	NR	71.0
	Carp (medium)	365 (F1)	0.50	120	NR	4.0
	Carp (high)	365 (F1)	1.0	253	NR	0.0
Halbrook et al. (1999)	River fish	198	0.94	113	NR	167.0
	Creek fish (low)	198	0.52	57	NR	53.0
	Creek fish (medium)	198	1.0	120	NR	119.0
	Creek fish (high)	198	1.4	230	NR	138.0
Brunstrom et al. (2001)	Seal blubber extract	550	0.49	53	NR	104.0

Table 5-5. Effects of PCB Exposures on Reproductive Success of Mink

Authors	Form of PCBs Administered	Exposure Duration (days)	Total PCB Concentration in Food (mg/kg)	Average Daily Dose Total PCBs (µg/kg-day)	Whole-body Total PCBs (mg/kg)	Surviving kits/mated female[a] (% of control)
Kakela et al. (2002)	Baltic herring	147	0.36	78	NR	92.0
Bursian et al. (2003)	Goldfish/carp (low)	160	0.34	36	NR	92.0
	Goldfish/carp (low-med)	160	0.61	63	NR	70.0
	Goldfish/carp (medium)	160	0.96	103	NR	114.0
	Goldfish/carp (med-high)	160	1.6	169	NR	147.0
	Goldfish/carp (high)	160	3.7	414	NR	52.0
Bursian et al. (2006)	Carp (low)	120	0.83	86	0.9	96.7
	Carp (medium)	120	1.1	115	1.0	112.6
	Carp (high)	120	1.7	177	1.5	114.3

a. Kit weight is a less sensitive endpoint than surviving kits per mated female.
%: percent
mg/kg: milligram per kilogram
NR: not reported
PCB: Polychlorinated Biphenyl
µg/kg-day: micrograms per kilogram body weight per day

Table 6-1. Interpretation of Comparisons between Modeled Exposure and Effects

Effects Metrics	Exposure Estimates: If most likely exposure estimate[a] exceeds…	Exposure Estimates: If high end exposure estimate[b] exceeds...
LOAEL or EC20	Potential for detectable effects in local population	Potential for detectable effects in most highly exposed individual organisms
NOAEL or EC10	Potential for subtle effects[c] in local population	Potential for subtle effects[c] in most highly exposed individual organisms

a. Most likely exposure estimate is most relevant to species that are not threatened, endangered or special concern

b. High end exposure estimate is most relevant to threatened, endangered,

or special concern species, where protection of individual organisms is important

c. Subtle effects not likely discernable in light of natural variability

EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control, respectively.
LOAEL: lowest observed adverse effect level
NOAEL: no observed adverse effect level

Table 6-2. Dose Response Curve Results for Shrew and Fox

Scenario	Short-tailed Shrew: Total PCBs (mg/kg-day)	Short-tailed Shrew: Litter Size Relative to Control (%)[a]	Red Fox: Total PCBs (mg/kg-day)	Red Fox: Litter size Relative to Control (%)[a]
Most Likely EPCs	0.21	99	0.010	100
High End EPCs	0.35	99	0.037	100

a. The average percent of reproduction (as litter size) relative to control associated with the estimated exposure concentration.
mg/kg-day: milligrams per kilogram body weight per day
%: percent
PCB: polychlorinated biphenyl
EPC: exposure point concentration

Table 6-3. Summary of Hazard Quotients for Receptors of Interest[a] Based on Dose Estimates

	Hazard Quotients								
	American Robin		American Kestrel		Short-tailed Shrew		Red Fox		Indiana Bat
Scenarios	NOAEL	LOAEL	NOAEL	LOAEL	EC10	EC20	EC10	EC20	NOAEL
Most Likely Exposure	0.4	0.04	0.03	0.003	0.1	0.06	0.005	0.003	0.4
High End Exposure	0.6	0.06	0.3	0.03	0.2	0.1	0.02	0.01	**1.2**

a. Includes all Receptors of Interest except mink
Bold indicates an HQ greater than 1
%: percent
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control
EPC: exposure point concentration
HQ: hazard quotient = Dose/relavent toxicity value (NOAEL, LOAEL, EC10, or EC20)
LOAEL: lowest observed adverse effects level
NOAEL: no observed adverse effects level

Table 6-4. Dose Response Curve Results for Mink

Scenario	Daily Dose Total PCBs (mg/kg-day)	Daily Dose Surviving Kits Relative to Control (%)[a]	Body Burden Total PCBs (mg/kg)	Body Burden Surviving Kits Relative to Control (%)[a]
Most Likely Exposure	0.0061	99	0.050	100
High End Exposure	0.14	56	1.2	67

a. The average percent of reproduction (as surviving kits per mated female) relative to control associated with the estimated exposure concentration.
mg/kg: milligrams per kilogram
mg/kg-day: milligram per kilogram body weight per day
%: percent
PCB: polychlorinated biphenyl
EPC: exposure point concentration

Table 6-5. Summary of Hazard Quotients for Mink

	Hazard Quotients			
	Daily Dose Total PCBs		Body Burdens Total PCBs	
Scenario	EC10	EC20	EC10	EC20
Most Likely Exposure	0.2	0.1	0.1	0.1
High End Exposure	**4**	**2**	**2**	1.3

EPC: exposure point concentration
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control.
PCB: polychlorinated biphenyl

Table 6-6. Alternative Diet Scenario Exposure Assessment for Mink: Dietary Dose

Parameter	Symbol	Values	Units	Source
Body Weight	BW	0.69	kg	Weston 2004
Total Normalized Ingestion Rate	NIR	0.18	g/g-day	USEPA 1993 (see Table 4-2)
Food Ingestion Rate	FIR	0.13	kg ww/day	BW x NIR
Fraction of Diet as Small Mammals	Fsm	75%	unitless	
Fraction of Diet as Fish	Ff	25%	unitless	
Area Use Factor (most likely)	AUF1	0.10	unitless[a]	

Estimated Dose by Pathway

Diet Scenario	Small Mammals	Fish	All Pathways
EPCs (mg/kg)	0.35	2.0	
Dose (mg/kg-day)	0.0048	0.0092	0.014
% of Dose	34%	66%	100%
Effect Level (%)[b]	99	98	96
HQ (unitless): EC10	0.1	0.3	0.4
EC20	0.1	0.2	0.2

Dose= [(Csm x Fsm x FIR) + (Cf x Ff x FIR)] x 1/BW x AUF
a. Based on average home range for mink as described in Section 4.9.2.
b. Effect level indicates the average percent of reproduction (as surviving kits per mated female) relative to control associated with the estimated exposure concentration.
%: percent
Cf: fish concentration
Csm: small mammal concentration
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control.
kg: kilogram
mg/kg: milligram per kilogram
g/g-day: gram water per gram of body weight per day
kg ww/day: kilogram (wet weight) per day
mg/kg: milligram per kilogram
mg/kg-day: milligram per kilogram body weight per day
USEPA: United States Environmental Protection Agency
EPC: exposure point concentration
HQ: hazard quotient
Site Area: approximately 24 hectares (59 acres)

Table 6-7. Alternative Diet Scenario Exposure Assessment for Mink: Body Burden

Diet Composition	Fish 25%		Small Mammals 75%
PCB Homologue	Homologue Concentration in Diet (mg/kg ww)	Homologue Daily Intake (mg/kg-day)	Estimated Whole-body Total PCBs in Mink (mg/kg)[a]
Most Likely EPCs			
Monochlorobiphenyls	0.00013	0.0000024	0.0000042
Dichlorobiphenyls	0.0017	0.000031	0.0000096
Trichlorobiphenyls	0.038	0.00070	0.00032
Tetrachlorobiphenyls	0.29	0.0053	0.0093
Pentachlorobiphenyls	0.34	0.0062	0.021
Hexachlorobiphenyls	0.083	0.0015	0.042
Heptachlorobiphenyls	0.012	0.00022	0.0059
Octachlorobiphenyls	0.0027	0.000050	0.0014
Nonachlorobiphenyls	0.00078	0.000014	0.00042
Decachlorobiphenyl	0.00011	0.0000020	0.000060
Total PCBs			**0.081**
Effect Level (%)[b]			100

a. Homologue body burdens in mink are estimated according to:

$$C_{wb} = \sum_{i}^{n} C_{diet_i} \frac{A_i D}{K_i}\left(1 - e^{-K_i t}\right)$$

where C_{wb} = whole-body concentration (mg/kg); C_{diet} = homologue concentration in diet (mg/kg);
A = assimilation efficiency; D = daily intake (mg/kg-day); K = elimination rate (fraction/day);
and t = exposure duration (days).

b. Effect level indicates the average percent of reproduction (as surviving kits per mated female) relative to control associated with the estimated exposure concentration.

Exposure duration is assumed to equal three years (1095 days).

%: percent

EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control.

EPC: exposure point concentrations

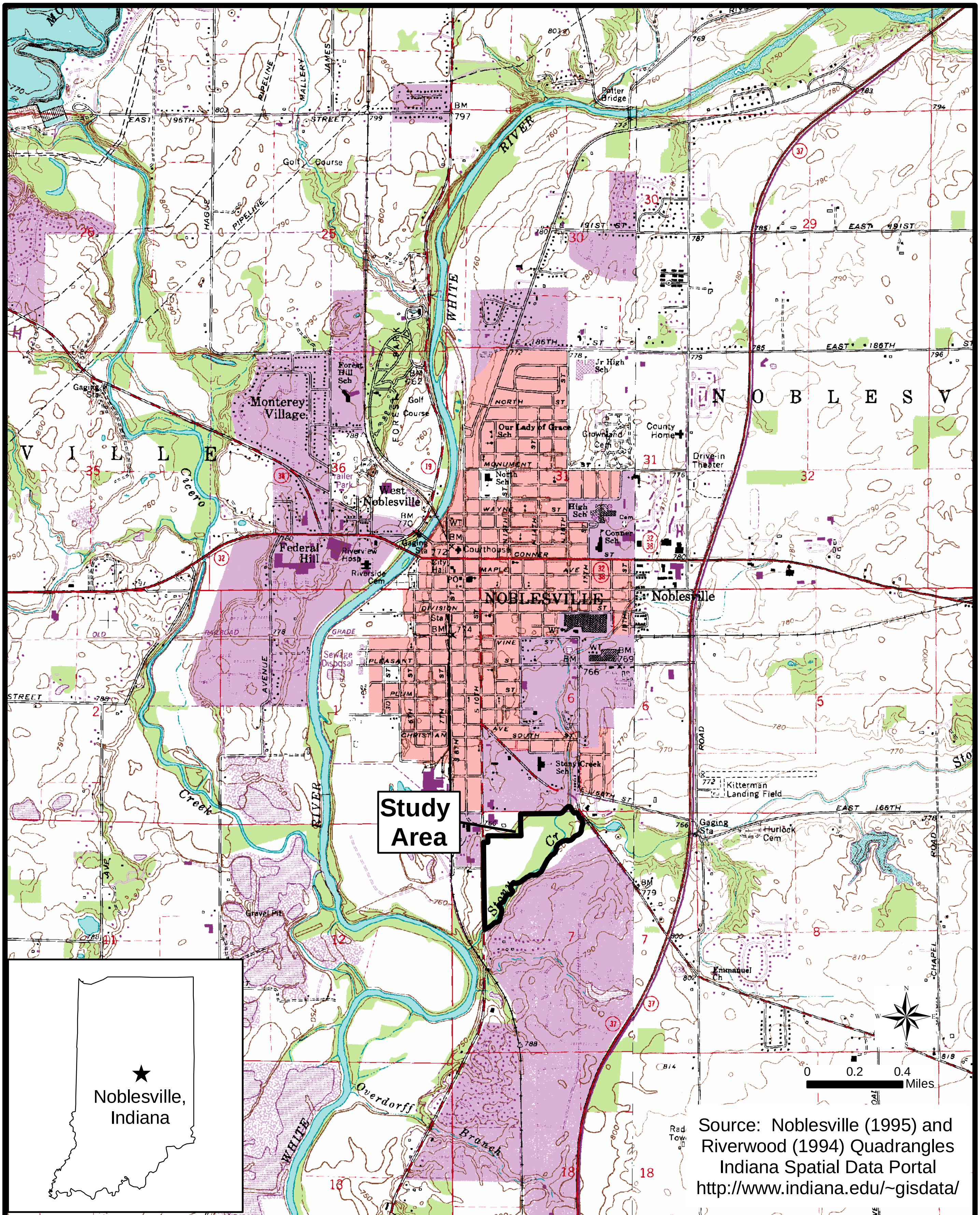
HQ: Hazard quotient (body burden/EC10 or EC20)

mg/kg: milligrams per kilogram

PCB: polychlorinated biphenyl

ww: wet weight

Figures



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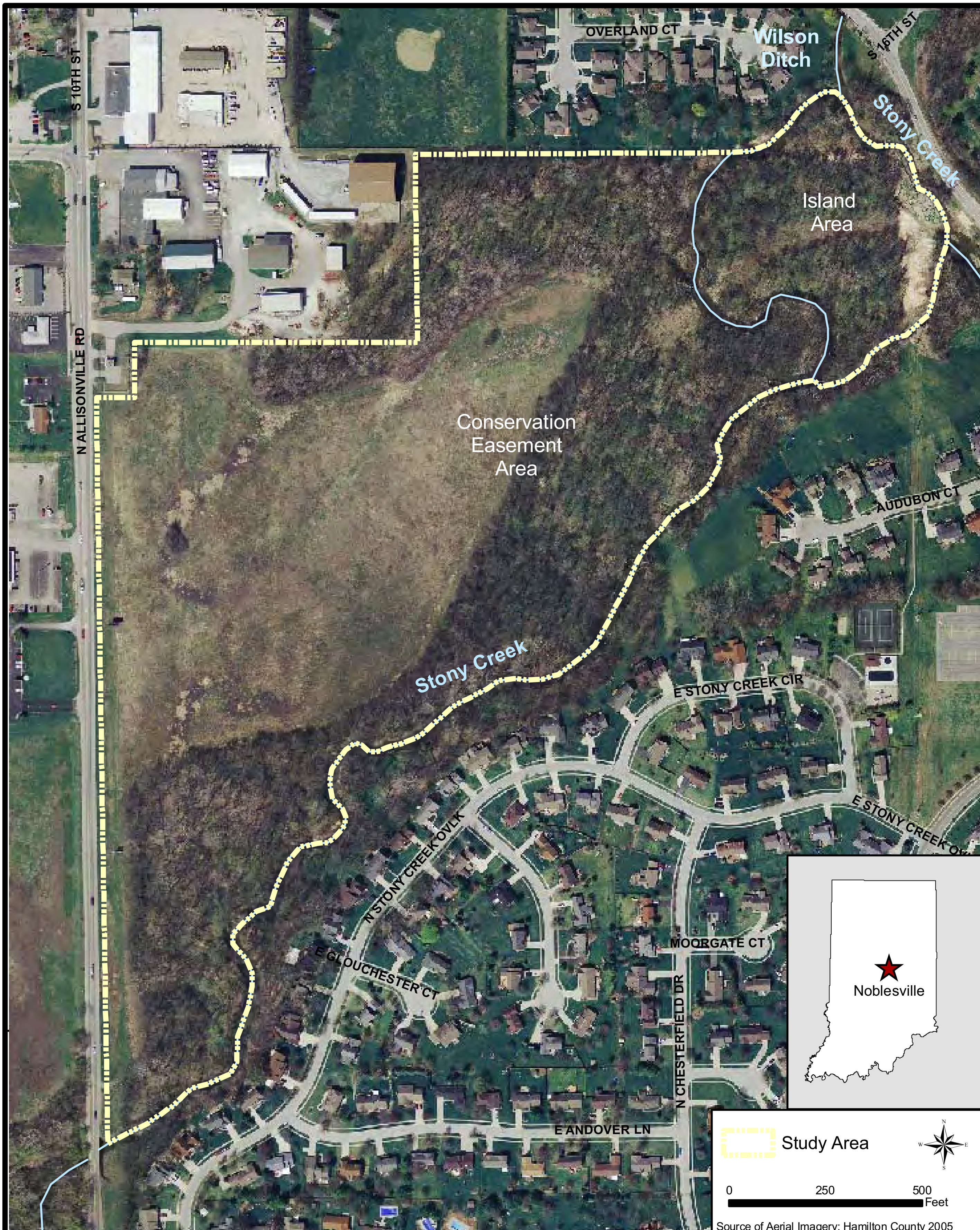
Study Area Location Map

Figure 1-1



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Study Area Overview

Figure 1-2

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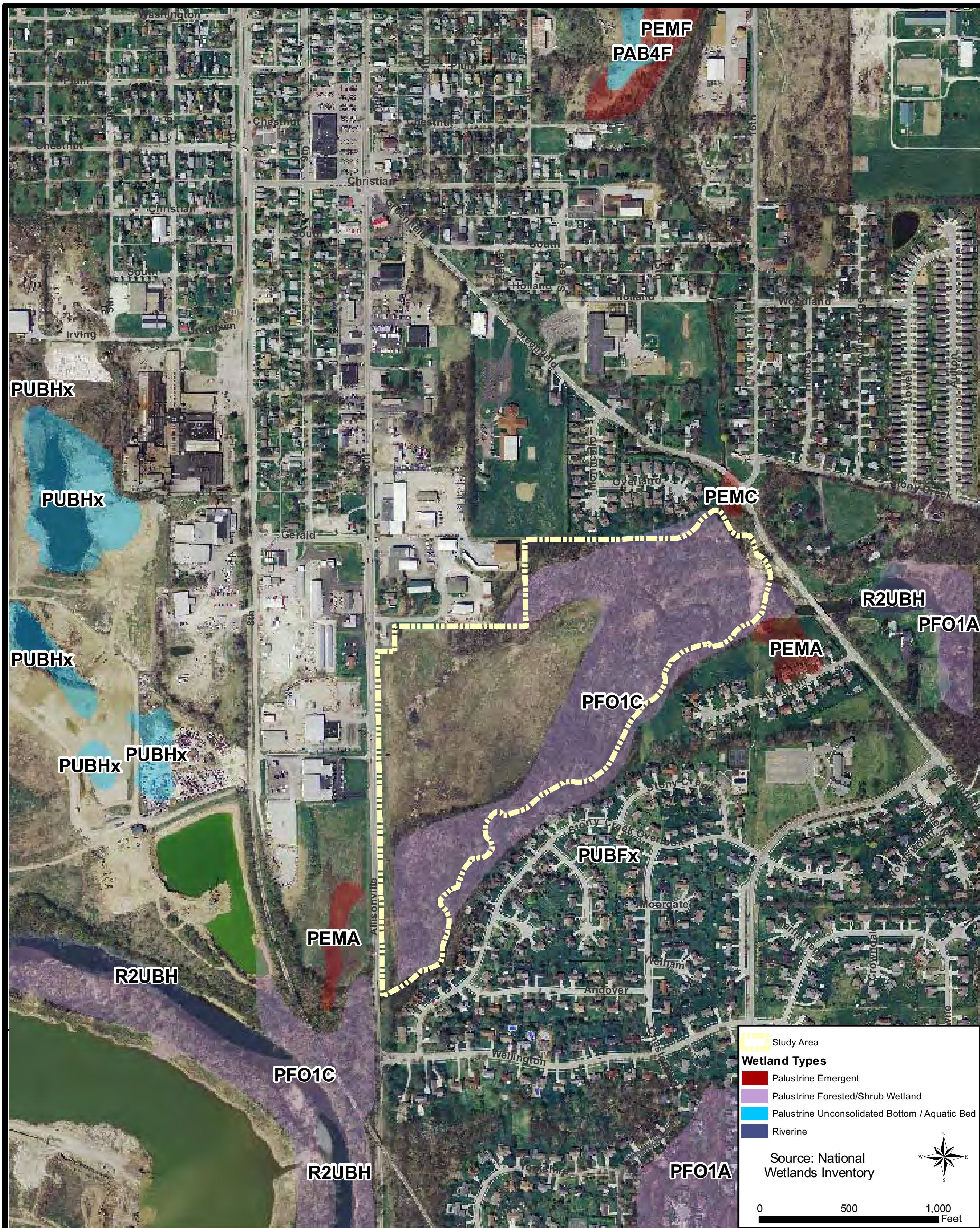

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Wetland Types in the Stony Creek Study Area and Surrounding Land Use

Figure 2-1

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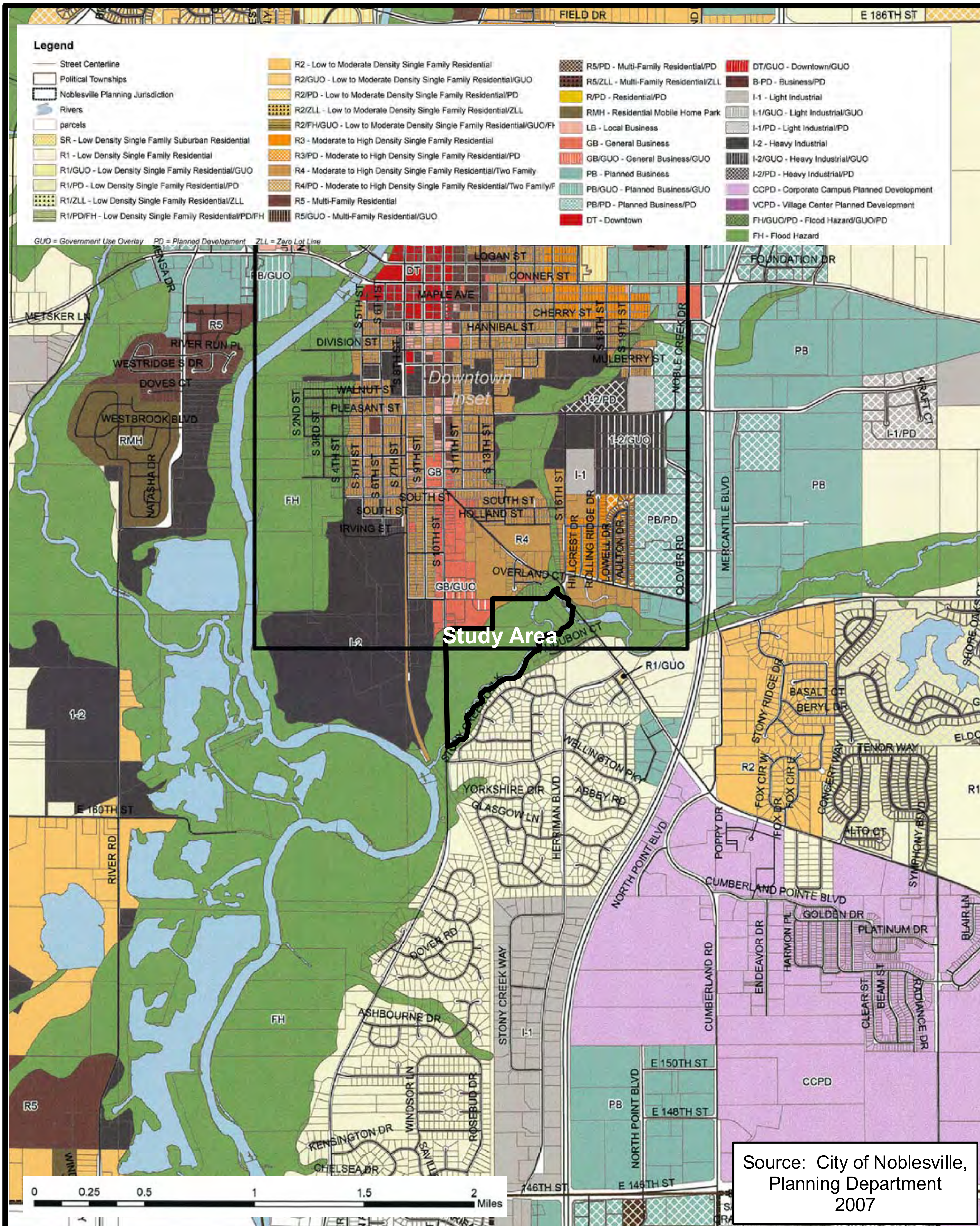

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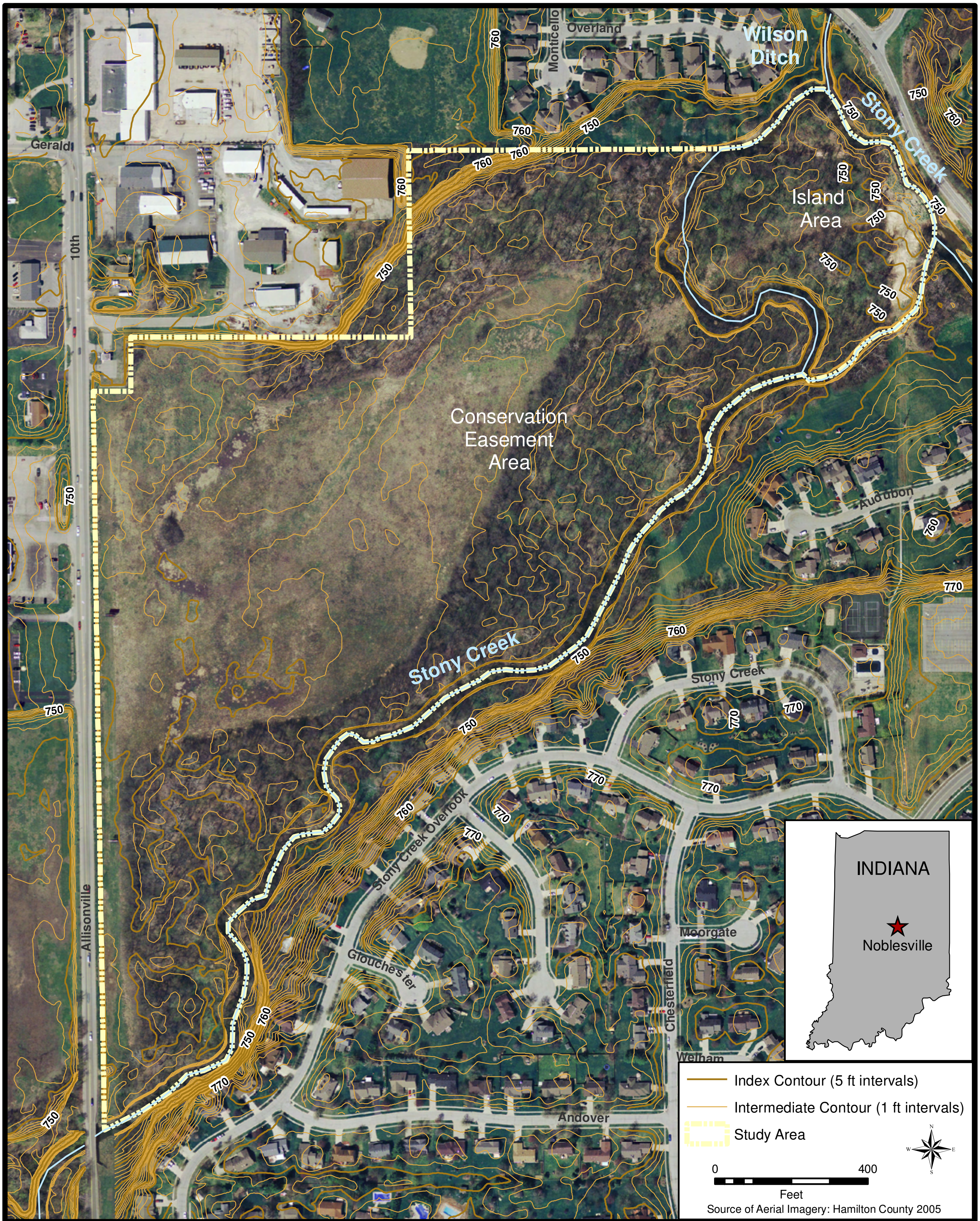
Noblesville Zoning Map

Figure 2-2



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Topographic Map of the Study Area

Figure 2-3

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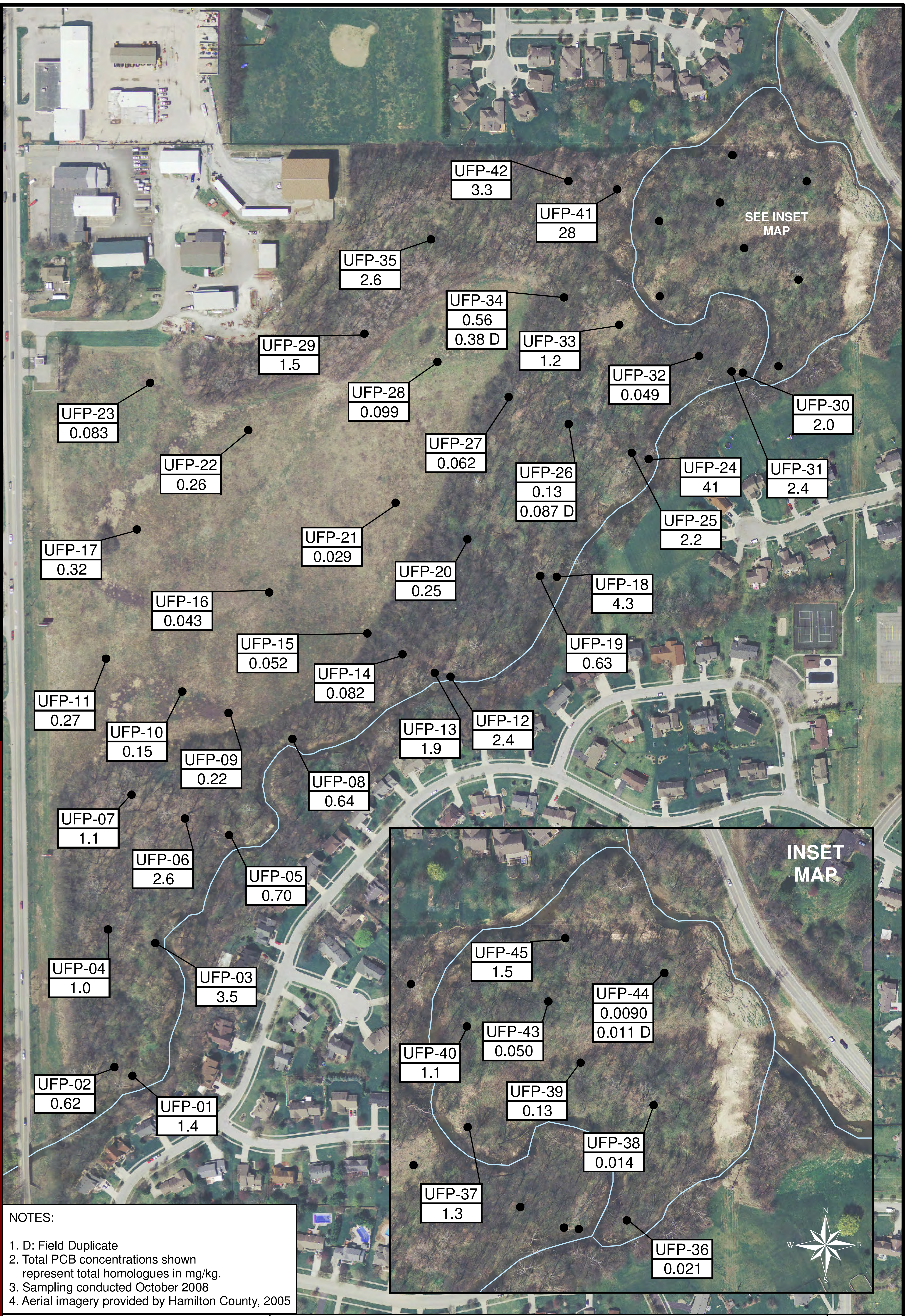


NOTES:

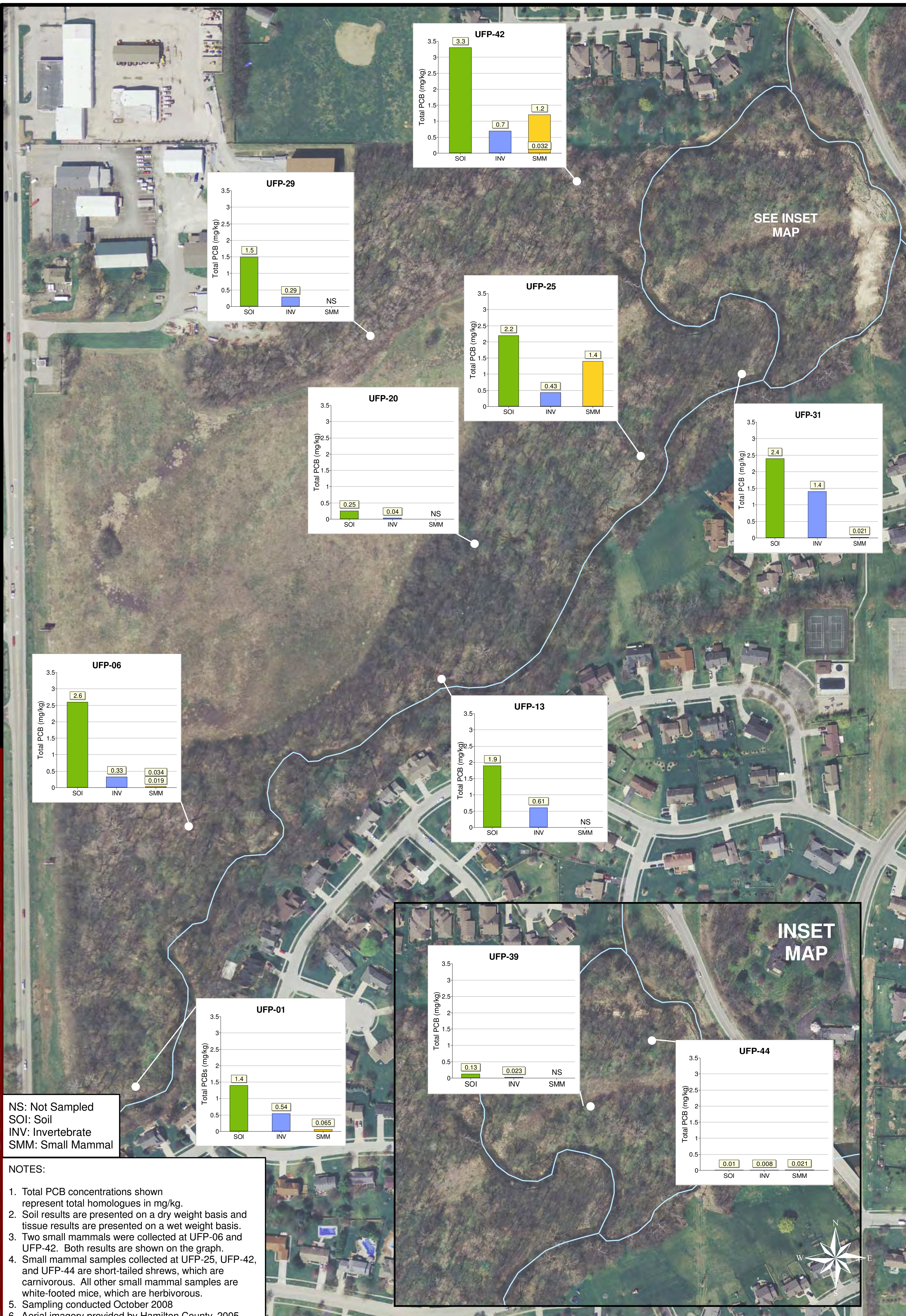
1. D: Field Duplicate
2. Total PCB concentrations shown represent total homologues in mg/kg.
3. Sampling conducted October 2008
4. Aerial imagery provided by Hamilton County, 2005

ENVIRON

Total PCB Concentrations (mg/kg) in Surface Soil (0-6")

Figure 2-4

Tuesday, March 24, 2009 4:02:26 PM
\\mesrv02\Client_Files\BFS Noblesville\GIS\MXD\HHRA\Figure5_Soil_Results.mxd



NS: Not Sampled
SOI: Soil
INV: Invertebrate
SMM: Small Mammal

NOTES:

1. Total PCB concentrations shown represent total homologues in mg/kg.
2. Soil results are presented on a dry weight basis and tissue results are presented on a wet weight basis.
3. Two small mammals were collected at UFP-06 and UFP-42. Both results are shown on the graph.
4. Small mammal samples collected at UFP-25, UFP-42, and UFP-44 are short-tailed shrews, which are carnivorous. All other small mammal samples are white-footed mice, which are herbivorous.
5. Sampling conducted October 2008
6. Aerial imagery provided by Hamilton County, 2005

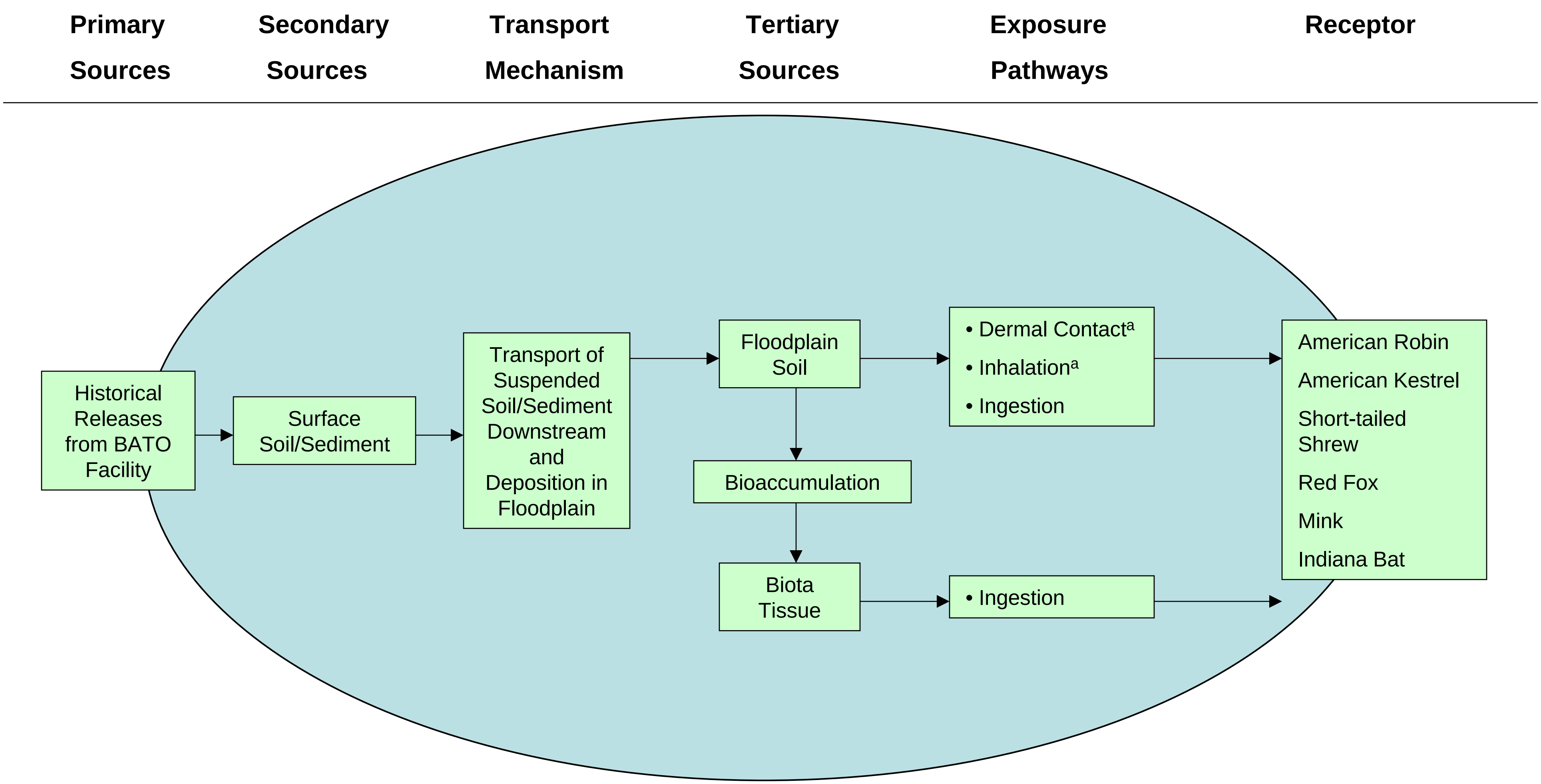
ENVIRON

Total PCB Concentrations (mg/kg) in Surface Soil (0-6"), Invertebrates, and Small Mammals

Figure 2-5

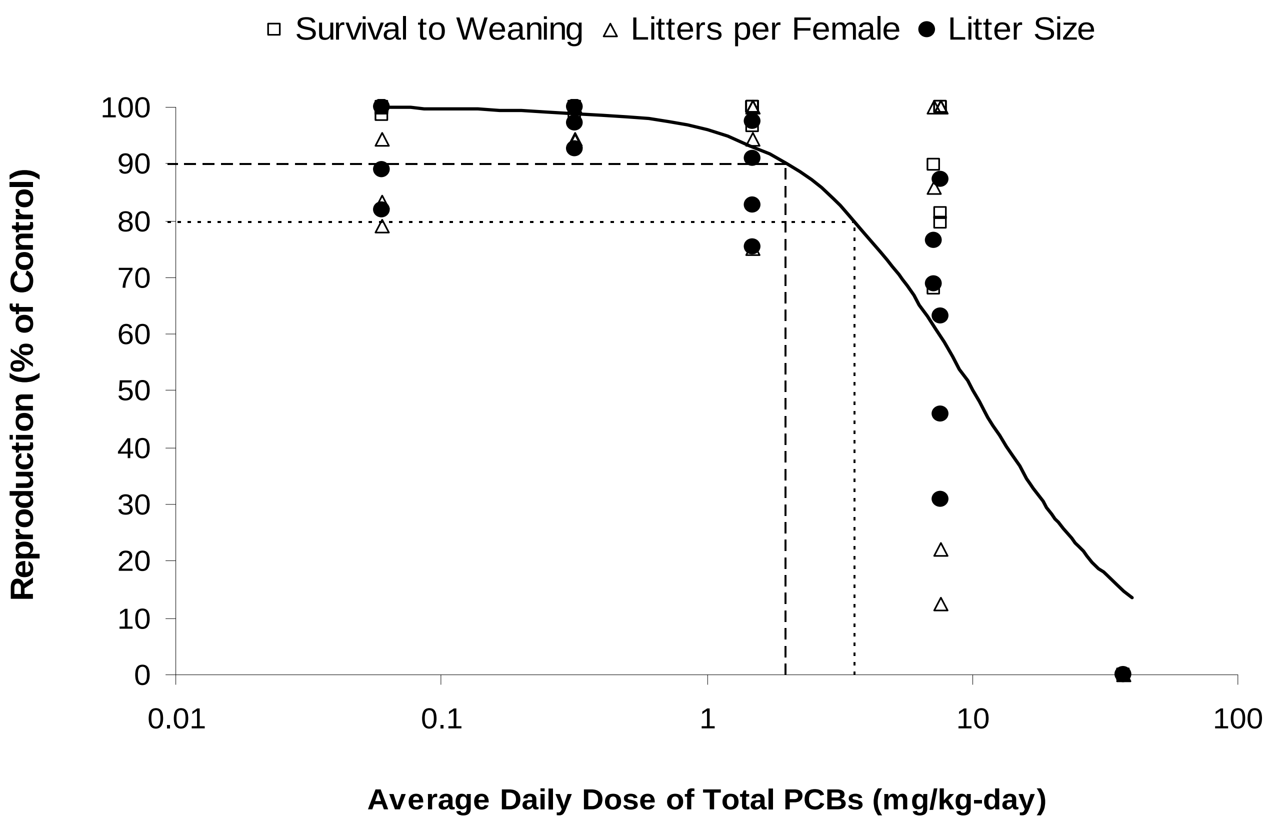
Thursday, April 16, 2009 11:23:08 AM
\\mesrv02\Client_Files\BFS Noblesville\GIS\MXD\BERA\Figure_Soil_SMM_Inv_Results.mxd

Figure 3-1. Conceptual Site Model



BATO: Bridgestone Americas Tire Operations, LLC

a. Dermal contact with and inhalation of chemicals in floodplain soil are minimal, and limitations with toxicological and exposure information preclude assessment of these exposure pathways.

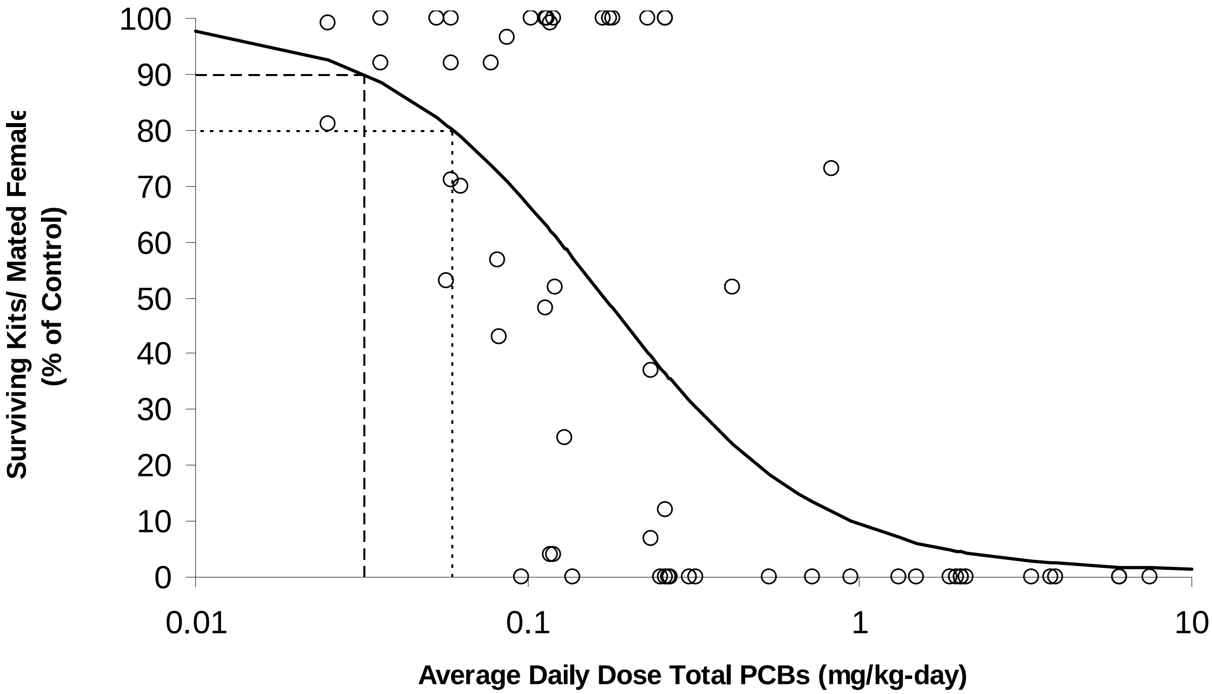


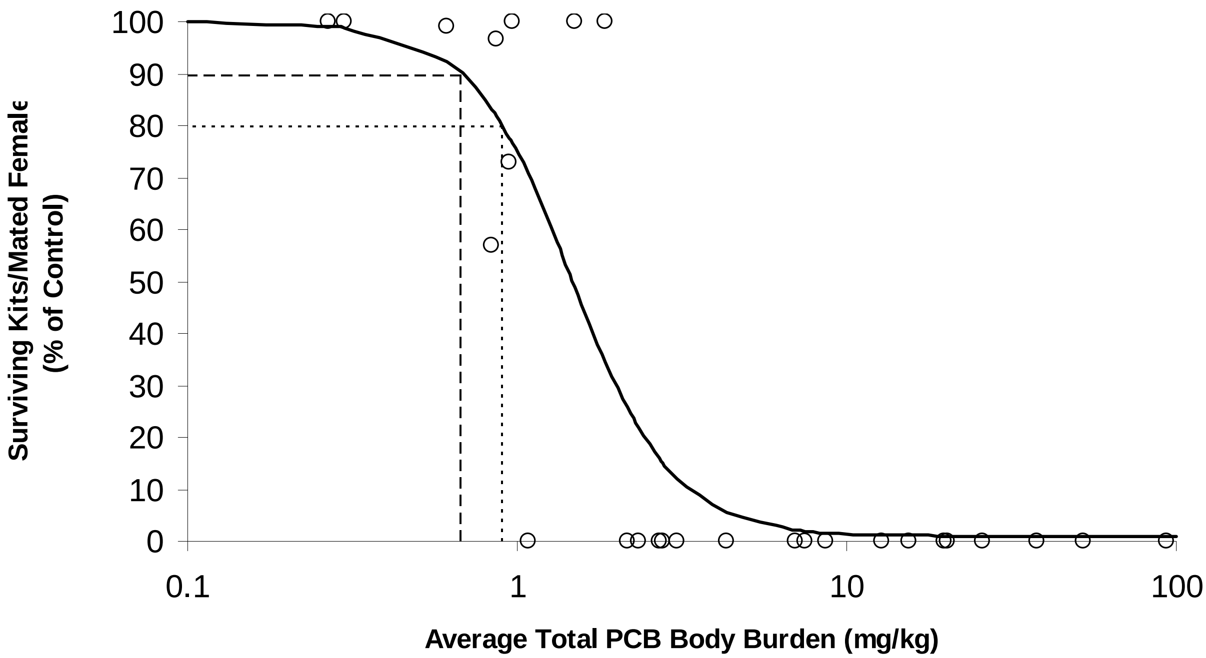
Dashed Line indicates the EC10 (2.0 mg/kg-d) and dotted line indicates the EC20 (3.6 mg/kg-day)
Source: Linder et al. 1974
Dose response curve illustrated corresponds to the litter size endpoint
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control
mg/kg-day: milligrams per kilogram body weight per day
PCB: polychlorinated biphenyl

ENVIRON

Dose Response Relationships for Rats Exposed to PCBs

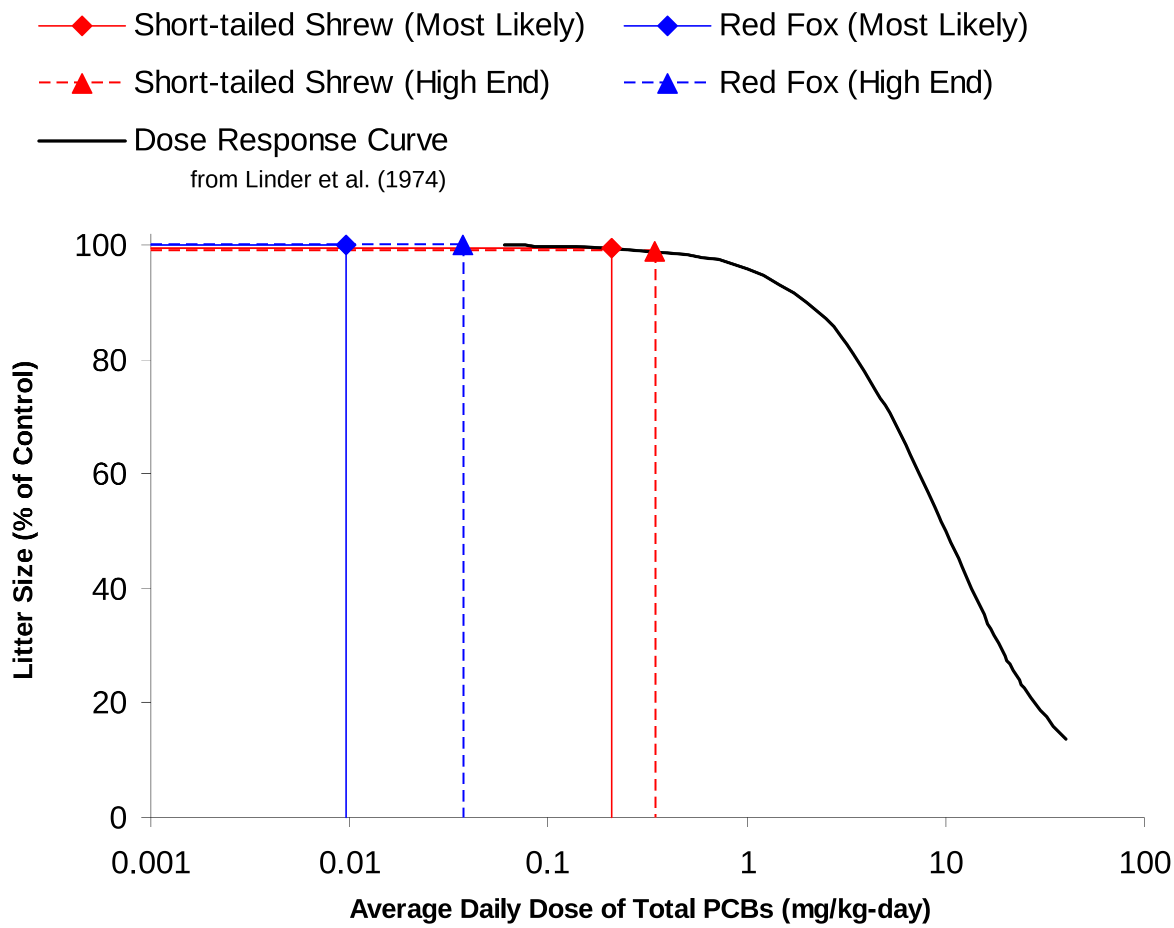
Figure 5-1





Dashed lines indicate the EC10 while the dotted lines indicate the EC20.
Source: Fuchsman et al. 2008
EC10 and EC20: effect concentration resulting in 10% and 20% decrease in reproduction endpoint from control.
mg/kg: milligrams per kilogram
mg/kg-day: milligrams per kilogram body weight per day
PCB: polychlorinated biphenyls

ENVIRON	Dose Response Relationships for Mink Exposed to PCBs	Figure 5-2

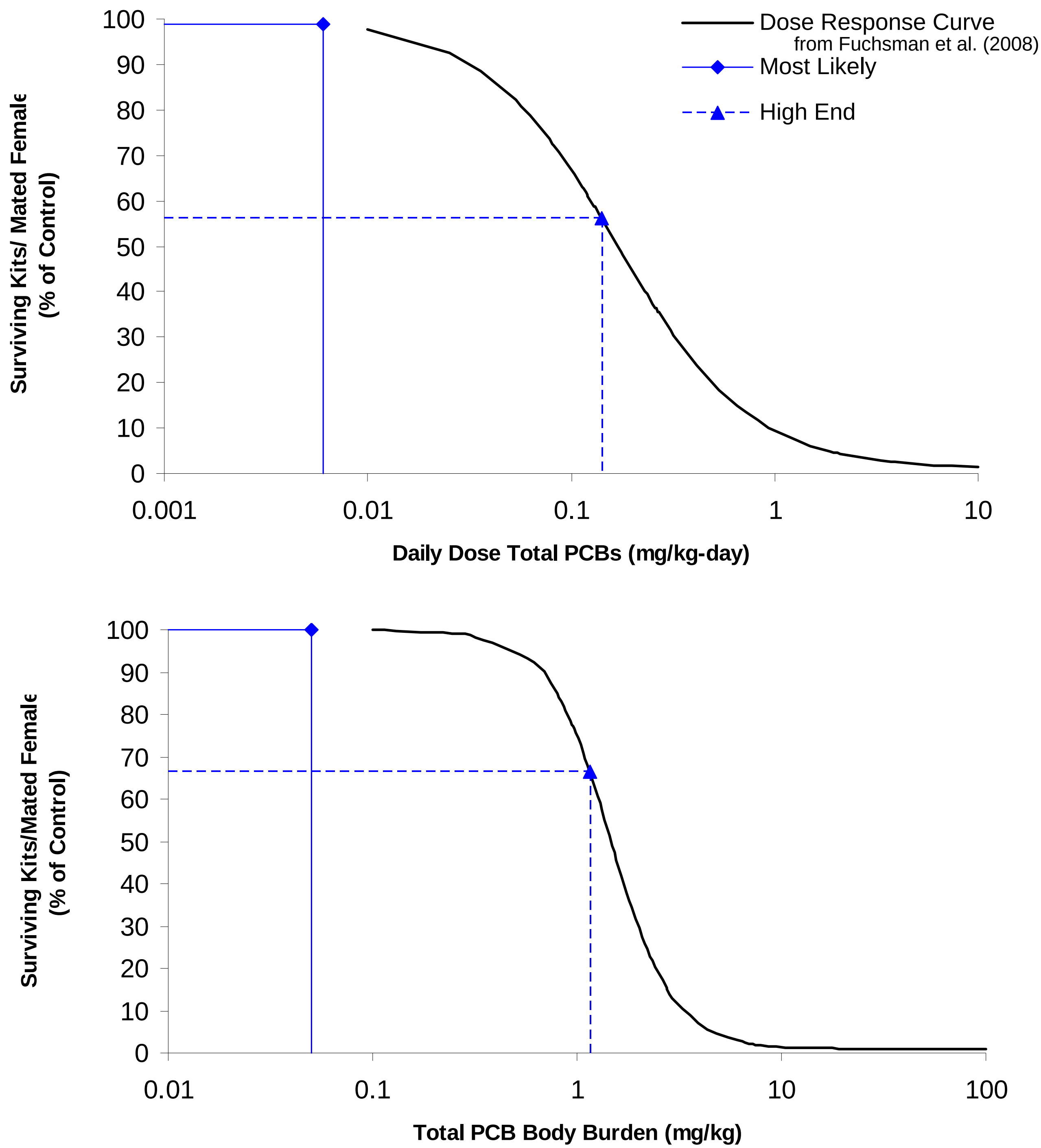


Data mg/kg-day: milligrams per kilogram body weight per day
PCB: polychlorinated biphenyl

ENVIRON

Effects Assessment for Shrew and Fox Based on Estimated Doses

Figure 6-1



mg/kg: milligrams per kilogram
mg/kg-day: milligrams per kilogram body weight per day
PCB: polychlorinated biphenyl

ENVIRON

Effects Assessment for Mink Based on Estimated Dose and Body Burdens

Figure 6-2

Appendix A

Photographic Log

Photo 1: Stony Creek upstream at UFP 3

Photo 2: Stony Creek downstream at UFP 5

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

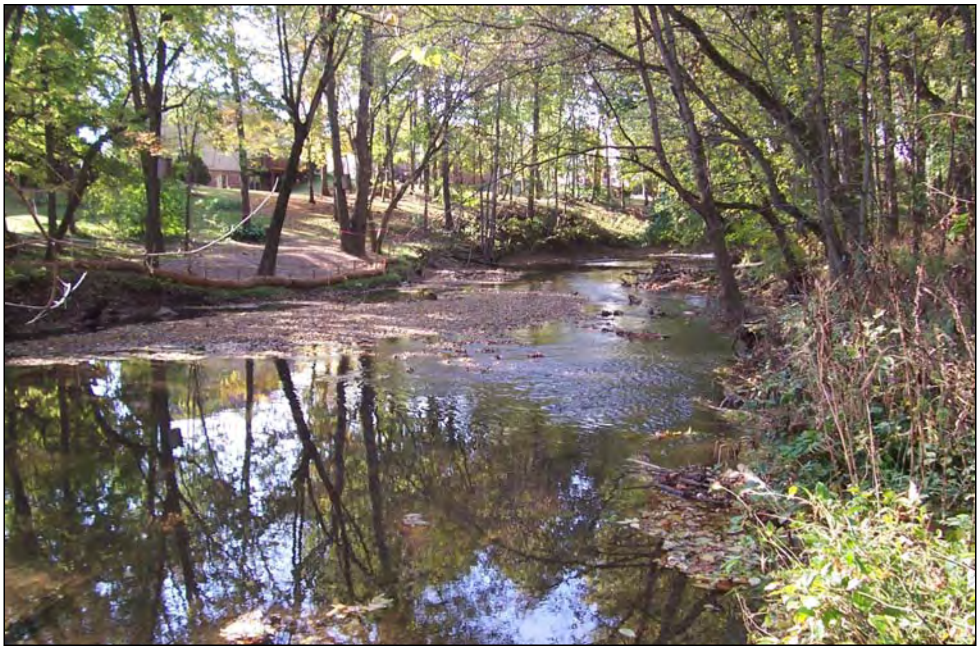


Photo 3: Stony Creek downstream at UFP 18

Photo 4: Stony Creek upstram at UFP 18

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 5: Stony Creek upstream at UFP 24

Photo 6: Trap locations UFP 13

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 7: Trap locations at UFP 13

Photo 8: Trap locations at UFP 20

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 9: Trap locations at UFP 20

Photo 10: Trap locations at UFP 25

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 11: Trap locations at UFP 25

Photo 12: View of representative aquatic habitat within MK-01

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 13: View of representative inland habitat within MK-01

Photo 14: View of representative aquatic habitat within MK-02

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 15: View of representative inland habitat within MK-02

Photo 16: View of representative aquatic habitat within MK-03

Photo 17: View of representative inland habitat within MK-03

Photo 18: View of representative aquatic habitat within MK-04

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 19: View of representative inland habitat within MK-04

Photo 20: View of representative aquatic habitat within MK-05

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 21: View of representative inland habitat within MK-05

Photo 22: View of representative aquatic habitat within MK-06

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 23: View of representative inland habitat within MK-06

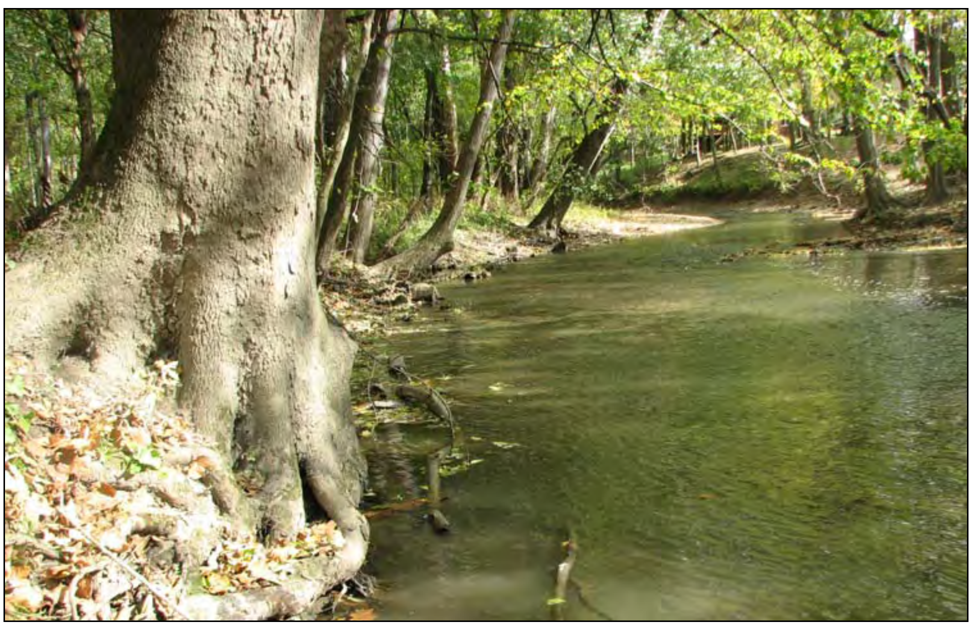


Photo 24: View of representative aquatic habitat within MK-07

Photo 25: View of representative inland habitat within MK-07

Photo 26: View of representative aquatic habitat within MK-08

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 27: View of representative inland habitat within MK-08

Photo 28: View of representative aquatic habitat within MK-09

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 29: View of representative inland habitat within MK-09

Photo 30: View of representative aquatic habitat within MK-10

Photo 31: View of representative inland habitat within MK-10

Photo 32: View of representative aquatic habitat within MK-11

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 33: View of representative inland habitat within MK-11

Photo 34: View of representative aquatic habitat within MK-12

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 35: View of representative inland habitat within MK-12

Photo 36: View of representative aquatic habitat within MK-13

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 37: View of representative inland habitat within MK-13

Photo 38: View of representative aquatic habitat within MK-14

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 39: View of representative inland habitat within MK-14

Photo 40: View of representative aquatic habitat within MK-15

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 41: View of representative inland habitat within MK-15

Photo 42: View of representative aquatic habitat within MK-16

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 43: View of representative inland habitat within MK-16

Photo 44: View of representative aquatic habitat within MK-17

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 45: View of representative inland habitat within MK-17

Photo 46: View of representative aquatic habitat within MK-18

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 47: View of representative inland habitat within MK-18

Photo 48: View of representative aquatic habitat within MK-19

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 49: View of representative inland habitat within MK-19

Photo 50: View of representative aquatic habitat within MK-20

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 51: View of representative inland habitat within MK-20

Photo 52: Potential den location on the ground within MK-02

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 53: Potential den location on the ground within MK-08

Photo 54: Potential den location in a streambank within MK-16

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 55: Potential den location in a fallen log within MK-08

Photo 56: Potential den location in a fallen log within MK-19

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date: October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.: 21-20178H**
Client:	Firestone	ENVIRON

Photo 57: Potential den location in a tree within MK-06

Photo 58: Potential den location in a tree within MK-07

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Photo 59: Possible mink track within MK-01

Photo 60: Possible mink track within MK-13

Title:	Baseline Ecological Risk Assessment, Appendix A	**Date:**	**October 2008**
Site:	Undeveloped Stony Creek Floodplain	**Project No.:**	**21-20178H**
Client:	Firestone	ENVIRON	

Appendix B

Analytical Database Used in Baseline Ecological Risk Assessment

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
FP-1	8/12/2006	FP-1	Soil	SOI	FS	Inorganics	Percent Solids	72	%	Y	0.001	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	Inorganics	TOC	3.2	%	Y	0.14	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1016	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1221	0.7	mg/kg	N	1.4	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1232	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1242	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1248	2.1	mg/kg	Y	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1254	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1260	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	PCB Aroclor 1262	0.345	mg/kg	N	0.69	DRY
FP-1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	2.1	mg/kg	Y	0.69	DRY
FP-1DC	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	4.6	mg/kg	Y		DRY
FP-1NE	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	0.345	mg/kg	N	0.69	DRY
FP-1SE	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	12	mg/kg	Y		DRY
FP-1UC1	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	3.3	mg/kg	Y		DRY
FP-1UC2	8/12/2006	FP-1	Soil	SOI	FS	PCB Aroclor	Total PCBs	4.7	mg/kg	Y		DRY
FP-7 (Original)	11/17/2006	FP-7 (Original)	Soil	SOI	FS	PCB Aroclor	Total PCBs	0.345	mg/kg	N	0.65	DRY
FP-8 (Original)	11/17/2006	FP-8 (Original)	Soil	SOI	FS	PCB Aroclor	Total PCBs	0.28	mg/kg	N	0.56	DRY
FP-9 (Original)	11/17/2006	FP-9 (Original)	Soil	SOI	FS	PCB Aroclor	Total PCBs	0.29	mg/kg	N	0.58	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	Inorganics	Percent Lipids	3.51	%	Y	0.1	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	Inorganics	Percent Moisture	70.5	%	Y	0.1	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	Inorganics	Solids, Total	30	%	Y	0.1	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.096	ug/kg	N	0.192	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.226	ug/kg	Y	0.177	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	0.244	ug/kg	Y	0.191	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.287	ug/kg	Y	0.191	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.096	ug/kg	N	0.192	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.296	ug/kg	Y	0.176	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	0.302	ug/kg	Y	0.182	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.454	ug/kg	Y	0.192	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	0.455	ug/kg	Y	0.191	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.474	ug/kg	Y	0.184	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.506	ug/kg	Y	0.185	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	Inorganics	Percent Lipids	6.36	%	Y	0.1	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	Inorganics	Percent Moisture	67	%	Y	0.1	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	Inorganics	Solids, Total	33	%	Y	0.1	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.0875	ug/kg	N	0.175	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.0875	ug/kg	N	0.175	WET
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.507	ug/kg	Y	0.182	WET
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.539	ug/kg	Y	0.499	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.0875	ug/kg	N	0.175	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.0875	ug/kg	N	0.175	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	0.0875	ug/kg	N	0.175	WET
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.549	ug/kg	Y	0.482	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	0.566	ug/kg	Y	0.179	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.571	ug/kg	Y	0.184	WET
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.572	ug/kg	Y	0.511	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	75.9	%	Y	0.001	Wet
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	Inorganics	Solids, Total	77	%	Y	0.1	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.8	%	Y	0.01	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	880	ug/kg	Y	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	330	ug/kg	N	0.66	Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Aroclor	Total PCBs	880	ug/kg	Y		Dry
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.245	ug/kg	N	0.49	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.574	ug/kg	Y	0.479	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Decachlorobiphenyl	0.576	ug/kg	Y	0.514	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.606	ug/kg	Y	0.505	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.245	ug/kg	N	0.49	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.245	ug/kg	N	0.49	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.61	ug/kg	Y	0.462	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.617	ug/kg	Y	0.182	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	0.625	ug/kg	Y	0.182	WET
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	0.628	ug/kg	Y	0.483	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.632	ug/kg	Y	0.494	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.05	%	Y	0.01	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.262	ug/kg	N	0.524	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.635	ug/kg	Y	0.504	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.65	ug/kg	Y	0.191	WET
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.652	ug/kg	Y	0.479	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.262	ug/kg	N	0.524	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.656	ug/kg	Y	0.489	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.658	ug/kg	Y	0.191	WET
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.669	ug/kg	Y	0.446	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.77	ug/kg	Y	0.184	WET
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Octachlorobiphenyls	0.798	ug/kg	Y	0.499	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.826	ug/kg	Y	0.486	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.35	%	Y	0.01	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2505	ug/kg	N	0.501	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.836	ug/kg	Y	0.516	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Dichlorobiphenyls	0.837	ug/kg	Y	0.499	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.839	ug/kg	Y	0.183	WET
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.848	ug/kg	Y	0.499	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.851	ug/kg	Y	0.483	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.855	ug/kg	Y	0.534	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.856	ug/kg	Y	0.446	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.859	ug/kg	Y	0.53	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Heptachlorobiphenyls	0.906	ug/kg	Y	0.509	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.91	ug/kg	Y	0.489	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	Inorganics	Solids, Total	69	%	Y	0.1	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.75	%	Y	0.01	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2685	ug/kg	N	0.537	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.923	ug/kg	Y	0.471	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.942	ug/kg	Y	0.176	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.951	ug/kg	Y	0.177	WET
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2685	ug/kg	N	0.537	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.954	ug/kg	Y	0.524	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.973	ug/kg	Y	0.482	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.984	ug/kg	Y	0.507	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.988	ug/kg	Y	0.494	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.05	ug/kg	Y	0.512	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	1.07	ug/kg	Y	0.177	WET
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.255	ug/kg	N	0.51	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.11	ug/kg	Y	0.51	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.12	ug/kg	Y	0.479	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	1.13	ug/kg	Y	0.502	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.255	ug/kg	N	0.51	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	1.14	ug/kg	Y	0.184	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	1.15	ug/kg	Y	0.192	WET
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.16	ug/kg	Y	0.53	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.17	ug/kg	Y	0.494	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	1.17	ug/kg	Y	0.54	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.18	ug/kg	Y	0.479	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	Inorganics	Percent Lipids	2.42	%	Y	0.1	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	Inorganics	Percent Moisture	71.3	%	Y	0.1	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	Inorganics	Solids, Total	29	%	Y	0.1	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.0955	ug/kg	N	0.191	WET
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	1.2	ug/kg	Y	0.183	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	1.22	ug/kg	Y	0.191	WET
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.22	ug/kg	Y	0.54	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.23	ug/kg	Y	0.525	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	1.24	ug/kg	Y	0.462	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	1.26	ug/kg	Y	0.183	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	1.28	ug/kg	Y	0.175	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	Inorganics	Percent Lipids	2.36	%	Y	0.1	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	Inorganics	Percent Moisture	70.8	%	Y	0.1	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	Inorganics	Solids, Total	29	%	Y	0.1	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.0895	ug/kg	N	0.179	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.0895	ug/kg	N	0.179	WET
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	1.31	ug/kg	Y	0.446	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.32	ug/kg	Y	0.536	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.0895	ug/kg	N	0.179	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.0895	ug/kg	N	0.179	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Hexachlorobiphenyls	1.32	ug/kg	Y	0.183	WET
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.34	ug/kg	Y	0.462	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.34	ug/kg	Y	0.498	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.35	ug/kg	Y	0.509	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	0.0895	ug/kg	N	0.179	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	Inorganics	Percent Lipids	4.38	%	Y	0.1	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	Inorganics	Percent Moisture	64.7	%	Y	0.1	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	Inorganics	Solids, Total	35	%	Y	0.1	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.092	ug/kg	N	0.184	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.37	ug/kg	Y	0.509	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.37	ug/kg	Y	0.464	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.37	ug/kg	Y	0.554	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	1.38	ug/kg	Y	0.464	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	1.42	ug/kg	Y	0.179	WET
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.42	ug/kg	Y	0.462	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Monochlorobiphenyls	1.44	ug/kg	Y	0.514	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	69.8	%	Y	0.001	Wet
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	Inorganics	Solids, Total	70	%	Y	0.1	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.25	%	Y	0.01	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	1300	ug/kg	Y	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	360	ug/kg	N	0.72	Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Aroclor	Total PCBs	1300	ug/kg	Y		Dry
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2535	ug/kg	N	0.507	DRY
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	1.44	ug/kg	Y	0.177	WET
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.47	ug/kg	Y	0.479	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	1.5	ug/kg	Y	0.179	WET
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.5	ug/kg	Y	0.505	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	1.53	ug/kg	Y	0.192	WET
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.57	ug/kg	Y	0.51	DRY
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Tetrachlorobiphenyls	1.62	ug/kg	Y	0.183	WET
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.63	ug/kg	Y	0.475	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.65	ug/kg	Y	0.462	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	Inorganics	Solids, Total	70	%	Y	0.1	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.45	%	Y	0.01	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.265	ug/kg	N	0.53	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	1.65	ug/kg	Y	0.182	WET
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.67	ug/kg	Y	0.494	DRY
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	1.7	ug/kg	Y	0.177	WET
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.265	ug/kg	N	0.53	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	1.74	ug/kg	Y	0.182	WET
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	1.75	ug/kg	Y	0.511	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.75	ug/kg	Y	0.505	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	1.76	ug/kg	Y	0.494	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.79	ug/kg	Y	0.49	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Heptachlorobiphenyls	1.82	ug/kg	Y	0.499	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.6	%	Y	0.01	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.252	ug/kg	N	0.504	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	1.82	ug/kg	Y	0.176	WET
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	1.84	ug/kg	Y	0.537	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	1.89	ug/kg	Y	0.471	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.252	ug/kg	N	0.504	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.252	ug/kg	N	0.504	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	1.89	ug/kg	Y	0.177	WET
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.91	ug/kg	Y	0.475	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	1.93	ug/kg	Y	0.534	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	1.96	ug/kg	Y	0.475	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	1.97	ug/kg	Y	0.499	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	Inorganics	Solids, Total	69	%	Y	0.1	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.95	%	Y	0.01	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.268	ug/kg	N	0.536	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	2.07	ug/kg	Y	0.176	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	2.07	ug/kg	Y	0.185	WET
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.1	ug/kg	Y	0.536	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.268	ug/kg	N	0.536	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.268	ug/kg	N	0.536	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.268	ug/kg	N	0.536	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	2.11	ug/kg	Y	0.489	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.15	ug/kg	Y	0.498	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	2.16	ug/kg	Y	0.502	DRY
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	2.17	ug/kg	Y	0.175	WET
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	Inorganics	Total Organic Carbon	3	%	Y	0.01	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2555	ug/kg	N	0.511	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2555	ug/kg	N	0.511	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	2.17	ug/kg	Y	0.486	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	2.19	ug/kg	Y	0.501	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2555	ug/kg	N	0.511	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2555	ug/kg	N	0.511	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Nonachlorobiphenyls	2.23	ug/kg	Y	0.514	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	2.24	ug/kg	Y	0.505	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.26	ug/kg	Y	0.507	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.29	ug/kg	Y	0.525	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.34	ug/kg	Y	0.512	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	Inorganics	Solids, Total	70	%	Y	0.1	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.05	%	Y	0.01	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2525	ug/kg	N	0.505	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	2.34	ug/kg	Y	0.191	WET
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	2.36	ug/kg	Y	0.479	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	2.37	ug/kg	Y	0.501	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2525	ug/kg	N	0.505	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2525	ug/kg	N	0.505	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	2.38	ug/kg	Y	0.184	WET
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.46	ug/kg	Y	0.479	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	2.47	ug/kg	Y	0.486	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.49	ug/kg	Y	0.524	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.49	ug/kg	Y	0.507	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.7	%	Y	0.01	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2405	ug/kg	N	0.481	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	2.51	ug/kg	Y	0.51	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	2.54	ug/kg	Y	0.504	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Hexachlorobiphenyls	2.61	ug/kg	Y	0.509	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2405	ug/kg	N	0.481	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2405	ug/kg	N	0.481	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2405	ug/kg	N	0.481	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.63	ug/kg	Y	0.489	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	2.64	ug/kg	Y	0.525	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	2.64	ug/kg	Y	0.512	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.68	ug/kg	Y	0.502	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	Inorganics	Percent Lipids	2.49	%	Y	0.1	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	Inorganics	Percent Moisture	66.9	%	Y	0.1	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	Inorganics	Solids, Total	33	%	Y	0.1	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.092	ug/kg	N	0.184	WET
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.7	ug/kg	Y	0.502	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Tetrachlorobiphenyls	2.71	ug/kg	Y	0.509	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	2.81	ug/kg	Y	0.53	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.82	ug/kg	Y	0.49	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	2.84	ug/kg	Y	0.54	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	2.87	ug/kg	Y	0.505	DRY
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	2.87	ug/kg	Y	0.184	WET
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	2.92	ug/kg	Y	0.494	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	72.7	%	Y	0.001	Wet

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	Inorganics	Solids, Total	73	%	Y	0.1	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.15	%	Y	0.01	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	1400	ug/kg	Y	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	345	ug/kg	N	0.69	Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Aroclor	Total PCBs	1400	ug/kg	Y		Dry
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2385	ug/kg	N	0.477	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	2.92	ug/kg	Y	0.507	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	2.92	ug/kg	Y	0.191	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Pentachlorobiphenyls	2.93	ug/kg	Y	0.183	WET
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2385	ug/kg	N	0.477	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2385	ug/kg	N	0.477	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2385	ug/kg	N	0.477	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	3.01	ug/kg	Y	0.462	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	3.06	ug/kg	Y	0.537	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	3.06	ug/kg	Y	0.185	WET
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	3.1	ug/kg	Y	0.471	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	Inorganics	Solids, Total	73	%	Y	0.1	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.55	%	Y	0.01	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2445	ug/kg	N	0.489	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2445	ug/kg	N	0.489	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	3.13	ug/kg	Y	0.462	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	3.2	ug/kg	Y	0.49	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2445	ug/kg	N	0.489	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Octachlorobiphenyls	3.25	ug/kg	Y	0.514	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	3.3	ug/kg	Y	0.505	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	3.34	ug/kg	Y	0.554	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Trichlorobiphenyls	3.36	ug/kg	Y	0.499	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	3.38	ug/kg	Y	0.507	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	3.41	ug/kg	Y	0.524	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.75	%	Y	0.01	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2395	ug/kg	N	0.479	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	3.54	ug/kg	Y	0.486	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	3.56	ug/kg	Y	0.179	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	3.82	ug/kg	Y	0.482	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2395	ug/kg	N	0.479	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2395	ug/kg	N	0.479	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2395	ug/kg	N	0.479	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	3.89	ug/kg	Y	0.462	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	4.11	ug/kg	Y	0.176	WET
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	4.12	ug/kg	Y	0.462	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Pentachlorobiphenyls	4.36	ug/kg	Y	0.509	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.45	%	Y	0.01	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2355	ug/kg	N	0.471	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	4.38	ug/kg	Y	0.483	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	4.41	ug/kg	Y	0.49	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	4.42	ug/kg	Y	0.499	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	4.42	ug/kg	Y	0.191	WET
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	4.43	ug/kg	Y	0.534	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	Inorganics	Solids, Total	76	%	Y	0.1	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.7	%	Y	0.01	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2355	ug/kg	N	0.471	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	4.44	ug/kg	Y	0.465	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	4.46	ug/kg	Y	0.507	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	4.51	ug/kg	Y	0.446	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2355	ug/kg	N	0.471	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	4.51	ug/kg	Y	0.182	WET
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Dichlorobiphenyls	4.53	ug/kg	Y	0.514	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	4.54	ug/kg	Y	0.501	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	4.62	ug/kg	Y	0.185	WET
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	4.65	ug/kg	Y	0.471	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	Inorganics	Solids, Total	78	%	Y	0.1	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.8	%	Y	0.01	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.231	ug/kg	N	0.462	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	4.67	ug/kg	Y	0.537	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	4.92	ug/kg	Y	0.494	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	5	ug/kg	Y	0.516	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	5.23	ug/kg	Y	0.507	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	5.45	ug/kg	Y	0.192	WET
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	5.47	ug/kg	Y	0.516	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	5.61	ug/kg	Y	0.446	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	5.64	ug/kg	Y	0.177	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	5.74	ug/kg	Y	0.191	WET
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	5.88	ug/kg	Y	0.184	WET
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.65	%	Y	0.01	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2545	ug/kg	N	0.509	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	5.89	ug/kg	Y	0.191	WET
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	5.9	ug/kg	Y	0.471	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	5.92	ug/kg	Y	0.462	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Total PCBs	6.02	ug/kg	Y	0.183	WET
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	6.06	ug/kg	Y	0.479	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	6.18	ug/kg	Y	0.498	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	6.32	ug/kg	Y	0.464	DRY
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	6.35	ug/kg	Y	0.184	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	Inorganics	Percent Lipids	2.45	%	Y	0.1	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	Inorganics	Percent Moisture	75.2	%	Y	0.1	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	Inorganics	Solids, Total	25	%	Y	0.1	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.0955	ug/kg	N	0.191	WET
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	6.36	ug/kg	Y	0.464	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	6.39	ug/kg	Y	0.177	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	6.41	ug/kg	Y	0.177	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	6.43	ug/kg	Y	0.477	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	6.48	ug/kg	Y	0.509	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	6.58	ug/kg	Y	0.483	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	6.62	ug/kg	Y	0.505	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	6.69	ug/kg	Y	0.176	WET
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	73.5	%	Y	0.001	Wet
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	340	ug/kg	N	0.68	Dry

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	340	ug/kg	N	0.68	Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Aroclor	Total PCBs	340	ug/kg	N		Dry
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	Inorganics	Solids, Total	71	%	Y	0.1	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.9	%	Y	0.01	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.247	ug/kg	N	0.494	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	6.89	ug/kg	Y	0.183	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	6.97	ug/kg	Y	0.184	WET
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	7	ug/kg	Y	0.511	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.247	ug/kg	N	0.494	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	7.04	ug/kg	Y	0.481	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	7.13	ug/kg	Y	0.191	WET
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	7.18	ug/kg	Y	0.502	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	7.29	ug/kg	Y	0.51	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	7.43	ug/kg	Y	0.498	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	7.79	ug/kg	Y	0.446	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.4	%	Y	0.01	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2325	ug/kg	N	0.465	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	7.94	ug/kg	Y	0.504	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	8.06	ug/kg	Y	0.537	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	8.35	ug/kg	Y	0.184	WET
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	8.38	ug/kg	Y	0.49	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	0.2325	ug/kg	N	0.465	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.8	%	Y	0.01	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2395	ug/kg	N	0.479	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	8.41	ug/kg	Y	0.554	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	8.46	ug/kg	Y	0.191	WET
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	8.53	ug/kg	Y	0.524	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2395	ug/kg	N	0.479	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	8.6	ug/kg	Y	0.54	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	8.76	ug/kg	Y	0.53	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	8.76	ug/kg	Y	0.494	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	8.81	ug/kg	Y	0.502	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	8.85	ug/kg	Y	0.462	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	8.91	ug/kg	Y	0.512	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	Inorganics	Solids, Total	82	%	Y	0.1	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.15	%	Y	0.01	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.231	ug/kg	N	0.462	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.231	ug/kg	N	0.462	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	8.97	ug/kg	Y	0.176	WET
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	8.98	ug/kg	Y	0.483	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.231	ug/kg	N	0.462	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.231	ug/kg	N	0.462	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Total PCBs	9	ug/kg	Y	0.486	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	9.04	ug/kg	Y	0.475	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	9.2	ug/kg	Y	0.502	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	9.41	ug/kg	Y	0.536	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Heptachlorobiphenyls	9.7	ug/kg	Y	0.514	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	Inorganics	Solids, Total	81	%	Y	0.1	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.15	%	Y	0.01	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	9.7	ug/kg	Y	0.182	WET
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	9.71	ug/kg	Y	0.525	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	9.71	ug/kg	Y	0.191	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Total PCBs	9.71	ug/kg	Y	0.177	WET
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	9.9	ug/kg	Y	0.481	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	9.92	ug/kg	Y	0.505	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	10.1	ug/kg	Y	0.534	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	10.2	ug/kg	Y	0.176	WET
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	10.3	ug/kg	Y	0.482	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	10.4	ug/kg	Y	0.465	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	10.4	ug/kg	Y	0.182	WET
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	Inorganics	Percent Lipids	1.89	%	Y	0.1	WET
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	Inorganics	Percent Moisture	70.6	%	Y	0.1	WET
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	Inorganics	Solids, Total	29	%	Y	0.1	WET
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.091	ug/kg	N	0.182	WET
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	10.4	ug/kg	Y	0.49	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	10.5	ug/kg	Y	0.505	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Total PCBs	10.6	ug/kg	Y	0.509	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.091	ug/kg	N	0.182	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	10.7	ug/kg	Y	0.175	WET
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Hexachlorobiphenyls	10.7	ug/kg	Y	0.499	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	10.8	ug/kg	Y	0.185	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	10.9	ug/kg	Y	0.477	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	11.4	ug/kg	Y	0.192	WET
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	11.4	ug/kg	Y	0.49	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	Inorganics	Percent Lipids	2.81	%	Y	0.1	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	Inorganics	Percent Moisture	65	%	Y	0.1	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	Inorganics	Solids, Total	35	%	Y	0.1	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.088	ug/kg	N	0.176	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.088	ug/kg	N	0.176	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	11.5	ug/kg	Y	0.184	WET
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	11.6	ug/kg	Y	0.179	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.088	ug/kg	N	0.176	WET
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	11.8	ug/kg	Y	0.501	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	11.9	ug/kg	Y	0.489	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	11.9	ug/kg	Y	0.446	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	12	ug/kg	Y	0.462	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	12.2	ug/kg	Y	0.512	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	12.4	ug/kg	Y	0.191	WET
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	75.3	%	Y	0.001	Wet
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.9	%	Y	0.01	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	1300	ug/kg	Y	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	330	ug/kg	N	0.66	Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Aroclor	Total PCBs	1300	ug/kg	Y		Dry
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.251	ug/kg	N	0.502	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	12.5	ug/kg	Y	0.554	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	12.8	ug/kg	Y	0.501	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	13.1	ug/kg	Y	0.182	WET
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.251	ug/kg	N	0.502	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	13.2	ug/kg	Y	0.507	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	13.6	ug/kg	Y	0.499	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	13.6	ug/kg	Y	0.475	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	14	ug/kg	Y	0.494	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Total PCBs	14	ug/kg	Y	0.507	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	14.1	ug/kg	Y	0.462	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.45	%	Y	0.01	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2495	ug/kg	N	0.499	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	14.3	ug/kg	Y	0.191	WET
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	14.4	ug/kg	Y	0.479	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	14.5	ug/kg	Y	0.465	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2495	ug/kg	N	0.499	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2495	ug/kg	N	0.499	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	14.6	ug/kg	Y	0.191	WET
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	14.9	ug/kg	Y	0.502	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	15.8	ug/kg	Y	0.471	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	15.9	ug/kg	Y	0.54	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	16.1	ug/kg	Y	0.184	WET
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	Inorganics	Solids, Total	75	%	Y	0.1	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	Inorganics	Total Organic Carbon	2.9	%	Y	0.01	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Decachlorobiphenyl	0.2495	ug/kg	N	0.499	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	16.4	ug/kg	Y	0.511	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	16.5	ug/kg	Y	0.482	DRY
UFP06.SM.0006	10/23/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Total PCBs	18.6	ug/kg	Y	0.179	WET
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Monochlorobiphenyls	0.2495	ug/kg	N	0.499	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Nonachlorobiphenyls	0.2495	ug/kg	N	0.499	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	18.6	ug/kg	Y	0.471	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	18.7	ug/kg	Y	0.191	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	19	ug/kg	Y	0.175	WET
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	19.4	ug/kg	Y	0.54	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	19.6	ug/kg	Y	0.525	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2625	ug/kg	N	0.525	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	19.8	ug/kg	Y	0.479	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	20	ug/kg	Y	0.184	WET
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	20.2	ug/kg	Y	0.479	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2625	ug/kg	N	0.525	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2625	ug/kg	N	0.525	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2625	ug/kg	N	0.525	DRY
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Total PCBs	20.7	ug/kg	Y	0.184	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Total PCBs	21.1	ug/kg	Y	0.185	WET
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Total PCBs	21.4	ug/kg	Y	0.483	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	21.4	ug/kg	Y	0.183	WET
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	Inorganics	Solids, Total	76	%	Y	0.1	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.8	%	Y	0.01	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.247	ug/kg	N	0.494	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	21.5	ug/kg	Y	0.479	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	21.8	ug/kg	Y	0.509	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	22.1	ug/kg	Y	0.191	WET
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.247	ug/kg	N	0.494	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.247	ug/kg	N	0.494	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.247	ug/kg	N	0.494	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	22.1	ug/kg	Y	0.502	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	22.2	ug/kg	Y	0.471	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	22.8	ug/kg	Y	0.536	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Total PCBs	22.8	ug/kg	Y	0.182	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	Inorganics	Percent Lipids	3.74	%	Y	0.1	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	Inorganics	Percent Moisture	69.5	%	Y	0.1	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	Inorganics	Solids, Total	30	%	Y	0.1	WET
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.0885	ug/kg	N	0.177	WET
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	23.1	ug/kg	Y	0.446	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	24.6	ug/kg	Y	0.489	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	25	ug/kg	Y	0.505	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Trichlorobiphenyls	25.2	ug/kg	Y	0.514	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	25.5	ug/kg	Y	0.494	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	26.5	ug/kg	Y	0.525	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	27.4	ug/kg	Y	0.177	WET
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	28	ug/kg	Y	0.51	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	29.1	ug/kg	Y	0.191	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	29.2	ug/kg	Y	0.176	WET
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2525	ug/kg	N	0.505	DRY
UFP21.SO.0006	10/23/2008	UFP21	Soil	SOI	FS	PCB Homologue	Total PCBs	29.4	ug/kg	Y	0.465	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Tetrachlorobiphenyls	29.7	ug/kg	Y	0.499	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	30.7	ug/kg	Y	0.182	WET
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	31.1	ug/kg	Y	0.524	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	31.4	ug/kg	Y	0.462	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Total PCBs	32	ug/kg	Y	0.191	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	32.2	ug/kg	Y	0.175	WET
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	33.5	ug/kg	Y	0.516	DRY
UFP06.SM2.0006	10/24/2008	UFP06	Tissue	SMM	FS	PCB Homologue	Total PCBs	34.4	ug/kg	Y	0.184	WET
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	34.7	ug/kg	Y	0.462	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	71.7	%	Y	0.001	Wet

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Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	700	ug/kg	Y	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	350	ug/kg	N	0.7	Dry
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Aroclor	Total PCBs	700	ug/kg	Y		Dry
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	Inorganics	Solids, Total	81	%	Y	0.1	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.4	%	Y	0.01	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.231	ug/kg	N	0.462	DRY
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	39	ug/kg	Y	0.489	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Pentachlorobiphenyls	39.8	ug/kg	Y	0.499	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	39.9	ug/kg	Y	0.494	DRY
UFP20.IN.0006	10/23/2008	UFP20	Tissue	INV	FS	PCB Homologue	Total PCBs	40	ug/kg	Y	0.191	WET
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	40.1	ug/kg	Y	0.53	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	40.3	ug/kg	Y	0.537	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	41.3	ug/kg	Y	0.504	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Hexachlorobiphenyls	41.3	ug/kg	Y	0.514	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	41.5	ug/kg	Y	0.192	WET
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	42	ug/kg	Y	0.184	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	Inorganics	Percent Lipids	2.82	%	Y	0.1	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	Inorganics	Percent Moisture	71.2	%	Y	0.1	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	Inorganics	Solids, Total	29	%	Y	0.1	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.088	ug/kg	N	0.176	WET
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	42.8	ug/kg	Y	0.494	DRY
UFP16.SO.0006	10/23/2008	UFP16	Soil	SOI	FS	PCB Homologue	Total PCBs	43.4	ug/kg	Y	0.471	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	44.2	ug/kg	Y	0.471	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	46	ug/kg	Y	0.462	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	47.2	ug/kg	Y	0.499	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	47.5	ug/kg	Y	0.446	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Total PCBs	49.1	ug/kg	Y	0.54	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Total PCBs	49.6	ug/kg	Y	0.502	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	50.9	ug/kg	Y	0.504	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	51.3	ug/kg	Y	0.183	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	Inorganics	Percent Lipids	5.73	%	Y	0.1	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	Inorganics	Percent Moisture	60.3	%	Y	0.1	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	Inorganics	Solids, Total	40	%	Y	0.1	WET
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.0925	ug/kg	N	0.185	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.0925	ug/kg	N	0.185	WET
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	51.8	ug/kg	Y	0.482	DRY
UFP15.SO.0006	10/23/2008	UFP15	Soil	SOI	FS	PCB Homologue	Total PCBs	51.9	ug/kg	Y	0.479	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.0925	ug/kg	N	0.185	WET
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	52.6	ug/kg	Y	0.524	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	0.0925	ug/kg	N	0.185	WET
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	54.5	ug/kg	Y	0.509	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	56.5	ug/kg	Y	0.464	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	56.8	ug/kg	Y	0.51	DRY
UFP31.SM.0006	10/28/2008	UFP31	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	0.0925	ug/kg	N	0.185	WET
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	72.7	%	Y	0.001	Wet
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	Inorganics	Solids, Total	73	%	Y	0.1	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.6	%	Y	0.01	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	1200	ug/kg	Y	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	345	ug/kg	N	0.69	Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Aroclor	Total PCBs	1200	ug/kg	Y		Dry
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.256	ug/kg	N	0.512	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	57.1	ug/kg	Y	0.499	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	58.1	ug/kg	Y	0.516	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	60.9	ug/kg	Y	0.462	DRY
UFP27.SO.0006	10/27/2008	UFP27	Soil	SOI	FS	PCB Homologue	Total PCBs	62	ug/kg	Y	0.525	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	62.5	ug/kg	Y	0.511	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	62.5	ug/kg	Y	0.511	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	64.6	ug/kg	Y	0.446	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	65	ug/kg	Y	0.176	WET
UFP01.SM.0006	10/24/2008	UFP01	Tissue	SMM	FS	PCB Homologue	Total PCBs	65.2	ug/kg	Y	0.175	WET
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	65.2	ug/kg	Y	0.49	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	Inorganics	Solids, Total	70	%	Y	0.1	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.4	%	Y	0.01	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.27	ug/kg	N	0.54	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	66.5	ug/kg	Y	0.498	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	69.5	ug/kg	Y	0.475	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	69.5	ug/kg	Y	0.498	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.27	ug/kg	N	0.54	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.27	ug/kg	N	0.54	DRY
UFP32.SO.0006	10/28/2008	UFP32	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.27	ug/kg	N	0.54	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Heptachlorobiphenyls	70.4	ug/kg	Y	0.446	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	70.6	ug/kg	Y	0.537	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	71.4	ug/kg	Y	0.505	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	71.4	ug/kg	Y	0.464	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	Inorganics	Solids, Total	80	%	Y	0.1	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.15	%	Y	0.01	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.232	ug/kg	N	0.464	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	73.8	ug/kg	Y	0.534	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	80.4	ug/kg	Y	0.53	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Hexachlorobiphenyls	81.6	ug/kg	Y	0.176	WET
UFP14.SO.0006	10/23/2008	UFP14	Soil	SOI	FS	PCB Homologue	Total PCBs	81.8	ug/kg	Y	0.489	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.232	ug/kg	N	0.464	DRY
UFP23.SO.0006	10/23/2008	UFP23	Soil	SOI	FS	PCB Homologue	Total PCBs	82.6	ug/kg	Y	0.462	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	83	ug/kg	Y	0.49	DRY
UFP26.SO.0006.D	10/23/2008	UFP26	Soil	SOI	FD	PCB Homologue	Total PCBs	87	ug/kg	Y	0.499	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	89.2	ug/kg	Y	0.536	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	90.9	ug/kg	Y	0.477	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	Inorganics	Solids, Total	71	%	Y	0.1	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.65	%	Y	0.01	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.258	ug/kg	N	0.516	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	91.4	ug/kg	Y	0.536	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	93.1	ug/kg	Y	0.534	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	93.6	ug/kg	Y	0.494	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.258	ug/kg	N	0.516	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.258	ug/kg	N	0.516	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	97	ug/kg	Y	0.481	DRY
UFP28.SO.0006	10/27/2008	UFP28	Soil	SOI	FS	PCB Homologue	Total PCBs	99.3	ug/kg	Y	0.494	DRY
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	99.7	ug/kg	Y	0.505	DRY
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	101	ug/kg	Y	0.479	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	103	ug/kg	Y	0.477	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	108	ug/kg	Y	0.505	DRY
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	108	ug/kg	Y	0.494	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	115	ug/kg	Y	0.471	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	115	ug/kg	Y	0.177	WET
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	117	ug/kg	Y	0.475	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	119	ug/kg	Y	0.505	DRY

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Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	120	ug/kg	Y	0.479	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	121	ug/kg	Y	0.507	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	121	ug/kg	Y	0.502	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	124	ug/kg	Y	0.502	DRY
UFP26.SO.0006	10/23/2008	UFP26	Soil	SOI	FS	PCB Homologue	Total PCBs	126	ug/kg	Y	0.499	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	Inorganics	Solids, Total	67	%	Y	0.1	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.75	%	Y	0.01	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.277	ug/kg	N	0.554	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	126	ug/kg	Y	0.177	WET
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Total PCBs	126	ug/kg	Y	0.446	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	130	ug/kg	Y	0.191	WET
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.277	ug/kg	N	0.554	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	130	ug/kg	Y	0.512	DRY
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	134	ug/kg	Y	0.471	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	135	ug/kg	Y	0.507	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	141	ug/kg	Y	0.554	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	142	ug/kg	Y	0.512	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Tetrachlorobiphenyls	144	ug/kg	Y	0.514	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	Inorganics	Solids, Total	73	%	Y	0.1	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.1	%	Y	0.01	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2415	ug/kg	N	0.483	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2415	ug/kg	N	0.483	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	145	ug/kg	Y	0.554	DRY
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Pentachlorobiphenyls	146	ug/kg	Y	0.514	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2415	ug/kg	N	0.483	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2415	ug/kg	N	0.483	DRY
UFP36.SO.0006	10/29/2008	UFP36	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2415	ug/kg	N	0.483	DRY
UFP10.SO.0006	10/22/2008	UFP10	Soil	SOI	FS	PCB Homologue	Total PCBs	151	ug/kg	Y	0.511	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	152	ug/kg	Y	0.49	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	154	ug/kg	Y	0.501	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	159	ug/kg	Y	0.191	WET
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	Inorganics	Solids, Total	74	%	Y	0.1	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	Inorganics	Total Organic Carbon	3	%	Y	0.01	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2375	ug/kg	N	0.475	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	174	ug/kg	Y	0.501	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	182	ug/kg	Y	0.182	WET
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	184	ug/kg	Y	0.516	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	188	ug/kg	Y	0.49	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	196	ug/kg	Y	0.182	WET
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	200	ug/kg	Y	0.481	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	206	ug/kg	Y	0.462	DRY
UFP09.SO.0006	10/22/2008	UFP09	Soil	SOI	FS	PCB Homologue	Total PCBs	216	ug/kg	Y	0.536	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	228	ug/kg	Y	0.462	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	231	ug/kg	Y	0.191	WET
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	Inorganics	Solids, Total	69	%	Y	0.1	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	Inorganics	Total Organic Carbon	3.25	%	Y	0.01	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.2535	ug/kg	N	0.507	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	237	ug/kg	Y	0.176	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	238	ug/kg	Y	0.192	WET
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Tetrachlorobiphenyls	239	ug/kg	Y	0.191	WET
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	240	ug/kg	Y	0.524	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Hexachlorobiphenyls	240	ug/kg	Y	0.176	WET
UFP38.SO.0006	10/29/2008	UFP38	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	0.2535	ug/kg	N	0.507	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	Inorganics	Percent Lipids	2.35	%	Y	0.1	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	Inorganics	Percent Moisture	74	%	Y	0.1	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	Inorganics	Solids, Total	26	%	Y	0.1	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.091	ug/kg	N	0.182	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.091	ug/kg	N	0.182	WET
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	241	ug/kg	Y	0.192	WET
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	246	ug/kg	Y	0.504	DRY
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.091	ug/kg	N	0.182	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.091	ug/kg	N	0.182	WET
UFP39.IN.0006	10/29/2008	UFP39	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.091	ug/kg	N	0.182	WET
UFP20.SO.0006	10/23/2008	UFP20	Soil	SOI	FS	PCB Homologue	Total PCBs	247	ug/kg	Y	0.494	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	256	ug/kg	Y	0.509	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	258	ug/kg	Y	0.184	WET
UFP22.SO.0006	10/27/2008	UFP22	Soil	SOI	FS	PCB Homologue	Total PCBs	261	ug/kg	Y	0.479	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	80.1	%	Y	0.001	Wet
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	Inorganics	Solids, Total	81	%	Y	0.1	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	Inorganics	Total Organic Carbon	1.8	%	Y	0.01	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	310	ug/kg	N	0.62	Dry

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	310	ug/kg	N	0.62	Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Aroclor	Total PCBs	310	ug/kg	N		Dry
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.223	ug/kg	N	0.446	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.223	ug/kg	N	0.446	DRY
UFP11.SO.0006	10/22/2008	UFP11	Soil	SOI	FS	PCB Homologue	Total PCBs	269	ug/kg	Y	0.505	DRY
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	271	ug/kg	Y	0.516	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.223	ug/kg	N	0.446	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.223	ug/kg	N	0.446	DRY
UFP39.SO.0006	10/29/2008	UFP39	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.223	ug/kg	N	0.446	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	277	ug/kg	Y	0.51	DRY
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	278	ug/kg	Y	0.524	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	278	ug/kg	Y	0.462	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	280	ug/kg	Y	0.184	WET
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	Inorganics	Solids, Total	70	%	Y	0.1	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.7	%	Y	0.01	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.249	ug/kg	N	0.498	DRY
UFP29.IN.0006	10/27/2008	UFP29	Tissue	INV	FS	PCB Homologue	Total PCBs	285	ug/kg	Y	0.177	WET
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	292	ug/kg	Y	0.504	DRY
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	292	ug/kg	Y	0.509	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.249	ug/kg	N	0.498	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	297	ug/kg	Y	0.183	WET
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	320	ug/kg	Y	0.183	WET
UFP17.SO.0006	10/23/2008	UFP17	Soil	SOI	FS	PCB Homologue	Total PCBs	322	ug/kg	Y	0.471	DRY
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	329	ug/kg	Y	0.51	DRY
UFP06.IN.0006	10/21/2008	UFP06	Tissue	INV	FS	PCB Homologue	Total PCBs	334	ug/kg	Y	0.191	WET
UFP34.SO.0006.D	10/28/2008	UFP34	Soil	SOI	FD	PCB Homologue	Total PCBs	379	ug/kg	Y	0.514	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	Inorganics	Solids, Total	77	%	Y	0.1	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.6	%	Y	0.01	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	419	ug/kg	Y	0.537	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	419	ug/kg	Y	0.53	DRY
UFP25.IN.0006	10/23/2008	UFP25	Tissue	INV	FS	PCB Homologue	Total PCBs	429	ug/kg	Y	0.182	WET
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	441	ug/kg	Y	0.498	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	443	ug/kg	Y	0.464	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	455	ug/kg	Y	0.475	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	478	ug/kg	Y	0.537	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	503	ug/kg	Y	0.53	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	522	ug/kg	Y	0.498	DRY
UFP01.IN.0006	10/21/2008	UFP01	Tissue	INV	FS	PCB Homologue	Total PCBs	540	ug/kg	Y	0.192	WET
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	549	ug/kg	Y	0.49	DRY

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Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	Inorganics	Percent Lipids	3.26	%	Y	0.1	WET
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	Inorganics	Percent Moisture	76.4	%	Y	0.1	WET
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	Inorganics	Solids, Total	24	%	Y	0.1	WET
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.0915	ug/kg	N	0.183	WET
UFP34.SO.0006	10/28/2008	UFP34	Soil	SOI	FS	PCB Homologue	Total PCBs	557	ug/kg	Y	0.516	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	572	ug/kg	Y	0.462	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	575	ug/kg	Y	0.534	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Pentachlorobiphenyls	578	ug/kg	Y	0.176	WET
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	588	ug/kg	Y	0.505	DRY
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	594	ug/kg	Y	0.475	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	606	ug/kg	Y	0.464	DRY
UFP13.IN.0006	10/22/2008	UFP13	Tissue	INV	FS	PCB Homologue	Total PCBs	608	ug/kg	Y	0.184	WET
UFP02.SO.0006	10/21/2008	UFP02	Soil	SOI	FS	PCB Homologue	Total PCBs	617	ug/kg	Y	0.524	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Percent Lipids	4.71	%	Y	0.1	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Percent Moisture	68.4	%	Y	0.1	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Solids, Total	32	%	Y	0.1	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.0955	ug/kg	N	0.191	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP19.SO.0006	10/23/2008	UFP19	Soil	SOI	FS	PCB Homologue	Total PCBs	634	ug/kg	Y	0.509	DRY
UFP08.SO.0006	10/22/2008	UFP08	Soil	SOI	FS	PCB Homologue	Total PCBs	641	ug/kg	Y	0.504	DRY
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP42.SM.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Tetrachlorobiphenyls	646	ug/kg	Y	0.176	WET
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	671	ug/kg	Y	0.505	DRY
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	681	ug/kg	Y	0.49	DRY
UFP42.IN.0006	10/29/2008	UFP42	Tissue	INV	FS	PCB Homologue	Total PCBs	700	ug/kg	Y	0.183	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Percent Lipids	3.18	%	Y	0.1	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Percent Moisture	68.1	%	Y	0.1	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	Inorganics	Solids, Total	32	%	Y	0.1	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.0955	ug/kg	N	0.191	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP05.SO.0006	10/21/2008	UFP05	Soil	SOI	FS	PCB Homologue	Total PCBs	703	ug/kg	Y	0.51	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	709	ug/kg	Y	0.191	WET
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.0955	ug/kg	N	0.191	WET
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	739	ug/kg	Y	0.477	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	742	ug/kg	Y	0.534	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	850	ug/kg	Y	0.502	DRY
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Pentachlorobiphenyls	858	ug/kg	Y	0.176	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	901	ug/kg	Y	0.482	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	919	ug/kg	Y	0.512	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	73.7	%	Y	0.001	Wet
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	2700	ug/kg	Y	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	340	ug/kg	N	0.68	Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Aroclor	Total PCBs	2700	ug/kg	Y		Dry
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.245	ug/kg	N	0.49	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	968	ug/kg	Y	0.477	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	969	ug/kg	Y	0.481	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	980	ug/kg	Y	0.507	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.245	ug/kg	N	0.49	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	993	ug/kg	Y	0.554	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1010	ug/kg	Y	0.462	DRY
UFP04.SO.0006	10/21/2008	UFP04	Soil	SOI	FS	PCB Homologue	Total PCBs	1020	ug/kg	Y	0.537	DRY
UFP07.SO.0006	10/21/2008	UFP07	Soil	SOI	FS	PCB Homologue	Total PCBs	1060	ug/kg	Y	0.53	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1100	ug/kg	Y	0.502	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	1110	ug/kg	Y	0.481	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	Inorganics	Solids, Total	71	%	Y	0.1	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.85	%	Y	0.01	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.251	ug/kg	N	0.502	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.251	ug/kg	N	0.502	DRY
UFP40.SO.0006	10/29/2008	UFP40	Soil	SOI	FS	PCB Homologue	Total PCBs	1120	ug/kg	Y	0.498	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1180	ug/kg	Y	0.512	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.251	ug/kg	N	0.502	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.251	ug/kg	N	0.502	DRY
UFP43.SO.0006	10/29/2008	UFP43	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.251	ug/kg	N	0.502	DRY
UFP33.SO.0006	10/28/2008	UFP33	Soil	SOI	FS	PCB Homologue	Total PCBs	1190	ug/kg	Y	0.464	DRY
UFP42.SM2.0006	10/23/2008	UFP42	Tissue	SMM	FS	PCB Homologue	Total PCBs	1230	ug/kg	Y	0.191	WET
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	1250	ug/kg	Y	0.482	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	1250	ug/kg	Y	0.49	DRY
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	Inorganics	Percent Lipids	3.21	%	Y	0.1	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	Inorganics	Percent Moisture	75.6	%	Y	0.1	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	Inorganics	Solids, Total	24	%	Y	0.1	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Decachlorobiphenyl	0.0885	ug/kg	N	0.177	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Dichlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Heptachlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1260	ug/kg	Y	0.554	DRY
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Monochlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Nonachlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Octachlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP37.SO.0006	10/29/2008	UFP37	Soil	SOI	FS	PCB Homologue	Total PCBs	1260	ug/kg	Y	0.475	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Hexachlorobiphenyls	1290	ug/kg	Y	0.446	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1350	ug/kg	Y	0.507	DRY
UFP44.IN.0006	10/30/2008	UFP44	Tissue	INV	FS	PCB Homologue	Trichlorobiphenyls	0.0885	ug/kg	N	0.177	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	Inorganics	Percent Lipids	2.23	%	Y	0.1	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	Inorganics	Percent Moisture	74.8	%	Y	0.1	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	Inorganics	Solids, Total	25	%	Y	0.1	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Decachlorobiphenyl	0.0915	ug/kg	N	0.183	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Dichlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Heptachlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	1360	ug/kg	Y	0.501	DRY
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Monochlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Nonachlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Octachlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP25.SM.0006	10/30/2008	UFP25	Tissue	SMM	FS	PCB Homologue	Total PCBs	1380	ug/kg	Y	0.176	WET
UFP01.SO.0006	10/21/2008	UFP01	Soil	SOI	FS	PCB Homologue	Total PCBs	1390	ug/kg	Y	0.49	DRY
UFP31.IN.0006	10/28/2008	UFP31	Tissue	INV	FS	PCB Homologue	Total PCBs	1390	ug/kg	Y	0.176	WET
UFP44.IN.0006.DU	10/30/2008	UFP44	Tissue	INV	FD	PCB Homologue	Trichlorobiphenyls	0.0915	ug/kg	N	0.183	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	Inorganics	Percent Lipids	5.67	%	Y	0.1	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	Inorganics	Percent Moisture	66.7	%	Y	0.1	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	Inorganics	Solids, Total	33	%	Y	0.1	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Decachlorobiphenyl	0.092	ug/kg	N	0.184	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Dichlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Heptachlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP29.SO.0006	10/27/2008	UFP29	Soil	SOI	FS	PCB Homologue	Total PCBs	1450	ug/kg	Y	0.505	DRY
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Monochlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Nonachlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Octachlorobiphenyls	0.092	ug/kg	N	0.184	WET
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Total PCBs	1500	ug/kg	Y	0.534	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	1660	ug/kg	Y	0.462	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1710	ug/kg	Y	0.49	DRY
UFP44.SM.0006	10/28/2008	UFP44	Tissue	SMM	FS	PCB Homologue	Trichlorobiphenyls	0.092	ug/kg	N	0.184	WET

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	Inorganics	Solids, Total	73	%	Y	0.1	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	Inorganics	SOLIDS, TOTAL	73.1	%	Y	0.001	Wet
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.65	%	Y	0.01	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1016	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1221	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1232	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1242	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1248	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1254	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1260	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	PCB AROCLOR 1262	340	ug/kg	N	0.68	Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Aroclor	Total PCBs	340	ug/kg	N		Dry
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.243	ug/kg	N	0.486	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Dichlorobiphenyls	0.243	ug/kg	N	0.486	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	1790	ug/kg	Y	0.501	DRY
UFP13.SO.0006	10/22/2008	UFP13	Soil	SOI	FS	PCB Homologue	Total PCBs	1920	ug/kg	Y	0.477	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.243	ug/kg	N	0.486	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Nonachlorobiphenyls	0.243	ug/kg	N	0.486	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Octachlorobiphenyls	0.243	ug/kg	N	0.486	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	1960	ug/kg	Y	0.446	DRY
UFP30.SO.0006	10/28/2008	UFP30	Soil	SOI	FS	PCB Homologue	Total PCBs	1980	ug/kg	Y	0.462	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	2150	ug/kg	Y	0.462	DRY
UFP44.SO.0006	10/30/2008	UFP44	Soil	SOI	FS	PCB Homologue	Trichlorobiphenyls	0.243	ug/kg	N	0.486	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	Inorganics	Solids, Total	72	%	Y	0.1	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	Inorganics	SOLIDS, TOTAL	73.7	%	Y	0.001	Wet
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	Inorganics	Total Organic Carbon	2.55	%	Y	0.01	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1016	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1221	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1232	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1242	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1248	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1254	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1260	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	PCB AROCLOR 1262	340	ug/kg	N	0.68	Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Aroclor	Total PCBs	340	ug/kg	N		Dry
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Decachlorobiphenyl	0.2545	ug/kg	N	0.509	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Dichlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP25.SO.0006	10/23/2008	UFP25	Soil	SOI	FS	PCB Homologue	Total PCBs	2220	ug/kg	Y	0.502	DRY
UFP12.SO.0006	10/22/2008	UFP12	Soil	SOI	FS	PCB Homologue	Total PCBs	2400	ug/kg	Y	0.481	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Monochlorobiphenyls	0.2545	ug/kg	N	0.509	DRY

Appendix B-1. Analytical Data used in the Baseline Ecological Risk Assessment for the Undeveloped Stony Creek Floodplain

Sample ID	Date Collected	Location ID	Matrix	Field Sample Type	Sample Purpose	Parameter Class	Parameter	Concentration	Units	Detect Flag	Reporting Limit	Basis
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Nonachlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Octachlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP31.SO.0006	10/28/2008	UFP31	Soil	SOI	FS	PCB Homologue	Total PCBs	2400	ug/kg	Y	0.512	DRY
UFP35.SO.0006	10/28/2008	UFP35	Soil	SOI	FS	PCB Homologue	Total PCBs	2570	ug/kg	Y	0.554	DRY
UFP06.SO.0006	10/21/2008	UFP06	Soil	SOI	FS	PCB Homologue	Total PCBs	2600	ug/kg	Y	0.507	DRY
UFP44.SO.0006.D	10/30/2008	UFP44	Soil	SOI	FD	PCB Homologue	Trichlorobiphenyls	0.2545	ug/kg	N	0.509	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	Inorganics	Solids, Total	68	%	Y	0.1	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	Inorganics	Total Organic Carbon	2.7	%	Y	0.01	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Decachlorobiphenyl	0.267	ug/kg	N	0.534	DRY
UFP42.SO.0006	10/29/2008	UFP42	Soil	SOI	FS	PCB Homologue	Total PCBs	3330	ug/kg	Y	0.49	DRY
UFP03.SO.0006	10/21/2008	UFP03	Soil	SOI	FS	PCB Homologue	Total PCBs	3510	ug/kg	Y	0.501	DRY
UFP18.SO.0006	10/23/2008	UFP18	Soil	SOI	FS	PCB Homologue	Total PCBs	4270	ug/kg	Y	0.462	DRY
UFP45.SO.0006	10/30/2008	UFP45	Soil	SOI	FS	PCB Homologue	Monochlorobiphenyls	0.267	ug/kg	N	0.534	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	10200	ug/kg	Y	0.482	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Pentachlorobiphenyls	14900	ug/kg	Y	0.446	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	15400	ug/kg	Y	0.482	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Tetrachlorobiphenyls	23100	ug/kg	Y	0.446	DRY
UFP41.SO.0006	10/28/2008	UFP41	Soil	SOI	FS	PCB Homologue	Total PCBs	27800	ug/kg	Y	0.482	DRY
UFP24.SO.0006	10/23/2008	UFP24	Soil	SOI	FS	PCB Homologue	Total PCBs	41300	ug/kg	Y	0.446	DRY

1. Y= detect, N= non-detect. Non-detect concentration values represent one half the detection limit.

FD: field duplicate
FS: field sample
%: percent
ug/kg: micrograms per kilogram
mg/kg: milligrams per kilogram
PCB: polychlorinated biphenyl

Appendix B-2. Sample Information for Small Mammals Collected from the Undeveloped Stony Creek Floodplain

Sample ID	Species	Location ID	Field Sample Type	Body Weight (g)	Gender	Total Length (mm)	Tail Length (mm)	Hind Foot Length (mm)
UFP01.SM.0006	White-footed mouse	UFP01	SMM	26	Male	86	72	20
UFP06.SM.0006	White-footed mouse	UFP06	SMM	22	Male	85	73	20
UFP06.SM2.0006	White-footed mouse	UFP06	SMM	26	Male	94	73	16
UFP25.SM.0006	Short-tailed shrew	UFP25	SMM	16	Female	85	23	14
UFP31.SM.0006	White-footed mouse	UFP31	SMM	23	Male	86	67	21
UFP42.SM.0006	White-footed mouse	UFP42	SMM	27	Male	85	72	20
UFP42.SM2.0006	Short-tailed shrew	UFP42	SMM	16	Female	90	21	13
UFP44.SM.0006	Short-tailed shrew	UFP44	SMM	17	NS	84	23	14

Total Length: length from nose to end of tail
Tail Length: length from base to end of tail
Hind Foot Length: length of hind foot
g: gram
mm: millimeter

Appendix C

U.S. Fish and Wildlife Service and Indiana Department of Natural Resources Letters

DNR
Indiana Department of Natural Resources

January 13, 2009

Ms. Andrea Fogg
Environ
136 Commercial Street, Suite 402
Portland, ME 04101

Dear Ms. Fogg:

I am responding to your request for information on the endangered, threatened, or rare (ETR) species, high quality natural communities, and natural areas documented from a project, Stony Creek Study Area, Noblesville, Indiana. The Indiana Natural Heritage Data Center has been checked and enclosed you will find information on the ETR species documented within 0.5 mile of the project area.

For more information on the animal species mentioned, please contact Christie Stanifer, Environmental Coordinator, Division of Water, 402 W. Washington Room W264, Indianapolis, Indiana 46204, (317)232-4160.

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. You should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service
620 South Walker St.
Bloomington, Indiana 47403-2121
(812)334-4261

At some point, you may need to contact the Department of Natural Resources' Environmental Review Coordinator so that other divisions within the department have the opportunity to review your proposal. For more information, please contact:

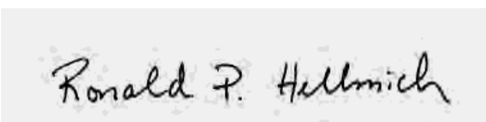
Department of Natural Resources
attn: Christie Stanifer
Environmental Coordinator
Division of Water
402 W. Washington Street, Room W264
Indianapolis, IN 46204
(317)232-4160

Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)232-8059 if you have any questions or need additional information.

Sincerely,



Ronald P. Hellmich
Indiana Natural Heritage Data Center

enclosure: data sheet
invoice

Endangered, Threatened and Rare Species, and High Quality Natural Communities Documented Within 0.5 Mile of the Stony Creek Study Area, Noblesville, Indiana

TYPE	Species Name	Common Name	Fed	State	Town Range	Date	Comments
Insect Odonata	Enallagma divagans	Turquoise Bluet		SR	018N005E 5	2004	
Mollusk	Villosa lienosa	Little Spectaclecase		SSC	018N004E 13	2000-08-29	WEATHERED SHELLS
Mollusk	Quadrula cylindrica cylindrica	Rabbitsfoot		SE	018N005E 7	2000	WEATHERED SHELLS
Mollusk	Pleurobema clava	Clubshell	LE	SE	018N004E 24	2000-08-30	Weathered Dead
Mollusk	Obovaria subrotunda	Round Hickorynut		SSC	018N004E 26	2000-08-29	Weathered Dead
Mollusk	Ptychobranchus fasciolaris	Kidneyshell		SSC	019N005E 21	2000-08-29	Weathered dead

Fed: LE = listed federal endangered; C = federal candidate species

State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SG = state significant; WL = watch list; no rank = not ranked but tracked to monitor status

DNR
Indiana Department of Natural Resources

INVOICE

CLIENT: Ms. Andrea Fogg
Environ
136 Commercial Street, Suite 402
Portland, ME 04101

DATE OF SERVICES RENDERED: January 13, 2009

INVOICE NUMBER: 08-020

SERVICES RENDERED: Provided Indiana Natural Heritage Data Center data on endangered, threatened, or rare species, and high quality natural communities of Indiana documented from a project, Stony Creek Study Area, Noblesville, Indiana.

INVOICE AMOUNT: $42.00

BY: Ronald P. Hellmich
FOR: Division of Nature Preserves
Indiana Department of Natural Resources
402 W. Washington St., Room W267
Indianapolis, IN 46204
(317)232-4052

Please make checks payable to Indiana Division of Nature Preserves.

Invoice payable upon receipt.

Send check to the attention of

Ronald P. Hellmich
Division of Nature Preserves

United States Department of the Interior
Fish and Wildlife Service

Bloomington Field Office (ES)
620 South Walker Street
Bloomington, IN 47403-2121
Phone: (812) 334-4261 Fax: (812) 334-4273

February 10, 2009

Ms. Andrea Fogg
Environ Int'l Corporation
136 Commercial Street, Suite 402,
Portland, ME 04101

Dear Ms. Fogg:

This is in response to your letter, dated January 6, 2009, requesting information regarding the presence of threatened and endangered species, other species of concern, or critical habitat located within the study area located downstream of the Noblesville Firestone RCRA facility, Hamilton County, Indiana.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.) and are consistent with the intent of the National Environmental Policy Act of 1969, the Endangered Species Act of 1973, and the U. S. Fish and Wildlife Service's Mitigation Policy.

BACKGROUND / PCB CONTAMINATION

We have previously commented on this site, including previously proposed sediment cleanups in the Wilson Ditch area associated with Noblesville Firestone RCRA facility, which is located just upstream of your most recent study area.

Previous cleanups and site source controls have been inadequate for protection of human health and the environment. One of the primary concerns was leaving riparian / bank soil contaminated with PCBs between 11 and 500 parts-per-million (ppm) on-site and as backfill in what appears to be unlined excavations. Contaminated soil of this nature left in the former drainage ditch does not appear to be consistent with any other PCB contamination cleanups that we have seen in Indiana to date. At this point, we are unaware of where such a regulatory cleanup standard originates. Therefore, not only is the source area not fully controlled, but the true extent of downstream contamination from this facility is not going to be adequately assessed by your proposed effort. The south bank of Stony Creek and downstream areas of the West Fork White River where fish consumption advisories remain high should also be included in your risk assessment effort.

The reason for our concern is that PCBs have been shown to cause a wide range of adverse impacts to fish and wildlife resources. There is a "Level 5 Advisory" for Stony Creek in Hamilton County. A "Level 5" means do not eat any fish from Stony Creek (ISDH 2004). Further downstream in the West Fork of the White River, the consumption advisory is reduced in some cases to a "Level 3 and 4 Advisory" depending on the species and the size of the fish. These advisories suggest that women of child-bearing age and children not eat any fish in these categories and that others limit their consumption to only 1 meal every month or 1 meal every 2 months, respectively (ISDH 2004). Stony Creek and the West Fork of the White River have fish consumption advisories which are likely to continue unchanged as long as cleanups do not adequately address the source of the problem.

Geisy et al. (1994) summarized the effects of PCBs on wildlife and compared these to existing water quality criteria. Through this effort Geisy et al. (1994) developed a water quality criteria of of 1.0 pg PCB/liter (parts per quadrillion) that would be protective of bald eagles in the Great Lakes. This concentration is 100,000 times lower than the routine standard analytical method for the detection of PCBs in waters and effluents. This extremely large difference between what is protective of wildlife and what is technically feasible for regulatory agencies to measure in routine water samples adds emphasis to Geisy et al. (1994) conclusions concerning the need for remedial efforts to address sources of PCBs.

> "Because the rate of loss of these compounds through burial and degradation is slow (Oliver et al. 1989) and the environmental sorting mechanisms (Burkhard et al. 1985) tend to keep the more toxic Ah-active p-PCH in circulation, these toxicants will be active in the ecosystem for many years. For this reason, and because, once released, they cannot be effectively removed from the environment, every effort must be made to minimize any further release of these compounds. This means the immediate cleanup of "hot spots," in rivers, bays, and along the shorelines, landfills and spill areas which continue to be a source of these chemicals and adoption of sufficiently protective water quality criteria to minimize any further releases. Only in this way will the exposure to wildlife and humans be effectively reduced."

PCBs have been shown to be reproductive toxins to fish, birds and mammals. Considering the significance of the contamination in this area, it is likely that insectivorous and piscivorous birds and mammals utilizing these habitats are likely being injured at this site.

THREATENED AND ENDANGERED SPECIES

The area described in your letter is within the range of the federally endangered Indiana bat (*Myotis sodalis*).

The Indiana bat uses woodlands during the summer when maternity colonies utilize trees with loose bark for nesting. These bats forage primarily over wooded stream corridors, although they have been collected in grazed woodlots, mature deciduous forests, and pastures with trees. There are no survey records of Indiana bats utilizing the specific area for foraging and summer roosting habitat. However, there does appear to be suitable habitat, in the form of wooded riparian corridors, located in the general project area.

In the event that federally listed species, specifically Indiana bats, are found within the project area or determined to be adversely affected by project plans, further coordination may be required under the Endangered Species Act of 1973, as amended.

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. Eagles nest in close proximity to lakes, rivers, or reservoirs. They construct their nests near habitat eco-tones, such as lakeshores, rivers, and timber management areas (clearcuts or selective cuts). Tolerance of human activity during the nesting season has been variable, but, ideally, human disturbance of eagles should be avoided. The bald eagle's food base from the watershed includes carrion, waterfowl, and especially fish. It is possible that bald eagles will be found within a one-mile radius of your project site.

The National Wetland Inventory maps show that there are several types of wetlands in the immediate study area, including paulstrine emergent and palustrine forested. Contamination from these sites may migrate to nearby wetlands, waterways, or other areas of ecological significance. Pathways of migration may include leachate/ground water, surface water, and sediment.

Under conditions that allow certain contaminants to accumulate in waterways, aquatic organisms can bio-accumulate these elements; consequently, elevated or toxic concentrations may be reached. We recommend that sampling and monitoring efforts address the potential for off-site migration of any possible contaminants.

Water and other habitat resources of wetlands are attractive to numerous wildlife species, including bats and birds. In particular, migratory birds such as wood ducks (*Aix sponsa*), mallards (*Anas platyrhynchos*), and tree swallows (*Tachycineta bicolor*) will utilize open-water wetlands and are subject to potential impacts from contaminants. We recommend that project plans be designed to avoid impacts to any wetland habitat in the general project vicinity, particularly regarding contamination.

The information provided does not include concerns for other wildlife resources. Therefore, the we recommend that you also contact the Indiana Department of Natural Resources, Division of Nature Preserves, and Division of Fish and Wildlife concerning possible State-listed species and other resource concerns. Their addresses are:

Indiana Department of Natural Resources
Division of Nature Preserves
402 West Washington, Rm. W267
Indianapolis, Indiana 46204

Indiana Department of Natural Resources
Division of Fish & Wildlife
402 West Washington, Rm. W273
Indianapolis, Indiana 46204

If you have any questions regarding these comments, or require further information, please contact one of the following members of my staff:

Dan Sparks at (812) 334-4261, extension 219, or;
Michael Tosick at (812) 334-4261, extension 218.

Sincerely Yours,

Scott E. Pruitt
Supervisor

References

Burkhard, L.P., D.E. Armstrong, and A.W. Andren. 1985. Partitioning behavior of polychlorinated biphenyls. Chemosphere 14:1703-1716.

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ISDH. 2004. Indiana Fish Consumption Advisory. Indiana State Department of Health, Indianapolis, Indiana. 65 pp.

Oliver, B.G., M.N. Charlton, and R.W. Durham. 1989. Distribution, redistribution, and geochemisty of polychlorinated biphenyl congeners and other chlorinated hydrocarbons in Lake Ontario sediments. Environ. Sci. Technol. 23:200-208.

cc: Director, Indiana Division of Fish and Wildlife, Indianapolis, IN
Katie Smith, Division of Fish and Wildlife, IDNR, Indianapolis, IN
IDNR, Division of Nature Preserves, Indianapolis, IN
Jim Smith, IDEM, Indianapolis, IN
Wayne Faatz, IDNR, Indianapolis, IN
IDEM, Emergency Response, Indianapolis, IN

es: mtosick/ February 11, 2009

Appendix D

Evaluation of Mink Habitat Suitability In the Undeveloped Stony Creek Floodplain

APPENDIX D

Evaluation of Mink Habitat Suitability in the Undeveloped Stony Creek Floodplain

D.1.0 Introduction

The objective of this appendix is to describe the overall suitability of habitat within the undeveloped floodplain of Stony Creek in Noblesville, Indiana for mink (*Mustela vison*) using the U.S. Fish and Wildlife Services' (USFWS) habitat suitability index (HSI) model (http://www.nwrc.usgs.gov/wdb/pub/hsi/hsi-127.pdf; Allen 1986). Allen (1986) describes mink habitat-specific data needs and the method of applying such data to the USFWS' algorithm, in order to generate a quantitative index (ranging from 0 to 1.0) that describes the suitability of habitat at a given location relative to the habitat requirements of mink.

Mink are predatory mammals that are typically associated with aquatic habitats, including freshwater and saltwater marshes, lake shores, and river banks (Gerell 1970). Mink are generalists and consume aquatic (e.g., fish), semi-aquatic (e.g., muskrat), and terrestrial (e.g., small mammal) prey, generally according to seasonal availability.

One of the most significant habitat components for mink is the presence of water. In fact, mink activity typically has been observed no farther than 200 meters (656 feet) from a water source (Birks and Linn 1982, Burgess 1978, Marshall 1936, Melquist et al. 1981, Schladweiler and Storm 1969). Since this investigation focused on the floodplain of Stony Creek, it is assumed that freshwater is both permanent and accessible the entire year. Therefore, cover is the critical habitat component that was the focus of this data collection effort.

Cover provides protection for both predators and their prey. Mink use dense vegetation, debris (e.g., log jams), and rock formations as cover. Since they forage at and near the water's edge, cover at the land/water interface is equally important as cover adjacent to aquatic habitats. Den sites for mink depend on suitable cover close to their preferred foraging areas. Open or exposed areas are usually avoided by mink; thus, fragmented habitats are not preferred by mink (Allen 1986, Ottino et al. 1995). Allen (1986) states, "[i]n small, or linear, forested and scrub/shrub wetlands cover quality is assumed to be a function of the canopy cover of woody and emergent herbaceous vegetation in the wetland basin and the canopy cover of woody vegetation in a 100 m (328 ft) band adjacent to the wetland." Based on this description, the mink habitat survey focused on the 100 m wide corridor that parallels the shoreline of Stony Creek within the study area.

D.2.0 Methods

This section describes the methods employed for the collection and numerical analysis of field data.

D.2.1 Field Methods

Data collection focused on the identification of: 1) the potential presence of mink (as evidenced by tracks, scat, etc.); and 2) the suitability of the study area habitat to support mink.

Twenty stations, located at approximate 80-m (262 ft) intervals along the Stony Creek shoreline were identified in advance of initiating fieldwork. A Global Positioning System (GPS) was used to facilitate navigation to each survey station, using the Universal Transverse Mercator (UTM) coordinates for each station, provided on Figure D-1. Once physically located, GPS coordinates for the start of each transect survey station were recorded on a field data form.

Each station represents the center of a survey area which encompassed approximately 10 m of shoreline on either side of the station (20 m (65 ft) of shoreline total) and 100 m (328 ft) inland (perpendicular) from the water's edge. Upon arriving at the survey station, the 20 m (65 ft) of shoreline was walked, with attention focused on the water's edge to 1 m (3.3 ft) inland. The purpose of the shoreline survey was to note any of the following observations:

1. Any signs of mink (e.g., dens, scat, tracks);
2. The estimated proportion of shoreline cover (0% to 100%) including overhanging or emergent vegetation, undercut banks, log jams, debris, exposed roots, boulders, rock crevices, or beaver dams;
3. The approximate number and types of cover observed, as listed above, to aid in understanding the diversity of cover present;
4. General vegetation types (e.g., coniferous forest, deciduous forest, shrub/scrub, grass, oldfield, or marsh) and cover (e.g., percent tree canopy cover, percent shrub canopy cover, percent cover of emergent vegetation);
5. Proximity to human activity and/or disturbances; and
6. Shoreline configuration (e.g., linear, irregular, open bedrock, etc.).

Following the shoreline survey, the riparian habitat was surveyed along the transect that extended from the shore to 100 m (328 ft) inland (perpendicular to the water's edge). The following observations were recorded:

1. Signs of mink (e.g., dens, scat, tracks);
2. The estimated proportion of woody canopy cover from trees and shrubs (i.e., the percent of ground surface that is shaded by a vertical projection of all woody vegetation, reflecting an "average" canopy cover of the area along the inland transect); and
3. Any other pertinent information related to the suitability of the habitat for mink (e.g., presence of wetlands, signs of flooding, understory vegetation types and density and/or fragmentation of habitat).

Data were collected on foot (i.e., not from a vehicle) and recorded on a field data sheet and in a field notebook (see Attachment D-1). The shoreline was photographed on either side of the center of each station, along with at least three photographs of the inland riparian zone within each survey area. In addition, any signs of mink were photographed. The location, perspective, and general description of each photograph were recorded in a field notebook.

As listed above, indications of the potential presence of mink included potential or occupied den locations. A potential mink den is defined as a specific location, such as an undercut shoreline, tree root cavity, rock outcrop, or log jam, in which denning could theoretically occur. That is to say, potential dens include all locations that could theoretically serve as dens for mink, regardless of whether there was any evidence of denning activity at a given location. Thus, potential dens offer a metric of habitat quality, rather than an indication of mink presence in the area. The choice of general location types is based on published research documenting the locations in which denning is most likely to occur (Gerell 1970, Bonesi and Macdonald 2004).

D.2.2 Numerical Analysis Methods

Following completion of the field work, the handwritten field data forms were sent to the ENVIRON International Corporation office in Portland, Maine. Data were entered into an electronic spreadsheet (Microsoft Excel) and the accuracy of data entry was verified by a second party. The USFWS HSI model for mink was automated by entering formulas for key algorithms within the spreadsheet.

The mink HSI model was developed to evaluate habitat quality across a range of potential habitat types dominated by riverine, lacustrine, or palustrine vegetative cover (Allen 1986). For the Stony Creek floodplain, the model was run assuming a dominance of riverine cover. As mink foraging activity in riverine cover types is concentrated along the water/land interface, the quantity and diversity of vegetative cover along the shoreline and within the adjacent riparian zone play a major role in the determination of mink habitat quality. Therefore, habitat suitability criteria were: 1) tree and shrub canopy cover within 100 m (328 ft) per Allen (1986)of the water's edge (referred to as "SIV5" in the HSI model); and 2) the abundance of vegetative cover within 1 meter of the shoreline [SIV6]. These criteria are assumed to be compensatory, in that a low score for one variable may be compensated by a higher score for the other variable. For SIV5, it is assumed that mink habitat suitability increases linearly with increasing percent canopy cover until 75% cover is reached. Canopy cover ≥ 75% is considered optimal (i.e., suitability index value of 1.0); habitat suitability does not change with a further increase in canopy cover to 100%. For SIV6, it is assumed that mink habitat suitability increases linearly with percent shoreline cover over the entire range of possible shoreline coverage (i.e., from 0% coverage to 100% coverage), such that the suitability index value for shoreline cover is equal to the percent shoreline cover (i.e., 50% shoreline cover results in a suitability index value of 0.5). The suitability index value for riverine and lacustrine cover types [SIRL] is then calculated as the geometric mean of the output value for these two criteria:

$$SIRL = (SIV5 \times SIV6)^{1/2}$$

The second component of the riverine and lacustrine suitability model is presence of surface water. As described in Section D.1.0, surface water is present in Stony Creek throughout the year. Therefore, the suitability index values for surface water presence (SIV1) for all stations in the Stony Creek Study Area were considered optimal and assumed to equal 1.0.

The final his score for each station is defined by the lower of the life requisite values determined for cover type (SIRL) or perennial availability of water (SIV1). Because the suitability index value for surface water presence for all stations in the Study Area were equal to 1 (or 100%), the final HSI score for each station is equal to the SIRL.

HSI scores ranging from a minimum possible value of 0.0 (poor habitat) to a maximum possible value of 1.0 (excellent habitat) were calculated for each transect. The habitat suitability for mink was mapped using the HSI scores and the geographic information system (GIS) for the floodplain. Basic summary statistics (i.e., minimum, maximum, and arithmetic mean score plus standard deviation) were also calculated from HSI scores for all 20 stations

D.3.0 Results

This section summarizes the quantitative and qualitative observations for determination of the suitability of the Stony Creek undeveloped flood plain habitat for mink. Completed field data sheets and field notes are included in Attachment D-1. Photographs of each station/survey area were included in the photographic log included as Appendix A of the baseline ecological risk assessment (BERA).[1] Table D-1 summarizes the observations made within each station, and Table D-2 summarizes the resultant habitat scores for each station.

Eighty potential[2] mink dens were documented along the shoreline, defined as within 1 m (3.3 ft) of the water's edge. Potential den sites included bank holes, uproots from downed trees, with some brush piles and hollow logs. In addition, possible mink tracks were observed at two of the stations, though no scat was observed anywhere along the shoreline. However, large lengths of shoreline were too steep, rocky, or densely vegetated to observe tracks or scat. The average percent cover provided along the shoreline was approximately 60% and it ranged from 25% to 100%. Cover was provided primarily by herbaceous grasses and forbs, shrubs, and woody trees.

Along the inland riparian survey areas, defined as between 1 and 100 meters (3.3 and 328 ft) of the water's edge and perpendicular to the shoreline/survey station, many potential mink dens were noted but there was no direct evidence of mink presence (i.e., scat or tracks). More than 100 potential mink den locations were observed within the 20 inland survey areas. Inland canopy cover ranged from 30% to 92%, with the understory vegetation consisting primarily of deciduous scrub/shrub and herbaceous plants. As with the shoreline survey area, other signs of mink, such as tracks or scat, were difficult to see due to the dense vegetation.

For the 20 stations surveyed, HSI scores ranged from 0.5 to 1.0 (Figures D-1 and D-2). Under the HSI methodology, optimal habitat is characterized by a score of 1.0, while completely unsuitable habitat is characterized by a score of 0.0. The survey stations with the lowest HSI score (i.e., approximately 0.5) were Stations 2, 4, and 7. In general, the lowest scores occurred along the southern most areas of the study area. Conversely, optimal habitat was identified within or adjacent to the island area along the northern section of the undeveloped floodplain. Possible mink tracks were observed at two stations (Stations 1 and 13), where the HSI scores of 0.6 and 0.8 (Figure D-2).

D.4.0 Discussion

The observation of possible mink tracks at two survey stations supports the findings of the HIS model, which indicates generally favourable mink habitat in the study area. The high HSI scores and numerous potential den sites identified along the shoreline and inland confirm that habitat within the study area is suitable for mink. However, because

[1] Photographs 12 through 51 provide representative images of habitat from each of the 20 survey stations in the Stony Creek Study Area. Photographs 52 through 58 demonstrate potential mink dens from throughout the Study Area and photographs 59 and 60 show the possible mink tracks observed at two of the survey stations.

[2] As noted in Section D.2.1, a potential mink den is defined as a specific location in which denning could theoretically occur, regardless of whether there is any evidence of denning activity at that location. Potential dens offer a metric of habitat quality, rather than an indication of mink presence in the area.

of the relatively small size of the undeveloped floodplain and its surrounding industrial and residential development, it likely only supports a few individual mink (e.g., one or two) constituting a fraction of the larger regional population.

D.5.0 References

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Table D-1. Observations and Habitat Characteristics for Determination of Mink Habitat Suitability in the Stony Creek Study Area

	Shoreline Signs[a]						Inland Signs[b]					
Station	Dens[c]	Tracks	Scat	Potential Den Locations	% Cover (SIV6)	Cover Type	Dens[c]	Tracks	Scat	Potential Den Locations	% Cover (SIV5)	Cover Type
MK-01	5	3	0	Trees uproots (5)	40%	Herbaceous grass/forbs; woody trees	7	0	0	Holes beneath trees (3) Brush piles (2) Hollow logs (2)	83%	Deciduous scrub/shrub; herbaceous
MK-02	1	0	0	Brush pile (1)	25%	Herbaceous grass/forbs; woody trees; shrubs	9	0	0	Hollow log (1) Brush piles (2) Ground holes (6)	77%	Deciduous scrub/shrub; herbaceous
MK-03	2	0	0	Holes in bank (2)	30%	Herbaceous grass/forbs; woody trees	6	0	0	Hollow log (3) Brush piles (1) Holes beneath trees (1) Ground holes (1)	80%	Deciduous scrub/shrub; herbaceous
MK-04	2	0	0	Hollow log (1) Bank hole (1)	40%	Herbaceous grass; woody trees	4	0	0	Hollow log (2) Brush piles (1) Holes beneath trees (1)	52%	Deciduous scrub/shrub; herbaceous
MK-05	7	0	0	Bank holes (5) Uproots (1) Brush pile (1)	45%	Herbaceous grass; woody trees	7	0	0	Hollow log (3) Brush piles (3) Ground holes (1)	51%	Deciduous scrub/shrub; herbaceous
MK-06	4	0	0	Uproots (2) Bank holes (2)	65%	Herbaceous grass/forbs; woody trees	6	0	0	Hollow log (2) Brush piles (2) Ground holes (2)	30%	Deciduous scrub/shrub; herbaceous
MK-07	5	0	0	Tree roots	40%	Herbaceous grass/forbs; woody trees	3	0	0	Tree uproots (2) Brush piles (1)	38%	Deciduous scrub/shrub; herbaceous
MK-08	1	0	0	Brush pile	40%	Herbaceous grass/forbs; woody trees; shrubs	10	0	0	Hollow log (5) Brush piles (2) Ground holes (2) Holes beneath trees (1)	77%	Deciduous scrub/shrub; herbaceous
MK-09	10	0	0	Tree roots (4) Bank holes (6)	65%	Herbaceous grass/forbs; woody trees; shrubs	19	0	0	Hollow log (6) Brush piles (4) Holes beneath trees (4)	75%	Deciduous scrub/shrub; herbaceous
MK-10	2	0	0	Bank holes	68%	Herbaceous grass/forbs; woody trees	13	0	0	Hollow log (9) Brush piles (1) Ground hole (3)	88%	Deciduous scrub/shrub; herbaceous
MK-11	7	0	0	Uproots (3) Bank holes (4)	53%	Herbaceous grass/forbs; woody trees; shrubs	8	0	0	Hollow log (3) Holes beneath trees (1) Ground holes (4)	83%	Deciduous scrub/shrub; herbaceous

Table D-1. Observations and Habitat Characteristics for Determination of Mink Habitat Suitability in the Stony Creek Study Area

	Shoreline Signs[a]						Inland Signs[b]					
Station	Dens[c]	Tracks	Scat	Potential Den Locations	% Cover (SIV6)	Cover Type	Dens[c]	Tracks	Scat	Potential Den Locations	% Cover (SIV5)	Cover Type
MK-12	2	0	0	Bank holes	60%	Herbaceous grass/forbs; woody trees; shrubs	4	0	0	Hollow log (2) Holes beneath trees (1) Ground holes (1)	86%	Deciduous scrub/shrub; herbaceous
MK-13	3	2	0	Uproots (2) Bank hole (1)	60%	Herbaceous grass/forbs; woody trees; shrubs	5	0	0	Hollow log (3) Holes beneath trees (2)	92%	Deciduous scrub/shrub; herbaceous
MK-14	6	0	0	Uproots (4) Bank holes (2)	90%	Herbaceous grass/forbs; woody trees; shrubs	2	0	0	Hollow log (2)	85%	Deciduous scrub/shrub; herbaceous
MK-15	1	0	0	Uproots	55%	Herbaceous grass/forbs; woody trees	7	0	0	Hollow log (5) Brush piles (2)	85%	Deciduous scrub/shrub; herbaceous
MK-16	8	0	0	Bank holes (5) Uproots (3)	70%	Herbaceous grass/forbs; woody trees; shrubs	7	0	0	Hollow log (4) Brush piles (1) Base of stump hole (2)	88%	Deciduous scrub/shrub; herbaceous
MK-17	5	0	0	Bank hole (1) Uproots (4)	65%	Herbaceous grass/forbs; trees	9	0	0	Hollow log (6) Brush piles (1) Holes beneath trees (1) Metal debris (1)	77%	Deciduous scrub/shrub; herbaceous
MK-18	0	0	0		100%	Herbaceous grass and forbs	5	0	0	Hollow log (5)	85%	Deciduous scrub/shrub; herbaceous
MK-19	6	0	0	Bank holes (3) Brush piles (2) Hollow log (1)	80%	Herbaceous grass and forbs; shrubs	10	0	0	Hollow log (6) Brush piles (2) Holes beneath trees (2)	70%	Deciduous scrub/shrub; herbaceous
MK-20	3	0	0	Bank holes (3)	98%	Herbaceous grass; shrubs	3	0	0	Hollow log (2) Holes beneath trees (1)	78%	Deciduous scrub/shrub; herbaceous

a. Shoreline defined as within 1 meter (m) of water's edge
b. Defined as between 1 m and 100 m of water's edge.
c. Potential dens

Table D-2. Mink Habitat Suitability Calculations for the Stony Creek Study Area

	Surf Water	Shoreline Cover		Inland Cover		Cover	HSI
Station	SIV1	%	SIV6	%	SIV5	SIRL[a]	Score[b]
MK-01	1	40%	0.4	83%	1.0	0.6	0.6
MK-02	1	25%	0.3	77%	1.0	0.5	0.5
MK-03	1	30%	0.3	80%	1.0	0.5	0.5
MK-04	1	40%	0.4	52%	0.7	0.5	0.5
MK-05	1	45%	0.5	51%	0.7	0.6	0.6
MK-06	1	65%	0.7	30%	0.5	0.5	0.5
MK-07	1	40%	0.4	38%	0.6	0.5	0.5
MK-08	1	40%	0.4	77%	1.0	0.6	0.6
MK-09	1	65%	0.7	75%	1.0	0.8	0.8
MK-10	1	68%	0.7	88%	1.0	0.8	0.8
MK-11	1	53%	0.5	83%	1.0	0.7	0.7
MK-12	1	60%	0.6	86%	1.0	0.8	0.8
MK-13	1	60%	0.6	92%	1.0	0.8	0.8
MK-14	1	90%	0.9	85%	1.0	0.9	0.9
MK-15	1	55%	0.6	85%	1.0	0.7	0.7
MK-16	1	70%	0.7	88%	1.0	0.8	0.8
MK-17	1	65%	0.7	77%	1.0	0.8	0.8
MK-18	1	100%	1.0	85%	1.0	1.0	1.0
MK-19	1	80%	0.8	70%	0.9	0.9	0.9
MK-20	1	98%	1.0	78%	1.0	1.0	1.0
Mean							**0.7**
Standard Deviation							**0.2**
Minimum							**0.5**
Maximum							**1.0**
Median							**0.8**

Based on data collected in October 2008

a. SIRL= $(SIV5 \times SIV6)^{1/2}$

b. HSI = Minimum(SIV1, SIRL)

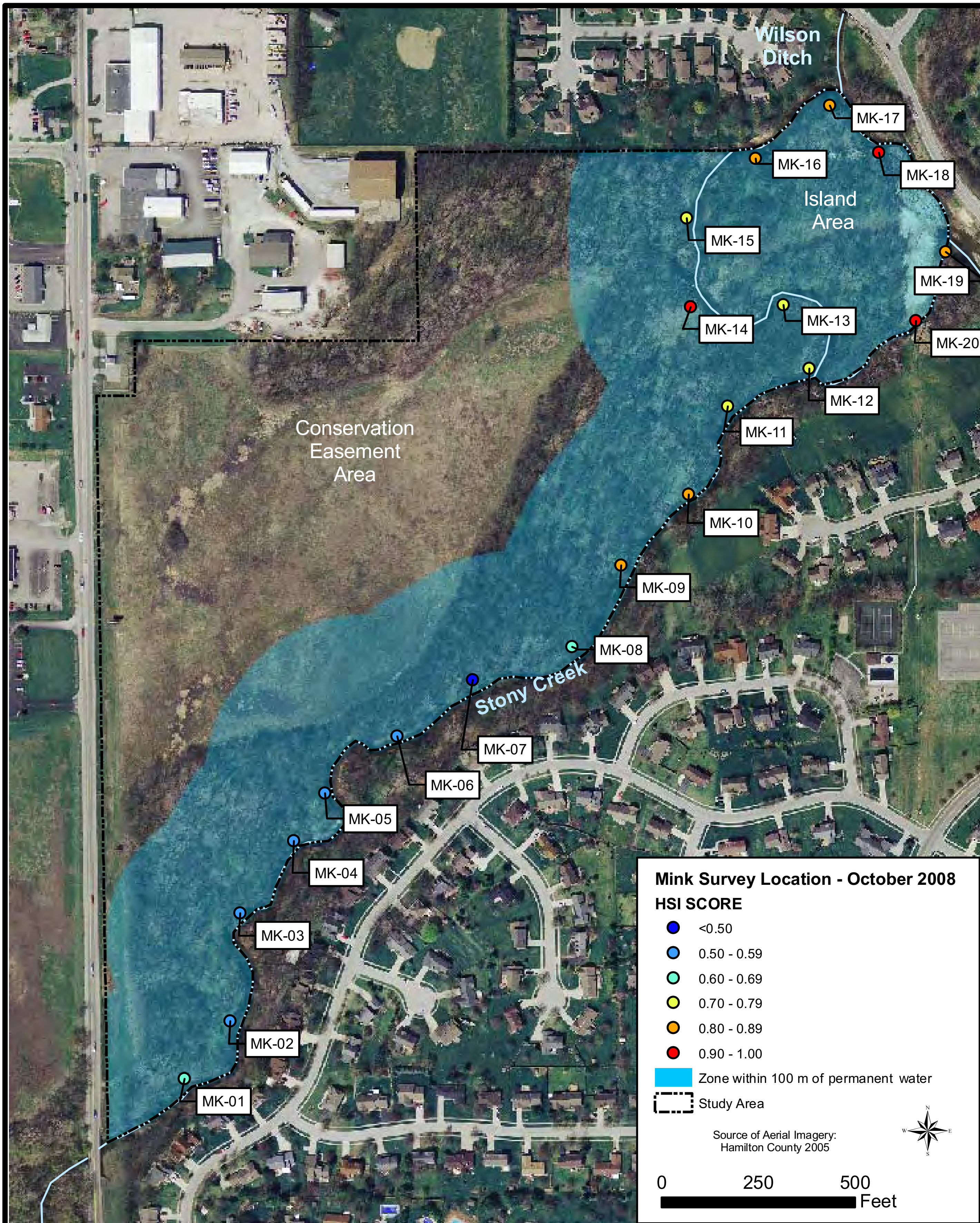
HSI: Habitat Suitability Index

SIRL: Suitability index value for lacustrine and riverine cover types

SIV1: Suitability index value for surface water presence

SIV5: Suitability index value for inland cover

SIV6: Suitability index value for shoreline cover



ENVIRON

Mink Habitat Suitability Index (HSI) Scores
Stony Creek Study Area

Figure D-1

Monday, April 13, 2009 10:37:26 AM
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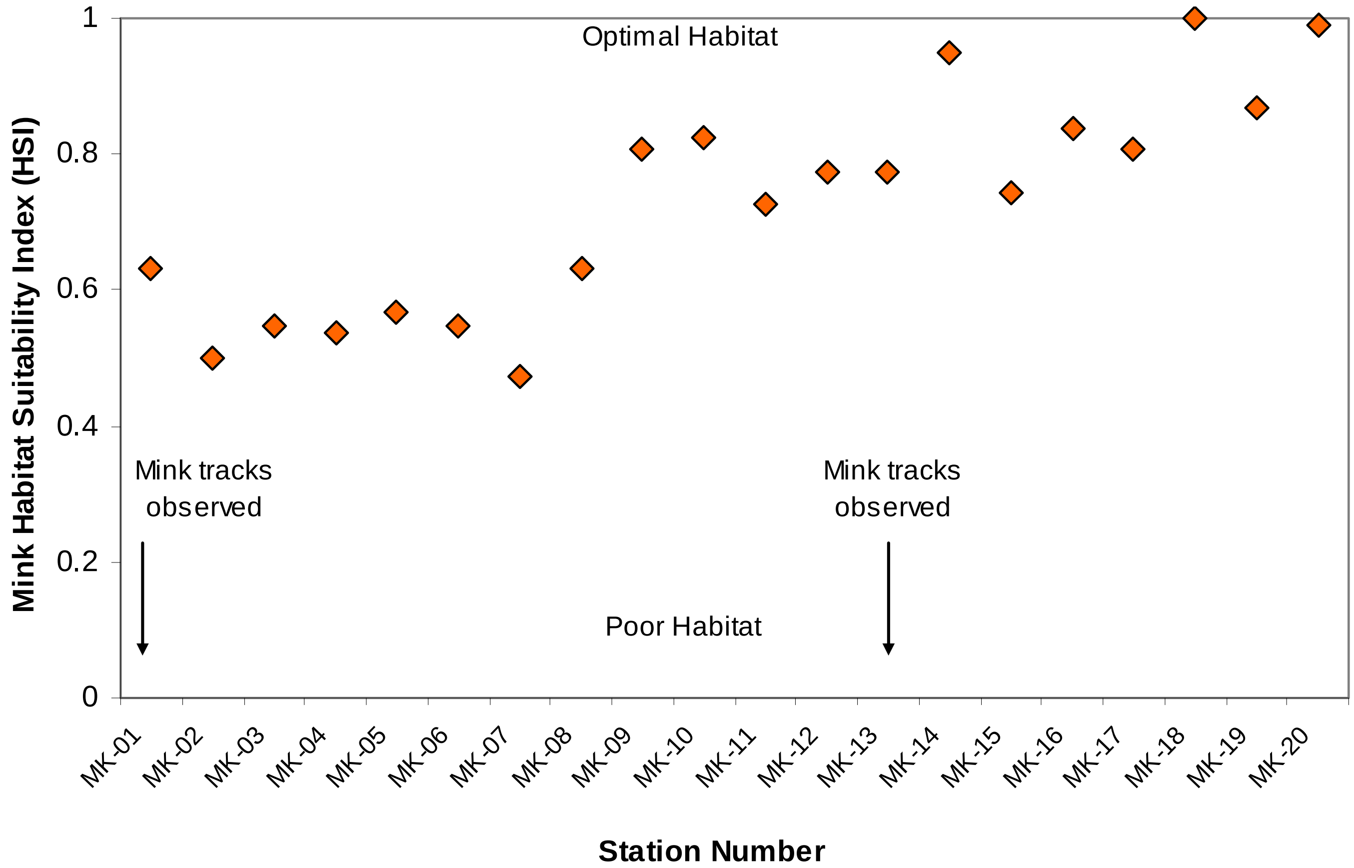

ENVIRON

Habitat Suitability Index Scores for Mink in the Undeveloped Stony Creek Floodplain

Figure D-2

ATTACHMENT D-1

Mink Habitat Suitability Survey
Field Data Sheets

Field Data Form for Mink Habitat Suitability

Date: 10-28-08
Observer(s): Kelly McKay, Katrina Leigh

Station ID and UTM Coordinates	Shoreline Signs Observed	Percent Shoreline Cover (%)	Shoreline Cover Types Observed	Inland Signs Observed	Percent Inland Canopy Cover (%)	Additional Comments
MK-02	- 1 potential den (brush pile) - no tracks - no scat	25%	- 4 debris piles; sparse overhanging bank and herbaceous grass/forbs; 1 tree; 1 shrub.	- 9 potential dens (1 hollow log; 2 brush piles; 6 holes in ground). - no tracks - no scat	77%	- along inland transect veg. and ground cover too dense to see tracks or scat. - deer, raccoon, fox, chipmunk tracks along shore.
MK-01	- 5 potential dens (all in tree uproots). - 3 sets of potential tracks - no scat	40%	- 5 trees; 2 debris piles; 4 uproots; sparse overhanging bank and herbaceous grass/forbs.	- 7 potential dens (3 holes in base of trees; 2 brush piles; 2 hollow logs). - no tracks - no scat	83%	- along inland transect veg. and ground cover too dense to see tracks or scat. - deer, raccoon, squirrel, mink tracks along shore.

Field Data Form for Mink Habitat Suitability

Date: 10-27-08
Observer(s): Kelly McKay

Station ID and UTM Coordinates	Shoreline Signs Observed	Percent Shoreline Cover (%)	Shoreline Cover Types Observed	Inland Signs Observed	Percent Inland Canopy Cover (%)	Additional Comments
MK-05	- 7 potential dens (5 holes in bank; 1 hole in uproot; 1 brush pile). - no tracks - no scat	45%	- 3 trees and root systems; sparse overhanging bank and herbaceous grass.	- 7 potential dens (3 hollow logs; 3 brush piles; 1 hole in ground). - no tracks - no scat	51%	- along shoreline bank too steep in most places for tracks or scat. - along inland transect veg. and ground cover too dense to see tracks or scat.
MK-04	- 2 potential dens (1 hollow log; 1 hole in bank). - no tracks - no scat	40%	- 3 trees and root systems; 2 debris piles; sparse overhanging bank and herbaceous grass.	- 4 potential dens (2 hollow logs; 1 hole at base of tree; 1 brush pile). - no tracks - no scat	52%	- along inland transect veg. and ground cover too dense to see tracks or scat. - raccoon tracks along shore.
MK-03	- 2 potential dens (both holes in bank) - no tracks - no scat	30%	- 3 debris piles; 2 trees; sparse overhanging bank and herbaceous grass / forbs.	- 6 potential dens (3 hollow logs; 1 hole base of tree; 1 hole in ground; 1 brush pile). - no tracks - no scat	80%	- 1/4 of shoreline transect too steep for tracks and scat. - along inland transect veg. and ground cover too dense to see tracks or scat. - deer, raccoon, skunk tracks along shore.

Field Data Form for Mink Habitat Suitability

Date: 10-27-08
Observer(s): Kelly McKay

Station ID and UTM Coordinates	Shoreline Signs Observed	Percent Shoreline Cover (%)	Shoreline Cover Types Observed	Inland Signs Observed	Percent Inland Canopy Cover (%)	Additional Comments
MK-11	- 7 potential dens (3 uproots; 4 holes in bank) - no tracks - no scat	53%	4 uproots of trees; 2 patches of shrubs; 1/2 of shoreline transect with overhanging bank and herbaceous grass/forbs.	- 8 potential dens (4 holes in ground; 3 hollow logs; 1 hole in base of tree). - no tracks - no scat	83%	- along 1/2 shoreline transect bank too steep for tracks or scat. - along inland transect veg. and ground cover too dense to see tracks or scat - raccoon, deer, dog tracks along shore.
MK-10	- 2 potential dens (both holes in bank) - no tracks - no scat	68%	3 trees; 1 debris pile; 1/2 of shoreline transect with overhanging bank and herbaceous grass/forbs.	- 13 potential dens (9 hollow logs; 3 holes in ground; 1 brush pile). - no tracks - no scat	88%	- along 1/2 shoreline transect bank too steep for tracks or scat. - along inland transect veg. and ground cover too dense to see tracks or scat. - deer tracks along shore.
MK-09	- 10 potential dens (4 tree uproots; 6 holes in bank). - no tracks - no scat	65%	5 trees; 1 shrub; entire shoreline with overhanging bank and uproots; sparse herbaceous grass/forbs.	- 14 potential dens (6 hollow logs; 4 holes in base of tree; 4 brush piles). - no tracks - no scat	75%	- entire shoreline transect too steep for tracks and scat. - along inland transect veg. and ground cover too dense to see tracks or scat.
MK-08	- 1 potential den (brushpile) - no tracks (rocky shore.) - no scat	40%	3 trees; 1 shrub; 2 debris piles; 3 root systems; sparse overhanging bank and herbaceous grass/forbs.	- 10 potential dens (5 hollow logs; 2 brush piles; 2 holes in ground; 1 hole base of tree). - no tracks - no scat	77%	- shoreline transect rocky - not good for small tracks. - along inland transect veg. and ground cover too dense for tracks and scat. - raccoon and deer tracks along shore.
MK-07	- 5 potential dens (all holes at base of trees or roots) - no tracks - no scat	40%	- 4 trees and root systems; sparse overhanging bank and herbaceous grass/forbs	- 3 potential dens (2 in tree uproots; 1 in brush pile). - no tracks - no scat	38%	- along inland transect veg. and ground cover too dense to see tracks and scat. - raccoon, deer, squirrel tracks along shore.
MK-06	- 4 potential dens (2 holes in tree uproots; 2 holes in bank). - no tracks - no scat	65%	- 4 trees and root systems; overhanging herbaceous grass/forbs.	- 6 potential dens (2 holes in ground; 2 hollow logs; 2 brush piles). - no tracks - no scat	30%	- along inland transect veg. and ground cover too dense to see tracks and scat. - raccoon, deer, squirrel, fox tracks along shore.

Field Data Form for Mink Habitat Suitability

Date: 10-22-08
Observer(s): Kelly McKay

Station ID and UTM Coordinates	Shoreline Signs Observed	Percent Shoreline Cover (%)	Shoreline Cover Types Observed	Inland Signs Observed	Percent Inland Canopy Cover (%)	Additional Comments
MK-17	-5 potential dens (1 hole in bank; 4 uproots) - no tracks - no scat	65%	7 uproots of trees; patches of overhanging bank and herbaceous grass and forbs. Most of shoreline has a very steep, shear bank.	-9 potential dens (6 hollow logs; 1 hole base of tree; 1 brush pile; 1 metal debris) - no tracks - no scat	77%	- along shore. bank too steep in most places for tracks or scat. - along inland transect veg. and ground cover too dense to see tracks and scat.
MK-16	- 8 potential dens (5 holes in bank; 3 uproots) - no tracks - no scat	70%	4 uproots of trees; patches of overhanging bank; woody shrubs; herbaceous grass and forbs. Most of shoreline has a very steep, shear bank.	- 7 potential dens (4 hollow logs; 2 holes at base of stumps; 1 brush pile) - no tracks - no scat	88%	- along shore. bank too steep in most places for tracks or scat. - along inland transect veg. and ground cover too dense to see tracks and scat.
MK-15	- 1 potential den (uproot) - no tracks - no scat	55%	2 uproots of trees; 2 piles woody debris; herbaceous grass / forbs; about 1/4 of shoreline very steep.	-7 potential dens (5 hollow logs; 2 brush piles) - no tracks - no scat	85%	- along inland transect veg. and ground cover too dense to see tracks and scat. - raccoon and deer tracks along shore.
MK-14	- 6 potential dens (4 uproots, 2 holes in bank) - no tracks - no scat	90%	4 uproots of trees; woody shrubs; considerable herbaceous grass / forbs.	-2 potential dens (both in hollow logs). - no tracks - no scat	85%	- along shore. veg. dense, hard to see signs. - along inland transect veg. and ground cover too dense to see tracks and scat. - deer and beaver tracks along shore.
MK-13	- 3 potential dens (2 uproots, 1 hole in bank) - possible tracks (1 single; 1 set double tracks) - no scat	60%	4 uproots; considerable overhanging bank and herbaceous grass / forbs; 3 woody debris; 1 woody shrub; 1/4 of shore. steep, shear bank.	- 5 potential dens (3 hollow logs; 2 holes base of tree) - no tracks - no scat	92%	- along inland transect veg. and ground cover too dense to see tracks and scat. - deer, raccoon, beaver, fox, mink tracks along shore.
MK-12	- 2 potential dens (both holes in bank) - no tracks - no scat	60%	2 woody debris piles; considerable overhanging bank and herbaceous grass / forbs; 1 woody tree; 1 woody shrub; 1/4 of shore. steep	- 4 potential dens (2 hollow logs; 1 hole base of tree; 1 hole in ground) - no tracks - no scat	86%	- along inland transect veg. and ground cover too dense to see tracks and scat. - deer and raccoon tracks along shore.

Field Data Form for Mink Habitat Suitability

Date: 10-21-08
Observer(s): Kelly McKay

Station ID and UTM Coordinates	Shoreline Signs Observed	Percent Shoreline Cover (%)	Shoreline Cover Types Observed	Inland Signs Observed	Percent Inland Canopy Cover (%)	Additional Comments
MK-20	- 3 potential dens (all holes in bank) - no tracks - no scat	98%	nearly all of the 20m shoreline possessed cover consisting of overhanging bank and herbaceous grass/shrubs.	- 3 potential dens ([illegible] hollow logs; 1 hole base of tree) - no tracks - no scat	78%	- along inland transect - veg. and ground cover to dense to see tracks/scat. - raccoon tracks along shore.
MK-19	- 6 potential dens (3 holes in bank; 2 brush piles; 1 hollow log) - no tracks - no scat	80%	most of 20m shoreline possessed cover consisting of overhanging bank and herbaceous grass/shrubs. 2 large brush piles.	- 10 potential dens (6 hollow logs; 2 holes at base of tree; 2 brush piles) - no tracks - no scat	70%	- along inland transect - veg. and ground cover to dense to see tracks/scat. - raccoon and many deer tracks along shore.
MK-18	- 0 potential dens - no tracks - no scat	100%	entire shoreline covered with dense overhanging herbaceous grass and forbs; lesser amount of overhanging bank.	- 5 potential dens (all in hollow logs) - no tracks - no scat	85%	- along shore. transect - veg to dense to see any mink signs - along inland transect - veg and ground cover to dense to see tracks/scat.

10-21-08
K.J. McKay

MK-20

* FOR ALL POINTS WE ONLY CONDUCTED HSI ASSESSMENTS ON 1 SIDE OF SHORELINE.

Shoreline

- veg. type (herbaceous grass; shrubs)
- veg. density (90% overall)
  (88% herbaceous grass; 2% woody shrubs)
- distance to human activity/disturbance
  - 0m (point within powerline ROW)
  - 10m (yard)
  - considerable activity and disturbance associated with remediation work
- shoreline fairly linear

Inland

- wetlands (none)
- flooding (no visible signs; probably floods in spring).
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (first 20m of inland transect open - in powerline ROW; no other frag.)

10-21-08
K.J. McKay

MK-19

Shoreline

- veg. type (herbaceous grass and forbs ; shrubs)
- veg. density (60% overall)
  (55% herbaceous grass/forbs ; 5% woody shrubs)
- distance to human activity/disturbance
  - 30m (Road)
  - 30m (powerline ROW)
  - considerable activity and disturbance from remediation work
- shoreline very irregular ; curvy and bends

Inland

- wetlands (none)
- flooding (no visible signs ; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (90%)
- habitat fragmentation (inland transect 20m to 40m open due to powerline ROW)

10-21-08
K.J. McKay

MK-18

shoreline
- veg. type (herbaceous grass and forbs)
- veg. density (100% overall)
  (100% herbaceous grass/forbs)
- distance to human activity / disturbance
  - 30m (Road)
  - 50m (powerline ROW)
  - 100m (yard)
  - considerable activity and disturbance from remediation work
- shoreline somewhat irregular; bends and curves

Inland
- wetlands (none)
- flooding (1 low area along creek flooded; probably floods in the spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (80%)
- habitat fragmentation (1 early successional patch; no "hard" fragmentation

10-22-08
K.J. McKay

MK-17

Shoreline

- veg. type (herbaceous grass/forbs; trees)
- veg. density (60% overall)
  (40% woody trees; 20% herbaceous grass/forbs)
- distance to human activity/disturbance
  - 20 m (yard) - 30 m (powerline ROW)
  - 80 m (road)
  - considerable activity and disturbance from remediation work
- shoreline irregular; large bend in creek

Inland

- wetlands (none)
- flooding (along shoreline flood debris in trees about bank height; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (2 early successional patches; 1 was "hard"

10-22-08
K.J. McKay

MK-16

Shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (70% overall) (45%) (5%)
  (50% woody trees/shrubs; 20% herbaceous grass/forbs)
- distance to human activity/disturbance
  - 10m (powerline ROW)
  - 10m (yard)
  - 200m (road)
  - considerable activity/disturbance from remediation work
- shoreline linear

Inland

- wetlands (none)
- flooding (along shoreline flood debris in trees about bank height; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (90%)
- habitat fragmentation (early successional patch; no "hard" edges)

10-22-08
K.J. McKay

MK-15

shoreline

- veg. type (herbaceous grass/forbs; woody trees
- veg. density (55% overall)
  (30% herbaceous grass forbs; 25% woody trees)
- distance to human activity/disturbance
  - 100m (yard)
  - 500m (road)
  - considerable activity/disturbance from remediation work
- shoreline nearly linear - 1 small bend

Inland

- wetlands (1 dried out - probably only wet occasionally)
- flooding (no visible signs; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (95%)
- habitat fragmentation (none visible)

10-22-08
K.J. McKay

MK-14

Shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (90% overall)
  (80% herbaceous grass/forbs; 10% woody (5%) trees/shrubs — (5%))
- distance to human activity/disturbance
  - 250m (yard)
  - considerable activity/disturbance from remediation work
- shoreline linear

Inland

- wetlands (none)
- flooding (no visible signs; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (2 early successional patches; no "hard" edge)

10-22-08
K.J. McKay

MK-13

shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (50% overall)
  (35% herbaceous grass/forbs; 14% woody trees; 1% woody shrub)
- distance to human activity/disturbance
  - 200 m (yard)
  - 400 m (road)
  - considerable activity/disturbance from remediation work.
- → shoreline nearly linear - (small bend

Inland

- wetlands (none)
- flooding (no visible signs; probably floods in spring)
- ~~deciduous scrub/shr~~
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (65%)
- habitat fragmentation (1 early successional patch-long; no "hard" edge)

10-22-08
K.J. McKay

MK-12

Shoreline

- veg. type (herbaceous grass/forbs; woody tree/shrub)
- veg. density (60% overall)
  (57% herbaceous grass/forbs; 2% woody tree; 1% woody shrub
- distance to human activity/disturbance
  - 10m (yard)
  - 450m (road)
  - considerable activity/disturbance from remediation work
- shoreline linear

Inland

- wetlands (1 loop of Stoney Creek)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (80%)
- habitat fragmentation (1 early successionaly patch; 1 loop Stoney Creek;
  [illegible]

10-27-08
K.J. McKay

MK-11

Shoreline
- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (45% overall)
  (37% herbaceous grass/forbs; 5% woody shrubs; 3% wood trees)
- distance to human activity/disturbance
  - 50m (yard)
  - 750m (road)
  - considerable activity/disturbance from remediation work
- shoreline fairly linear

Inland
- wetlands (1 loop of Stony Creek)
- flooding (debris along shoreline, probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (none visible)

10-27-08
K.J. McKay

MK-10

shoreline

- veg. type (herbaceous grass/forbs; woody trees)
- veg. density (68% overall)
  (40% woody trees; 28% herbaceous grass/forbs)
- distance to human activity/disturbance
  - 20m (yard)
  - 670m (road)
  - 30m (remediation work)
- shoreline fairly linear

Inland

- wetlands (none)
- flooding (no visible signs; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (none visible)

10-27-08
K. J. McKay

MK-09

Shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (45% overall)
  (24% herbaceous grass/forbs; 20% woody trees; 1% woody shrub)
- distance to human activity/disturbance
  - 20m (yard)
  - 600m (road)
  - 20m (remediation work)
- Shoreline somewhat irregular (couple of "cut-in" banks)

Inland

- wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (none visible; transect ended just before scrub field -

10-27-08
K. J. McKay

MK-08

Shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (40% overall)
  (23% woody trees; 15% herbaceous grass/forbs; 2% woody shrub)
- distance to human activity / disturbance
  - 20m (yard)
  - 520m (road)
  - 10m (remediation work)
- shoreline linear

Inland

- ~~[illegible]~~ wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (85%)
- habitat fragmentation (none visible; transect ended just before scrub field - "hard" edge)

10-27-08
K. J. McKay

MK-07

Shoreline

- veg. type (herbaceous grass/forbs; woody trees)
- veg. density (40% overall)
  (30% woody trees; 10% herbaceous grass/forbs)
- distance to human activity / disturbance
  - 50m (yard)
  - 450 m (road)
  - 10m (remediation work)
- shoreline linear

Inland

- wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (95%)
- habitat fragmentation (50-100m of inland transect in scrub field - "hard" edge)

10-27-08
K.J. McKay

MK-06

Shoreline

- veg. type (herbaceous grass/forbs; woody trees)
- veg. density (65% overall)
    (35% woody trees; 30% herbaceous grass/forbs)
- distance to human activity/disturbance
    - 30m (yard)
    - 370m (road)
    - 10m (remediation work)
- shoreline fairly linear

Inland

- wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (96%)
- habitat fragmentation (40-100m of inland transect in scrub field - "hard" edge)

10-27-08
K.J. McKay

MK-05

Shoreline

- veg. type (herbaceous grass; woody trees)
- veg. density (30% overall)
  (25% woody trees; 5% herbaceous grass)
- distance to human activity / disturbance
  - 40m (yard)
  - 300m (road)
  - 10m (remediation work)
- shoreline somewhat irregular (1 large bend)

Inland

- wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub & herbaceous)
- understory veg. density (94%)
- habitat fragmentation (60-100m of inland transect in scrub field - "hard" edge)

10-27-08
K.J. McKay

MK-04

Shoreline

- veg. type (herbaceous grass; woody trees)
- veg. density (30% overall)
  (28% woody trees; 2% herbaceous grass)
- distance to human activity/disturbance
  - 10m (yard)
  - 250m (road)
  - 20m (remediation work)
- shoreline fairly linear

Inland

- wetlands (none)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (95%)
- habitat fragmentation (60-100m of inland transect in scrub field - "hard" edge)

10-27-08
K. J. McKay

MK-03

shoreline

- veg. type (herbaceous grass/forbs; woody trees)
- veg. density (30% overall)
  (20% woody trees; 10% herbaceous grass/forbs)
- distance to human activity/disturbance
  - 30m (yard)
  - 100m (remediation work)
  - 200m (road)
- shoreline somewhat irregular (couple of creek bends)

Inland

- wetlands (2 dried out - probably only wet occasionally)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (75%)
- habitat fragmentation (none visible; transect ended just before scrub field [illegible])

10-28-08
K.J. McKay
K. Leigh

MK-02

shoreline

- veg. type (herbaceous grass/forbs; woody trees/shrubs)
- veg. density (20% overall)
  (10% herbaceous grass/forbs; 3% woody trees; 2% woody shrubs)
- distance to human activity/disturbance
  - 30m (yard)
  - 130m (road)
  - 180m (remediation work)
- shoreline irregular (couple of creek bends)

Inland

- wetlands (1 dried out - probably only occasionally wet)
- flooding (debris along shoreline; probably floods in spring)
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (80%)
- habitat fragmentation (none visible; transect ended just before scrub path "hard" edge)

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MK-01

Shoreline

- veg. type (herbaceous grass/forbs; woody trees)
- veg. density (30% overall)
  (20% woody trees; 10% herbaceous grass/forbs)
- distance to human activity/disturbance
  - 20m (yard)
  - 60m (remediation work)
  - 100m (road)
- shoreline fairly linear

Inland

- wetlands (1 dried out - probably only occasionally wet).
- flooding (debris along shoreline; probably floods in spring).
- understory veg. type (deciduous scrub/shrub; herbaceous)
- understory veg. density (80%)
- habitat fragmentation (none visible)

Appendix E

Homologue Distribution Calculations For Fish in Stony Creek

APPENDIX E

Homologue Distribution Calculations for Fish in Stony Creek

Although this baseline ecological risk assessment (BERA) for the Stony Creek study area focuses solely on the undeveloped floodplain of Stony Creek and not the creek itself, potential risks to mink from the consumption of fish from Stony Creek are evaluated in the uncertainty analysis. Potential risks to mink from PCBs in fish are evaluated based on expected post-recovery fish tissue concentrations from Stony Creek. The predicted fish tissue concentrations are combined with observed small mammal PCB concentrations to estimate potential daily doses of PCBs to mink and to estimate potential body burdens in mink. Although measured PCB concentrations from fish in Stony Creek are not directly included in the BERA, the body burden estimates are based on the relative distribution of homologue groups in the mink diet (as described by Fuchsman et al. 2008). Therefore, this appendix describes the methods used to estimate the distribution of homologues in fish from Stony Creek that are applied to the expected post-recovery fish tissue concentrations to estimate potential PCB body burdens in mink.

As part of a 2001 Administrative Order on Consent (AOC), Firestone agreed to sample fish from Stony Creek every two years until PCB concentrations in fish are less than 2 milligrams per kilogram (mg/kg) in three consecutive monitoring events in all species. Fish have been sampled every other year from two locations in Stony Creek: the confluence of Wilson Ditch and Stony Creek (in the northeastern corner of the undeveloped floodplain) and the confluence of Stony Creek and White River (near the southwestern corner of the undeveloped floodplain). Data have been collected as part of five sampling events from 2001 through 2007. Because major remedial actions in Wilson Ditch were completed in 2005, only data collected after 2005 were considered to represent current conditions for this BERA.

Eight composite samples of fish were collected in 2006, and seven composite samples were collected in 2007. However, fish samples collected in 2006 were analyzed as congeners while the 2007 fish samples were analyzed as Aroclors. Because the purpose of this analysis is to determine the relative distribution of PCB homologue groups in fish in Stony Creek, Aroclor data were not useful for providing estimate of homologue concentrations and were not included in this analysis. Most fish were analyzed as whole body samples, but two northern hogsuckers (*Hypentelium nigricans*) were analyzed as fillet samples. In order to maximize the number of species included in the estimate of homologue distribution, the fillet data were included in this analysis, even though whole body concentration data are more appropriate for the BERA.

As noted above, fish samples collected in 2006 were analyzed for all 209 PCB congeners. The homologue groups for each of the 209 congeners reported in the 2006 data were identified (Table E-1) and the sum concentrations for each homologue group in each sample were determined (Table E-2). Non-detect concentrations were included in the sum for each homologue group by assuming that they were equal to one-half the detection limit. Once the homologue concentrations were determined for all the 2006 data, the average homologue distribution was determined by dividing each individual homologue concentration by the total PCB concentration (Table E-3). This site-specific average homologue distribution was then applied to the likely post-recovery total PCB concentration of 2 mg/kg used to estimate PCB homologue concentrations (Table E-4) for determining potential future risks to mink from consuming a portion of their diet from Stony Creek.

One key source of uncertainty associated with the 2006 fish data is whether the fish collected are representative of potential prey for mink. Although fish sizes were not available for the 2006 fish data, it is ENVIRON's understanding that fish collected in 2006 were similar in size to those collected in 2007 when all fish collected were less than 20 centimeters (cm; 8 inches) in length and weighed less than 190 grams (g; 0.4 pounds) . In addition, the total PCB concentrations reported in fish collected in both years suggests that the fish collected in 2006 were similar to those collected in 2007. Although different analytical methods were used for determining total PCBs in fish in 2006 and 2007, comparisons of measured whole body total PCB concentrations in the same species of fish indicate that concentrations were similar in fish collected in 2006 and 2007. For example, average total PCB concentrations in green sunfish were approximately 3.5 mg/kg in both years while average concentrations in smallmouth bass were only 15% higher in 2007 than in 2006. Therefore, the PCB homologue distributions determined from the 2006 data appear representative of the species and size of fish collected from Stony Creek in 2007.

References

Fuchsman, P.C., T.R. Barber, and M.J. Bock. 2008. Effectiveness of various exposure metrics in defining dose-response relationships for mink (*Mustela vison*) exposed to polychlorinated biphenyls. Archives of Environmental Contamination and Toxicology 54:130-144.

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-1	0.0000339	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-3	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-2	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-2	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-1	0.000039	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	PCB-3	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-1	0.00014	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-3	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-2	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-2	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-1	0.000141	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-3	0.0000254	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-1	0.000358	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-3	0.000115	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-2	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-2	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-1	0.0000761	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Monochlorobiphenyls	PCB-3	0.000026	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-1	0.0000949	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-3	0.0000317	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-2	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-2	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-1	0.0000811	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Monochlorobiphenyls	PCB-3	0.0000098	mg/kg	0.0000196	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-4	0.000903	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-7	0.0000743	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-9	0.0000271	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-14	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-8	0.000792	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-11	0.0000539	mg/kg	0.0000238	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-15	0.0000631	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-10	0.0000334	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-6	0.000301	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-13/12	0.0000324	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-5	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-10	0.0000398	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-7	0.0000877	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-9	0.0000326	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-8	0.000954	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-14	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-4	0.00105	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-5	9.85E-06	mg/kg	0.0000197	N

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-11	0.0000566	mg/kg	0.0000237	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-15	0.0000662	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-6	0.000361	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	PCB-13/12	0.0000325	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-4	0.00178	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-9	0.0000248	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-14	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-8	0.00117	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-5	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-11	0.0000736	mg/kg	0.0000239	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-15	0.000108	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-10	0.0000542	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-6	0.000364	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-13/12	0.0000444	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-7	0.0000853	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-8	0.000566	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-10	0.0000618	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-7	0.000188	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-14	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-9	0.00004	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-4	0.00138	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-5	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-11	0.0000943	mg/kg	0.0000236	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-15	0.000253	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-6	0.000415	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-13/12	0.0000385	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-4	0.00316	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-7	0.000249	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-9	0.000103	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-14	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-8	0.00296	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-11	0.000067	mg/kg	0.0000236	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-15	0.000384	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-10	0.0000954	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-6	0.00111	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-13/12	0.0000957	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-5	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-7	0.000227	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-9	0.0000898	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-8	0.0024	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-14	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-4	0.00219	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-5	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-11	0.00015	mg/kg	0.0000235	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-15	0.00128	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-6	0.000808	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-13/12	0.000241	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	PCB-10	0.0000846	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-4	0.00169	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-9	0.0000579	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-14	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-8	0.00142	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-5	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-11	0.000101	mg/kg	0.0000357	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-15	0.000111	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-10	0.0000625	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-6	0.000472	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-13/12	0.0000594	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-7	0.000198	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-8	0.000896	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-10	0.0000452	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-7	0.00012	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-14	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-9	0.0000374	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-4	0.00124	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-5	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-11	0.0000652	mg/kg	0.0000236	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-15	0.0000786	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-6	0.000394	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	PCB-13/12	0.0000457	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-25	0.00374	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-23	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-24	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-21/33	0.000373	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-38	0.0000375	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-28/20	0.02	mg/kg	0.0000238	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-34	0.000192	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-30/18	0.00149	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-17	0.00507	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-31	0.00584	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-35	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-26/29	0.00432	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-19	0.00159	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-27	0.00276	mg/kg	0.0000198	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-16	0.000296	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-22	0.00229	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-36	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-39	0.000106	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-37	0.0000789	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-32	0.00631	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-25	0.0042	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-23	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-21/33	0.000406	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-38	0.0000524	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-24	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-17	0.00577	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-28/20	0.0227	mg/kg	0.0000237	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-30/18	0.00168	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-35	0.0000354	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-31	0.00659	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-26/29	0.00488	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-34	0.000211	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-19	0.00179	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-27	0.00306	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-16	0.000326	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-22	0.00258	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-36	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-39	0.000112	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-37	0.0000756	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	PCB-32	0.00719	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-23	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-21/33	0.0000947	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-25	0.00419	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-24	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-38	0.0000315	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-28/20	0.016	mg/kg	0.0000239	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-34	0.0000922	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-30/18	0.000866	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-17	0.00308	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-26/29	0.00351	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-31	0.00659	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-35	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-19	0.000972	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-27	0.00111	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-32	0.00338	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-37	0.000239	mg/kg	0.0000199	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-39	0.0000506	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-36	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-22	0.00181	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-16	0.000173	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-23	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-25	0.00912	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-21/33	0.0000606	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-38	0.0000566	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-24	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-17	0.0015	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-28/20	0.0409	mg/kg	0.0000236	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-30/18	0.000519	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-35	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-26/29	0.00889	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-31	0.0154	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-34	0.000298	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-16	0.0000519	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-19	0.00138	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-32	0.0013	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-22	0.00522	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-36	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-39	0.0000884	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-37	0.000512	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-27	0.00104	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-25	0.017	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-23	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-24	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-21/33	0.000112	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-38	0.000104	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-28/20	0.0531	mg/kg	0.0000236	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-34	0.000467	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-30/18	0.00435	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-17	0.00776	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-31	0.0309	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-35	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-26/29	0.0184	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-19	0.00213	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-27	0.00327	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-16	0.000289	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-22	0.00558	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-36	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-39	0.000227	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-37	0.00113	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-32	0.0124	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-25	0.0325	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-23	0.0000323	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-21/33	0.000973	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-38	0.000234	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-24	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-17	0.00862	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-28/20	0.131	mg/kg	0.0000235	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-26/29	0.0321	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-30/18	0.00467	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-35	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-31	0.0506	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-34	0.000803	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-19	0.00333	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-27	0.00628	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-32	0.0244	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-22	0.0111	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-36	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-39	0.000534	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-37	0.00178	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	PCB-16	0.000414	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-25	0.0101	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-23	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-21/33	0.000729	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-24	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-38	0.0000855	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-28/20	0.0396	mg/kg	0.0000357	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-34	0.000367	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-30/18	0.00228	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-17	0.0109	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-26/29	0.0116	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-31	0.0192	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-35	0.0000518	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-19	0.00241	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-27	0.00367	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-32	0.0118	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-37	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-39	0.000291	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-36	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-22	0.00392	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-16	0.000319	mg/kg	0.0000298	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-23	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-25	0.00752	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-21/33	0.000567	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-38	0.000087	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-24	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-17	0.00609	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-28/20	0.0334	mg/kg	0.0000236	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-30/18	0.00206	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-35	0.0000587	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-26/29	0.00725	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-31	0.0101	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-34	0.000295	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-16	0.000384	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-19	0.00223	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-32	0.00844	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-22	0.00409	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-36	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-39	0.000203	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-37	0.000137	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	PCB-27	0.00312	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-69/49	0.033	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-50/53	0.00458	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-59/62/75	0.0044	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-55	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-45/51	0.00442	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-43	0.00148	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-48	0.00381	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-78	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-57	0.000509	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-63	0.00465	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-68	0.000891	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-67	0.000413	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-73	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-81	0.0000977	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-80	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	'CB-61/70/74/7	0.045	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-44/47/65	0.0457	mg/kg	0.0000238	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-60	0.01	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-52	0.0265	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-42	0.00998	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-54	0.000039	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-66	0.0446	mg/kg	0.0000198	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-77	0.000882	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-46	0.00104	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-56	0.0123	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-41/40/71	0.0172	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-79	0.00043	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-58	0.00027	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-64	0.0209	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-72	0.00103	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-69/49	0.0372	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-50/53	0.00509	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-55	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-59/62/75	0.00488	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-73	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-81	0.000115	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-45/51	0.00502	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-43	0.00168	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-78	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-63	0.0054	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-57	0.000549	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-68	0.00102	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-67	0.000461	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-48	0.00428	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-80	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	CB-61/70/74/7	0.0526	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-44/47/65	0.052	mg/kg	0.0000237	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-60	0.0116	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-52	0.0292	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-42	0.0116	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-54	0.0000445	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-66	0.0516	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-77	0.000995	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-46	0.00114	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-56	0.014	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-79	0.000549	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-58	0.000317	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-64	0.0238	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-41/40/71	0.0198	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	PCB-72	0.0012	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.0333	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00192	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-55	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.00366	mg/kg	0.0000199	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-81	0.0000712	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.00224	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-43	0.000892	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-63	0.00469	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-78	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-73	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-57	0.00058	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-68	0.000778	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-67	0.000947	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-48	0.00166	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-80	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	'CB-61/70/74/7	0.0504	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.0386	mg/kg	0.0000239	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-60	0.0112	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-52	0.0408	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-42	0.00814	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-54	0.0000635	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-66	0.0524	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-77	0.00101	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-58	0.000224	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-79	0.000243	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-72	0.000942	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-64	0.02	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.00631	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-56	0.0107	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-46	0.000244	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.0627	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00139	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.0065	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-55	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-73	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-81	0.000187	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.00377	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-43	0.000566	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-63	0.00754	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-78	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-57	0.000859	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-68	0.00131	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-67	0.00147	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-48	0.00145	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-80	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	'CB-61/70/74/7	0.101	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.0821	mg/kg	0.0000236	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-42	0.0176	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-52	0.0844	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-54	0.0000825	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-60	0.0189	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-66	0.09	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-77	0.00316	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-46	0.000175	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-56	0.0269	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-79	0.000585	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-58	0.000498	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-64	0.0416	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.00779	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-72	0.00166	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.134	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00617	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.0127	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-55	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.00662	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-43	0.00275	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-48	0.00602	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-78	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-57	0.00229	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-63	0.0162	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-68	0.00326	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-67	0.00358	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-73	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-81	0.000387	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-80	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	CB-61/70/74/7	0.237	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.143	mg/kg	0.0002360	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-60	0.0377	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-52	0.171	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-42	0.0218	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-54	0.000178	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-66	0.214	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-77	0.00578	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-46	0.000421	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-56	0.0457	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.0303	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-79	0.00115	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-58	0.000701	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-64	0.0673	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-72	0.00406	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.229	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00957	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-55	0.00414	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.0252	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-73	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-81	0.000603	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.0112	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-43	0.0062	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-78	0.000179	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-63	0.0321	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-57	0.00483	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-68	0.00639	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-67	0.00702	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-48	0.00948	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-80	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	CB-61/70/74/7	0.389	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.283	mg/kg	0.0002350	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-52	0.321	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-42	0.0338	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-54	0.000256	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-66	0.381	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-77	0.0101	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-46	0.000766	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-56	0.0725	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.0546	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-79	0.00174	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-58	0.0015	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-64	0.11	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-60	0.0766	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	PCB-72	0.00768	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.0861	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00393	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.0105	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-73	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-57	0.0015	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.00889	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-43	0.00152	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-48	0.00948	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-63	0.01	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-81	0.000164	mg/kg	0.0000298	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-55	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-68	0.00201	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-67	0.00187	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-78	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-80	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	'CB-61/70/74/7	0.114	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.108	mg/kg	0.0000357	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-60	0.0225	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-52	0.113	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-42	0.0257	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-54	0.00035	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-66	0.107	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-77	0.00142	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-58	0.000591	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-79	0.000779	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-72	0.00228	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-64	0.0521	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.0331	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-56	0.0243	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-46	0.0017	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-69/49	0.078	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-50/53	0.00712	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-59/62/75	0.0093	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-55	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-73	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-81	0.000147	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-45/51	0.00784	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-43	0.00291	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-63	0.00965	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-78	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-57	0.00111	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-68	0.00176	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-67	0.00174	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-48	0.00796	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-80	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	'CB-61/70/74/7	0.103	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-44/47/65	0.106	mg/kg	0.0001180	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-42	0.0221	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-52	0.104	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-54	0.00015	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-60	0.0252	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-66	0.113	mg/kg	0.0000982	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-77	0.00194	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-46	0.00142	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-56	0.0221	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-79	0.000693	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-58	0.000572	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-64	0.0482	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-41/40/71	0.0315	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	PCB-72	0.00205	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-103	0.000387	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-104	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	.08/119/86/97/	0.0186	mg/kg	0.0000396	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-121	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-83	0.0012	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-88/91	0.00937	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-123	0.000903	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-126	0.0000223	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-112	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-114	0.00168	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-117/116/8	0.0158	mg/kg	0.0000238	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-122	0.000473	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-107/124	0.000854	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-113/90/10	0.0346	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-109	0.00461	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-106	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-96	0.000233	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-94	0.000364	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-89	0.000654	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-120	0.000195	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-82	0.00378	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-118	0.0377	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-105	0.015	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-84	0.00572	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-92	0.00498	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-99	0.0383	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-110/115	0.0463	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-127	0.0000308	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-95	0.0179	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	CB-100/93/102/	0.00289	mg/kg	0.0000297	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-111	0.0000449	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-126	0.0000417	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-121	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	.08/119/86/97/	0.0349	mg/kg	0.0000394	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-104	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-83	0.00124	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-103	0.000434	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-123	0.00111	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-113/90/10	0.0392	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-88/91	0.0108	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-112	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-114	0.00194	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-89	0.000733	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-120	0.000227	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-109	0.00541	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-107/124	0.00101	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-106	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-96	0.000256	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-94	0.000401	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-117/116/8	0.0187	mg/kg	0.0000237	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-122	0.000556	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-82	0.00432	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-118	0.0445	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-105	0.0178	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-84	0.0064	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-92	0.00555	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-99	0.0445	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-110/115	0.0534	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-127	0.0000383	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-95	0.0198	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	PCB-111	0.0000496	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	CB-100/93/102/	0.00324	mg/kg	0.0000296	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-83	0.00109	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-126	0.00003	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-121	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	08/119/86/97/1	0.0195	mg/kg	0.0000398	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-104	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-103	0.000262	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-123	0.000705	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.027	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-88/91	0.00493	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-109	0.00342	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-112	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-114	0.00112	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-89	0.000172	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-122	0.00053	mg/kg	0.0000199	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-120	0.000103	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-107/124	0.00101	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-106	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-96	0.0000905	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-94	0.00011	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0112	mg/kg	0.0000239	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-82	0.00327	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-118	0.0244	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-105	0.0111	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-84	0.00212	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-92	0.00562	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-110/115	0.0271	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-95	0.0103	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-99	0.0222	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-111	0.0000251	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.00113	mg/kg	0.0000299	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-127	0.0000241	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-123	0.00147	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-103	0.000438	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-104	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	08/119/86/97/1	0.0355	mg/kg	0.0000393	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-121	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-126	0.0000595	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-83	0.00293	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.0494	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-88/91	0.0117	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-109	0.00588	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-112	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-114	0.00193	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-122	0.000971	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-120	0.00017	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0165	mg/kg	0.0000236	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-107/124	0.0019	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-106	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-96	0.0000963	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-94	0.0000945	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-89	0.0000465	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-105	0.0204	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-118	0.0474	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-127	0.0000471	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-84	0.00951	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-92	0.0094	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-95	0.0256	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-99	0.039	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-110/115	0.0554	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.00132	mg/kg	0.0000295	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-111	0.000042	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-82	0.00673	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-103	0.0014	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-104	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	08/119/86/97/	0.0858	mg/kg	0.0000393	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-121	0.0000315	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-83	0.00373	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-88/91	0.0211	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-123	0.00415	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-126	0.000201	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-112	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-114	0.00577	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0549	mg/kg	0.0000236	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-122	0.00256	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-107/124	0.00586	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.174	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-109	0.0175	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-106	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-96	0.000279	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-94	0.000419	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-89	0.00054	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-120	0.000498	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-82	0.00814	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-118	0.142	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-105	0.0641	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-84	0.00655	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-92	0.0303	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-99	0.164	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-110/115	0.174	mg/kg	0.0001970	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-127	0.0000857	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-95	0.0491	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.00684	mg/kg	0.0000295	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-111	0.00012	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-126	0.000264	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-121	0.0000622	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	08/119/86/97/	0.18	mg/kg	0.0003920	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-104	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-83	0.00544	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-103	0.00256	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-123	0.00638	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.286	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-88/91	0.0324	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-112	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-114	0.00878	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-89	0.000845	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-120	0.001	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-109	0.0259	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-107/124	0.00856	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-106	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-96	0.000377	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-94	0.000679	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0958	mg/kg	0.0000235	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-122	0.00373	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-105	0.0989	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-82	0.0157	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-118	0.217	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-84	0.0113	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-92	0.0538	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-99	0.263	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-95	0.105	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-110/115	0.293	mg/kg	0.0001960	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-127	0.000133	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.0105	mg/kg	0.0000294	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	PCB-111	0.000228	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-83	0.00631	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-126	0.0000679	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-121	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	08/119/86/97/	0.0583	mg/kg	0.0000595	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-104	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-103	0.000936	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-123	0.00183	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.0745	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0277	mg/kg	0.0000357	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-88/91	0.0191	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-109	0.00737	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-112	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-114	0.00257	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-122	0.000868	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-107/124	0.00215	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-106	0.0000149	mg/kg	0.0000298	N

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-96	0.000487	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-94	0.000339	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-89	0.000694	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-120	0.000264	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-82	0.0119	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-118	0.0578	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-105	0.0266	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-84	0.0114	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-92	0.0168	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-110/115	0.0904	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-95	0.0319	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-99	0.0596	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-111	0.0000575	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.00613	mg/kg	0.0000446	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-127	0.0000484	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-123	0.00185	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-103	0.000758	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-104	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	08/119/86/97/1	0.0521	mg/kg	0.0000393	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-121	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-126	0.000093	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-83	0.00471	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-113/90/10	0.0792	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-88/91	0.0161	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-109	0.00742	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-112	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-114	0.00264	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-120	0.000256	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-117/116/8	0.0277	mg/kg	0.0000236	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-107/124	0.00215	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-106	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-96	0.000391	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-94	0.000539	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-89	0.000941	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-105	0.0267	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-122	0.001	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-118	0.0601	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-127	0.0000554	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-84	0.0114	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-92	0.0144	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-95	0.0353	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-99	0.0592	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-110/115	0.0857	mg/kg	0.0000982	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	CB-100/93/102/	0.00477	mg/kg	0.0000294	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-111	0.0000653	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	PCB-82	0.00942	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-151/135	0.00229	mg/kg	0.0000202	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-139/140	0.000448	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-154	0.000159	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-131	0.000194	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-150	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-152	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-130	0.000356	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-167	0.000435	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-144	0.000341	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-134/143	0.000305	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-141	0.000713	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-145	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-148	0.0000216	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-158	0.00165	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-161	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-164	0.000654	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-165	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-147/149	0.00742	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	CB-138/163/12	0.0164	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-155	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-153/168	0.0109	mg/kg	0.0000238	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-133	0.000254	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-137	0.00104	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-169	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-159	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-142	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-160	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-128/166	0.00276	mg/kg	0.0000396	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-162	0.0000739	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-146	0.00275	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-136	0.00058	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-156/157	0.00141	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-132	0.00274	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-139/140	0.000543	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-154	0.000186	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-131	0.000236	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-150	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-152	9.85E-06	mg/kg	0.0000197	N

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-130	0.000399	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-167	0.000511	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-134/143	0.000377	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-141	0.000766	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-145	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-148	0.0000256	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-158	0.00197	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-161	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-164	0.000807	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-151/135	0.00264	mg/kg	0.0000201	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-165	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-147/149	0.00849	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-144	0.000403	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-153/168	0.0131	mg/kg	0.0000237	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-155	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-169	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	CB-138/163/12	0.0195	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-133	0.000303	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-137	0.00124	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-159	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-142	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-160	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-128/166	0.00326	mg/kg	0.0000394	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-162	0.0000831	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-146	0.00322	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-136	0.000667	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-156/157	0.00169	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	PCB-132	0.0032	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-139/140	0.000233	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-154	0.0000976	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-131	0.0000653	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-152	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-150	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-130	0.000735	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-167	0.000339	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-134/143	0.000294	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-141	0.00103	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-145	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-148	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-158	0.000955	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-161	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-165	9.95E-06	mg/kg	0.0000199	N

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-151/135	0.00157	mg/kg	0.0000203	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-164	0.00041	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-147/149	0.00469	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-144	0.000212	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.0102	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-155	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-153/168	0.00686	mg/kg	0.0000239	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-133	0.000178	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-137	0.0007	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-169	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-142	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-160	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-128/166	0.00168	mg/kg	0.0000398	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-159	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-146	0.00168	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-162	0.0000398	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-132	0.00145	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-156/157	0.000907	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-136	0.000286	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-139/140	0.000513	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-154	0.000171	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-150	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-152	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-131	0.000251	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-167	0.000874	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-130	0.00164	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-134/143	0.000718	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-141	0.00247	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-145	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-148	0.0000216	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-158	0.00225	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-161	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-165	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-151/135	0.00299	mg/kg	0.0000201	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-164	0.00108	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-147/149	0.0136	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-144	0.000493	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-155	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-153/168	0.0212	mg/kg	0.0000236	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.0244	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-133	0.000379	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-137	0.00173	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-169	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-142	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-160	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-128/166	0.00382	mg/kg	0.0000393	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-146	0.00404	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-132	0.00446	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-156/157	0.002	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-136	0.00079	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-159	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-162	0.0000778	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-151/135	0.00909	mg/kg	0.0000201	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-139/140	0.00144	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-154	0.000632	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-131	0.000152	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-150	0.0000222	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-152	0.0000423	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-130	0.00308	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-167	0.00182	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-144	0.000961	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-134/143	0.000764	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-141	0.005	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-145	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-148	0.000063	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-158	0.0048	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-161	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-164	0.0028	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-165	0.0000461	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-147/149	0.0317	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.0576	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-155	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-153/168	0.0364	mg/kg	0.0000236	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-133	0.000869	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-137	0.00398	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-169	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-159	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-142	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-160	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-128/166	0.00884	mg/kg	0.0000393	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-162	0.000289	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-146	0.0105	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-136	0.00102	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-156/157	0.00505	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-132	0.00679	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-139/140	0.00194	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-154	0.00096	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-131	0.000208	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-150	0.0000309	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-152	0.0000562	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-130	0.00483	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-167	0.00258	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-134/143	0.00202	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-141	0.00679	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-145	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-148	0.00011	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-158	0.00637	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-161	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-164	0.00391	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-151/135	0.013	mg/kg	0.0000200	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-165	0.0000679	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-147/149	0.0454	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-144	0.00148	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-153/168	0.0491	mg/kg	0.0000235	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-155	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.08	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-133	0.00129	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-137	0.00503	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-169	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-159	0.0000302	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-142	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-160	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-128/166	0.0123	mg/kg	0.0000392	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-162	0.000416	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-146	0.0148	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-132	0.0105	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-156/157	0.00728	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	PCB-136	0.00154	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-139/140	0.000643	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-154	0.000294	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-150	0.0000299	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-152	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-131	0.000308	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-130	0.00183	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-134/143	0.0012	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-141	0.00246	mg/kg	0.0000298	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-167	0.000701	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-145	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-148	0.0000366	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-158	0.00238	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-161	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-165	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-151/135	0.0043	mg/kg	0.0000304	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-164	0.00107	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-147/149	0.0141	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-144	0.000605	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.0237	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-155	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-153/168	0.0153	mg/kg	0.0000357	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-133	0.000407	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-137	0.00182	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-169	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-142	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-160	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-128/166	0.00414	mg/kg	0.0000595	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-159	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-146	0.0035	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-162	0.0000567	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-132	0.00618	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-156/157	0.00199	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-136	0.00121	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-139/140	0.000623	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-154	0.000263	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-150	0.0000232	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-152	0.0000261	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-131	0.000265	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-167	0.000803	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-130	0.00169	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-134/143	0.000711	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-141	0.00243	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-145	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-148	0.0000318	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-158	0.00241	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-161	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-165	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-151/135	0.00383	mg/kg	0.0000200	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-164	0.000966	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-147/149	0.0129	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-144	0.000578	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-155	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-153/168	0.0177	mg/kg	0.0000236	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	CB-138/163/12	0.0247	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-133	0.0004	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-137	0.00192	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-169	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-142	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-160	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-128/166	0.00428	mg/kg	0.0000393	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-146	0.00391	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-132	0.00455	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-156/157	0.00213	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-136	0.000834	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-159	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	PCB-162	0.0000867	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-182	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-172	0.000157	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-179	0.000146	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-176	0.0000507	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-178	0.000175	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-187	0.00191	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-183/185	0.000531	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-177	0.000184	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-171/173	0.000271	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-184	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-181	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-186	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-191	0.0000384	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-192	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-188	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-180/193	0.00176	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-170	0.000891	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-175	0.0000293	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-190	0.000203	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-174	0.00031	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-189	0.0000402	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-179	0.000168	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-182	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-172	0.000182	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-178	0.0002	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-187	0.00219	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-183/185	0.000613	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-177	0.000204	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-176	0.0000579	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-171/173	0.000316	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-184	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-181	0.0000237	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-186	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-191	0.0000453	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-192	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-188	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-180/193	0.00207	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-170	0.00104	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-175	0.0000355	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-190	0.000235	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-174	0.00035	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	PCB-189	0.0000493	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-182	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-172	0.000169	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-178	0.000206	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-187	0.00207	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-183/185	0.0006	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-177	0.000454	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-179	0.000135	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-176	0.000035	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-171/173	0.000226	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-181	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-184	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-186	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-191	0.0000347	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-192	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-188	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-180/193	0.00204	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-170	0.000845	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-175	0.0000278	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-190	0.000178	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-174	0.000381	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-189	0.0000381	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-182	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-179	0.000419	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-176	0.00017	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-178	0.000449	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-187	0.00436	mg/kg	0.0000197	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-183/185	0.00232	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-177	0.00132	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-171/173	0.000801	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-172	0.000538	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-181	0.0000363	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-184	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-186	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-191	0.00013	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-192	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-180/193	0.00813	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-170	0.00292	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-188	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-175	0.0000847	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-190	0.00066	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-174	0.00157	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-189	0.000118	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-182	0.0000218	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-172	0.000472	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-179	0.000329	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-176	0.0000672	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-178	0.000488	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-187	0.00918	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-183/185	0.00138	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-177	0.00114	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-171/173	0.000626	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-184	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-181	0.0000537	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-186	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-191	0.0000921	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-192	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-188	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-180/193	0.005	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-170	0.00246	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-175	0.0000704	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-190	0.000611	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-174	0.00114	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-189	0.000159	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-179	0.00045	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-182	0.0000326	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-172	0.000745	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-178	0.000721	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-187	0.0121	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-183/185	0.00212	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-177	0.00178	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-176	0.000112	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-171/173	0.000932	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-184	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-181	0.0000794	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-186	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-191	0.00015	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-192	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-188	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-180/193	0.00815	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-170	0.00388	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-175	0.000105	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-190	0.000892	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-174	0.00183	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	PCB-189	0.000218	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-182	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-172	0.000249	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-179	0.000328	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-178	0.000285	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-187	0.00228	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-183/185	0.000937	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-177	0.000728	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-171/173	0.000397	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-176	0.000097	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-181	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-188	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-184	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-186	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-191	0.0000559	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-192	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-180/193	0.00297	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-170	0.0014	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-175	0.0000463	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-190	0.000308	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-174	0.000868	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-189	0.0000532	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-182	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-179	0.000265	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-176	0.0000958	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-178	0.000352	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-187	0.00327	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-183/185	0.00137	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-177	0.000875	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-171/173	0.00052	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-172	0.000353	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-181	0.0000304	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-184	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-186	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-191	0.0000792	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-192	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-188	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-180/193	0.00461	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-170	0.00201	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-175	0.0000641	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-190	0.000433	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-174	0.000939	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	PCB-189	0.000081	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-203	0.000325	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-195	0.000121	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-204	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-205	0.0000099	mg/kg	0.0000198	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-198/199	0.000573	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-194	0.000268	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-202	0.0000942	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-197/200	0.0000495	mg/kg	0.0000990	N
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-201	0.0000452	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-196	0.000125	mg/kg	0.0000277	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-203	0.000379	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-195	0.00014	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-204	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-205	9.85E-06	mg/kg	0.0000197	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-198/199	0.000663	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-194	0.000312	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-197/200	0.0000493	mg/kg	0.0000986	N
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-202	0.000108	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-201	0.0000542	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	PCB-196	0.000141	mg/kg	0.0000276	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-203	0.000401	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-195	0.00014	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-204	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-205	9.95E-06	mg/kg	0.0000199	N
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-198/199	0.000753	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-194	0.000351	mg/kg	0.0000199	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-202	0.000121	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-201	0.0000518	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-196	0.000172	mg/kg	0.0000279	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-197/200	0.0000498	mg/kg	0.0000996	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-203	0.00153	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-195	0.000563	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-205	0.0000666	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-204	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-198/199	0.00184	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-197/200	0.000151	mg/kg	0.0000983	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-202	0.000288	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-201	0.000161	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-194	0.00144	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-196	0.000681	mg/kg	0.0000275	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-203	0.000733	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-195	0.000274	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-204	9.85E-06	mg/kg	0.0000197	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-205	0.0000352	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-198/199	0.00185	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-194	0.000627	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-202	0.000234	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-197/200	4.915E-05	mg/kg	0.0000983	N
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-201	0.000115	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-196	0.000292	mg/kg	0.0000275	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-203	0.00116	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-195	0.000401	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-204	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-205	0.0000498	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-198/199	0.00241	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-194	0.001	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-197/200	4.905E-05	mg/kg	0.0000981	N
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-202	0.000339	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-201	0.000157	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	PCB-196	0.000487	mg/kg	0.0000275	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-203	0.000579	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-195	0.000194	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-204	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-205	0.0000149	mg/kg	0.0000298	N
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-198/199	0.000813	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-194	0.000481	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-202	0.000161	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-201	0.0000741	mg/kg	0.0000298	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-196	0.000224	mg/kg	0.0000417	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-197/200	0.0000745	mg/kg	0.0001490	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-203	0.000883	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-195	0.0003	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-205	0.0000355	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-204	0.0000098	mg/kg	0.0000196	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-198/199	0.00121	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-197/200	0.0000491	mg/kg	0.0000982	N
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-202	0.000184	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-201	0.00011	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-194	0.000721	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	PCB-196	0.000387	mg/kg	0.0000275	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-208	0.0000582	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-207	0.0000225	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-206	0.000215	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-208	0.0000643	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-207	0.0000254	mg/kg	0.0000197	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	PCB-206	0.000246	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-208	0.0000752	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-207	0.000028	mg/kg	0.0000199	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-206	0.000297	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-208	0.000176	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-207	0.0000887	mg/kg	0.0000197	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-206	0.000841	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-208	0.000108	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-207	0.0000386	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-206	0.0004	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-208	0.000169	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-207	0.0000628	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Nonachlorobiphenyls	PCB-206	0.00067	mg/kg	0.0000196	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-208	0.0000898	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-207	0.0000396	mg/kg	0.0000298	Y
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-206	0.000351	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-208	0.000104	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-207	0.0000544	mg/kg	0.0000196	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Nonachlorobiphenyls	PCB-206	0.000507	mg/kg	0.0000196	Y
11/9/2006	HOGSUCKER FILLET	Northern Hogsucker	Site 1 Upstream	FL	Decachlorobiphenyl	PCB-209	0.0000446	mg/kg	0.0000198	Y
11/9/2006	HOGSUCKER FILLET-ii	Northern Hogsucker	Site 1 Upstream	FL	Decachlorobiphenyl	PCB-209	0.0000479	mg/kg	0.0000197	Y
11/9/2006	WHOLE BLUEGILL	Bluegill	Site 1 Upstream	WB	Decachlorobiphenyl	PCB-209	0.0000825	mg/kg	0.0000199	Y
11/9/2006	WHOLE EMERALD SHINERS	Emerald Shiner	Site 1 Upstream	WB	Decachlorobiphenyl	PCB-209	0.000213	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH	Green Sunfish	Site 3 Downstream	WB	Decachlorobiphenyl	PCB-209	0.0000899	mg/kg	0.0000197	Y
11/9/2006	WHOLE GREEN SUNFISH-ii	Green Sunfish	Site 1 Upstream	WB	Decachlorobiphenyl	PCB-209	0.000123	mg/kg	0.0000196	Y

Table E-1. 2006 Stony Creek Fish Tissue Data Used to Determine Homologue Distribution in Fish

Collection Date	Field ID	Species	Location	Tissue Type	Homologue Group	Parameter	Adjusted Result	Units	Reporting Limit	Detect Flag
11/9/2006	WHOLE GREENSIDE DARTE	Greenside Darter	Site 3 Downstream	WB	Decachlorobiphenyl	PCB-209	0.0000756	mg/kg	0.0000298	Y
11/9/2006	WHOLE SM BASS	Small Mouth Bass	Site 3 Downstream	WB	Decachlorobiphenyl	PCB-209	0.000114	mg/kg	0.0000196	Y

Note: Half the reported detection limits are used to represent non-detected concentrations
WB: whole body
FL: fillet
PCB: polychlorinated biphenyl
mg/kg: milligrams per kilogram

Table E-2. PCB Homologue Group Concentrations in Fish Collected from Stony Creek in 2006

Field ID	Species	Location	Tissue Type	Homologue	Concentration	Units
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Monochlorobiphenyls	0.000160	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Dichlorobiphenyls	0.00372	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Trichlorobiphenyls	0.0422	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Tetrachlorobiphenyls	0.292	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Pentachlorobiphenyls	0.179	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Hexachlorobiphenyls	0.0347	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Heptachlorobiphenyls	0.00750	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Octachlorobiphenyls	0.00206	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Nonachlorobiphenyls	0.000400	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Decachlorobiphenyl	0.0000825	mg/kg
Whole Bluegill	Bluegill	Site 1 Upstream	WB	Total PCBs	0.562	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Monochlorobiphenyls	0.000176	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Dichlorobiphenyls	0.00306	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Trichlorobiphenyls	0.0864	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Tetrachlorobiphenyls	0.564	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Pentachlorobiphenyls	0.344	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Hexachlorobiphenyls	0.0901	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Heptachlorobiphenyls	0.0241	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Octachlorobiphenyls	0.00673	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Nonachlorobiphenyls	0.00111	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Decachlorobiphenyl	0.000213	mg/kg
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	Total PCBs	1.12	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Monochlorobiphenyls	0.000483	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Dichlorobiphenyls	0.00824	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Trichlorobiphenyls	0.157	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Tetrachlorobiphenyls	1.17	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Pentachlorobiphenyls	1.02	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Hexachlorobiphenyls	0.194	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Heptachlorobiphenyls	0.0233	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Octachlorobiphenyls	0.00422	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Nonachlorobiphenyls	0.000547	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Decachlorobiphenyl	0.0000899	mg/kg
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	Total PCBs	2.59	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Monochlorobiphenyls	0.000112	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Dichlorobiphenyls	0.00749	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Trichlorobiphenyls	0.309	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Tetrachlorobiphenyls	2.09	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Pentachlorobiphenyls	1.73	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Hexachlorobiphenyls	0.272	mg/kg

Table E-2. PCB Homologue Group Concentrations in Fish Collected from Stony Creek in 2006

Field ID	Species	Location	Tissue Type	Homologue	Concentration	Units
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Heptachlorobiphenyls	0.0343	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Octachlorobiphenyls	0.00606	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Nonachlorobiphenyls	0.000902	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Decachlorobiphenyl	0.000123	mg/kg
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	Total PCBs	4.45	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Monochlorobiphenyls	0.000142	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Dichlorobiphenyls	0.00420	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Trichlorobiphenyls	0.117	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Tetrachlorobiphenyls	0.743	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Pentachlorobiphenyls	0.516	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Hexachlorobiphenyls	0.0884	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Heptachlorobiphenyls	0.0111	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Octachlorobiphenyls	0.00263	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Nonachlorobiphenyls	0.000480	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Decachlorobiphenyl	0.0000756	mg/kg
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	Total PCBs	1.48	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	0.0000537	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	0.00230	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	0.0545	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	0.294	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	0.263	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	0.0540	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	0.00676	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	0.00162	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	0.000296	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Decachlorobiphenyl	0.0000446	mg/kg
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	Total PCBs	0.676	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Monochlorobiphenyls	0.0000587	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Dichlorobiphenyls	0.00270	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Trichlorobiphenyls	0.0617	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Tetrachlorobiphenyls	0.336	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Pentachlorobiphenyls	0.317	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Hexachlorobiphenyls	0.0637	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Heptachlorobiphenyls	0.00783	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Octachlorobiphenyls	0.00187	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Nonachlorobiphenyls	0.000336	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Decachlorobiphenyl	0.0000479	mg/kg
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	Total PCBs	0.791	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Monochlorobiphenyls	0.000101	mg/kg

Table E-2. PCB Homologue Group Concentrations in Fish Collected from Stony Creek in 2006

Field ID	Species	Location	Tissue Type	Homologue	Concentration	Units
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Dichlorobiphenyls	0.00294	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Trichlorobiphenyls	0.0861	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Tetrachlorobiphenyls	0.710	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Pentachlorobiphenyls	0.505	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Hexachlorobiphenyls	0.0881	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Heptachlorobiphenyls	0.0154	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Octachlorobiphenyls	0.00389	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Nonachlorobiphenyls	0.000665	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Decachlorobiphenyl	0.000114	mg/kg
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	Total PCBs	1.41	mg/kg

mg/kg: milligrams per kilogram
FL: fillet
WB: whole body
PCB: polychlorinated biphenyl

Table E-3. PCB Homologue Group Distribution in Fish Collected from Stony Creek in 2006

				PCB Homologue Group									
Field ID	**Species**	**Location**	**Tissue Type**	**Mono-**	**Di-**	**Tri-**	**Tetra-**	**Penta-**	**Hexa-**	**Hepta-**	**Octa-**	**Nona-**	**Deca-**
Whole Bluegill	Bluegill	Site 1 Upstream	WB	0.028%	0.66%	7.5%	52%	32%	6.2%	1.3%	0.37%	0.071%	0.015%
Whole Emerald Shiners	Emerald Shiner	Site 1 Upstream	WB	0.016%	0.27%	7.7%	50%	31%	8.0%	2.1%	0.60%	0.099%	0.019%
Whole Green Sunfish	Green Sunfish	Site 3 Downstream	WB	0.019%	0.32%	6.1%	45%	40%	7.5%	0.90%	0.16%	0.021%	0.0035%
Whole Green Sunfish-ii	Green Sunfish	Site 1 Upstream	WB	0.0025%	0.17%	7.0%	47%	39%	6.1%	0.77%	0.14%	0.020%	0.0028%
Whole Greenside Darter	Greenside Darter	Site 3 Downstream	WB	0.010%	0.28%	7.9%	50%	35%	6.0%	0.75%	0.18%	0.032%	0.0051%
Hogsucker Fillet	Northern Hogsucker	Site 1 Upstream	FL	0.0079%	0.34%	8.1%	43%	39%	8.0%	1.0%	0.24%	0.044%	0.0066%
Hogsucker Fillet-ii	Northern Hogsucker	Site 1 Upstream	FL	0.0074%	0.34%	7.8%	42%	40%	8.1%	0.99%	0.24%	0.042%	0.0061%
Whole SM Bass	Small Mouth Bass	Site 3 Downstream	WB	0.0071%	0.21%	6.1%	50%	36%	6.2%	1.1%	0.28%	0.047%	0.0081%
Average				**0.012%**	**0.32%**	**7.3%**	**48%**	**36%**	**7.0%**	**1.1%**	**0.27%**	**0.047%**	**0.0082%**

mg/kg: milligrams per kilogram
FL: fillet concentration
WB: whole body concentration

Table E-4. Estimated Post-Recovery PCB Homologue Concentrations in Stony Creek Fish

PCB Homologue Group	Distribution	Concentration	Units
Monochlorobiphenyls	0.012%	0.00024	mg/kg
Dichlorobiphenyls	0.32%	0.0065	mg/kg
Trichlorobiphenyls	7.3%	0.15	mg/kg
Tetrachlorobiphenyls	48%	0.95	mg/kg
Pentachlorobiphenyls	36%	0.73	mg/kg
Hexachlorobiphenyls	7.0%	0.14	mg/kg
Heptachlorobiphenyls	1.1%	0.022	mg/kg
Octachlorobiphenyls	0.27%	0.0055	mg/kg
Nonachlorobiphenyls	0.047%	0.00094	mg/kg
Decachlorobiphenyl	0.0082%	0.00016	mg/kg

PCB: polychlorinated biphenyl
mg/kg: milligrams per kilogram