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HUMAN HEALTH RISK ASSESSMENT
DEVIL'S SWAMP, BATON ROUGE
LOUISIANA

(VOLUME 1 - RISK ASSESSMENT & APPENDICES)

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LIST OF ACRONYMS AND ABBREVIATIONS

ABS	Absorption Factor
ADEM	Alabama Department of Environmental Management
AF	Adherence Factor
AT	Averaging Time
BW	Body Weight
CF	Conversion Factor
CLP	Contract Laboratory Program
CT	Central Tendency
cm^2	Square Centimeter
COPC	Chemical of Potential Concern
DQO	Data Quality Objective
ED	Exposure Duration
EF	Exposure Frequency
EPA	Environmental Protection Agency
EPC	Exposure Point Concentration
FI	Fraction Ingested
FIT	Field Investigation Team
ft	Feet
HCB	Hexachlorobenzene
HCBD	Hexachlorobutadiene
HEAST	Health Effects Assessment Summary Tables
HI	Hazard Index
HHRA	Human Health Risk Assessment
HQ	Hazard Quotient
HSWA	Hazardous and Solid Waste Amendments
IR	Ingestion Rate
IRIS	Integrated Risk Information System
kg	Kilogram
km	Kilometer
km^2	Square Kilometer
L	Liter
LCS	Laboratory Control Sample
LDEQ	Louisiana Department of Environmental Quality
LOAEL	Lowest-Observed-Adverse-Effect Level
m	Meter
m^2	Square Meter
MEK	2-butanone (Methyl ethyl ketone)
MF	Modifying Factor
mi	Mile

LIST OF ACRONYMS AND ABBREVIATIONS
(Continued)

mi^2	Square Mile
mg	Milligram
MSL	Mean Sea Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NCEA	National Center for Environmental Assessment
NCP	National Contingency Plan
ND	Not Detected
NOAEL	No-Observed-Adverse-Effect Level
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PESRC	Preliminary Exposure Scenarios and Risk Calculations
PPI	Petro-Processors of Louisiana, Inc.
QA	Quality Assurance
QAPjP	Quality Assurance Project Plan
QC	Quality Control
RAGS	Risk Assessment Guidance for Superfund
RBSC	Risk-Based Screening Concentration
RCRA	Resource Conservation and Recovery Act
RfD	Reference Dose
RME	Reasonable Maximum Exposure
RPA	Remedial Planning Activities
RQL	Required Quantitation Limit
RRF	Relative Response Factor
SA	Surface Area
SAP	Sampling and Analysis Plan
SF	Slope Factor
SIF	Summary Intake Factor
SIM	Selective Ion Monitoring
SOP	Standard Operating Procedure
SSA	Skin Surface Area
SVOC	Semivolatile Organic Compound
THQ	Target Hazard Quotient
TR	Target Risk
UCL	Upper Confidence Limit
UF	Uncertainty Factor
USGS	United States Geological Survey
µg	Microgram

EXECUTIVE SUMMARY

This Human Health Risk Assessment (HHRA) is designed to support risk management decisions by evaluating the potential for adverse health effects from releases of hazardous substances in the Devil's Swamp study area near Baton Rouge, Louisiana. The study area is comprised essentially of Devil's Swamp which consists of an approximate 12 square-mile backwater wetland along the east side of the Mississippi River. This area includes Devil's Lake, a 26-year old man-made lake covering approximately 39 acres in the central region of the swamp, and Bayou Baton Rouge which flows through Devil's Swamp en route to the Mississippi River. The southern end of Devil's Swamp is about six miles north of downtown Baton Rouge. The primary functions of this HHRA are to: (1) document whether actual or potential health risks exist in the study area; (2) identify which contaminants at the site pose health hazards and risks; and (3) generate data to be used in identifying and evaluating cleanup options. U. S. Environmental Protection Agency (EPA) guidance documents were used in the development of this HHRA (US. EPA 1989; 1991a; 1992a,b; 1997b; 1998b,c).

1. Activities Conducted to Date

In April 1996, a *Draft Technical Memorandum, Preliminary Exposure Scenarios, and Risk Calculations for Human Health Assessment, Devil's Swamp, Louisiana* (PESRC)(DPRA, Inc. [DPRA] 1996) was prepared. This document provided information for risk managers to determine whether the existing data were adequate to identify potential health threats from exposure to the hazardous chemicals. The preliminary exposure estimates were based on conservative assumptions and maximum contaminant concentrations in sediment and fish. Based on results of the preliminary assessment and meetings between the risk manager and the risk assessment team, it was determined that contaminants from the Devil's Swamp site posed potential adverse health effects and that the risk assessment process would continue.

A study design for the acquisition of field data for human health assessment was developed in the *Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPjP)* (TechLaw, Inc. [TechLaw] 1997a,c). The initial 1997 data collection occurred during spring flood and post-flood conditions on the Mississippi River. Based on the information from the spring field investigation, along with conversations with landowners and recreationists occasionally visiting the swamp, the *Draft Technical Memorandum, Revised Exposure Scenarios and Preliminary Risk Calculations for Human Health Assessment, Devil's Swamp, Louisiana* (TechLaw 1997b) was prepared. This document was used to refine the conceptual model and to focus the remaining data collection on relevant species and use-areas. The collection of field data was completed in November 1997 and data validation was finished in early 1998.

2. Chemicals of Potential Concern

Chemicals of potential concern (COPCs) for the risk assessment were identified using a site-specific risk-based screening concentration (RBSC) process which incorporated very conservative exposure and toxicity assumptions. Due to the large size of the Devil's Swamp study area and to account for different use-areas within the watershed, COPCs were identified in five separate subareas. The site-specific RBSC methodology identified chlorinated benzenes (e.g., hexachlorobenzene [HCB]) and hexachlorobutadiene (HCBD), polychlorinated biphenyls (PCBs), and a few pesticides as COPCs. A distinct gradient of chlorinated benzenes and HCBD exists in sediments, fish, and crawfish of

Devil's Swamp, and the highest concentrations are located near the Petro-Processors of Louisiana, Inc. (PPI) Brooklawn and Scenic sites. PCBs have been found at levels of concern in sediments, fish, and crawfish in Devil's Lake and areas southward to the Mississippi River. The few occurrences of pesticides are not related to any contamination gradient and are believed to be representative of anthropogenic background levels.

3. Exposure Assessment

Sediments and tissues are considered the principal media of concern at the site. Exposure to COPCs in tissues occurs primarily through the consumption of fish and crawfish. The ingestion of sediments, and dermal contact with sediments are also considered pathways of concern. Chlorobenzenes and HCBD have been detected in virtually all fish and crawfish samples collected throughout the swamp. PCBs are particularly evident in fish and crawfish in Devil's Lake. Surface water samples did not contain any of the COPCs. This is largely due to the strong adsorption of the chlorinated COPCs to organic matter in the sediments. Consequently, exposure to surface water is not a pathway of concern. Because of the on-going remedial activities to contain contaminated groundwater and prevent it from reaching potential drinking water aquifers, and the current lack of human exposure to this water, groundwater is not assessed in this HHRA. Due to the lack of site-specific air data in Devil's Swamp, and the strong adsorbtive properties and low volatility of the COPCs, the exposure of individuals to contaminants through the inhalation pathway is considered insignificant. This assumption is also supported based on a comparison to generic soil/sediment screening levels for the inhalation of volatiles (Section 2.3).

The following five subareas of the Devil's Swamp watershed were identified for human health exposures:

- North Bayou Baton Rouge
- Channels
- North Swamp
- Devil's Lake
- South Swamp

Human uses of these areas are distinctly different, as are the levels of exposure to various combinations of COPCs. Recreational visitor scenarios were used in each of the five subareas for both the reasonable maximum exposure (RME) and central tendency (CT) exposure. These scenarios consist of exposure to sediments, and the consumption of catfish, largemouth bass, and crawfish. Exposures were quantified for each of the five subareas for the most appropriate and conservative scenario in each subarea. This included considering adolescent and adult recreationists separately, and an integrated combination of adolescents and adults. An occupational scenario for exposure to sediments was developed for only the Channels subarea, which is located on industrial property.

Exposure point concentrations for the RME scenarios are based on the 95-percent upper confidence limit (UCL) on the mean chemical concentration. These scenarios form the basis for risk management decisions for remedial activities. The CT exposure points are based on the average contaminant concentrations in tissues and sediments. The CT scenarios are informational and provide the risk manager with a broad range of potential risks and hazards for consideration. Exposure frequency and

duration in each subarea were estimated from conversations with local individuals utilizing the swamp for recreational fishing and hunting purposes.

4. Toxicity Assessment

Each of the COPCs was evaluated for its cancer causing (carcinogenic) effects or non-cancer (non-carcinogenic) effects. Most of the COPCs are carcinogenic, therefore their oral slope factors and their weight-of-evidence class are discussed. HCB and PCBs are classified as probable human carcinogens, while HCBD is classified as a possible human carcinogen. These COPCs also cause non-cancer effects. The primary non-cancer target organs for HCB, HCBD, and PCBs are the liver, kidney, and the immune system, respectively. Chronic oral reference doses and their assigned uncertainty factors associated from extrapolating animal studies to human studies are discussed. Most of the toxicity data were obtained from EPA's Integrated Risk Information System (IRIS) (EPA 1997a) and the Health Effects Assessment Summary Tables (HEAST) (EPA 1998a).

5. Risk Characterization and Uncertainty

Risk characterization integrates the results of the intake exposure estimates with toxicity data to determine the likelihood of adverse effects in potentially exposed populations. Risks and hazards are characterized for carcinogenic and non-carcinogenic health effects. Excess lifetime cancer risks were calculated by multiplying the estimated chemical intake by the dose-response information (slope factor). The EPA uses a maximum acceptable risk range of 1E-04 (1 in 10,000) to 1E-06 (1 in 1,000,000) to determine whether a site poses a risk to human health (40 C.F.R. §300.430).

Non-cancer hazards are estimated by comparing (dividing) the average daily intake of a chemical over the specified exposure period with its chronic reference dose. This comparison is expressed as a hazard quotient (HQ). When the average daily intake of a chemical exceeds the reference dose (HQ>1), the potential for non-cancer health effects exists. Non-cancer health effects are cumulative when the toxic endpoints or target organs for each chemical are similar. In these cases, the HQs are added to obtain an overall hazard index (HI).

RME and CT cancer risks and non-cancer hazards were calculated for each of the exposure scenarios (adolescent, adult, and integrated adolescent/adult recreational fishing in each subarea; and occupational adult scenario in the Channels subarea).

Risk Results

The incidental ingestion of sediments and dermal contact with sediments were evaluated for all subareas. The results indicate that cancer risks and non-cancer hazards from dermal contact with sediments, and the ingestion of sediments in all subareas are below the EPA's maximum acceptable cancer risk range of 1E-04 to 1E-06, and the HI goal of less than 1. In addition, all risks from the pesticide COPCs are below the maximum acceptable ranges. Risks and hazards from the consumption of fish and crawfish are described below for each subarea.

North Bayou - The adolescent recreationist scenario was the most appropriate for this subarea. RME and CT cancer risks were evaluated for the consumption of locally caught fish and the combined consumption of fish (catfish and bass), and results are within the EPA's acceptable risk range.

The RME non-cancer hazard index (HI) is approximately 2 for the consumption of catfish. Therefore, non-cancer health effects from the consumption of fish caught in the North Bayou may potentially occur. The consumption of crawfish is not applicable for the North Bayou due to the lack of these organisms.

Channels - The recreational adult and the occupational adult scenarios were the most appropriate for this subarea. RME and CT cancer risks and hazards for the occupational adult scenario were evaluated for the incidental ingestion of sediments and dermal contact with sediments. There are no unacceptable cancer risks or non-cancer hazards for occupational adults.

For the recreational adult in the Channels subarea, the RME cancer risks from the consumption of locally caught fish are in the range of 3E-04 to 4E-05 and risks from the consumption of locally caught crawfish range from 3E-04 to 1E-06. These risks are primarily due to HCB. Risk from the combined exposure pathways is approximately 4E-04. Some of these values for the RME scenario exceed the EPA's acceptable cancer risk range goal of 1E-04 to 1E-06. The CT cancer risks are all within the acceptable risk range.

The RME non-cancer hazards for the consumption of locally caught fish range from 1 to 10, and hazards for the consumption of locally caught crawfish range from 0.2 to 10. When added across all pathways, the HI is 12, primarily due to HCBD effects on the kidney. All CT non-cancer hazards are less than the EPA maximum acceptable hazard goal of 1.

North Swamp - The recreational adult and recreational adolescent scenarios were the most appropriate for this subarea. RME and CT cancer risks were evaluated for the consumption of locally caught fish, locally caught crawfish, and the combined consumption of fish and crawfish. There are no unacceptable cancer risks for recreational adults and adolescents in the North Swamp.

The RME non-cancer hazard for the consumption of locally caught fish is 2. Hazards from the consumption of crawfish caught in the North Swamp range from 0.07 to 2. When added across the pathways, the HI is 2, primarily due to HCBD effects on the kidney. Thus, some of these values exceed the acceptable hazard goal of less than 1. The CT non-cancer hazards in the North Swamp are all less than 1.

Devil's Lake - The recreational adult and recreational adolescent scenarios were the most appropriate for this subarea. RME and CT cancer risks were evaluated for the consumption of locally caught fish, locally caught crawfish, and the combined consumption of fish and crawfish. RME cancer risks from the consumption of fish from Devil's Lake are in the range of 1E-04 to 2E-04. Risks from the consumption of locally caught crawfish range from 3E-03 to 9E-05, and risk from the combined exposure pathways is approximately 7E-04. The EPA's acceptable risk range is exceeded in this subarea, and these RME cancer risks are due almost exclusively to the presence of PCBs in edible fish and crawfish tissues. The CT cancer risks are all within the acceptable risk range.

The RME non-cancer hazards for the consumption of fish from Devil's Lake range from 5 to 7, and hazards from the consumption of locally caught crawfish range from 4 to 130. Hazards from the combined exposure pathways result in a HI of approximately 27 for PCB effects to the immune system, and a HI of approximately 2 for HCBD effects on the kidney. These values exceed the EPA's acceptable hazard goal of less than 1. The CT non-cancer hazards for the consumption of catfish and

crawfish heads also exceeds the EPA's hazard goal. The CT hazard indices for catfish and crawfish heads are 2 and 11 respectively due to the presence of PCBs.

South Swamp - The recreational adult and recreational adolescent scenarios were the most appropriate for this subarea. RME and CT cancer risks were evaluated for the consumption of locally caught fish, locally caught crawfish, and the combined consumption of fish and crawfish. RME cancer risks for the consumption of fish from the South Swamp are within the EPA's acceptable risk range of 1E-04 to 1E-06. However, the RME cancer risk for the combined exposure pathways is approximately 2E-04 (primarily as a result of PCBs in the fish), which slightly exceeds the acceptable risk range.

The RME non-cancer hazards for the consumption of locally caught fish range from 3 to 6. When added across all pathways, the HI is 8, due to PCB effects on the immune system. All CT non-cancer hazards are less than 1, however the combined exposure pathway scenario results in a HI of 1.

Uncertainty

Several sources of uncertainty have been documented in the HHRA, but the most important issues are related to exposure assumptions. Even though a site-specific survey of fish and crawfish consumption rates was not conducted for this risk assessment, the consumption rates are based on studies of recreational anglers in Louisiana and Alabama, and they are considered representative of the potentially exposed population at Devil's Swamp. This HHRA also assumes that a particular angler fishes only in the vicinity of Devil's Swamp and Bayou Baton Rouge; therefore, exposure frequency and duration may tend to overestimate risk, particularly in the RME scenario. Fishing in different locations and eating a wide variety of fish is likely to reduce actual exposures.

Effects of fish preparation methods on human health risks were not evaluated in this assessment. Contaminant burdens in fish may decrease by 10 to 70 percent depending on how the fish is prepared and cooked, and this usually results in an overestimation of risk.

Experimental cancer bioassays typically expose animals to very high levels of chemicals for their entire lifetime. The slope factor is calculated as the 95-percent UCL of the slope of the dose-response curve. This introduces substantial conservatism into the risk assessment, especially for COPCs which are classified as possible or probable human carcinogens.

To offset other uncertainties, conservative assumptions and a range of values (e.g., consumption of whole crawfish and heads, and the use of RME and CT exposure concentrations) were used to estimate exposure and effects.

6. Conclusions

The highest RME cancer risks result from the consumption of crawfish and fish from Devil's Lake (7E-04) for the integrated adolescent/adult scenario. RME cancer risks for the combined exposure pathways also exceeded 1E-04 for recreationists in the Channels and South Swamp subareas. These cancer risks are due primarily to PCBs in Devil's Lake and the South Swamp, and HCB in the Channels. None of the CT cancer risks exceeded 1E-04.

The highest non-cancer hazard also occurs from the consumption of fish and crawfish from Devil's Lake (RME HI for PCBs=27). In addition, non-cancer RME hazards in excess of the EPA's acceptable hazard goal occur from HCBD in fish and crawfish from the North Bayou, Channels, and North Swamp subareas (HIs=2, 14, and 3, respectively). Relatively high RME hazards also result from PCBs in fish from the South Swamp (HI=9). CT non-cancer hazards are generally less than 1, except for the consumption of catfish and crawfish caught in the Devil's Lake subarea (HI=2).

1.0 INTRODUCTION

1.1 Purpose and Overview

The purpose of this Human Health Risk Assessment (HHRA) is to evaluate potential adverse health effects caused by releases of hazardous substances in the Devil's Swamp study area near Baton Rouge, Louisiana. This study area encompasses a portion of Bayou Baton Rouge, flowing from the Scenic Highway west and south into Devil's Swamp, and continuing to its mouth at the Mississippi River, as shown in Figure 1-1. The primary functions of this HHRA are to: (1) document whether actual or potential health risks exist in the study area; (2) identify which contaminants at the site pose health risks; and (3) generate data to be used in identifying and evaluating cleanup options.

Investigations conducted by the U.S. Environmental Protection Agency (EPA) Field Investigation Team (FIT) in 1985 and by the Louisiana Department of Environmental Quality (LDEQ) in 1986 revealed chlorinated hydrocarbons, including hexachlorobenzene (HCB) and hexachlorobutadiene (HCBD), and metals contamination of soil, surface water, and sediments in Devil's Swamp; and polychlorinated biphenyls (PCBs) in the Devil's Lake area. In 1987, LDEQ investigations confirmed the presence of HCB, HCBD, and PCBs in fish tissue collected from Devil's Lake (LDEQ 1987). In autumn 1992, environmental samples were collected by the EPA (PRC Environmental Management, Inc. [PRC] 1993a,b,c) and NPC Services, Inc. (NPC 1993a,b) to determine levels of contamination in Devil's Swamp sediments, water, and biota. The LDEQ also collected crawfish tails from four locations in the swamp in 1995 for contaminant analysis (LDEQ 1995).

Based on these historical data, the *Draft Technical Memorandum, Preliminary Exposure Scenarios, and Risk Calculations for Human Health Assessment, Devil's Swamp, Louisiana* (PESRC) (DPRA, Inc. [DPRA] 1996) was prepared. This document examined: (1) known or suspected contaminants and their potential transport mechanisms; (2) exposure pathways of contaminants to human receptors; and (3) the general toxicity of the chemicals of potential concern (COPCs). In addition, screening-level exposure estimates (based on conservative assumptions and maximum contaminant concentrations) and preliminary risk calculations were conducted. Based on results of the preliminary assessment and meetings between the risk manager and the risk assessment team, it was determined that contaminants from the Devil's Swamp site posed potential adverse health effects and that the risk assessment process would continue.

A study design for the acquisition of data, including additional sediment and tissue samples for human health assessment, was developed in the *Final Sampling and Analysis Plan/Quality Assurance Project Plan (SAP/QAPjP)* (TechLaw, Inc. [TechLaw] 1997a) and formed the basis of field data collection. The initial 1997 data collection occurred in early spring (March 3-14) and late spring (June 1-10), during flood and post-flood conditions on the Mississippi River. Information from the spring 1997 field investigation, along with conversations with landowners and recreationists occasionally visiting the swamp, were used to refine the conceptual model and to focus the data collection on relevant species and use-areas.

In September 1997, a *Draft Technical Memorandum, Revised Exposure Scenarios and Preliminary Risk Calculations for Human Health Assessment, Devil's Swamp, Louisiana* (TechLaw 1997b) was

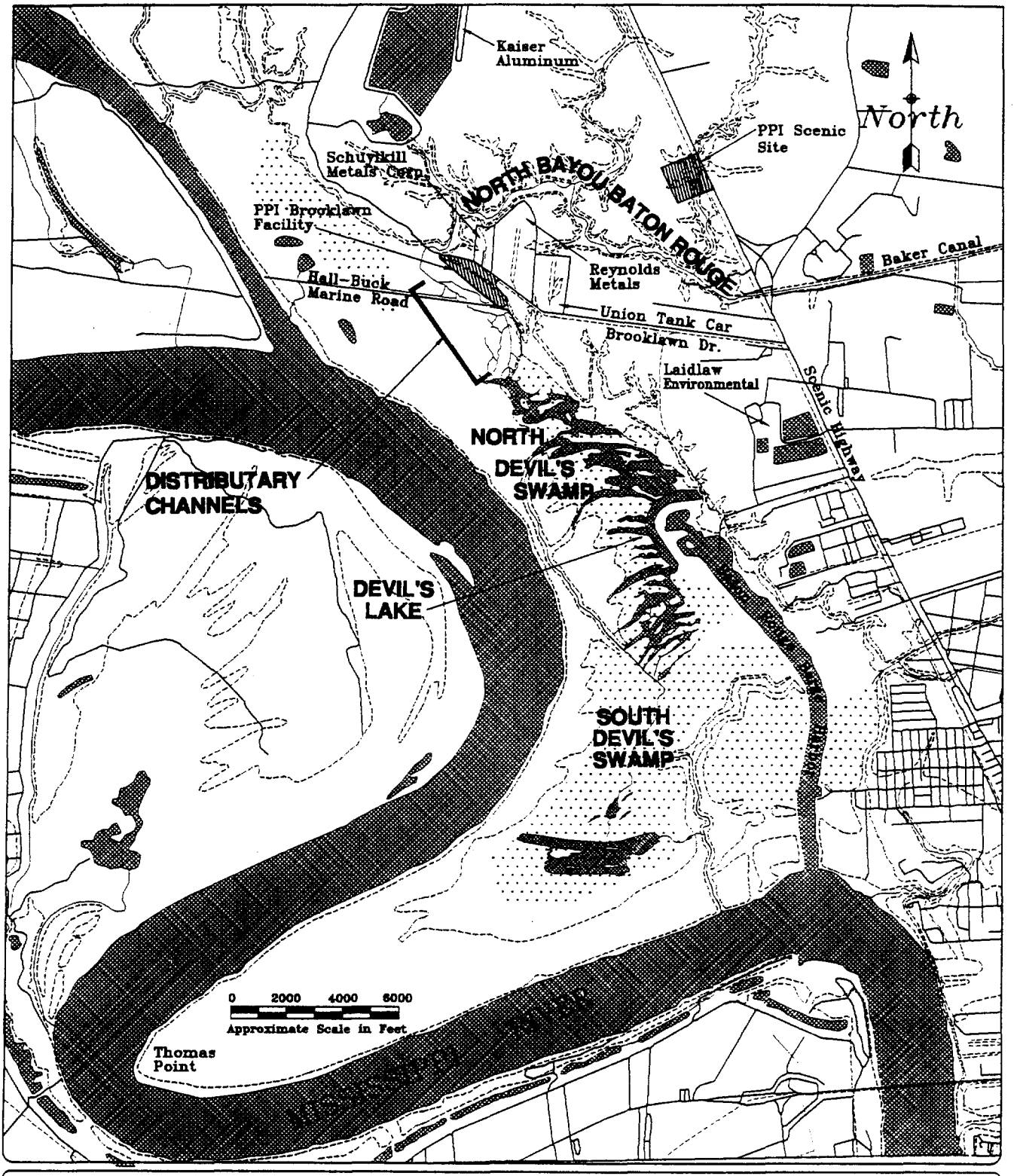


Figure 1-1

Area of Investigation

prepared. The purpose of the document was to refine the list of COPCs and determine whether any other field data would be necessary to adequately assess potential risks to human health.

Results based on the initial tissue data indicated that contaminant concentrations in crawfish and fish varied considerably between March and June. It was expected that there would be differences in the autumn season as well. Additional sediment and tissue data were collected in November 1997 to evaluate temporal and spatial variability, improve knowledge of the magnitude and geographic extent of contamination, and assess environmental conditions in reference (background) areas for comparison with data from Devil's Swamp (TechLaw 1997c). Information gained during these investigations also increased confidence in some of the historical site data, provided some indication of seasonal occurrences and contaminant variability in crawfish and fish, and evaluated human access and recreational fishing issues.

The following EPA guidance documents were used in preparing this HHRA:

- *Risk Assessment Guidance for Superfund (RAGS), Volume 1, Human Health Evaluation Manual, Part A* (EPA 1989) and *Part D* (EPA 1998c);
- *Standard Default Exposure Factors, Supplemental Guidance to RAGS* (EPA 1991a);
- *Dermal Exposure Assessment: Principles and Applications* (EPA 1992a);
- *Calculating the Concentration Term, Supplemental Guidance to RAGS* (EPA 1992b);
- *Exposure Factors Handbook, Volumes I through III* (EPA 1997b); and
- *Dermal Risk Assessment Interim Guidance, Supplemental Guidance to RAGS* (EPA 1998b).

The remainder of this HHRA is organized as follows: (1) Section 2.0 summarizes the COPCs considered in this risk assessment; (2) Section 3.0 presents an assessment of potential exposure pathways and receptors, including a conceptual site model; (3) Section 4.0 is a toxicity assessment of the contaminants; (4) Section 5.0 presents a characterization of human health hazards and risks; and (5) Section 6.0 provides an uncertainty analysis of the major factors affecting estimates of hazards and risks. Volume 2 of this HHRA contains the standard tables pursuant to EPA guidance (EPA 1998c).

1.2 Site Description

The study area encompasses the Devil's Swamp flood plain and portions of Bayou Baton Rouge. The central area of the site is approximately 16 kilometers (km) (10 miles [mi]) north of downtown Baton Rouge in East Baton Rouge Parish, Louisiana. The Devil's Swamp flood plain is a freshwater wetland covering approximately 31 square kilometers (km^2) (12 square miles [mi^2]) of land along the east side of the Mississippi River (Figure 1-1). From its southern end, Devil's Swamp extends about five to six miles to the north. Northern Devil's Swamp has an elevation of approximately 10.7 meters (m) (35 feet [ft]) above mean sea level (MSL) and is bordered on the west by the natural levee of the Mississippi River, and on the east by a terrace at an elevation approximately 12.2 m (40 ft) above the

swamp. Southern Devil's Swamp is approximately 9.2 m (30 ft) above MSL and is bordered to the east and west by the levee of the Baton Rouge Barge Harbor and the natural levee of the Mississippi River, respectively.

The Bayou Baton Rouge/Devil's Swamp drainage system extends from the main arm of Bayou Baton Rouge at the Scenic Highway (State Route 61) in the northern portion of the site, and meanders approximately 12 km (7.5 mi) south to its mouth at the Mississippi River, approximately 0.8 km (0.5 mi) west of the entrance to the Baton Rouge Barge Harbor. Drainage from Bayou Baton Rouge upstream of the Scenic Highway is principally from agricultural land. The bayou is then joined by Baker Canal and meanders west for approximately 2.8 km (1.75 mi), receiving additional drainage from three small unnamed tributaries, before turning south into Devil's Swamp. When the Mississippi River is below flood stage the surface water in northern Devil's Swamp flows into Devil's Lake in the central portion of the swamp.

Devil's Lake is a man-made lake situated between the northern and southern regions of Devil's Swamp. It is located about 3.5 km (2.2 mi) upstream from the mouth of where Bayou Baton Rouge flows into the Mississippi River in southern Devil's Swamp. The lake was created in 1973 from the dredging of sediments that were used as embankment fill for reinforcing the levee along Baton Rouge Harbor. Baton Rouge Harbor is located just south of Devil's Lake along the east side of Devil's Swamp. Devil's Lake is oxbow-shaped having a width of approximately 122 m (400 ft) and a length of about 1,280 m (4,200 ft). The dredged out area of the lake covers approximately 15.8 hectares (39 acres), however the overall lake area is about 26 hectares (64 acres) as a result of natural ponds that connect directly to the dredged area. During flood conditions, the western and northern boundaries of the lake are indistinct as it coalesces with water of the surrounding swamp. A centerline depth ranging from approximately 3.0 to 7.6 m (10 to 25 ft) has been measured in the lake during low water conditions. However the lake stage, and thus the lake depth, varies considerably from the high-water season in the spring to the low water season in the fall. The lake stage depicted on United States Geological Survey (USGS) topographic maps is 9.1 m (30 ft) above MSL, but was observed to fluctuate 3.0 to 4.6 m (10 to 15 ft) between high and low water sampling events.

When the Mississippi River is below flood stage, the surface water in southern Devil's Swamp flows to the southwest from Devil's Lake into southern Bayou Baton Rouge. Surface water from Thomas Point generally flows to southern Bayou Baton Rouge and south into the Mississippi River. Flow in this area is usually reversed when Mississippi River water backs into the swamp during flood conditions.

Prior to the 1950s, the area surrounding Devil's Swamp consisted of scattered agricultural farms, pasture land, and some timber. Rapid industrialization throughout the 1960s and 1970s resulted in numerous waste storage sites and subsequent releases of hazardous substances in areas surrounding Devil's Swamp. The sites were used as depositories for various organic wastes from petrochemical processes and refining industries, landfills, and receiving basins. Sites such as the Petro Processors of Louisiana, Inc. (PPI) Scenic and Brooklawn disposal sites are on the Superfund National Priorities List (NPL). Historic activities associated with these sites resulted in the contamination of shallow soils and groundwater.

The PPI Scenic disposal site is approximately 2.8 hectares (7 acres) in size and is located on the western side of the Scenic Highway (State Route 61), along the east bank of Bayou Baton Rouge.

The 22.3-hectare (55-acre) PPI Brooklawn site is located on Brooklawn Drive approximately 2.4 km (1.5 mi) west of the intersection of Scenic Highway and Brooklawn Drive (Figure 1-1). Various solid, semi-solid, and liquid industrial wastes were disposed at the Scenic site, and chlorinated organic wastes were deposited at the Brooklawn facilities. Unlined pits were used at both sites. Contaminated sediments have been identified in Bayou Baton Rouge and its distributary channels extending into northern Devil's Swamp. The primary contaminants associated with these sites include chlorinated hydrocarbons, principally HCB and HCBD (PRC 1993a).

Laidlaw Environmental Services, Inc. (Laidlaw), formerly Rollins Environmental Services of Louisiana, Inc. (Rollins), is located north of the Baton Rouge Barge Harbor and west of Scenic Highway. Rollins began operating a hazardous chemical disposal facility here in 1971. Most of the landfill cells and receiving basins were below grade and used the natural clay soils for liners. In 1980, Rollins initiated improvements to the facility which included excavation of previous disposal units, the construction of new landfills with liners (clay and synthetic), and implementation of a groundwater monitoring and recovery program. However, sediment sampling conducted by the LDEQ (1986) and the EPA (1991b) confirmed the presence of PCBs in Devil's Lake and along the effluent wastewater ditch from the former Rollins facility. Laidlaw has a National Pollution Discharge Elimination System (NPDES) permit allowing treated wastewater and storm water to be discharged. The facility outfall historically discharged to the north end of Devil's Lake before the present discharge line to the Mississippi River was installed (PRC 1993a). Currently, Laidlaw is permitted under the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments (HSWA).

Other industrial facilities within the vicinity of Devil's Swamp include:

- Schuylkill Metal Corporation - A resource recovery facility that recycles spent lead batteries and other inorganic lead-bearing materials. Elevated concentrations of cadmium, lead, and other heavy metals have been detected in sediments downstream of the facility.

- Reynolds Metals - A calcined coke facility in operation immediately north of the PPI Brooklawn disposal site. Coke dusts have been deposited in the ditches of Hall-Buck Marine Road and particulate deposition from its stack emissions have been observed in the watershed.

- Union Tank Car - A relatively inactive railroad tank car repair and inspection facility with wastewater treatment ponds that discharge into Bayou Baton Rouge.

- Kaiser Aluminum - This facility consists of fenced land used for the stockpile of bauxite (an aluminum ore) as part of a U.S. government stockpile program.

- Grant Chemical Division of Ferro Corporation - An active facility that manufactures and blends various organic and inorganic chemicals. Several releases of hazardous materials have been reported from this site, as well as effluent discharges to Bayou Baton Rouge.

1.3 Environmental Setting

The Bayou Baton Rouge and Devil's Swamp watershed, from the PPI Scenic site down gradient to the Mississippi River, is composed of at least five major segments with distinct habitats and physicochemical characteristics. For the purposes of this HHRA and potential human exposures within this watershed, these segments are:

- North Bayou Baton Rouge
- Distributary Channels
- North Swamp
- Devil's Lake
- South Swamp

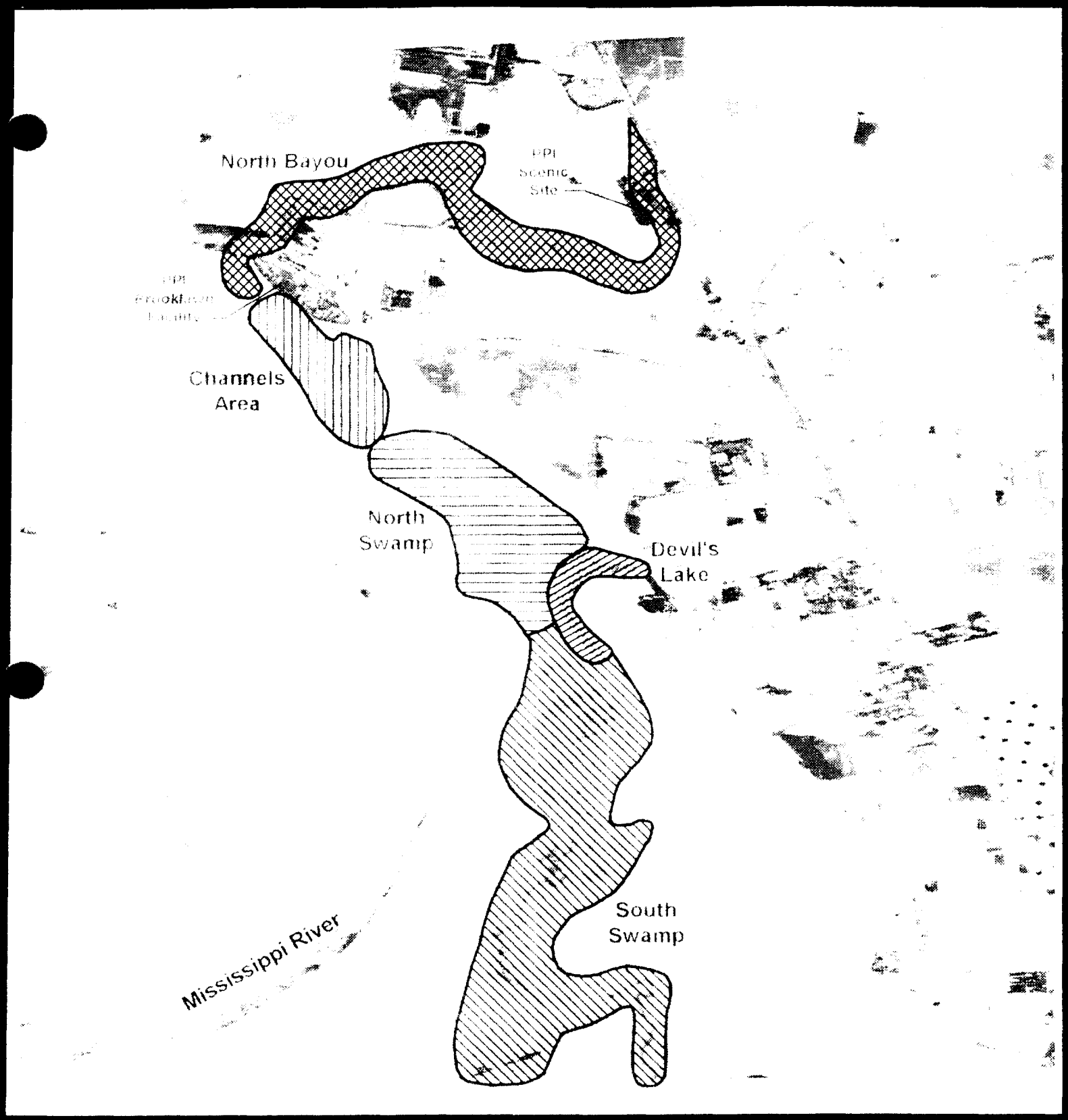
Complex biological, physical, and chemical interactions are found within and between these watershed segments in the study area. Such interactions include the flow of nutrients and energy; biomass transformations and degradation of flora and fauna; spatial and temporal transport and deposition of organic matter and other chemicals; and partitioning of resources by competing plants and animals. These interactions along with disturbances from human activity and meteorological impacts largely determine the composition of the biota, soils, sediments, and water of the site. The five watershed segments are shown in Figure 1-2, and a brief discussion of these areas is presented below. Detailed descriptions of important aspects of human use of these areas are provided in Section 3.1.

North Bayou

This area is characterized by a single channel, ranging from approximately 9.1 to 30.5 m (30 to 100 ft) wide, which flows through the terrace bench before entering Devil's Swamp and a series of small distributary channels south of the PPI Brooklawn facility, as it nears the flood plain of the Mississippi River. The banks are relatively steep and eroded due to rapid fluctuations in water levels and flows. Human access is physically restricted by the steep, densely vegetated banks. Water flows during the rainy season and from storm events are often dangerous. The ability to harvest crawfish in sufficient quantities for human consumption in this area is low, due to the general scarcity of prime crawfish habitat. The North Bayou does support some game fish such as catfish, largemouth bass, and sakalay (crappies). Virtually all of this area is privately owned and legal access severely restricts general public use. Permission from landowners is generally necessary for individuals to hunt or fish in the North Bayou area.

Distributary Channels Area

This watershed area is generally characterized as bottomland hardwood forest containing many semi-permanent flowing distributary channels with water depths less than 1.8 m (6 ft). It is an approximate 4,500-foot long segment of swamp that lies immediately west and southwest of the PPI Brooklawn site. The majority of the land in this area is owned by NPC Services, Inc., and access is restricted by locked gates. Human use of this area is limited to workers who occasionally conduct studies or investigations under approved health and safety plans. However, physical evidence of crawfish traps, fishing trot lines, and old deer hunting blinds indicates some unauthorized use by hunters and anglers. Physical access to this area to harvest crawfish and fish is generally limited to boats during high-water



LEGEND

North Bayou | North Swamp | South Swamp
Channels Area | Devil's Lake

N

3000 0 3000
Scale in Feet

Figure 1-2. Major Watershed Segments of Devil's Swamp and Bayou Baton Rouge
Devil's Swamp, Baton Rouge, LA

periods in the spring months. Travel by foot in the channels environment is extremely difficult. Most of the game fish inhabiting this area are directly connected to the swamp during high water. However, these fish are generally restricted to the deeper channels or beaver ponds during low-water conditions.

North Swamp

This swamp environment is characterized by numerous small, open ponds with bald cypress and water tupelo trees. Portions of this swamp contain water year-round, largely due to beaver dams. From approximately June through December, the water is often too shallow for boating. The land is private property and permission is generally required to access the area. Physical access is difficult, as there are no roads leading to the swamp. Access by foot is possible from the upland terrace or from Devil's Lake, where a boat may be cached. Fishing and crawfishing in this area is evidenced by abandoned crawfish traps and old trot lines.

Devil's Lake

Devil's Lake bisects the north and south portions of the swamp environment. It has relatively deep, open water year round, and it serves as a "refuge" for many fish when large portions of the swamp dry up. Devil's Lake is also a major depositional zone for particulate matter flowing into it and for runoff from the Laidlaw facility's drainage ditch. Overland access to the lake is somewhat restricted by fencing and private land. Boats are often seen cached along the shore for intermittent recreational use.

South Swamp

This portion of the swamp also has many small, open cypress ponds and beaver dams which are interconnected most of the year. The swamp eventually drains back again into the relatively distinct channel of southern Bayou Baton Rouge. Abandoned crawfish traps and trot lines are observed throughout this area. Access occurs by boat from the Mississippi River, either by entering the mouth of Bayou Baton Rouge when water levels permit, or by temporarily mooring a boat on the Mississippi River levee and then walking or taking a smaller boat into the swamp. The South Swamp may also be accessed from Devil's Lake. In addition, there is a maintained, floating fishing/hunting camp located in the channel of the south bayou. These are also private lands, and permission to fish and hunt is generally required.

2.0 CHEMICALS OF POTENTIAL CONCERN

This section summarizes the data used in the HHRA, describes the data evaluation process, and identifies the COPCs with respect to human health.

2.1 Data Collection

As noted previously, several sampling events have been conducted by various contractors at Devil's Swamp and Bayou Baton Rouge. However, these historical data were collected with different objectives and not all are applicable for risk assessment. This has affected the interpretation of historical data and was a primary factor in the acquisition of field data collected in 1997. Three sources of analytical data were evaluated for use in preparation of this HHRA, as discussed below.

In autumn 1992, PRC, under contract to the EPA, collected 102 sediment samples throughout Bayou Baton Rouge and Devil's Swamp. The purpose of this sampling effort was to evaluate the possible extent and magnitude of contamination in the swamp, and to identify potential hot spots. Approved quality assurance/quality control (QA/QC) procedures were followed in the sampling and analysis program, and the data were validated in accordance with the EPA Contract Laboratory Program (CLP) criteria. These sediment data were the principal source of information used in developing the PESRC document (DPRA 1996). Sediment data from 31 samples collected by PRC at Devil's Lake and 15 samples obtained from the swamp area south of the lake were used to provide sufficient coverage in calculating exposure concentrations in this HHRA.

In 1996, NPC collected sediment samples from the portion of Bayou Baton Rouge between the Scenic site and Baker Canal. These samples were collected as part of a Remedial Planning Activities (RPA) report to assess potential human health risks in this reach of Bayou Baton Rouge. The sediment sampling effort was conducted in accordance with a sampling and analysis plan using appropriate QA/QC procedures. A risk assessment for this specific area has been prepared by NPC as part of the RPA report (NPC 1997). Sediment data collected by NPC are not used in this HHRA.

Sediment, surface water, crawfish, and tissue samples were collected by TechLaw in 1997. These samples are the primary source of data used in the HHRA. The samples were collected and analyzed using the EPA methods specified in the SAP/QAPjP (TechLaw 1997a,c). All samples were analyzed by QST Environmental (formerly Environmental Science & Engineering, Inc.) in Gainesville, Florida.

2.2 Evaluation of Data Quality

The following discussion focuses on data collected by TechLaw in 1997, although the data validation qualifiers and the criteria used in the determination of usable data are also applicable to the PRC sediment data.

2.2.1 Data Validation and Qualifiers

The assignment of qualifiers is the process of data validation and is performed according to established limits for acceptable concentrations and recoveries in the QC samples. These practices include the analysis of blanks, duplicates, surrogate, and matrix spikes along with actual samples from

the field. The purpose of validating the data is to allow the data user to interpret and use the data with varying degrees of confidence.

The validation of all analytical data collected in 1997 for the HHRA was consistent with the procedures specified in the *U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic and Organic Data Review* (EPA 1994b,c). Definitions for the data qualifiers attached to the analytical results are as follows:

J = The associated numerical value is an estimated quantity because the QC criteria were not met;

U = The element or compound was not detected;

R = The reported value is rejected, and re-sampling or re-analysis may be necessary to verify the presence or absence of the compound; and

N = The compound was tentatively identified.

All data not qualified during the data validation process are considered "valid" within the context of the CLP QA program and analytical QC requirements. Depending on the purpose for which the data are used, selected qualified data are also considered usable. For the Devil's Swamp HHRA, data assigned with a J (estimated) qualifier are considered usable, while R- and N-qualified data (rejected and tentatively identified, respectively) were excluded from further consideration. Non-detected values were used for statistical purposes in the development of exposure point concentrations.

Data for the HHRA were collected concurrently with data necessary for the ecological risk assessment. This resulted in the validation of 17,359 analytical results from the 1997 sampling program. Approximately 8 percent of the data are J-qualified, based on all detected (2.7 percent) and undetected (5.3 percent) values. Nearly all chemical data for the COPCs met EPA (1994b,c) guidelines and QC criteria specified in the SAP/QAPjP and, therefore, are considered usable. Of the data considered unusable, 386 (approximately 2.2 percent) of the analytical results were rejected and two results were qualified as tentatively identified. Rejected data and a summary of the reported chemical concentrations that were qualified are briefly discussed below for the three 1997 sampling events:

March 1997 - Seventeen chloroethane results for sediment samples were rejected (R) due to initial and continuing calibration relative response factors (RRFs) that were less than 0.05. Results for 2-butanone (MEK) in ten of the aqueous field QC samples (trip blanks, equipment blanks, and field blanks) and field sample SC-1 were rejected due to low continuing calibration RRFs. Most of the bis(2-ethylhexyl)phthalate results in sediments were J-qualified due to contamination of the method blank. Much of the sediment data for metals (lead, zinc, cadmium, mercury, and copper) were also J-qualified due to low spike recoveries and instrument calibrations that were outside of contract required detection limits.

June 1997 - Fourteen tissue sample results for pentachlorophenol were rejected (R) because of low matrix spike/matrix spike duplicate (MS/MSD) and laboratory control sample (LCS) recoveries. HCBD and 1,2,4,5-tetrachlorobenzene in crawfish duplicate sample SS-3REP and pelagic fish sample

SB-2A, respectively, were N-qualified because they were not confirmed by the second column. HCB, HCBD, and bis(2-ethylhexyl)phthalate in benthic fish sample NC-9 were J-qualified because of high surrogate recoveries. All organic results (semivolatile organic compounds [SVOCs], chlorinated hydrocarbons, pesticides, and PCBs) for sediments from reference stations REF-1 and REF-2 were J-qualified due to laboratory holding time violations (10 days outside of the 14-day extraction limit). Metals data for 21 of the tissue samples were also J-qualified because of matrix spike recovery values that were outside of QC criteria.

November 1997 - Fifteen of the tissue results for alpha chlordane and endosulfan-A were rejected (R) due to extraction difficulties and matrix interference problems that inhibited compound identification. All SVOC data for surface-water samples from SC-4 and SC-8 were rejected because of a gross holding time violation by the laboratory (48 days outside of the limit). Similarly, many SVOC data from sediment samples SB-3 and NS-10 were rejected because the extraction holding time was exceeded by more than double the limit. All PCB results for crawfish from station NC-5 were rejected because of poor surrogate spike recovery values. Results for 2-nitroaniline from water samples REF-3 and NS-13 were rejected because the continuing calibration RRF was less than 0.05, and 3,3-dichlorobenzidine data for water samples EB-101, EB-102, SC-6, DL-4, REF-3, and NS-13 were rejected because this compound was not recovered in the blank spike analysis. Cadmium detections in water samples were J-qualified because MS/MSD recovery values were outside of QC criteria. The laboratory re-extracted several sediment samples due to problems with sample extraction cleanup during organics analyses. In 13 tissue samples analyzed for chlorinated hydrocarbons, all analytes were J-qualified due to poor surrogate recovery values. Many chlorinated hydrocarbon analytes in sediments were also estimated (J-qualified) because surrogate spike recoveries were outside of QC limits.

2.2.2 Laboratory and Field QC Samples

Trip blanks, equipment rinsate blanks, and laboratory method and calibration blanks were evaluated to assess whether external sources of contamination potentially biased the Devil's Swamp HHRA analytical data. No contamination was detected in any of the trip blanks or field blanks and, consequently, external volatile contamination does not appear to have impacted investigative sample results. Acetone was detected in equipment rinsate blank EB-3 at a concentration of 36 µg/L. However, acetone was also detected in several laboratory blanks at low concentrations, and it is most likely the result of laboratory contamination. Bis(2-ethylhexyl)phthalate was reported in two equipment blanks (EB-1 and EB-2) and one laboratory method blank for tissues. This compound is a widely used plasticizer and its occurrence may be the result of laboratory contamination. Trace amounts of several metals (e.g., cadmium, lead, zinc, copper, aluminum, iron, sodium, and manganese) were detected in several of the equipment rinsate blanks.

2.2.3 Analytical Methods and Reporting Limits

The analytical methods used were selected in order to detect chemicals of concern at risk-based concentrations. The required quantitation limits (RQLs) are the quantitative detection levels desired to meet risk-based goals. The RQLs for the 1997 investigations are provided in the SAP/QAPjP, and they comprise the Data Quality Objectives (DQOs) for achieving human health risk-based detection limits.

The RQLs were generally met for analyses performed by QST Environmental on samples collected in 1997. Detection levels were elevated for a few chemicals (primarily chlorinated hydrocarbons) because dilution of the sample was necessary due to very high contaminant concentrations in sediment or high oil and fat content in tissue samples. However, the elevated detection levels in these instances are generally not a concern because the reported concentrations are much greater. In the March 1997 sampling event, lower detection limits were achieved for HCB and HCBD than could be attained with EPA Method 8270 (SVOCs) alone. In instances where both HCB and HCBD were detected using EPA Method 8270, the samples were re-analyzed using EPA Method 8121 (chlorinated hydrocarbons) with selective ion monitoring (SIM) analysis. This procedure allowed for better resolution and confirmation of low-level HCB and HCBD contamination. In general, EPA Method 8270 provides more accurate determination of HCB and HCBD levels when concentrations are high (>0.5 mg/kg), whereas EPA Method 8121 is more accurate at concentrations below 0.5 mg/kg.

2.2.4 Data Uncertainty

The total uncertainty associated with an analytical result is the sum of the errors associated with natural variation (environmental heterogeneity), sampling variability, and laboratory measurement errors (EPA 1992c). Sampling variability is influenced by the homogeneity of the material being sampled, the number of samples, the collection procedures, and the size of individual samples. Measurement error is the variation between true sample values and reported values, and is a function of variation in sample collection, sample preparation and handling, laboratory analysis, and data processing. Measurement errors in the data set are largely accounted for during the data validation process with the assessment of analytical accuracy and precision.

An assessment of the level of certainty associated with the data collection and analysis components of risk assessment is important because it affects the overall certainty of risk estimates. The critical factor in assessing effects of uncertainty in the analytical data is not that uncertainty exists, but rather that the risk assessor is able to qualify and/or quantitate the uncertainty so that informed decisions can be made. The uncertainty in data collection and analysis can be examined by evaluating completeness, comparability, and representativeness.

Completeness is a measure of the amount of usable data resulting from a data collection activity. Of the data collected in 1997, 97.8 percent of the analytical data were determined usable after validation, and this surpasses the overall completeness goal of 90 percent for the project, as specified in the SAP/QAPjP. Completeness of the field sampling effort is a measure of the planned number of samples to be collected divided by the actual number of samples obtained. The field sampling completeness for the 1997 data collection effort also exceeds the overall project completeness goal. Data that were not collected as initially planned were limited primarily to reference site samples that could not be obtained in March 1997 due to physical (flood) and legal access restrictions, and crawfish that could not be collected from the portion of Bayou Baton Rouge upstream of the PPI Brooklawn facility due to the lack of these organisms.

Comparability is primarily a function of bias in the sampling design and the similarity of the analytical methods used. Comparability problems in sampling are due primarily to different sampling designs and time periods. However, seasonal variations are treated like spatial variations because the risk assessment is calculated over time and the data are averaged and considered a single data set. Comparability of the 1997 data is very high. Although data were collected during three sampling

visits, the samples from each event were handled by the same laboratory using the same methods in preparing and analyzing the samples. Furthermore, the samples were collected by the same field personnel using identical methods, as specified in the field standard operating procedures (SOPs). Comparability of PRC data (from Devil's Lake and the South Swamp) used in this HHRA is also considered high. The sampling and analytical goals and methods used by PRC were reviewed and found to be sufficiently similar to those used in the 1997 data collection effort. Routine analytical methods were used in all the investigations, and the determination of comparability is simplified because the laboratories used the same standardized procedures and reporting limits. In addition, standardized methods for collecting and handling the samples were employed in the field. Therefore, the data from these two sources were determined to be sufficiently comparable to combine into a single data set.

Representativeness of the data is primarily a planning concern. The potential implications are that the data will be biased so that they do not reflect the chemicals and concentrations present in the area(s) of interest. The data used in the project data set were collected using a SAP/QAPjP designed to collect representative data. Once the designs were implemented, only sampling variability was evaluated during the assessment process because no significant contamination occurred in the QC samples or blanks, nor were there any significant problems during sample preparation and handling that affected sample results. The high quality of the analytical data used in this HHRA also enhances representativeness because of the decreased likelihood of false negative and false positive detections that could affect estimates of risk.

2.3 Identification of Chemicals of Potential Concern

This section describes the procedure used to select human health COPCs, summarizes the development of site-specific risk-based screening concentrations (RBSCs), and identifies the COPCs selected for quantitative evaluation in this HHRA.

2.3.1 Preliminary COPCs

A preliminary list of COPCs in sediment and surface water was developed in the PESRC, by using a concentration-toxicity screening procedure to identify those chemicals most likely to contribute significantly to risks in each medium. This method was selected because site-specific exposure parameters had not been identified at that time, and it was deemed preferable to a screening method using generic RBSCs based on an assumption that the swamp sediments represent residential soils. The maximum detected contaminant concentrations from the PRC sediment data (PRC 1993a,b,c) were used to identify preliminary COPCs. Tissue data were not used to identify COPCs in the PESRC. The preliminary COPCs most likely to result in significant human health risks were HCB, HCBD, PCBs, and arsenic.

Consequently, the 1997 sampling program focused on these chemicals in sediments and in edible tissues. It was further determined in the PESRC that surface water, shallow groundwater, and air were either incomplete exposure pathways or were unlikely to contribute significantly to human health risks at the site.

After review of the spring 1997 sampling data, the preliminary COPC list was modified in the *Draft Technical Memorandum, Revised Exposure Scenarios and Preliminary Risk Calculations for Human*

Health Assessment, Devil's Swamp, Louisiana (TechLaw 1997b) to include pesticides and any degradation products of HCB (i.e., the penta-, tetra-, and trichlorobenzene compounds) that were detected in tissues. This was done in an effort to obtain an understanding of the potential contribution of these additional chemicals to overall human health risk.

2.3.2 Site-Specific RBSC Methodology

By compiling all sediment and tissue data and using updated information on human use and exposure pathways in the study area, a site-specific risk-based evaluation of COPCs was performed. The methodology consisted of the following steps:

1. Site-specific RBSCs were calculated for each medium;
2. Maximum concentrations of chemicals detected in each subarea and medium were compiled;
3. Maximum detected chemical concentrations were compared with RBSCs, and those chemicals that exceeded RBSCs were identified;
4. For inorganics with maximum concentrations that exceed the RBSCs, a comparison to site background concentrations was performed. If concentrations in the study area were similar to concentrations in the reference area, the chemical was eliminated as a COPC; and
5. Other relevant considerations were evaluated, and a final list of COPCs was generated.

The result of the site-specific risk-based screening process is a list of COPCs for each medium and subarea. These COPCs were retained for further evaluation in the HHRA.

Calculation of RBSCs

RBSCs were calculated for sediment, fish/shellfish tissue, and surface water. Conservative site-specific exposure parameters (see Section 3), a target cancer risk of 1E-06, and a target hazard quotient (HQ) of 0.1 were used to develop RBSCs. The use of a HQ of 0.1 is typically used for screening to ensure that chemicals with additive effects are not prematurely eliminated during screening. The equations and exposure parameters used to calculate the RBSCs, as well as the calculated RBSC for each chemical detected at Devil's Swamp, are discussed in detail in Appendix A. RBSCs were not calculated for those chemicals that do not have available toxicity values.

Compilation of Maximum Detected Concentrations

Based on the preliminary exposure scenarios identified in the PESRC, subsequent site visits, and discussions with landowners and persons familiar with the area, the Devil's Swamp/Bayou Baton Rouge study area was divided into five subareas for purposes of the HHRA. The subareas and sample types available for each subarea are:

- North Bayou: sediment, catfish (whole body), bass (whole body);
- Channels: sediment, catfish (whole body), bass (whole body), crawfish (whole body);
- North Swamp: sediment, bass (whole body), crawfish (whole body);
- Devil's Lake: sediment, catfish (fillets), bass (fillets), crawfish (whole body, tails, heads); and

- South Swamp: sediment, catfish (fillets), bass (fillets), crawfish (whole body, tails, heads).

The specific portions of Devil's Swamp and Bayou Baton Rouge that are included in each of these subareas correspond with the location of watershed segments shown in Figure 1-2. Maximum concentrations for all chemicals detected in sediment and fish/shellfish tissue are listed in Tables 2-1 and 2-2, respectively. Maximum detected concentrations in surface water samples are provided in Table 2-3.

Comparison of Maximum Detected Concentrations with RBSCs

Tables 2-1 through 2-3 present a comparison of maximum detected concentrations of each chemical in each sampled medium (and subarea for sediment and fish/shellfish) with the RBSC calculated for that medium. Chemicals with maximum detected concentrations that exceed the RBSCs are identified. Chemicals without RBSCs (toxicity values are not available) are also indicated in the tables. In addition, Volume 2, Section 2 of this HHRA presents the standard tables used for the selection of COPCs.

Comparison to Site Background Concentrations

The only inorganic chemical with detected concentrations that exceed an RBSC is arsenic. Due to the highly conservative RBSCs for arsenic, this chemical exceeds the sediment RBSC at all five subareas, in all fish/shellfish tissue in the North Bayou, Channels, and North Swamp, and in crawfish whole body tissue in Devil's Lake and South Swamp. However, a comparison of arsenic concentrations from the 1997 sampling event with concentrations present at reference locations indicates levels that are comparable. The 95-percent upper confidence limit (UCL) on the mean arsenic sediment concentration ranges from 7.7 milligrams/kilogram (mg/kg) (North Swamp) to 9.0 mg/kg (South Swamp) in the study area, while the UCL arsenic concentration in the reference area is 9.1 mg/kg. There is no known contaminant source for arsenic and no contamination gradient was found. Sediment samples collected by PRC in 1992 had slightly higher levels of arsenic, particularly in Devil's Lake and the South Swamp. However, most of the differences in the data sets are due to the use of different analytical techniques and different numbers of samples. When the 1997 arsenic sediment data from the site and reference areas are compared, as shown above, the arsenic concentrations are not elevated beyond natural conditions. In addition, although arsenic may accumulate in fish/shellfish relative to other heavy metals, these levels are still reflective of their exposure to sediments and water. Therefore, arsenic in sediment and fish/shellfish tissue was eliminated as a COPC.

Although pesticides that exceed RBSCs in sediment were retained as COPCs, no contamination gradient or specific source area was identified, and pesticides levels in the study area most likely represent anthropogenic background levels.

Table 2-1
Risk-Based Screening - Sediments

Subarea	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{sed}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{sed}$?
North Bayou	1,1,2,2-Tetrachloroethane	0.91	12	NO
	1,2,4,5-Tetrachlorobenzene	0.01	41	NO
	1,2,4-Trichlorobenzene	0.021	1,400	NO
	1,3,5-Trichlorobenzene	0.027	NA	NO RBSC
	Acetone	12	14,000	NO
	Aluminum	11,000	380,000	NO
	Antimony	0.46	150	NO
	Arsenic	22	3.1	YES
	Barium	120	27,000	NO
	Benzo(a)anthracene	0.2	2.7	NO
	Benzo(a)pyrene	0.23	0.27	NO
	Benzo(b)fluoranthene	0.15	2.7	NO
	Beryllium	0.44	760	NO
	Bis(2-ethylhexyl)phthalate	0.18	170	NO
	Cadmium	22	380	NO
	Chromium	11	1,100	NO
	Chrysene	0.27	270	NO
	Cobalt	4.1	23,000	NO
	Copper	23	15,000	NO
	Fluoranthene	0.18	4,500	NO
	Hexachlorobenzene	1.5	1.5	YES
	Hexachlorobutadiene	0.22	27	NO
	Hexachloroethane	0.0079	140	NO
	Lead	2,700	NA	NO RBSC
	Manganese	300	18,000	NO
	Mercury (Inorganic)	0.078	110	NO
	Methylene chloride	0.011	320	NO
	Naphthalene	0.15	2,200	NO
	Nickel	8.4	7,600	NO
	Pentachlorobenzene	0.087	110	NO
	Phenanthrene	0.19	2,200	NO
	Pyrene	0.2	3,400	NO
	Selenium	0.61	1,900	NO
	Silver	0.042	1,900	NO
	Thallium	0.38	31	NO
	Vanadium	17	2,700	NO
	Zinc	49	110,000	NO
Channels	1,1,2,2-Tetrachloroethane	0.4	12	NO
	1,2,3,4-Tetrachlorobenzene	3.1	NA	NO RBSC
	1,2,3-Trichlorobenzene	0.12	NA	NO RBSC
	1,2,4,5-Tetrachlorobenzene	7.1	41	NO
	1,2,4-Trichlorobenzene	0.21	1,400	NO
	1,2-Dichlorobenzene	0.16	12,000	NO
	1,3,5-Trichlorobenzene	9	NA	NO RBSC
	1,3-Dichlorobenzene	1.9	4,100	NO
	1,4-Dichlorobenzene	0.49	100	NO
	Acetone	0.13	14,000	NO
	Aldrin	0.005	0.14	NO
	Aluminum	10,000	380,000	NO

Table 2-1
Risk-Based Screening - Sediments

Subarea	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{sed}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{sed}$?
Channels (cont.)	Antimony	0.71	150	NO
	Arsenic	13	3.1	YES
	Barium	120	27,000	NO
	Benzo(a)anthracene	0.33	2.7	NO
	Benzo(a)pyrene	0.19	0.27	NO
	Benzo(b)fluoranthene	0.29	2.7	NO
	Benzo(k)fluoranthene	0.15	27	NO
	Beryllium	0.37	760	NO
	Bis(2-ethylhexyl)phthalate	4.9	170	NO
	Cadmium	19	380	NO
	Chlordane-alpha	0.0075	12	NO
	Chlordane-gamma	0.0031	12	NO
	Chlordane-technical	0.048	12	NO
	Chlorobenzene	0.022	2,700	NO
	Chromium VI	9.7	1,100	NO
	Chrysene	0.39	270	NO
	Cobalt	4.5	23,000	NO
	Copper	12	15,000	NO
	DDD,pp	0.0045	20	NO
	DDE,pp	0.005	14	NO
	Fluoranthene	0.23	4,500	NO
	Hexachlorobenzene	61	1.5	YES
	Hexachlorobutadiene	89	27	YES
	Hexachloroethane	0.0021	140	NO
	Lead	190	NA	NO RBSC
	Manganese	400	18,000	NO
	Mercury (Inorganic)	0.15	110	NO
	Methylene chloride	0.022	320	NO
	Nickel	7.4	7,600	NO
	Pentachlorobenzene	39	110	NO
	Phenanthrene	0.32	2,200	NO
	Pyrene	0.23	3,400	NO
	Selenium	0.25	1,900	NO
	Silver	0.045	1,900	NO
	Thallium	0.26	31	NO
	Vanadium	16	2,700	NO
	Xylenes	0.01	270,000	NO
	Zinc	80	110,000	NO
North Swamp	*1,2,3,4-Tetrachlorobenzene*	0.0073	NA	NO RBSC
	1,2,4,5-Tetrachlorobenzene	0.04	41	NO
	1,2,4-Trichlorobenzene	0.028	1,400	NO
	1,3,5-Trichlorobenzene	0.057	NA	NO RBSC
	Arsenic	7.7	3.1	YES
	Cadmium	5.5	380	NO
	Copper	12	15,000	NO
	DDD,pp	0.0028	20	NO
	DDE,pp	0.0055	14	NO
	Hexachlorobenzene	0.029	1.5	NO
	Hexachlorobutadiene	0.043	27	NO

Table 2-1
Risk-Based Screening - Sediments

Subarea	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{sed}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{sed}$?
North Swamp (cont.)	*Lead*	150	NA	NO RBSC
	Mercury (Inorganic)	0.000066	110	NO
	Pentachlorobenzene	0.011	110	NO
	Zinc	64	110,000	NO
Devil's Lake	1,2,4,5-Tetrachlorobenzene	0.014	41	NO
	1,2,4-Trichlorobenzene	0.02	1,400	NO
	1,3,5-Trichlorobenzene	0.014	NA	NO RBSC
	1,3-Dichlorobenzene	0.085	4,100	NO
	1,4-Dichlorobenzene	1.4	100	NO
	2-Methylnaphthalene	4.8	2,200	NO
	3,3'-Dichlorobenzidine	0.24	5.3	NO
	4-Chloro-3-methylphenol	0.1	NA	NO RBSC
	Acenaphthene	1.4	6,700	NO
	Acenaphthylene	1.1	6,700	NO
	Acetone	0.29	14,000	NO
	Aldrin	0.00027	0.14	NO
	Aluminum	36,000	380,000	NO
	Anthracene	2.3	34,000	NO
	Antimony	0.66	150	NO
	Arsenic	32	3.1	YES
	Barium	700	27,000	NO
	Benzo(a)anthracene	3	2.7	YES
	Benzo(a)pyrene	0.56	0.27	YES
	Benzo(b)fluoranthene	0.74	2.7	NO
	Benzo(k)fluoranthene	0.74	27	NO
	Beryllium	1.9	760	NO
	BHC, alpha-	0.0036	0.65	NO
	BHC, beta-	0.0038	2.3	NO
	BHC, delta-	0.0024	NA	NO RBSC
	BHC, gamma- (Lindane)	0.0065	3.2	NO
	Bis(2-ethylhexyl)phthalate	5.9	170	NO
	Butylbenzylphthalate	1	27,000	NO
	Cadmium	26	380	NO
	Carbazole	0.076	120	NO
	Carbon disulfide	0.003	14,000	NO
	Chlordane-alpha	0.051	12	NO
	Chlordane-gamma	0.011	12	NO
	Chlorobenzene	1	2,700	NO
	Chloroform	0.002	390	NO
	Chromium VI	55	1,100	NO
	Chrysene	3.9	270	NO
	Cobalt	29	23,000	NO
	Copper	54	15,000	NO
	DDD,pp	0.016	20	NO
	DDE,pp	0.019	14	NO
	DDT,pp	0.017	14	NO
	Dieldrin	0.00028	0.15	NO
	Di-n-butylphthalate	0.17	14,000	NO
	Di-n-octylphthalate	12	2,700	NO

Table 2-1
Risk-Based Screening - Sediments

Subarea	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{sed}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{sed}$?
Devil's Lake (cont.)	Endosulfan	0.0042	820	NO
	Endosulfan sulfate	0.0054	820	NO
	Endrin	0.0032	41	NO
	Endrin aldehyde	0.015	41	NO
	Endrin ketone	0.0071	41	NO
	Ethylbenzene	1.8	14,000	NO
	Fluoranthene	2.7	4,500	NO
	Fluorene	4.3	4,500	NO
	Heptachlor epoxide	0.014	0.26	NO
	Hexachlorobenzene	0.0086	1.5	NO
	Hexachlorobutadiene	0.014	27	NO
	Lead	180	NA	NO RBSC
	Manganese - Nonfood	1,900	18,000	NO
	Mercury (Inorganic)	0.65	110	NO
	Methoxychlor	0.067	680	NO
	Methyl ethyl ketone (2-butanone)	0.087	82,000	NO
	Naphthalene	1.6	2,200	NO
	Nickel	140	7,600	NO
	N-nitrosodiphenylamine	13	490	NO
	Polychlorinated biphenyls (PCBs)	6.4	0.93	YES
	Phenanthrene	17	2,200	NO
	Phenol	0.097	82,000	NO
	Pyrene	7.4	3,400	NO
	Selenium	0.65	1,900	NO
	Silver	1.6	1,900	NO
	Thallium	0.53	31	NO
	Vanadium	75	2,700	NO
	Xylenes	0.31	270,000	NO
	Zinc	240	110,000	NO
South Swamp	1,2,4,5-Tetrachlorobenzene	0.012	41	NO
	1,2,4-Trichlorobenzene	0.011	1,400	NO
	1,2-Dichlorobenzene	0.38	12,000	NO
	1,3,5-Trichlorobenzene	0.014	NA	NO RBSC
	1,4-Dichlorobenzene	0.16	100	NO
	2-Methylnaphthalene	0.11	2,200	NO
	Acenaphthylene	0.085	6,700	NO
	Acetone	0.47	14,000	NO
	Aluminum	34,000	380,000	NO
	Anthracene	0.14	34,000	NO
	Arsenic	36	3.1	YES
	Barium	280	27,000	NO
	Benzene	0.003	82	NO
	Benzo(a)anthracene	0.067	2.7	NO
	Beryllium	2.4	760	NO
	BHC, beta-	0.00082	2.3	NO
	Bis(2-ethylhexyl)phthalate	5.4	170	NO
	Butylbenzylphthalate	0.35	27,000	NO
	Cadmium	14	380	NO
	Carbazole	0.075	120	NO

Table 2-1
Risk-Based Screening - Sediments

Subarea	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{sed}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{sed}$?
South Swamp (cont.)	Chromium VI	95	1,100	NO
	Chrysene	0.1	270	NO
	Cobalt	20	23,000	NO
	Copper	140	15,000	NO
	DDD,pp	0.0032	20	NO
	Di-n-octylphthalate	0.05	2,700	NO
	Endrin	0.0013	41	NO
	Endrin ketone	0.00071	41	NO
	Fluoranthene	0.099	4,500	NO
	Fluorene	0.07	4,500	NO
	Hexachlorobenzene	0.006	1.5	NO
	Hexachlorobutadiene	0.021	27	NO
	Lead	99	NA	NO RBSC
	Manganese	650	18,000	NO
	Mercury (Inorganic)	0.17	110	NO
	Methyl ethyl ketone (2-butanone)	0.093	82,000	NO
	Methylene chloride	0.12	320	NO
	Naphthalene	0.056	2,200	NO
	Nickel	42	7,600	NO
	N-nitrosodiphenylamine	0.15	490	NO
	Polychlorinated biphenyls (PCBs)	0.13	0.93	NO
	Phenanthrene	0.96	2.200	NO
	Pyrene	0.17	3,400	NO
	Silver	12	1,900	NO
	Toluene	0.008	27,000	NO
	Vanadium	82	2,700	NO
	Zinc	210	110,000	NO

* Italicized chemicals are retained as COPCs but are not evaluated quantitatively in the HHRA because toxicity values were not available. Chemicals in bold are retained as COPCs and are evaluated quantitatively in the HHRA.

Table 2-2
Risk-Based Screening - Fish/Shellfish Tissue

Subarea	Media	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{fish}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{fish}$?
North Bayou	Catfish Whole Body	***1,2,4,5-Tetrachlorobenzene***	0.025	0.018	YES
		Aldrin	0.0017	0.000059	YES
		Arsenic	0.19	0.00067	YES
		Chlordane	0.0069	0.0029	YES
		DDD,pp	0.0033	0.0042	NO
		DDE,pp	0.0048	0.003	YES
		DDT,pp	0.0034	0.003	YES
		Dieldrin	0.0065	0.000063	YES
		Endosulfan	0.03	0.36	NO
		Hexachlorobenzene	0.16	0.00063	YES
		Hexachlorobutadiene	1.2	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.46	0.0005	YES
		Pentachlorobenzene	0.039	0.048	NO
	Bass Whole Body	***1,2,4,5-Tetrachlorobenzene***	0.038	0.018	YES
		Arsenic	0.3	0.00067	YES
		DDE,pp	0.0044	0.003	YES
		Hexachlorobenzene	0.09	0.00063	YES
		Hexachlorobutadiene	0.71	0.012	YES
		Pentachlorobenzene	0.075	0.048	YES
Channels	Catfish Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.42	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	1.5	0.018	YES
		Arsenic	0.23	0.00067	YES
		Chlordane	0.002	0.0029	NO
		DDD,pp	0.003	0.0042	NO
		DDE,pp	0.005	0.003	YES
		DDT,pp	0.0019	0.003	NO
		Dieldrin	0.002	0.000063	YES
		Endosulfan	0.0036	0.36	NO
		Hexachlorobenzene	2.2	0.00063	YES
		Hexachlorobutadiene	18	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.43	0.0005	YES
		Pentachlorobenzene	2.4	0.048	YES
	Bass Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.14	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.19	0.018	YES
		Arsenic	0.22	0.00067	YES
		BHC, delta-	0.0017	NA	NO RBSC
		DDD,pp	0.0056	0.0042	YES
		DDE,pp	0.023	0.003	YES
		DDT,pp	0.012	0.003	YES
		Dieldrin	0.0031	0.000063	YES
		Hexachlorobenzene	1	0.00063	YES
		Hexachlorobutadiene	11	0.012	YES
		Pentachlorobenzene	0.79	0.048	YES

Table 2-2
Risk-Based Screening - Fish/Shellfish Tissue

Subarea	Media	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{fish}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{fish}$?
Channels (cont.)	Crawfish Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.17	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	1.5	0.018	YES
		Arsenic	5.6	0.00067	YES
		Chlordane	0.0071	0.0029	YES
		DDD,pp	0.0099	0.0042	YES
		DDE,pp	0.029	0.003	YES
		DDT,pp	0.0069	0.003	YES
		Dieldrin	0.0119	0.000063	YES
		Hexachlorobenzene	0.74	0.00063	YES
		Hexachlorobutadiene	6.2	0.012	YES
		Pentachlorobenzene	0.59	0.048	YES
North Swamp	Bass Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.13	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.17	0.018	YES
		Arsenic	0.14	0.00067	YES
		BHC, delta-	0.0019	NA	NO RBSC
		DDE,pp	0.0093	0.003	YES
		DDT,pp	0.0071	0.003	YES
		Hexachlorobenzene	0.35	0.00063	YES
		Hexachlorobutadiene	9.4	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.2	0.0005	YES
		Pentachlorobenzene	0.61	0.048	YES
	Crawfish Whole Body	***Arsenic***	0.27	0.00067	YES
		DDD,pp	0.025	0.0042	YES
		DDE,pp	0.058	0.003	YES
		DDT,pp	0.0051	0.003	YES
		Hexachlorobenzene	0.019	0.00063	YES
		Hexachlorobutadiene	0.19	0.012	YES
		Pentachlorobenzene	0.038	0.048	NO
Devil's Lake	Catfish Fillets	*1,2,3,4-Tetrachlorobenzene*	0.011	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.027	0.018	YES
		DDE,pp	0.016	0.003	YES
		Hexachlorobenzene	0.078	0.00063	YES
		Hexachlorobutadiene	0.46	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.32	0.0005	YES
		Pentachlorobenzene	0.046	0.048	NO
	Bass Fillets	*1,2,3,4-Tetrachlorobenzene*	0.016	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.051	0.018	YES
		DDE,pp	0.0055	0.003	YES
		Hexachlorobenzene	0.043	0.00063	YES
		Hexachlorobutadiene	0.62	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.37	0.0005	YES
		Pentachlorobenzene	0.058	0.048	YES

Table 2-2
Risk-Based Screening - Fish/Shellfish Tissue

Subarea	Media	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{fish}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{fish}$?
Devil's Lake (cont.)	Crawfish Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.0023	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.015	0.018	NO
		Arsenic	0.87	0.00067	YES
		DDD,pp	0.033	0.0042	YES
		DDE,pp	0.086	0.003	YES
		DDT,pp	0.0078	0.003	YES
		Endrin aldehyde	0.0092	0.018	NO
		Hexachlorobenzene	0.0088	0.00063	YES
		Hexachlorobutadiene	0.14	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.89	0.0005	YES
		Pentachlorobenzene	0.075	0.048	YES
	Crawfish Tails	*1,2,3,4-Tetrachlorobenzene*	0.018	NA	NO RBSC
		Hexachlorobutadiene	0.012	0.012	NO
		Polychlorinated biphenyls (PCBs)	0.16	0.0005	YES
		Pentachlorobenzene	0.014	0.048	NO
	Crawfish Heads	*1,2,3,4-Tetrachlorobenzene*	0.0097	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.045	0.018	YES
		DDE,pp	0.0095	0.003	YES
		Hexachlorobenzene	0.05	0.00063	YES
		Hexachlorobutadiene	0.42	0.012	YES
		Polychlorinated biphenyls (PCBs)	5.8	0.0005	YES
		Pentachlorobenzene	0.061	0.048	YES
South Swamp	Catfish Fillets	*1,2,3,4-Tetrachlorobenzene*	0.0034	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.011	0.018	NO
		Aldrin	0.0017	0.000059	YES
		Chlordane	0.001	0.0029	NO
		DDD,pp	0.0019	0.0042	NO
		DDE,pp	0.0015	0.003	NO
		DDT,pp	0.0007	0.003	NO
		Dieldrin	0.0018	0.000063	YES
		Hexachlorobenzene	0.0085	0.00063	YES
		Hexachlorobutadiene	0.19	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.12	0.0005	YES
		Pentachlorobenzene	0.012	0.048	NO
	Bass Fillets	***Hexachlorobenzene***	0.0043	0.00063	YES
		Hexachlorobutadiene	0.0041	0.012	NO
		Polychlorinated biphenyls (PCBs)	0.33	0.0005	YES
		Pentachlorobenzene	0.003	0.048	NO

Table 2-2
Risk-Based Screening - Fish/Shellfish Tissue

Subarea	Media	Chemical*	Maximum Detected Conc. (mg/kg)	$RBSC_{fish}$ (mg/kg)	Does Maximum Detection Exceed $RBSC_{fish}$?
South Swamp (cont.)	Crawfish Whole Body	*1,2,3,4-Tetrachlorobenzene*	0.0072	NA	NO RBSC
		Arsenic	1.2	0.00067	YES
		DDD,pp	0.0073	0.0042	YES
		DDE,pp	0.011	0.003	YES
		DDT,pp	0.0087	0.003	YES
		Hexachlorobenzene	0.0053	0.00063	YES
		Hexachlorobutadiene	0.0697	0.012	YES
		Pentachlorobenzene	0.012	0.048	NO
	Crawfish Tails	Hexachlorobutadiene	0.0068	0.012	NO
		Pentachlorobenzene	0.0043	0.048	NO
	Crawfish Heads	*1,2,3,4-Tetrachlorobenzene*	0.002	NA	NO RBSC
		1,2,4,5-Tetrachlorobenzene	0.021	0.018	YES
		DDE,pp	0.0015	0.003	NO
		Hexachlorobenzene	0.0066	0.00063	YES
		Hexachlorobutadiene	0.076	0.012	YES
		Polychlorinated biphenyls (PCBs)	0.052	0.0005	YES
		Pentachlorobenzene	0.019	0.048	NO

* Italicized chemicals are retained as COPCs but are not evaluated quantitatively in the HHRA because toxicity values were not available. Chemicals in bold are retained as COPCs and are evaluated quantitatively in the HHRA.

Table 2-3
Risk-Based Screening - Surface Water

Chemical	Maximum Detected Conc. (mg/L)	$RBSC_{sw}$ (mg/L)	Does Maximum Detection Exceed $RBSC_{sw}$?
Arsenic	0.0065	0.028	NO
Cadmium	0.0038	2.1	NO
Copper	0.005	170	NO
Lead	0.019	NA	NO RBSC
Zinc	0.017	1,300	NO

Other Considerations

Although toxicity values are not available for lead, the EPA does provide a screening level for lead in soil under residential land use (EPA 1994a). This screening level (400 mg/kg) is exceeded in North Bayou sediments, where a single sample (of 10 samples collected) exceeded the screening level. The concentration of lead in this sample was 2,720 mg/kg, and the next highest detection of lead was 77 mg/kg. During re-sampling of this location in 1997, no elevated levels of lead were found (26 mg/kg).

In surface water, a lead concentration of 19.1 micrograms/liter (µg/L) slightly exceeds the drinking water screening level of 15 µg/L. However, because surface water is not a source of drinking water, and because potential exposures via incidental ingestion of surface water while wading or swimming are much lower than for use as drinking water, lead in surface water was not considered a concern. Therefore, lead was eliminated from further consideration as a COPC in all media.

At the North Bayou, Channels, and North Swamp subareas, only whole body fish/shellfish tissue data were collected. Contaminants tend to be less concentrated in fish fillets and crawfish tails than in whole body samples. Therefore, modeling of catfish and bass fillet, crawfish tail, and crawfish head concentrations was performed as described in Section 3.3. Because contaminants tend to be more concentrated in crawfish heads, modeled concentrations in crawfish heads were also compared to RBSCs. In the North Swamp subarea, the maximum concentration of pentachlorobenzene in whole crawfish did not exceed the RBSC, however the modeled concentration in crawfish heads did exceed the RBSC. Therefore, pentachlorobenzene was retained as a COPC in crawfish heads in the North Swamp.

The following chemicals were eliminated as COPCs because modeled concentrations were below detection limits in the sampled media: 1,2,4,5-tetrachlorobenzene, aldrin, chlordane, dieldrin, and endosulfan in catfish fillets (North Bayou); DDD, DDT, and dieldrin in bass fillets (Channels); and DDT in bass fillets (North Swamp).

In some cases, as described in Section 3.3, a predicted contaminant tissue concentration could not be obtained, and the contaminant was not included as a COPC. This was the case for chlordane, DDD, DDT, and dieldrin in crawfish tails and heads (Channels); 1,2,4,5-tetrachlorobenzene, DDE, and HCB in crawfish tails (Channels); DDD, DDE, DDT, and HCB in crawfish tails (North Swamp); and DDD and DDT in crawfish heads (North Swamp). The impact of not quantitatively evaluating these chemicals is discussed in the Uncertainty Analysis (Section 6.0).

Because there is a very low potential for volatilization of chemicals from sediment into air, the maximum detected sediment concentrations were compared to generic soil screening levels for the inhalation of volatiles from residential soils (EPA 1991a). The generic screening levels assume an exposure frequency of 350 days/year for 30 years, therefore these values are extremely conservative for the Devil's Swamp/Bayou Baton Rouge site. In the North Bayou, the maximum detected concentration of 1,1,2,2-tetrachloroethane (0.91 mg/kg) slightly exceeds the generic soil screening level for the inhalation of volatiles (0.6 mg/kg). However, given the level of conservatism inherent in the screening level, 1,1,2,2-tetrachloroethane is not believed to pose a significant risk from inhalation and was not included as a COPC.

At the Channels subarea, maximum detected concentrations of HCB and HCBD exceed the generic soil screening levels for the inhalation of volatiles. However, the 95-percent UCL concentrations (the exposure point concentrations) of these compounds are below the soil screening levels for potential risk from an inhalation pathway. In addition, these chemicals are already included as COPCs in sediment at the Channels subarea. No other chemicals exceeded the inhalation soil screening levels.

2.3.3 Summary of COPCs

Table 2-4 presents a summary of COPCs for each subarea and exposure medium. In addition, Table 2-4 identifies those chemicals for which toxicity values are not available (and therefore no RBSC was calculated). These chemicals were retained as COPCs but were not evaluated quantitatively in the HHRA. COPCs were not identified in surface water. Although pesticides were retained as COPCs, specific source areas and contamination gradients have not been identified within the study area.

Table 2-4
Summary of COPCs

Chemical	North Bayou			Channels						North Swamp				
	Catfish	Bass	Sediment	Catfish	Bass	Whole	Tails	Heads	Sediment	Bass	Whole	Tails	Heads	Sediment
1,2,4,5-Tetrachlorobenzene	●	●		●	●	●		●		●				
Aldrin														
Benzo(a)anthracene														
Benzo(a)pyrene														
Chlordane						●								
DDD						●					●			
DDE	●	●		●	●	●		●		●	●		●	
DDT						●					●			
Dieldrin						●								
Hexachlorobenzene	●	●	●	●	●	●		●	●	●	●		●	
Hexachlorobutadiene	●	●		●	●	●	●	●	●	●	●	●	●	
PCBs	●			●						●				
Pentachlorobenzene		●		●	●	●	●	●		●			●	
Chemicals Without Toxicity														
1,2,3,4-Tetrachlorobenzene				●	●	●	●	●	●	●				●
1,2,3-Trichlorobenzene									●					
1,3,5-Trichlorobenzene			●						●					●
4-Chloro-3-methylphenol														
BHC, delta-					●					●				

Table 2-4
Summary of COPCs

Chemical	Devil's Lake						South Swamp					
	Catfish	Bass	Whole	Tails	Heads	Sediment	Catfish	Bass	Whole	Tails	Heads	Sediment
1,2,4,5-Tetrachlorobenzene	●	●			●						●	
Aldrin							●					
Benzo(a)anthracene						●						
Benzo(a)pyrene						●						
Chlordane												
DDD			●						●			
DDE	●	●	●		●				●			
DDT			●						●			
Dieldrin							●					
Hexachlorobenzene	●	●	●		●		●	●	●		●	
Hexachlorobutadiene	●	●	●		●		●		●		●	
PCBs	●	●	●	●	●	●	●	●			●	
Pentachlorobenzene		●	●		●							
Chemicals Without Toxicity												
1,2,3,4-Tetrachlorobenzene	●	●	●	●	●		●		●		●	
1,2,3-Trichlorobenzene												
1,3,5-Trichlorobenzene						●						●
4-Chloro-3-methylphenol						●						
BHC, delta-						●						

3.0 EXPOSURE ASSESSMENT

This section assesses potential human exposure to COPCs under reasonable land/water use scenarios for the Devil's Swamp/Bayou Baton Rouge area. The exposure assessment identifies receptors at risk and estimates the type and magnitude of exposures to the COPCs. The results of the exposure assessment (this section) are then compared with the chemical-specific toxicity information in Section 4.0 to characterize potential risks.

The following four steps comprise an exposure assessment:

- Characterization of the exposure setting;
- Identification of exposure pathways;
- Development of exposure point concentrations; and
- Quantification of chemical intakes.

3.1 Characterization of the Exposure Setting

3.1.1 Groundwater

Contamination of groundwater has occurred at the PPI Brooklawn and Scenic NPL sites. This has resulted in the migration of plumes beneath and downgradient of the two sites. Monitoring of downgradient water quality has been continuing since the 1980s and is anticipated to continue for many years. Elevated levels of chlorinated organic compounds such as HCB and HCBD have been found in downgradient wells (NPC 1993a, 1997).

Currently, there is no human exposure to this water. Although groundwater is the main source of drinking water in the Baton Rouge area, most of the public supply wells in the area are screened at depths greater than 610 m (2,000 ft), with some wells screened in the 1,200-foot and 1,500-foot (below MSL) sands (Louisiana Department of Transportation and Development 1993). No private drinking water wells have been identified within 457 m (1,500 ft) of the bayou and swamp, and the nearest municipal well is more than 1.6 km (1 mi) away. In contrast, groundwater contamination at the PPI sites is predominantly restricted to the shallow sand deposits.

The most likely hypothetical future use of shallow groundwater is for industrial process water. However, municipal water is readily available in the area, and it is doubtful that future consumption of shallow groundwater would occur. Remedial activities to prevent contamination of the 400-foot aquifer (a potential drinking water aquifer) has been on-going for the past several years in accordance with a Consent Decree signed under federal court. In addition, monitoring and contaminant transport modeling is occurring to ensure that the 400-foot aquifer is not being impacted.

The groundwater contaminant plumes from the PPI Brooklawn and Scenic sites appear to have migrated primarily in southerly and westerly directions, respectively (NPC 1993a, 1997). The migration of contaminants has diminished because of the pumping of the remediation wells at the Brooklawn site and the capping of contaminants at the Scenic site. However, groundwater may still recharge surface waters in the swamp or bayou. Due to the remedial activities to contain contaminated groundwater and prevent it from reaching drinking water aquifers, groundwater is not assessed in this HHRA.

3.1.2 Surface Water

The surface waters of Bayou Baton Rouge and Devil's Swamp receive contaminants from a variety of sources, including contaminated groundwater and historical releases from past industrial activities. Storm water runoff into Baker Canal and storm water discharges from industrial activities also contribute contaminant loads into the watershed. Several NPDES permits have been issued to industries that discharge into Bayou Baton Rouge or Devil's Swamp. Monitoring records from these facilities indicate that thousands of gallons per day are discharged through the outfalls, which collectively contribute a substantial loading of metals and organic compounds into the watershed. Natural soil erosion and runoff, particularly from nearby farmlands, also contribute inorganic and organic chemicals to the watershed.

Human receptors could come into contact with contaminants in surface water during recreational activities such as exploring, hunting, fishing, and during occupational activities such as collecting environmental samples. However, as discussed in Section 2.3, no COPCs were identified in surface water.

3.1.3 Soil and Sediments

Historical releases of hazardous substances from operations at the PPI Brooklawn and Scenic sites have resulted in elevated concentrations of contaminants in soils and sediments. Most of the releases have been within the bayou (such as at the Scenic site), at the edge of the floodplain swamp (the Brooklawn site), or along the outfall ditch from the Laidlaw facility to Devil's Swamp Lake. Consequently, most of the contamination is found in the sediments of the channels and ponds. There is less contamination in the drier upland soils west toward the Mississippi River levee and toward the terrace bench. Currently, exposures to soil and sediment could occur during exploring, hunting, and fishing activities, and during the collection of environmental samples.

3.1.4 Air

The release of contaminants from soil into the air is not considered a major exposure pathway under baseline conditions. Even though some of the COPCs are volatile organic compounds, the soils or sediments would have to be substantially disturbed by human activities in order to generate sufficient volatilization. Because much of the contamination in sediments is covered by surface water, there is minimal potential for releases into the air. Similarly, the presence of wet soils precludes particulate emissions or fugitive dusts. Under baseline conditions, only slow natural volatilization and degradation are expected to occur.

Other sources affecting air quality include stack emissions from the Reynolds calcined coke facility, and incinerators at the PPI Brooklawn site and the Laidlaw facility. An air risk assessment was performed by NPC with respect to its incineration of chlorinated organic compounds recovered from groundwater extraction wells and disturbances of contaminated soils. The thermal destruction of the chlorinated compounds was considered a viable alternative to landfilling the waste.

Due to the lack of site-specific air data in Devil's Swamp, the minimal potential for disturbance of soils, and based on a comparison to generic soil/sediment screening levels for the inhalation of

volatiles (Section 2.3), the exposure of individuals to contaminants through the inhalation pathway is considered insignificant and was not quantified.

3.1.5 Fish/Shellfish

Recreational fishing and hunting activities occur in most areas of the bayou and swamp. In addition, unregulated commercial fishing and crawfishing occurs within the area. Due to both physical and legal access constraints, these recreational activities are limited to a small population of individuals. The swamp and bayou are privately owned and access is controlled by the landowners. The constraints of steep, heavily vegetated slopes along the bayou and the physical hazards of navigating through the floodplain limit the area as an attractive recreational site. Nevertheless, fish, crawfish, waterfowl, and deer are harvested from the area.

Quantitative evaluation of exposure through the consumption of wildlife is limited to fish and crawfish. While contaminants have been detected in ducks (historical samples) and may be present in deer, these animals are removed from contaminated sediments due to their forage behavior. Most of the waterfowl are migratory visitors to the swamp. Therefore, exposure through the consumption of deer and waterfowl was not quantified.

3.1.6 Potential Receptors

Due to the rugged terrain, it is unlikely that human receptors would frequent the North Bayou for recreational purposes. The most likely receptors in this area are children (ages 6 to 12) and adolescents (ages 13 to 18 years) occasionally exploring, playing, or fishing along the bayou. The nearest residential area consists of nine homes on Springfield Road, approximately 0.3 km (1,000 ft) south of the bayou junction with Baker Canal. Because of the general inaccessibility of this segment of the bayou, it is not considered attractive to non-local recreationists.

As the bayou enters the floodplain near the PPI Brooklawn site, it narrows into a series of smaller distributary channels. Due to access restrictions, particularly on NPC property immediately south of Hall-Buck Marine Road, human activities in this subarea (Channels) consist primarily of researchers and industry personnel conducting sampling, surveying, and other light work activities. An occasional trespasser may also wander through portions of this area.

The distributary channels in bottomland hardwood habitat merge into a series of interconnecting swamp and beaver ponds in a predominantly bald cypress habitat. This comprises the North Swamp where access is usually by boat during a few months in the spring. Use of the North Swamp subarea is limited to occasional recreational fishing, crawfishing, and hunting. A few deer and waterfowl hunting blinds are observed along the more open areas of the swamp. Some old crawfish traps may also be seen. Recreational hiking does not occur in this subarea and any deer hunting is confined to the edges of the interconnecting ponds during dry season. Swimming is not expected to occur due to wildlife hazards and access difficulties. During dry periods (generally summer and autumn) this area is virtually inaccessible by boat or by foot.

Devil's Lake is deep enough (1.8-6.1 m [6-20 ft]) to navigate a boat all year round. Access generally occurs by walking across private fenced lands from the upland terrace bench or by boating across Baton Rouge Barge Harbor, with a short portage to the lake. A trail runs along the east and south

portions of the lake. Extensive fishing/hunting debris and garbage are scattered along the shore. Devil's Lake is considered to have the highest fishing activity of all the subareas over all seasons. Crawfish are not readily harvested from the lake but are found in the shallow swamps adjacent to the lake.

The South Swamp includes the area south of Devil's Lake to the mouth of Bayou Baton Rouge. During the wet season the bayou is connected to the Mississippi River. Based on site visits and casual discussions with individuals utilizing the swamp, fishing and crawfishing are generally more frequent in this area during the spring than further north. This is because the harvestable resources are plentiful and relatively easier to get without having to navigate farther into the swamp. Overall, the individuals who visit the bayou and swamp are generally local people who are familiar with the area. The size of this population is unknown, but is likely to be a few dozen people.

3.2 Identification of Exposure Pathways

An exposure pathway is the mechanism through which a receptor comes into contact with contaminated media. For an exposure to occur, there must be a source and mechanism of chemical release, a retention or transport medium, a point of human contact with the exposure medium, and an exposure route (i.e., ingestion, inhalation, dermal contact). If all of these elements are present, the exposure pathway is complete, and a human exposure may occur. Based on the information presented above, a conceptual site model was developed to identify the media and exposures of concern within Bayou Baton Rouge and Devil's Swamp. The conceptual site model presented in Figure 3-1 summarizes contaminant sources, environmental pathways to exposed individuals, and routes of entry into the body for each medium of exposure. Volume 2, Section 1 of this HHRA presents standard tables regarding the selection of exposure pathways for each subarea.

The development of exposure scenarios is based on the conceptual site model, site visits, discussions with local users, information provided in NPC's RPA reports, and risk assessment guidance. The guidance recommends evaluation of current and future scenarios to evaluate potential exposures to COPCs in the absence of remediation (EPA 1989). Two potential receptor groups have been identified: (1) industrial investigators conducting light work activities (e.g., sampling and surveying) in the Channels, and (2) recreational visitors in the North Bayou, Channels, North Swamp, Devil's Lake, and South Swamp subareas. An occasional trespasser scenario is not considered, because these activities are assumed to be similar to the recreational visitor or the field investigator. A subpopulation of subsistence users was not identified through discussions with landowners, local visitors to the swamp, and NPC personnel. Consequently, a subsistence scenario is not evaluated quantitatively. Because the swamp environment and associated human activities within it are not likely to change, future scenarios are considered to be consistent with current scenarios.

3.2.1 Recreational Visitor Scenario

The exposure scenarios evaluated for recreational visitors vary by subarea. In the North Bayou, it is assumed that children and adolescents would find the bayou a more attractive area to play, explore, or fish than an adult. Thus, the sediment ingestion rate, body weight and other exposure parameters reflect this age group. Due to access restrictions in the Channels subarea, exposures to recreational visitors are believed to be unlikely, however exposures to a recreational adult visitor to the Channels were conservatively included.

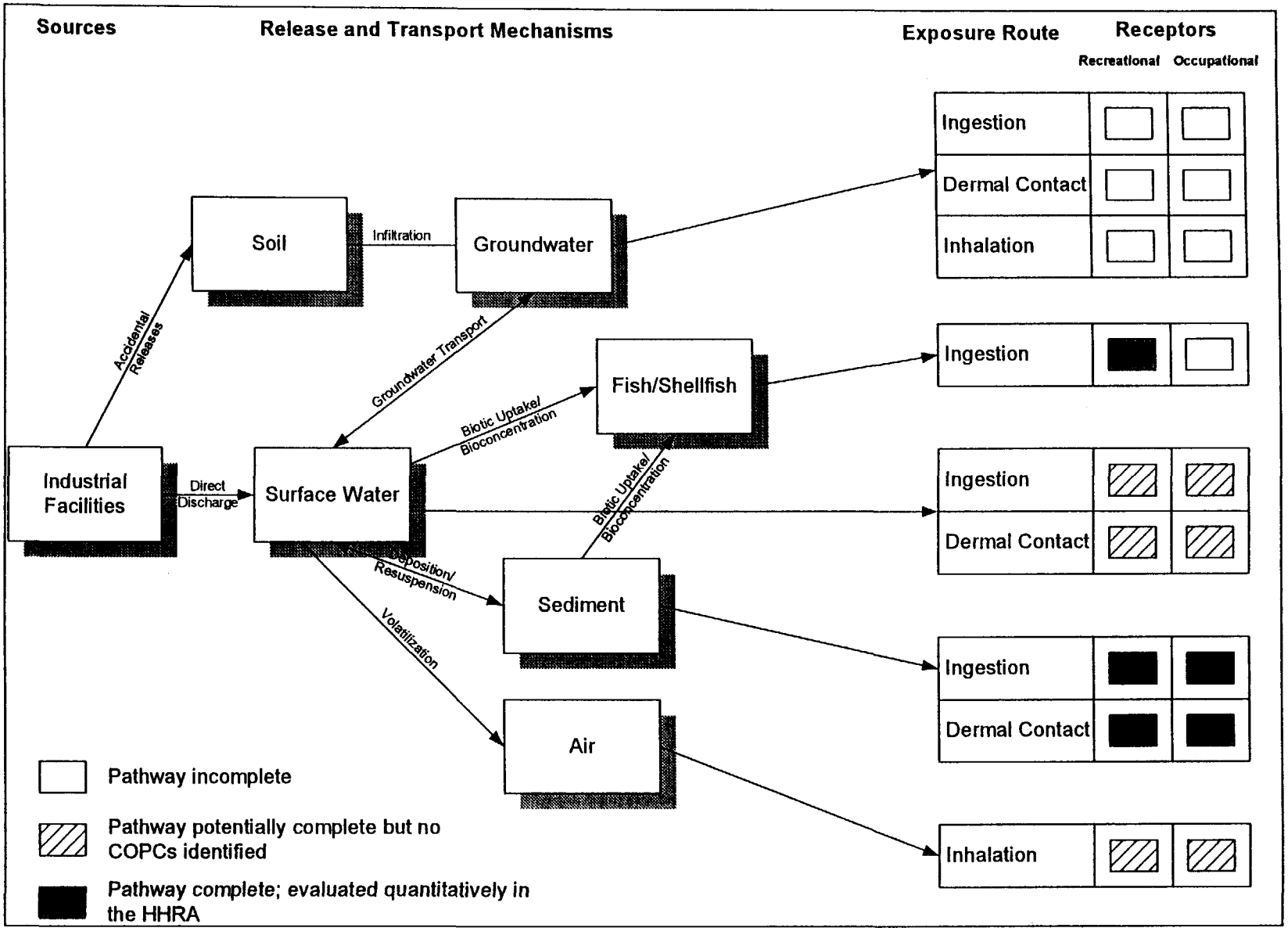


Figure 3-1. HHRA Conceptual Site Model - Devil's Swamp/Bayou Baton Rouge

In the North Swamp, Devil's Lake, and South Swamp subareas, adults (>18 years old) are assumed to participate primarily in fishing and hunting activities. Recreational activities are less likely to occur in the North Swamp than in Devil's Lake or the South Swamp, and they are limited primarily to the spring and early summer. Exposure to sediments by adults may be minimal because some of these activities are conducted solely from a boat. Adolescents may also visit these areas for recreational purposes, and they tend to have greater contact with sediment. Therefore, an integrated adolescent/adult scenario (a 42-year exposure duration that consists of 12 years as an adolescent and 30 years as an adult) was evaluated in order to provide a conservative estimate of potential human health risks for these areas.

The adolescent exposure assumptions for the North Swamp, Devil's Lake, and South Swamp are based on conversations with people encountered in the swamp or those who have been in the swamp. Even though these encounters and conversations did not establish detailed data on local activity patterns of adolescents using specific portions of the swamp, they provided useful information in identifying exposure pathways. For example, in one encounter with several individuals ranging in age from 14 to 27 at Devil's Lake, they were asked how long and often they visit the swamp. One of the young men said he had been coming to the swamp about every other weekend for the last several years. Some responded that they came with older brothers, relatives, or friends to fish. This group indicated they always packed a gun for safety, especially because of snakes. These people wore tennis shoes or sandals and used a cached boat. They also said that they have been in many areas of the swamp by boat and by foot depending on the time of year. Some individuals said that they had come to the swamp as a teen with older folks, and others responded that they witnessed teens in boats with other adults.

The recreational visitors are assumed to consume fish and crawfish caught in the bayou and swamp waters. Risk from the consumption of these aquatic organisms was evaluated. No complete exposure pathways are involved with surface water, because COPCs were not identified in surface water.

3.2.2 Industrial Investigator Scenario

This scenario was chosen to reflect a population of adult investigators who conduct research, sampling and monitoring activities, studies, or other exploratory activities in the bayou and swamp. Exposures are quantified for only the Channels subarea because it has relatively higher concentrations of COPCs compared to other areas. In addition, the Channels are located on industrial property, and other subareas are generally private lands leased for hunting and fishing purposes. The exposure assumptions are based on records of past activity and conversations with individuals who have conducted such activities. Although occupational workers take additional safety precautions to minimize skin contact with contaminated media, field experience suggests that the potential for skin exposures to mud and suspended sediments by workers traveling in the Channels environment are similar to that of recreationists.

3.3 Development of Exposure Point Concentrations

Exposure point concentrations are media-specific concentrations of a contaminant with which an individual may plausibly come into contact. Once exposure pathways have been identified, exposure point concentrations are developed for each COPC in each medium (in this case, sediment and

fish/shellfish tissue). Exposure point concentrations in this risk assessment are based on data collected by TechLaw in 1997 and sediment data collected from Devil's Lake and the South Swamp by PRC in 1992. At stations where HCB and HCBD concentrations in a sediment sample were determined by two analytical methods, the higher of the two values was used. Although the vast majority of the stations were sampled only once, a few biota stations were sampled multiple times to identify potential seasonal differences in tissue concentrations. Because crawfish harvesting generally occurs in the spring and early summer, the highest concentration from either March or June was used for crawfish. Similarly, the highest level reported in fish tissues from the spring/early summer or autumn sampling events was selected for the station. These levels were then combined with the other stations in the particular subarea to calculate exposure point concentrations for that subarea. Exposure point concentrations for each COPC are listed in Tables 3-1 through 3-5 for the North Bayou, Channels, North Swamp, Devil's Lake, and South Swamp subareas, respectively. Volume 2, Section 3 of this HHRA also presents the standard tables for the media-specific exposure point concentrations.

For this risk assessment, both reasonable maximum exposures (RME) and central tendency (CT) or average exposures are evaluated. The lesser of the 95-percent UCL on the arithmetic mean or the maximum detected concentration in sediment, fish, and shellfish tissue is used to represent an exposure point concentration for the RME case. RME exposures form the basis for risk management decisions for remedial activities. The CT exposure points are based on the arithmetic average concentrations in tissues and sediments. The central tendency scenarios are informational and provide the risk manager with a broad range of potential exposures for assessing risks and hazards. Non-detectable levels were included in the calculation of exposure point concentrations at one-half the sample quantitation limit. Human health risks are calculated for the consumption of benthic fish (catfish fillets), pelagic fish (largemouth bass fillets), and shellfish (crawfish). Risks from the consumption of crawfish are evaluated three ways: (1) consumption of whole crawfish, (2) consumption of crawfish tails, and (3) consumption of crawfish heads. This method provides a range of risks to account for the variety of ways to prepare and consume crawfish.

In the North Bayou, Channels, and North Swamp subareas, only whole body tissue data were collected in the field. Exposure point concentrations for fillets (catfish and bass) or tails and heads (crawfish) in these subareas were estimated using whole body/fillet ratios. The 95-percent UCL and average concentrations of COPCs in whole body and fillet samples from the same species collected elsewhere in the watershed were used to calculate the ratios. In some cases, a COPC was detected in only one tissue type and a ratio could not be obtained. In other instances, when the ratios were applied, the predicted tissue concentrations were less than the method quantitation limit, resulting in non-detectable levels.

The predicted tissue concentrations may underestimate exposure in more highly contaminated areas of the swamp. For example, a ratio for HCB in tails of crawfish could not be established. However, data indicate that HCB is present in whole body and head tissues in most areas of Devil's Swamp, and it was detected in crawfish tails (up to 13.8 μg/kg) collected from the Channels subarea (NPC 1993b). Consequently, HCB risks from the consumption of tails from crawfish caught in the Channels subarea are underestimated.

Table 3-1
Exposure Point Concentrations - North Bayou

Medium	Chemical	RME Exposure Point Conc. (mg/kg)	CT Exposure Point Conc. (mg/kg)
Catfish Fillet	1,2,4,5-Tetrachlorobenzene	0.002	ND
	DDE	0.00223	ND
	Hexachlorobenzene	0.155	0.0308
	Hexachlorobutadiene	0.68	0.0502
	Total PCBs [a]	0.143	0.02
Largemouth Bass Fillet	1,2,4,5-Tetrachlorobenzene	0.0031	0.0017
	DDE	0.0011	0.0011
	Hexachlorobenzene	0.0472	0.0374
	Hexachlorobutadiene	0.16	0.0857
	Pentachlorobenzene	0.0291	0.0048
Sediment	Hexachlorobenzene	0.306	0.14

Notes:
a - Total PCBs in catfish is the sum of PCB-1254 and PCB-1260
RME = Reasonable Maximum Exposure
CT = Central Tendency
ND = Not Detected

Table 3-2
Exposure Point Concentrations - Channels

Medium	Chemical	RME Exposure Point Conc. (mg/kg)	CT Exposure Point Conc. (mg/kg)
Catfish Fillet	1,2,4,5-Tetrachlorobenzene	0.071	0.0301
	DDE	0.00231	0.00177
	Hexachlorobenzene	1.495	0.204
	Hexachlorobutadiene	9.622	0.339
	Pentachlorobenzene	0.536	0.0294
	Total PCBs [a]	0.0799	0.0693
Largemouth Bass Fillet	1,2,4,5-Tetrachlorobenzene	0.0559	0.022
	DDE	0.00506	0.00476
	Hexachlorobenzene	0.253	0.209
	Hexachlorobutadiene	1.071	0.695
	Pentachlorobenzene	0.207	0.0946
Crawfish Whole Body	1,2,4,5-Tetrachlorobenzene	0.0337	0.00744
	Chlordane [b]	0.00708	0.00345
	DDD	0.00514	0.00088
	DDE	0.0157	0.00179
	DDT	0.0041	0.000845
	Dieldrin	0.0037	0.00082
	Hexachlorobenzene	0.244	0.145
	Hexachlorobutadiene	1.13	0.42
	Pentachlorobenzene	0.159	0.063
Crawfish Tails	Hexachlorobutadiene	0.161	0.125
	Pentachlorobenzene	0.0525	0.0445
Crawfish Heads	1,2,4,5-Tetrachlorobenzene	0.109	0.0945
	DDE	0.0094	0.00184
	Hexachlorobenzene	1.469	0.807
	Hexachlorobutadiene	7.882	4.748
	Pentachlorobenzene	0.243	0.192
Sediment	Hexachlorobenzene	0.688	0.213
	Hexachlorobutadiene	0.164	0.0488

Notes:
a - Total PCBs in catfish is PCB-1260 (PCB-1254 was not detected))
b - Chlordane is the sum of alpha-chlordane and gamma-chlordane
RME = Reasonable Maximum Exposure
CT = Central Tendency

Table 3-3
Exposure Point Concentrations - North Swamp

Medium	Chemical	RME Exposure Point Conc. (mg/kg)	CT Exposure Point Conc. (mg/kg)
Largemouth Bass Fillet	1,2,4,5-Tetrachlorobenzene	0.0709	0.013
	DDE	0.00204	0.00096
	Hexachlorobenzene	0.174	0.0733
	Hexachlorobutadiene	2.12	0.29
	Pentachlorobenzene	0.287	0.0287
	Total PCBs [a]	0.0626	0.0226
Crawfish Whole Body	DDD	0.0248	0.0248
	DDE	0.0581	0.0581
	DDT	0.00506	0.00506
	Hexachlorobenzene	0.0194	0.0121
	Hexachlorobutadiene	0.186	0.112
Crawfish Tails	Hexachlorobutadiene	0.0554	0.0334
Crawfish Heads	DDE	0.0581	0.0581
	Hexachlorobenzene	0.117	0.0852
	Hexachlorobutadiene	1.302	1.266
	Pentachlorobenzene	0.0861	0.0598

Notes:
a - Total PCBs in bass is the sum of PCB-1254 and PCB-1260
RME = Reasonable Maximum Exposure
CT = Central Tendency

Table 3-4
Exposure Point Concentrations - Devil's Lake

Medium	Chemical	RME Exposure Point Conc. (mg/kg)	CT Exposure Point Conc. (mg/kg)
Catfish Fillet	1,2,4,5-Tetrachlorobenzene	0.0112	0.0025
	DDE	0.0157	0.0114
	Hexachlorobenzene	0.071	0.0122
	Hexachlorobutadiene	0.349	0.0731
	Total PCBs [a]	0.323	0.182
Largemouth Bass Fillet	1,2,4,5-Tetrachlorobenzene	0.0185	0.0072
	DDE	0.00551	0.00164
	Hexachlorobenzene	0.0295	0.018
	Hexachlorobutadiene	0.369	0.0945
	Pentachlorobenzene	0.0312	0.0116
	Total PCBs	0.247	0.0964
Crawfish Whole Body	DDD	0.0325	0.00255
	DDE	0.0862	0.00928
	DDT	0.00784	0.00126
	Hexachlorobenzene	0.0083	0.00484
	Hexachlorobutadiene	0.141	0.0292
	Pentachlorobenzene	0.0663	0.0145
	Total PCBs [b]	0.641	0.0454
Crawfish Tails	Total PCBs	0.155	0.0899
Crawfish Heads	1,2,4,5-Tetrachlorobenzene	0.0449	0.0332
	DDE	0.00952	0.00952
	Hexachlorobenzene	0.05	0.0338
	Hexachlorobutadiene	0.424	0.331
	Pentachlorobenzene	0.061	0.0442
	Total PCBs	5.8	2.48
Sediment	Benzo(a)anthracene	0.51	0.312
	Benzo(a)pyrene	0.28	0.201
	Total PCBs [c]	1.073	0.556

Notes:
a - Total PCBs in catfish is the sum of PCB-1254 and PCB-1260
b - Total PCBs in crawfish (whole body) is PCB-1254 (PCB 1260 was not detected)
c - Total PCBs in sediment is the sum of PCB-1248, PCB-1254, and PCB-1260
RME = Reasonable Maximum Exposure
CT = Central Tendency

Table 3-5
Exposure Point Concentrations - South Swamp

Medium	Chemical	RME Exposure Point Conc. (mg/kg)	CT Exposure Point Conc. (mg/kg)
Catfish Fillet	Aldrin	0.00174	0.00174
	Dieldrin	0.00175	0.00175
	Hexachlorobenzene	0.00849	0.0063
	Hexachlorobutadiene	0.194	0.051
	Total PCBs [a]	0.118	0.0228
Largemouth Bass Fillet	Hexachlorobenzene	0.00431	0.0043
	Total PCBs [b]	0.325	0.325
Crawfish Whole Body	DDD	0.00477	0.00109
	DDE	0.0111	0.00621
	DDT	0.00865	0.00152
	Hexachlorobenzene	0.0081	0.0023
	Hexachlorobutadiene	0.0498	0.0124
Crawfish Heads	1,2,4,5-Tetrachlorobenzene	0.0176	0.0037
	Hexachlorobenzene	0.0048	0.0022
	Hexachlorobutadiene	0.0433	0.0067
	Total PCBs [c]	0.0266	0.0131

Notes:
a - Total PCBs in catfish is PCB-1254 (PCB-1260 was not detected)
b - Total PCBs in bass is PCB-1260 (PCB-1254 was not detected)
c - Total PCBs in crawfish heads is PCB-1254 (PCB-1260 was not detected)
RME = Reasonable Maximum Exposure
CT = Central Tendency

3.4 Fish and Shellfish Consumption Rates

Louisiana is a major seafood-consuming state. Recreational fishing is an important source of food for household consumption, and sport fishing in Louisiana is popular among a significant portion of the population (Dellenbarger et al. 1993). According to a survey conducted by Kelso et al. (1991), freshwater fishing from a boat in lakes, reservoirs, streams, or coastal marshes was the most popular activity, and the most popular freshwater finfish were largemouth bass (64 percent of first choices), crappie (17 percent), bluegill (9 percent), and catfish (9 percent). Almost 89 percent of the freshwater anglers indicated that they ate the fish they caught (Dellenbarger et al. 1993). A survey of household consumption patterns for Louisiana's aquacultural species was conducted in 1987 and found that households in southern Louisiana consumed significantly more crawfish than households in northern Louisiana (Dellenbarger et al. 1993). A 1992 telephone survey by Anderson and Rice (1992) found that approximately 95 percent of respondents reported eating seafood and 61 percent had eaten at least one seafood meal in the previous week.

In a survey of 1,100 households in Houma, Louisiana conducted in late winter of 1993, 93 percent of households reported consuming seafood, and 70 percent of respondents indicated they had consumed fish or shellfish in the last five days (Dellenbarger et al. 1993). The most popular fishing period of the year was April through June, followed by July through September. However, over 34 percent of respondents who fish out of necessity reported fishing year round. Over 40 percent of respondents who fish out of necessity reported rivers/bayous as their source of finfish and shellfish. The most frequently consumed fish/shellfish during the previous five days were: crawfish (27 percent), shrimp (23 percent), and catfish (16 percent). Nineteen percent of households eating finfish reported eating the skin, and only 1 percent consumed internal organs. Of the 202 respondents who ate crawfish, 41 percent reported sucking the crawfish heads. Of the 867 households who reported eating fish or shellfish in the previous five days, 66 percent indicated eating one fish meal, 23 percent reported eating two fish meals, 9 percent ate three fish meals, 1 percent ate four fish meals, and 1 percent ate five fish meals. For households consuming freshwater finfish in the previous five days, the total daily consumption rate was 76 grams/day (g/day), including 28.4 g/day catfish and 24.4 g/day bass. For shellfish, the total daily consumption rate (among households consuming shellfish in the previous five days) was 190 g/day, including 64 g/day of crawfish. Among all respondents who reported eating seafood occasionally (not necessarily in the past five days), the total daily finfish consumption rate was 20.4 g/day (including 13.8 g/day catfish and 3.0 g/day bass), while the total daily shellfish consumption rate was 39.2 g/day (including 12.9 g/day crawfish). It should be noted that the survey was conducted during March/April, a period of high seasonal availability of crawfish and, therefore, the consumption rate for crawfish does not represent an annual average.

An Alabama state-wide freshwater fish consumption survey of 1,586 anglers was conducted in 1992 and 1993, and estimates of daily per capita fish consumption were generated (Alabama Department of Environmental Management [ADEM] 1994). The survey used a visual representation for a typical 113-g (4-ounce) serving to derive annual estimates of daily per capita consumption. Results of the survey indicated that anglers consume 46 g/day of fish from rivers and reservoirs throughout Alabama, with 30 g/day harvested from specific study locations. The 95-percent UCL values were 50.7 g/day and 37.1 g/day, respectively. The Alabama survey was conducted during all seasons.

Although the Houma, Louisiana survey (Dellenbarger et al. 1993) has limitations (e.g., sampling was conducted during only one season, overestimation of crawfish annual consumption rates due to timing

of the survey, and the short-term recall period of five days), it is specific to Louisiana and includes species-specific consumption rates. Therefore, it was considered the most appropriate source of catfish, largemouth bass, and crawfish consumption rates used in this HHRA. To represent an RME case, consumption rates for households who ate seafood in the past five days were used (28.4 g/day catfish, 24.4 g/day bass, and 64 g/day crawfish). To represent an average angler, or CT scenario, the consumption rates for households who reported eating seafood (though not necessarily in the last five days) were used.

3.5 Quantification of Chemical Intakes

Chemical exposure, or intake, was determined using exposure models that combine various exposure parameters related to behavior and physiology, such as exposure frequency and body weight, with exposure point concentrations. The RME is the highest exposure that is reasonably expected to occur at a site. The intent of the RME is to provide a conservative estimate of exposure that is well above average, yet still within the range of possible exposures. By design, the estimated RME exposures are higher than will be experienced by most individuals in an exposed population. This provides a degree of protectiveness that encompasses individuals who have a higher likelihood of exposure.

The intake of COPCs is evaluated as follows:

$$\textit{Intake (mg/kg-day)} = \textit{EPC (mg/kg)} \times \textit{SIF (kg/kg-day)}$$

where: EPC = exposure point concentration
SIF = summary intake factor

Exposure point concentrations are presented in Tables 3-1 through 3-5. The SIFs were calculated as shown below:

Incidental ingestion of sediment: $SIF = IR \times FI \times EF \times ED \times CF/(BW \times AT)$

Dermal contact with sediment: $SIF = SSA \times AF \times ABS \times EF \times ED \times CF/(BW \times AT)$

Consumption of fish/shellfish: $SIF = IR \times FI \times EF \times ED/(BW \times AT)$

where: IR = ingestion rate (mg/day for sediment; g/day for fish/shellfish)
FI = fraction ingested from contaminated source (unitless)
EF = exposure frequency (days/year)
ED = exposure duration (years)
CF = conversion factor (kg/mg or kg/kg)
BW = body weight (kg)
AT = averaging time (days)
SSA = skin surface area available for contact [square centimeters(cm^2)/event]
AF = soil-to-skin adherence factor (mg/cm^2)
ABS = absorption factor (unitless)

For the integrated adolescent/adult recreational sediment ingestion scenario, the SIF is calculated as follows:

$$SIF = FI \times EF \times CF \times [(IR_A \times ED_A/BW_A) + (IR_a \times ED_a/BW_a)]/AT$$

where: IR_A = ingestion rate - adult (mg/day)
IR_a = ingestion rate - adolescent (mg/day)
ED_A = exposure duration - adult (years)
ED_a = exposure duration - adolescent (years)
BW_A = body weight - adult (kg)
BW_a = body weight - adolescent (kg)

For dermal contact with sediment, the SIF for the integrated adolescent/adult is calculated as follows:

$$SIF = EF \times ABS \times CF \times [(SSA_A \times AF_A \times ED_A/BW_A) + (SSA_a \times AF_a \times ED_a/BW_a]/AT$$

where: SSA_A = skin surface area - adult (cm^2)
SSA_a = skin surface area - adolescent (cm^2)
AF_A = adherence factor - adult (mg/cm^2)
AF_a = adherence factor - adolescent (mg/cm^2)

For fish/shellfish, the SIF for the integrated adolescent/adult is calculated as follows:

$$SIF = FI \times EF \times CF \times [(IR_A \times ED_A/BW_A) + (IR_a \times ED_a/BW_a)]/AT$$

where: IR_A = adult fish/shellfish ingestion rate (g/day)
IR_a = adolescent fish/shellfish ingestion rate (g/day)

For non-cancer health effects with the integrated adolescent/adult scenarios, the averaging time is the sum of the adolescent and adult averaging times. For cancer health effects, the averaging time is 70 years (25,550 days).

Tables 3-6 through 3-10 present a summary of the exposure assumptions used to calculate chronic daily chemical intake (or absorbed dose for the dermal contact pathway), and SIFs for each of the exposure pathways identified above.

The standard tables containing the exposure values used for daily intake calculations are presented in Volume 2, Section 4 of this HHRA. The sources for the exposure assumptions are discussed below.

Ingestion Rate for Sediment - For RME recreational exposures, the default residential soil ingestion rate of 100 mg/day was assumed for both recreational adults and adolescents (EPA 1991a). Although a higher default soil ingestion rate (200 mg/day) has been identified for children (EPA 1991a), this rate is based on children under the age of six who may incidentally ingest soil at a higher rate. Adolescents are more similar to adults than to small children in terms of soil ingestion rates, and

Table 3-6
Exposure Assumptions - North Bayou

Parameter	Units	RME Adolescent	CT Adolescent
Incidental Ingestion of Sediment			
Sediment Ingestion Rate (IR)	mg/day	100	100
Fraction Ingested from Contaminated Source (FI)	unitless	1	1
Exposure Frequency (EF)	days/year	36	12
Exposure Duration (ED)	years	12	12
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06
Body Weight (BW)	kg/mg	50	50
Averaging Time - Cancer (AT_c)	days	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	4,380
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	3.4E-08	1.1E-08
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.0E-07	6.6E-08
Dermal Contact with Sediment			
Skin Surface Area Available for Contact (SA)	cm^2	6,170	6,170
Soil-to-Skin Adherence Factor (AF)	mg/cm^2-event	1	1
Absorption Factor (ABS)	unitless	chemical-specific	chemical-specific
Exposure Frequency (EF)	events/year	36	12
Exposure Duration (ED)	years	12	12
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06
Body Weight (BW)	kg	50	50
Averaging Time - Cancer (AT_c)	days	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	4,380
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	2.1E-06	7.0E-07
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.2E-05	4.1E-06
Consumption of Locally-Caught Catfish			
Catfish Ingestion Rate (IR)	g/day	19.9	9.7
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5
Exposure Frequency (EF)	days/year	365	365
Exposure Duration (ED)	years	12	12
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	50
Averaging Time - Cancer (AT_c)	days	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	4,380
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	3.4E-05	1.7E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.0E-04	9.7E-05

Table 3-6
Exposure Assumptions - North Bayou

Parameter	Units	RME Adolescent	CT Adolescent
Consumption of Locally-Caught Bass			
Bass Ingestion Rate (IR)	g/day	17.1	2.1
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5
Exposure Frequency (EF)	days/year	365	365
Exposure Duration (ED)	years	12	12
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	50
Averaging Time - Cancer (AT_c)	days	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	4,380
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	2.9E-05	3.6E-06
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.7E-04	2.1E-05
Consumption of Locally-Caught Crawfish			
Crawfish Ingestion Rate (IR)	g/day	44.8	9
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5
Exposure Frequency (EF)	days/year	182.5	182.5
Exposure Duration (ED)	years	12	12
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	50
Averaging Time - Cancer (AT_c)	days	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	4,380
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	3.8E-05	7.7E-06
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.2E-04	4.5E-05

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Table 3-7
Exposure Assumptions - Channels

Parameter	Units	RME Recreational Adult	CT Recreational Adult	RME Occupational Adult	CT Occupational Adult
Incidental Ingestion of Sediment					
Sediment Ingestion Rate (IR)	mg/day	100	50	50	50
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	36	12	30	15
Exposure Duration (ED)	years	30	18	4	4
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06	1.0E-06	1.0E-06
Body Weight (BW)	kg/mg	70	70	70	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	10,950	6,570	1,460	1,460
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	6.0E-08	6.0E-09	3.4E-09	1.7E-09
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.4E-07	2.4E-08	5.9E-08	2.9E-08
Dermal Contact with Sediment					
Skin Surface Area Available for Contact (SA)	cm^2	5,700	5,700	5,700	5,700
Soil-to-Skin Adherence Factor (AF)	mg/cm^2-event	0.08	0.08	0.08	0.08
Absorption Factor (ABS)	unitless	chemical-specific			
Exposure Frequency (EF)	events/year	36	12	30	15
Exposure Duration (ED)	years	30	18	4	4
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06	1.0E-06	1.0E-06
Body Weight (BW)	kg	70	70	70	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	10,950	6,570	1,460	1,460
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	2.8E-07	5.5E-08	3.1E-08	1.5E-08
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	6.4E-07	2.1E-07	5.4E-07	2.7E-07

Table 3-7
Exposure Assumptions - Channels

Parameter	Units	RME Recreational Adult	CT Recreational Adult	RME Occupational Adult	CT Occupational Adult
Consumption of Locally-Caught Catfish					
Catfish Ingestion Rate (IR)	g/day	28.4	13.8	NA	NA
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	NA	NA
Exposure Frequency (EF)	days/year	365	365	NA	NA
Exposure Duration (ED)	years	30	18	NA	NA
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	NA	NA
Body Weight (BW)	kg	70	70	NA	NA
Averaging Time - Cancer (AT_c)	days	25,550	25,550	NA	NA
Averaging Time - Non-Cancer (ATnc)	days	10,950	6,570	NA	NA
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	8.7E-05	2.5E-05	NA	NA
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.0E-04	9.9E-05	NA	NA
Consumption of Locally-Caught Bass					
Bass Ingestion Rate (IR)	g/day	24.4	3	NA	NA
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	NA	NA
Exposure Frequency (EF)	days/year	365	365	NA	NA
Exposure Duration (ED)	years	30	18	NA	NA
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	NA	NA
Body Weight (BW)	kg	70	70	NA	NA
Averaging Time - Cancer (AT_c)	days	25,550	25,550	NA	NA
Averaging Time - Non-Cancer (ATnc)	days	10,950	6,570	NA	NA
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	7.5E-05	5.5E-06	NA	NA
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.7E-04	2.1E-05	NA	NA

Table 3-7
Exposure Assumptions - Channels

Parameter	Units	RME Recreational Adult	CT Recreational Adult	RME Occupational Adult	CT Occupational Adult
Consumption of Locally-Caught Crawfish					
Crawfish Ingestion Rate (IR)	g/day	64	12.9	NA	NA
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	NA	NA
Exposure Frequency (EF)	days/year	182.5	182.5	NA	NA
Exposure Duration (ED)	years	30	18	NA	NA
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	NA	NA
Body Weight (BW)	kg	70	70	NA	NA
Averaging Time - Cancer (AT_c)	days	25,550	25,550	NA	NA
Averaging Time - Non-Cancer (ATnc)	days	10,950	6,570	NA	NA
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	9.8E-05	1.2E-05	NA	NA
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.3E-04	4.6E-05	NA	NA

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Table 3-8
Exposure Assumptions - North Swamp

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Consumption of Locally-Caught Catfish					
Catfish Ingestion Rate (IR)	g/day	19.9	28.4	9.7	13.8
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	0.5	0.5
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	3.4E-05	8.7E-05	1.7E-05	2.5E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.0E-04	2.0E-04	9.7E-05	9.9E-05
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	1.2E-04		4.2E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	2.0E-04		9.8E-05	
Consumption of Locally-Caught Bass					
Bass Ingestion Rate (IR)	g/day	17.1	24.4	2.1	3
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	0.5	0.5
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	2.9E-05	7.5E-05	3.6E-06	5.5E-06
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.7E-04	1.7E-04	2.1E-05	2.1E-05

Table 3-8
Exposure Assumptions - North Swamp

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	1.0E-04		9.1E-06	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	1.7E-04		2.1E-05	
Consumption of Locally-Caught Crawfish					
Crawfish Ingestion Rate (IR)	g/day	44.8	64	9	12
Fraction Ingested from Contaminated Source (FI)	unitless	0.5	0.5	0.5	0.5
Exposure Frequency (EF)	days/year	182.5	182.5	182.5	182.5
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	3.8E-05	9.8E-05	7.7E-06	1.1E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.2E-04	2.3E-04	4.5E-05	4.3E-05
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	1.4E-04		1.9E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	2.3E-04		4.4E-05	

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Table 3-9
Exposure Assumptions - Devil's Lake

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Incidental Ingestion of Sediment					
Sediment Ingestion Rate (IR)	mg/day	100	100	100	50
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	48	48	24	24
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06	1.0E-06	1.0E-06
Body Weight (BW)	kg/mg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	4.5E-08	8.1E-08	2.3E-08	1.2E-08
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	2.6E-07	1.9E-07	1.3E-07	4.7E-08
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	1.3E-07		3.5E-08	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	2.1E-07		8.1E-08	
Dermal Contact with Sediment					
Skin Surface Area Available for Contact (SA)	cm^2	6,170	5,700	6,170	5,700
Soil-to-Skin Adherence Factor (AF)	mg/cm^2-event	1	0.08	1	0.08
Absorption Factor (ABS)	unitless	chemical-specific			
Exposure Frequency (EF)	events/year	48	48	24	24
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/mg	1.0E-06	1.0E-06	1.0E-06	1.0E-06
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	2.8E-06	3.7E-07	1.4E-06	1.1E-07
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	1.6E-05	8.6E-07	8.1E-06	4.3E-07

Table 3-9
Exposure Assumptions - Devil's Lake

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.9E-06		1.5E-06	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	5.3E-06		3.5E-06	
Consumption of Locally-Caught Catfish					
Catfish Ingestion Rate (IR)	g/day	19.9	28.4	9.7	13.8
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	6.8E-05	1.7E-04	3.3E-05	5.1E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	4.0E-04	4.1E-04	1.9E-04	2.0E-04
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.4E-04		8.4E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	4.0E-04		2.0E-04	
Consumption of Locally-Caught Bass					
Bass Ingestion Rate (IR)	g/day	17.1	24.4	2.1	3
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	5.9E-05	1.5E-04	7.2E-06	1.1E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	3.4E-04	3.5E-04	4.2E-05	4.3E-05

Table 3-9
Exposure Assumptions - Devil's Lake

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.1E-04		1.8E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	3.5E-04		4.3E-05	
Consumption of Locally-Caught Crawfish					
Crawfish Ingestion Rate (IR)	g/day	44.8	64	9	12
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	182.5	182.5	182.5	182.5
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	7.7E-05	2.0E-04	1.5E-05	2.4E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	4.5E-04	4.6E-04	9.0E-05	9.2E-05
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.7E-04		3.9E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	4.6E-04		9.1E-05	

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

Table 3-10
Exposure Assumptions - South Swamp

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Consumption of Locally-Caught Catfish					
Catfish Ingestion Rate (IR)	g/day	19.9	28.4	9.7	13.8
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	6.8E-05	1.7E-04	3.3E-05	5.1E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	4.0E-04	4.1E-04	1.9E-04	2.0E-04
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.4E-04		8.4E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	4.0E-04		2.0E-04	
Consumption of Locally-Caught Bass					
Bass Ingestion Rate (IR)	g/day	17.1	24.4	2.1	3
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	365	365	365	365
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	5.9E-05	1.5E-04	7.2E-06	1.1E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	3.4E-04	3.5E-04	4.2E-05	4.3E-05

Table 3-10
Exposure Assumptions - South Swamp

Parameter	Units	RME Recreational Adolescent	RME Recreational Adult	CT Recreational Adolescent	CT Recreational Adult
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.1E-04		1.8E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	3.5E-04		4.3E-05	
Consumption of Locally-Caught Crawfish					
Crawfish Ingestion Rate (IR)	g/day	44.8	64	9	12
Fraction Ingested from Contaminated Source (FI)	unitless	1	1	1	1
Exposure Frequency (EF)	days/year	182.5	182.5	182.5	182.5
Exposure Duration (ED)	years	12	30	12	18
Conversion Factor (CF)	kg/g	1.0E-03	1.0E-03	1.0E-03	1.0E-03
Body Weight (BW)	kg	50	70	50	70
Averaging Time - Cancer (AT_c)	days	25,550	25,550	25,550	25,550
Averaging Time - Non-Cancer (ATnc)	days	4,380	10,950	4,380	6,570
Summary Intake Factor - Cancer (SIF_c)	kg/kg-day	7.7E-05	2.0E-04	1.5E-05	2.4E-05
Summary Intake Factor - Non-Cancer (SIFnc)	kg/kg-day	4.5E-04	4.6E-04	9.0E-05	9.2E-05
Summary Intake Factor (Integrated) - Cancer	kg/kg-day	2.7E-04		3.9E-05	
Summary Intake Factor (Integrated) - Non-Cancer	kg/kg-day	4.6E-04		9.1E-05	

Notes:
RME = Reasonable Maximum Exposure
CT = Central Tendency Exposure

therefore the adult value was used for both age groups. For the CT case, adult soil ingestion was assumed to be one-half the residential default value, or 50 mg/day. For industrial investigators, the default industrial sediment ingestion rate of 50 mg/day was used (EPA 1991a).

Ingestion Rate for Fish/Shellfish - Fish and shellfish ingestion rates are based on a survey done in Houma, Louisiana (Dellenbarger et al. 1992). For the RME case, species-specific consumption rates of catfish, largemouth bass, and crawfish were based on survey respondents who indicated they had eaten fish in the previous five days. Therefore, the reported consumption is averaged over only those seafood consumers who had eaten fish in the previous five days. These values were used to represent the consumption by adults of recreationally-caught fish (52.8 g/day [28.4 g/day catfish + 24.4 g/day bass]) and shellfish (64 g/day crawfish). For adolescents, the adult ingestion rate was multiplied by the ratio of adolescent body weight to adult body weight (50 kg/70 kg, or a factor of 0.7) to obtain fish/shellfish consumption rates. For the CT scenario, consumption rates of catfish, largemouth bass, and crawfish were based on survey respondents who indicated that they eat seafood (but not necessarily in the previous five days). Therefore, the reported consumption was averaged over the entire seafood-eating population (13.8 g/day catfish, 3 g/day bass, and 12 g/day crawfish). Adolescent CT consumption rates were developed as described above.

Fraction Ingested from Contaminated Source - For fish and shellfish, it was conservatively assumed that for the areas that are more difficult to access (North Bayou, Channels, North Swamp), 50 percent of the fish/shellfish ingestion rate for a recreational angler is derived from that particular subarea. In subareas where human activity is the highest (Devil's Lake and South Swamp), it was conservatively assumed that 100 percent of fish/shellfish ingested during exposure events is from the subarea being evaluated. Because anglers are likely to fish in more than a single location, this assumption is conservative. For sediment, it was conservatively assumed that all recreational exposure to sediment occurs at the area of interest. Similarly, for occupational adults, it was assumed that all exposure to sediment occurs in the Channels subarea.

Exposure Frequency - In the North Bayou, Channels, and North Swamp subareas, recreational adults and/or adolescents were assumed to visit the area for fishing or other recreational activities 36 days/year (about three times per month) for the RME case, and 12 days/year (about once a month) for the CT scenario. In the Devil's Lake and South Swamp subareas, recreational anglers (including adults and adolescents) were assumed to visit the area 48 days/year (about four times a month) for the RME scenario, and 24 days/year (about two times a month) for the CT scenario. For the industrial investigator scenario in the Channels subarea, the exposure frequency was assumed to be 30 days/year (six work weeks) for the RME case, and 15 days/year (three work weeks) for the CT case. These assumptions are believed to be conservative. For fish ingestion, an exposure frequency of 365 days/year was used because the associated ingestion rate is based on annual consumption of fish (the ingestion rate is an annual average). For crawfish, however, the ingestion rate was developed based on a survey of seafood consumers during crawfish harvesting season, and therefore does not reflect a long-term daily average consumption rate. For this reason, an exposure frequency of 182.5 days/year (six months) was used to reflect the seasonality of crawfish consumption.

Exposure Duration - For the RME case, the exposure duration was assumed to be 12 years for adolescents (from age 6 to age 18 years) and 30 years for adults, for a total lifetime exposure (for the integrated adolescent/adult) of 42 years. A total exposure of 42 years was used to represent the RME case rather than the EPA default residential exposure duration of 30 years to account for those

recreationists who may remain in the area and fish within Devil's Swamp and Bayou Baton Rouge for longer than 30 years. For the CT case, the exposure duration was assumed to be 12 years for adolescents and 18 years for adults, for a total exposure duration (for the integrated adolescent/adult) of 30 years. Thirty years is the 90th percentile residence time for owner-occupied housing in the United States, and it is the recommended exposure duration for residential scenarios (EPA 1991a).

Body Weight - The EPA's standard default body weight of 70 kg was used to represent adults (EPA 1991a), and a body weight of 50 kg was assumed for adolescents (ages 6 to 18). This corresponds to a mean body weight at age 13 (EPA 1997b).

Averaging Time - Averaging time (expressed in days) for noncarcinogens is equal to the exposure duration, and averaging time for assessing carcinogenic effects is a lifetime (EPA 1991a).

Skin Surface Area Available for Contact - The skin surface area for adults corresponds to the 50th percentile for head, hands, forearms, and lower legs (EPA 1998b). Skin surface area for adolescents is 45 percent of the median total body surface area for adolescents ages 12 to 13, and it corresponds to the head, hands, forearms, lower legs, and feet. The median (or 50th percentile) is used rather than an upper percentile to correlate with the average body weight.

Soil-to-Skin Adherence Factor - Recent studies by Kissel et al. (as described in EPA 1997b) have related dermal adherence to soil characteristics and specific activities. They found that adherence increases with moisture content, decreases with particle size, and is relatively unaffected by clay or organic carbon content. They also determined that adherence levels vary considerably across different parts of the body. The highest levels were found on common contact points such as knees, hands, and elbows; the lowest levels were detected on the face. In addition, adherence levels were found to vary by activity. In general, the highest levels of soil adherence were seen in outdoor workers, followed by outdoor recreationists and gardeners. Very high adherence levels were seen in individuals contacting wet soils such as might occur during wading or other shore area recreational activities. The adherence factor used for adolescents is based on the high-end estimate of adherence for 8 to 12-year-old adolescents in shorts playing in wet soil. The adherence factor for adults is the weighted adherence factor for an outdoor gardener (EPA 1998b).

Absorption Factor - Absorption factors are used to reflect the desorption of the chemical from soil and the absorption of the chemical across the skin and into the bloodstream. Absorption factors recommended in the EPA's proposed Dermal Risk Assessment Guidance (EPA 1998b) for the COPCs in this HHRA are: 3 percent for arsenic, DDD, DDE, and DDT; 4 percent for BHC and chlordane; 14 percent for PCBs; and 10 percent for all other organic chemicals.

4.0 TOXICITY ASSESSMENT

The objective of a toxicity assessment is to identify and evaluate the toxicity of the COPCs. This is a two-step process. The first step, hazard identification, is the process of determining whether exposure to a chemical can cause an increase in the incidence of a particular adverse effect (e.g., cancer or birth defects) and whether the adverse health effect is likely to occur in humans. In addition, hazard identification characterizes the nature and strength of the evidence of causation. The second step, dose-response evaluation, is the process of quantitatively evaluating the toxicity information and characterizing the relationship between the dose of the chemical administered or received and the incidence of adverse health effects in the exposed population. From this quantitative dose-response relationship, toxicity values (reference doses [RfDs] and slope factors [SFs]) are derived that can be used to estimate the potential for adverse effects as a function of human exposure to the chemical. Toxicity values are combined with daily intakes and are used to calculate human health risks through previously identified scenarios. Exposure to chemicals can result in carcinogenic or non-carcinogenic pathologies; therefore, these two categories of adverse human health effects are characterized separately. Dose-response estimates are presented as RfDs for non-carcinogenic effects (those not related to cancer) and cancer SFs for carcinogenic effects. Some chemicals may exhibit both types of effects.

4.1 Carcinogenic Effects

In 1986, the EPA issued its *Guidelines for Carcinogen Risk Assessment* (51FR33992) which described the general framework to be followed in developing an analysis of carcinogenic risk. The guidelines also identified principles to be used in evaluating the quality of data and in formulating judgements concerning the nature and magnitude of the cancer hazard from suspected carcinogens (EPA 1987). The following discussion is based on the information presented in the 1986 guidelines.

The development of cancer is not believed to be governed by the same threshold concept assumed for non-carcinogenic health effects. The general theory behind cancer development is that a small number of molecular events can evoke changes in a single cell that can lead to uncontrolled cellular proliferation and, eventually, to a clinical state of disease (cancer). For carcinogens, therefore, it is assumed that there is no level of exposure to a chemical that does not pose "a finite probability, however small, of generating a carcinogenic response" (EPA 1989).

Evaluation of chemicals as to their carcinogenicity is a two-step process. Initially, the toxicity database for a substance is evaluated for its carcinogenic potential and is assigned a weight-of-evidence classification. The weight-of-evidence classification scheme is designed to determine the likelihood of a chemical to cause cancer in humans, according to the strength of the supporting human and/or animal data. The following are weight-of-evidence classifications as defined by the EPA (1989):

Group A:	Known human carcinogen;
Group B:	Probable human carcinogen;
Group B1:	Limited evidence of carcinogenicity in humans;
Group B2:	Sufficient evidence in animals, but inadequate evidence in humans;
Group C:	Possible human carcinogen;
Group D:	Not classifiable as to human carcinogenicity because of a lack of data; and

Group E: Evidence of non-carcinogenicity in humans (no evidence in at least two adequate animal tests in different species or in both epidemiological and animal studies).

In the second stage of the dose-response evaluation, a SF is derived for chemicals with weight-of-evidence classifications A, B1 or B2, and possibly C. The SFs are derived from one of several mathematical models developed to extrapolate from carcinogenic responses observed at the high doses used in laboratory animal experiments to responses expected at the low doses to which humans are exposed in the environment. The EPA most often derives SFs using a linearized multistage model. This predictive model generally results in more conservative dose-response values than those derived from most other models (EPA 1989). The SF represents the 95-percent UCL of the slope of the dose response curve for oral or inhalation exposure.

Since the publication of the EPA's 1986 cancer risk guidelines, scientists have gained a better understanding of the variety of ways in which carcinogens can operate. For example, some chemicals act as initiators by inducing changes in an organism's genetic code; others act as promoters by stimulating cell replication. In April 1996, the EPA issued the *Proposed Guidelines for Carcinogen Risk Assessment* (EPA 1996b) which address limitations in the 1986 guidelines and accommodate new information on carcinogenesis. Once finalized, the proposed guidelines will supersede the 1986 cancer guidelines. The proposed guidelines include the following changes:

- All relevant biological information is considered. In addition to modeling tumor data, the proposed guidelines call for the use and modeling of other kinds of responses if they are considered to be measures of carcinogenic risk.

- A chemical's mode of action is emphasized to reduce the uncertainty in describing the likelihood of harm and in determining the dose response approach.

- A weight-of-evidence narrative replaces the current alphanumeric classification. The narrative lays out a summary of the key evidence, describes the chemical's mode of action, characterizes the conditions of hazard expression, and recommends appropriate dose response approaches. The overall conclusion as to the likelihood of human carcinogenicity is given by route of exposure.

- Three descriptors are used for classifying human carcinogenic potential: (1) "known/ likely," (2) "cannot be determined," and (3) "not likely." These replace the six alphanumeric categories (A, B1, B2, C, D, E) in the 1986 guidelines.

- Three default approaches (linear, nonlinear, or both) are provided for dose response assessment.

Cancer SFs for the COPCs in this HHRA are presented in Table 4-1.

Table 4-1
Toxicity Values

Chemical	CAS No.	Oral SF $(mg/kg\text{-}day)^{-1}$	Source	Wt. of Evidence Class	Chronic Oral RfD (mg/kg-day)	Source	Chronic Oral RfD UF/MF	Conf. in Oral RfD	Noncancer Target Organ
1,2,4,5-Tetrachlorobenzene	95-94-3	NA	--	--	3.0E-04	a	1,000	Low	kidney
Aldrin	309-00-2	17	a	B2	3.0E-05	a	1,000	Med	liver
Benzo(a)anthracene	56-55-3	0.73	c	B2	NA	--	NA	NA	NA
Benzo(a)pyrene	50-32-8	7.3	a	B2	NA	--	NA	NA	NA
Chlordane	57-74-9	0.35	c	B2	5.0E-04	c	300	Med	liver
DDD,pp	72-54-8	0.24	a	B2	NA	--	NA	NA	NA
DDE,pp	72-55-9	0.34	a	B2	NA	--	NA	NA	NA
DDT,pp	50-29-3	0.34	a	B2	5.0E-04	a	100	Med	liver
Dieldrin	60-57-1	16	a	B2	5.0E-05	a	1,000	Med	liver
Hexachlorobenzene	118-74-1	1.6	a	B2	8.0E-04	a	100	Med	liver
Hexachlorobutadiene	87-68-3	0.078	a	C	2.0E-04	b	1,000	NA	kidney
Polychlorinated biphenyls (PCBs)	1336-36-3	2	a	B2	2.0E-05	a	300	Med	immune system
Pentachlorobenzene	608-93-5	NA	--	D	8.0E-04	a	10,000	Low	liver, kidney

Note: No toxicity data were available for: 1,2,3,4-tetrachlorobenzene; 1,2,3-trichlorobenzene; 1,3,5-trichlorobenzene; 4-chloro-3-methylphenol; and delta-BHC. These chemicals are discussed qualitatively in Section 6.0 (Uncertainty Analysis).

Sources:
a - Integrated Risk Information System (IRIS) (U.S. EPA 1998a)
b - Health Effects Assessment Summary Tables (HEAST) (U.S. EPA 1997a)
c - Relative potency factors from U.S. EPA 1993

SF - Cancer slope factor
RfD - Chronic oral reference dose
UF - Uncertainty factor
MF - Modfiying factor

4.2 Non-Cancer Health Effects

Non-cancer health effects, by definition, include all adverse health impacts other than cancer. For most non-cancer effects, protective mechanisms within an individual are assumed to exist that must be overcome before an adverse effect is elicited. The level above which effects may occur is referred to as a threshold level. Examples of non-cancer health effects include central nervous system disorders (e.g., neurological damage or impairment), blood disorders (e.g., anemia), organ toxicity (e.g., kidney, liver, and heart effects), reproductive toxicity (e.g., infertility), and developmental effects (e.g., birth defects or miscarriage).

In developing dose-response values for non-carcinogenic effects (the RfD), the goal is to identify the highest no-observed-adverse-effect level (NOAEL) or the lowest-observed-adverse-effect level (LOAEL) from well-designed human or animal studies. Because of the limited number of adequate human studies, NOAELs and LOAELs are typically obtained from chronic toxicity studies in laboratory animals. The NOAEL is the highest dose administered that does not produce an adverse toxic effect in the test animal. The LOAEL may be used when a NOAEL is unavailable, and it is the lowest dose at which an adverse effect is observed (EPA 1989).

The ultimate objective of using these values is to determine the safe dose in humans, not in laboratory animals. Therefore, a number of conservative extrapolations are required. The approach used by the EPA for establishing safe dose levels for chemicals to which humans may be exposed is to reduce the NOAEL by a safety or uncertainty factor that takes into consideration both the interspecies and intraspecies variations in toxicological response to chemicals. Multiple uncertainty values are typically incorporated to adjust the NOAEL or LOAEL, based on some of the following considerations (EPA 1989):

- The experiment lasted less than the animal's life span;
- A dose with no adverse health effects could not be identified (i.e., a LOAEL was used instead of a NOAEL);
- Data were extrapolated from a laboratory species to humans; and
- Sensitive individuals must be protected.

An additional modifying factor may be included to reflect weaknesses in the overall toxicological database. The uncertainty factors associated with the non-carcinogenic effects of chemicals included in this HHRA range from 100 to 10,000, depending on the strength of the available toxicity database for each chemical.

The general formula to derive an RfD is as follows:

$$RfD = NOAEL \text{ or } LOAEL/(UF_1 \times UF_2 \times \ldots \times UF_i \times MF)$$

where: RfD = reference dose (mg/kg-day)
NOAEL = no-observed-adverse-effect level (mg/kg-day)
LOAEL = lowest-observed-adverse-effect level (mg/kg-day)
UF_i = uncertainty factors (unitless)
MF = modifying factor (unitless)

The RfDs have been developed by the EPA Reference Dose Work Group. Most RfDs developed by the EPA are for chronic (greater than seven years) oral exposures. Recently, the EPA has begun to develop RfDs for subchronic (between two weeks and seven years) and acute (less than two weeks) exposures. However, only chronic RfDs were used in this HHRA because it is focused on long-term exposures.

RfDs for the COPCs are presented in Table 4-1 with supporting information (where available) on the uncertainty factors used in deriving the RfD, target organs, and reference sources. RfDs used in this risk assessment were obtained from the Integrated Risk Information System (IRIS) database (EPA 1998a) and Health Effects Assessment Summary Tables (HEAST) (EPA 1997a). Volume 2, Sections 5 and 6 of this HHRA also present the non-cancer and cancer toxicity data, respectively, in the standard table format.

5.0 RISK CHARACTERIZATION

Risk characterization integrates the results of the exposure and toxicity assessments by combining estimates of chemical intake with toxicity data to determine the likelihood of adverse effects in potentially exposed populations. Because of fundamental differences in the mechanisms through which carcinogenic and non-carcinogenic processes occur, risks are characterized separately for these two types of health effects. This section presents estimates of risk from the use of RME and CT assumptions.

5.1 Cancer Risk

Potential health risks associated with carcinogens were estimated by calculating the increased probability of an individual developing cancer during his or her lifetime as a result of exposure to a carcinogenic compound. Excess lifetime cancer risks were computed by combining estimated chemical intakes and available dose-response information in the following equation:

$$\textit{Cancer Risk} = \textit{Intake} \times \textit{SF}$$

where: Intake = daily intake averaged over a lifetime of 70 years (mg/kg-day)
SF = cancer slope factor $(\text{mg/kg-day})^{-1}$

Resulting cancer risk estimates represent incremental or excess lifetime cancer risks resulting from exposures to site contaminants above the observed national cancer incidence of approximately 0.25, or 25 percent of the United States population. For example, an excess cancer risk of 2E-05 represents a probability of two excess cases of cancer per 100,000 exposed individuals (25,002 cases instead of the observed national cancer incidence of 25,000).

Unlike non-carcinogenic effects, any exposure to a carcinogenic substance is assumed to be associated with some degree of risk. For this reason, the National Contingency Plan (NCP) sets an excess cancer risk of 1E-06 as the point of departure for cancer risk estimates that are of concern. The EPA uses an acceptable risk range of 1E-04 to 1E-06 to determine whether a site poses a risk to human health (40 C.F.R. §300.430).

5.2 Non-Cancer Hazard

The potential for adverse health effects other than cancer was evaluated by comparing the average daily intake of a chemical over a specified exposure period with the reference dose appropriate for that exposure period (only chronic values were used in this risk assessment). An RfD is a dose below which no adverse health effects are expected to occur (EPA 1989). The comparison is expressed as an HQ, the ratio of the intake to the RfD:

$$\textit{HQ} = \textit{Intake/RfD}$$

where: Intake = average daily intake of a contaminant (mg/kg-day)
RfD = reference dose (mg/kg-day)

A HQ is not a prediction of the probability or severity of effects, but rather a ratio that indicates whether the estimated exposure presents a potential threat to human health (EPA 1989). When the average daily intake of a chemical exceeds the reference dose (HQ>1), the potential for non-cancer health effects exists (EPA 1989). Non-cancer health effects are expected to be cumulative only when the toxic endpoints of each chemical are similar. In these instances, the HQs are added to obtain an overall hazard index (HI).

5.3 Risk Results

Cancer risks and non-cancer HQs were calculated for each of the exposure scenarios identified in Section 3.0 including both RME and CT for single and combined exposure scenarios. A summary of the risk calculation results is presented in Tables 5-1 and 5-2 for cancer risks and non-cancer hazards, respectively. Additional information is provided in Tables 5-3 through 5-5 for those subareas with cancer risks of 1E-04 or greater from combined exposure pathways, and in Tables 5-6 through 5-10 for those subareas with a non-cancer HI greater than 1 from the combined exposure pathways. Risk calculations (RME and CT scenarios) for all chemicals and exposure pathways are presented for each subarea in Appendix B.

Volume 2, Section 7 of this HHRA provides the standard tables for the calculation of non-cancer hazards for all scenarios. Section 8 of Volume 2 contains the standard tables for the calculation of cancer risks, and Section 9 provides a summary of receptor risks and hazards in the standard table format.

The incidental ingestion of sediments and dermal contact with sediments were evaluated for all subareas. The results indicate that in all subareas, cancer risks and non-cancer hazards from sediment exposures are below the EPA's acceptable cancer risk range of 1E-04 to 1E-06, and the HI goal of less than 1. In addition, all risks from the pesticide COPCs are below the maximum acceptable range of values. Risks and hazards from the consumption of fish and crawfish are described below for each subarea.

5.3.1 North Bayou

RME and CT cancer risks for the consumption of locally caught fish and the combined consumption of fish (catfish and bass) are within the EPA's acceptable risk range.

The RME non-cancer hazards for the North Bayou do not exceed 1, except for the consumption of catfish. This non-cancer hazard is due primarily to the presence of PCBs (HQ=1.4) and HCBD (HQ=0.7) in catfish tissues (Table 5-6). PCBs and HCBD affect the immune system and kidney, respectively. All CT non-cancer hazards are less than the maximum health effects goal of 1.

5.3.2 Channels

For the recreational adult scenario in this subarea, the RME cancer risk from the consumption of catfish is 3E-04, which exceeds EPA's acceptable risk of 1E-04. Risk from the consumption of locally caught crawfish (heads) is 3E-04. Cancer risk from consumption of all other fish tissue and

Table 5-1
Cancer Risk Summary

Exposure Scenario	North Bayou Recreational[a]	Channels Recreational[b]	Channels Occupational[c]	North Swamp Recreational[d]	Devil's Lake Recreational[d]	South Swamp Recreational[d]
Reasonable Maximum Exposure						
Consumption of Catfish	2E-05	3E-04	NA	NA	2E-04	8E-05
Consumption of Bass	3E-06	4E-05	NA	6E-05	1E-04	1E-04
Consumption of Whole Crawfish	NA	5E-05	NA	1E-05	4E-04	7E-06
Consumption of Crawfish Tails	NA	1E-06	NA	6E-07	8E-05	NA
Consumption of Crawfish Heads	NA	3E-04	NA	4E-05	3E-03	2E-05
Incidental Ingestion of Sediment	2E-08	7E-08	4E-09	NA	6E-07	NA
Dermal Contact with Sediment	1E-07	3E-08	3E-09	NA	2E-06	NA
Combined Exposure Pathways[e]	2E-05	4E-04	7E-09	7E-05	7E-04	2E-04
Central Tendency Exposure						
Consumption of Catfish	2E-06	1E-05	NA	NA	3E-05	1E-05
Consumption of Bass	2E-07	2E-06	NA	2E-06	4E-06	1E-05
Consumption of Whole Crawfish	NA	3E-06	NA	1E-06	4E-06	3E-07
Consumption of Crawfish Tails	NA	1E-07	NA	5E-08	7E-06	NA
Consumption of Crawfish Heads	NA	2E-05	NA	5E-06	2E-04	1E-06
Incidental Ingestion of Sediment	3E-09	2E-09	6E-10	NA	1E-07	NA
Dermal Contact with Sediment	2E-08	2E-09	5E-10	NA	6E-07	NA
Combined Exposure Pathways[e]	2E-06	2E-05	1E-09	3E-06	4E-05	2E-05

Notes:
a - Based on exposure to an adolescent engaged in recreational activities.
b - Based on exposure to an adult engaged in recreational activities.
c - Based on exposure to an adult engaged in occupational activities.
d - Based on recreational exposure to both an adolescent and adult (integrated).*
e - Cancer risk for the following exposure pathways combined: consumption of catfish, bass, and whole crawfish; incidental ingestion and dermal contact with sediment.
NA - Incomplete exposure pathway

* For purposes of these tables, adolescents include children ages 6 to 12.

Table 5-2
Non-Cancer Hazard Summary

Exposure Scenario	North Bayou Recreational[a]	Channels Recreational[b]	Channels Occupational[c]	North Swamp Recreational[d]	Devil's Lake Recreational[d]	South Swamp Recreational[d]
Reasonable Maximum Exposure						
Consumption of Catfish	2	10	NA	NA	7	2
Consumption of Bass	0.2	0.9	NA	2	5	6
Consumption of Whole Crawfish	NA	1	NA	0.2	15	0.1
Consumption of Crawfish Tails	NA	0.2	NA	0.07	4	NA
Consumption of Crawfish Heads	NA	9	NA	2	130	0.6
Incidental Ingestion of Sediment	0.00008	0.0002	0.0001	NA	0.01	NA
Dermal Contact with Sediment	0.0005	0.0001	0.00009	NA	0.04	NA
Combined Hazard Index[e]	2	12	0.0002	2	27	8
Central Tendency Exposure						
Consumption of Catfish	0.1	0.6	NA	NA	2	0.3
Consumption of Bass	0.01	0.1	NA	0.06	0.2	0.7
Consumption of Whole Crawfish	NA	0.1	NA	0.03	0.2	0.006
Consumption of Crawfish Tails	NA	0.03	NA	0.008	0.4	NA
Consumption of Crawfish Heads	NA	1	NA	0.3	11	0.06
Incidental Ingestion of Sediment	0.00001	0.00001	0.00002	NA	0.004	NA
Dermal Contact with Sediment	0.00007	0.00001	0.00002	NA	0.04	NA
Combined Hazard Index[e]	0.1	0.8	0.00004	0.09	2	1

Notes:

The value is rounded to the nearest whole number for hazard indices greater than 1.

a - Based on exposure to an adolescent engaged in recreational activities.

b - Based on exposure to an adult engaged in recreational activities.

c - Based on exposure to an adult engaged in occupational activities.

d - Conservatively based on recreational exposure for the highest of the adolescent, adult, or integrated adolescent/adult scenarios.

e - Hazard indices for the following combined exposure pathways: consumption of catfish, bass, and whole crawfish; incidental ingestion and dermal contact with sediment.

NA - Incomplete exposure pathway

Table 5-3
Major Contributors to Cancer Risk - Channels
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral SF $(mg/kg\text{-}day)^{-1}$	Cancer Risk
Consumption of Catfish	Hexachlorobenzene	1.495	1.3E-04	1.6	2.1E-04
	Hexachlorobutadiene	9.622	8.4E-04	0.078	6.5E-05
	Total PCBs	0.0799	6.9E-06	2	1.4E-05
Consumption of Bass	Hexachlorobenzene	0.253	1.9E-05	1.6	3.0E-05
Consumption of Whole Crawfish	Hexachlorobenzene	0.244	2.4E-05	1.6	3.8E-05
Consumption of Crawfish Heads	Hexachlorobenzene	1.469	1.4E-04	1.6	2.3E-04
	Hexachlorobutadiene	7.882	7.7E-04	0.078	6.0E-05

Note: Table includes all chemicals and exposure pathways that represent a cancer risk of 1E-05 or greater for the recreational adult scenario.

Table 5-4
Major Contributors to Cancer Risk - Devil's Lake
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral SF $(mg/kg\text{-}day)^{-1}$	Cancer Risk
Consumption of Catfish	Total PCBs	0.387	9.4E-05	2	1.6E-04
	Hexachlorobenzene	0.071	1.7E-05	1.6	2.8E-05
Consumption of Bass	Total PCBs	0.247	5.1E-05	2	1.0E-04
Consumption of Whole Crawfish	Total PCBs	0.641	1.7E-04	2	3.5E-04
Consumption of Crawfish Tails	Total PCBs	0.155	4.2E-05	2	8.5E-05
Consumption of Crawfish Heads	Total PCBs	5.8	1.6E-03	2	3.2E-03
	Hexachlorobenzene	0.05	1.4E-05	1.6	2.2E-05

Note: Table includes all chemicals and exposure pathways that represent a cancer risk of 1E-05 or greater for the integrated adolescent/adult scenario.

Table 5-5
Major Contributors to Cancer Risk - South Swamp
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral SF $(mg/kg\text{-}day)^{-1}$	Cancer Risk
Consumption of Catfish	Total PCBs	0.118	2.9E-05	2	5.7E-05
Consumption of Bass	Total PCBs	0.325	6.8E-05	2	1.4E-04
Consumption of Crawfish Heads	Total PCBs	0.0266	7.3E-06	2	1.5E-05

Note: Table includes all chemicals and exposure pathways that represent a cancer risk of 1E-05 or greater for the integrated adolescent/adult scenario.

Table 5-6
Major Contributors to Non-Cancer Hazard - North Bayou
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral RfD (mg/kg-day)	Hazard Quotient	Target Organ
Consumption of Catfish	Total PCBs	0.143	2.8E-05	2.0E-05	1.4	immune system
	Hexachlorobutadiene	0.68	1.4E-04	2.0E-04	0.68	kidney
Consumption of Bass	Hexachlorobutadiene	0.16	2.7E-05	2.0E-04	0.14	kidney

Note: Table includes all chemicals and exposure pathways that represent a HQ of 0.1 or greater for the adolescent scenario.

Sum of HQs by target organ for the combined consumption of catfish and bass:
HI for kidney = 0.82
HI for immune system = 1.4

Table 5-7
Major Contributors to Non-Cancer Hazard - Channels
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral RfD (mg/kg-day)	Hazard Quotient	Target Organ
Consumption of Catfish	Hexachlorobutadiene	9.622	2.0E-03	2.0E-04	9.8	kidney
	Total PCBs	0.0799	1.6E-05	2.0E-05	0.81	immune system
	Hexachlorobenzene	1.495	3.0E-04	8.0E-04	0.38	liver
	Pentachlorobenzene	0.536	1.1E-04	8.0E-04	0.14	liver, kidney
Consumption of Bass	Hexachlorobutadiene	1.071	1.9E-04	2.0E-04	0.93	kidney
Consumption of Whole Crawfish	Hexachlorobutadiene	1.13	2.6E-04	2.0E-04	1.3	kidney
Consumption of Crawfish Tails	Hexachlorobutadiene	0.161	3.7E-05	2.0E-04	0.18	kidney
Consumption of Crawfish Heads	Hexachlorobutadiene	7.882	1.8E-03	2.0E-04	9	kidney
	Hexachlorobenzene	1.469	3.4E-04	8.0E-04	0.42	liver

Note: Table includes all chemicals and exposure pathways that represent a HQ of 0.1 or greater for the adult recreational scenario.

Sum of HQs by target organ for the combined consumption of catfish, bass, and whole crawfish:
HI for kidney = 12.2
HI for immune system = 0.81
HI for liver = 0.52

Table 5-8
Major Contributors to Non-Cancer Hazard - North Swamp
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral RfD (mg/kg-day)	Hazard Quotient	Target Organ
Consumption of Bass	Hexachlorobutadiene	2.12	3.7E-04	2.0E-04	1.8	kidney
	Total PCBs	0.0626	1.1E-05	2.0E-05	0.54	immune system
Consumption of Whole Crawfish	Hexachlorobutadiene	0.186	4.2E-05	2.0E-04	0.21	kidney
Consumption of Crawfish Heads	Hexachlorobutadiene	1.302	3.0E-04	2.0E-04	1.5	kidney

Note: Table includes all chemicals and exposure pathways that represent a HQ of 0.1 or greater for the integrated adolescent/adult scenario.

Sum of HQs by target organ for the combined consumption of bass and whole crawfish:
HI for kidney = 2.01
HI for immune system = 0.54

Table 5-9
Major Contributors to Non-Cancer Hazard - Devil's Lake
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral RfD (mg/kg-day)	Hazard Quotient	Target Organ
Consumption of Catfish	Total PCBs	0.323	1.3E-04	2.0E-05	6.5	immune system
	Hexachlorobutadiene	0.349	1.4E-04	2.0E-04	0.7	kidney
Consumption of Bass	Total PCBs	0.247	8.6E-05	2.0E-05	4.3	immune system
	Hexachlorobutadiene	0.369	1.3E-04	2.0E-04	0.64	kidney
Consumption of Whole Crawfish	Total PCBs	0.641	2.9E-04	2.0E-05	15	immune system
	Hexachlorobutadiene	0.141	6.4E-05	2.0E-04	0.32	kidney
Consumption of Crawfish Tails	Total PCBs	0.155	7.0E-05	2.0E-05	3.5	immune system
Consumption of Crawfish Heads	Total PCBs	5.8	2.6E-03	2.0E-05	130	immune system
	Hexachlorobutadiene	0.424	1.9E-04	2.0E-04	0.96	kidney

Note: Table includes all chemicals and exposure pathways that represent a HQ of 0.1 or greater for the integrated adolescent/adult scenario.

Sum of HQs by target organ for the combined consumption of catfish, bass, and whole crawfish:
HI for immune system = 25.8
HI for kidney = 1.66

Table 5-10
Major Contributors to Non-Cancer Hazard - South Swamp
RME Scenario

Exposure Pathway	Chemical	Exposure Point Conc. (mg/kg)	Daily Intake (mg/kg-day)	Oral RfD (mg/kg-day)	Hazard Quotient	Target Organ
Consumption of Catfish	Total PCBs	0.118	4.8E-05	2.0E-05	2.4	immune system
	Hexachlorobutadiene	0.194	7.8E-05	2.0E-04	0.39	kidney
Consumption of Bass	Total PCBs	0.325	1.1E-04	2.0E-05	5.6	immune system
Consumption of Whole Crawfish	Hexachlorobutadiene	0.0498	2.3E-05	2.0E-04	0.11	kidney
Consumption of Crawfish Heads	Total PCBs	0.0266	1.2E-05	2.0E-05	0.6	immune system

Note: Table includes all chemicals and exposure pathways that represent a HQ of 0.1 or greater for the integrated adolescent/adult scenario.

Sum of HQs by target organ for the combined consumption of catfish, bass, and whole crawfish:
HI for immune system = 8.0
HI for kidney = 0.50

crawfish whole bodies are within EPA's acceptable risk range, however risk from the combined exposure pathways is approximately 4E-04. The cancer risks are due primarily to HCB in catfish, bass, and crawfish, although PCBs in catfish also contribute significantly to the risk (Table 5-3). The CT cancer risks are all within the acceptable risk range.

The RME non-cancer hazards exceed 1 for the consumption of catfish, whole crawfish, and crawfish heads (Table 5-7). These hazards are mostly due to HCBD effects on the kidney. The consumption of catfish caught in this subarea results in a HQ of approximately 11, whereas the consumption of bass, whole crawfish, and crawfish heads results in HQs of 1.0 and 10, respectively. When added across all exposure pathways by target organ, the HI for kidney effects is approximately 14. All CT non-cancer hazards are less than the EPA maximum acceptable hazard goal of 1.

5.3.3 North Swamp

RME and CT cancer risks from the North Swamp are all within the EPA's acceptable risk range (Table 5-1).

RME non-cancer hazards exceed 1 for the consumption of bass and the consumption of crawfish heads. These hazards are due primarily to the presence of HCBD. When summed by target organ, the HI for kidney effects is approximately 2 for the combined consumption of locally caught fish and crawfish (Table 5-8). This exceeds the EPA's acceptable hazard goal. All CT non-cancer hazards are less 1 and do not exceed the EPA hazard goal.

5.3.4 Devil's Lake

RME cancer risks for the consumption of fish caught in Devil's Lake are in the range of 1E-04 to 2E-04. Risk from the consumption of locally caught crawfish (heads) is 3E-03 and risk from ingestion of whole crawfish is 4E-04. Risk from the combined exposure pathways is approximately 7E-04. The EPA's acceptable cancer risk range is exceeded in this subarea, and these risks are due almost exclusively to PCBs in edible fish and crawfish tissues (Table 5-4). The CT cancer risks are all within the acceptable risk range.

RME non-cancer hazards for the consumption of locally caught fish exceed 1 for the consumption of fish and crawfish. The RME HI for effects to the immune system from PCBs through the consumption of fish is approximately 11, and the HI for effects to the kidney from HCBD is 1.3. For the consumption of whole crawfish, the HQ from PCBs is 15 (Table 5-9). The combined consumption of fish and crawfish results in a HI of approximately 26 for immune system effects from PCBs, and a HI of approximately 2 for HCBD effects on the kidney. The CT non-cancer HI for the consumption of catfish and crawfish heads exceeds 1, due to the presence of PCBs.

5.3.5 South Swamp

RME cancer risks for the consumption of fish caught in the South Swamp are within the EPA's acceptable risk range of 1E-06 to 1E-04. However, for the combined exposure pathways (consumption of catfish, bass, and whole crawfish), the cancer risk is 2E-04 which slightly exceeds the acceptable risk range. This cancer risk is due to the presence of PCBs (Table 5-5).

Non-cancer HIs exceed 1 for the consumption of catfish and bass with His of 3 and 6, respectively from the South Swamp. These non-cancer hazards are due primarily to the presence of PCBs (Table 5-10). The combined exposure pathways for the consumption of fish and crawfish result in a HI of 9, due to the presence of PCBs. The CT non-cancer hazards are less than 1, except for the combined consumption of locally caught fish, which has a HI of 1.

5.4 Comparison of RME Risks with Potential Subsistence User Risks

The purpose of this section is to determine the magnitude of health effects to potential subsistence users in Devil's Swamp relative to the existing RME scenario. Although, Devil's Swamp is not considered to support a subpopulation of subsistence users, a few individuals may consume fish/crawfish at higher rates than the RME. Because data for freshwater subsistence users in Louisiana are not available, the EPA default fish/shellfish consumption rate of 132 grams per day is used (EPA 1991). In contrast, the existing RME scenario is based on an adult consumption rate of 116.8 grams/day. The difference (15.2 g/day) represents an 13 percent increase over the RME consumption rate. This assumes that the same consumption ratio of catfish, bass, and crawfish is applied and all other exposure assumptions remain the same. Therefore, when this increase is subsistuted into the existing linear risk and hazard equation models, the resulting risks and hazards will also increase by 13 percent. For informational purposes, Table 5-11 compares the cancer risk and non-cancer hazard results of the subsistence user with the RME recreational scenarios. This comparison indicates that risks and hazards are not substantially different.

5.5 Summary

The highest cancer risks in the study area result from the consumption of crawfish heads from Devil's Lake (RME cancer risk=3E-03 for an integrated adolescent/adult scenario). However, the calculation of cancer risk from the consumption of crawfish heads utilized the total crawfish consumption rate. It is highly unlikely that an individual would consume exclusively crawfish heads, and therefore these risks are considered a maximum. Actual risks are likely to be lower. The risk resulting from the consumption of whole crawfish provides a more reasonable measure of risk.

RME cancer risks for the combined exposure pathways (consumption of fish/shellfish, plus sediment exposures) exceed 1E-04 for recreationists at the Channels, Devil's Lake, and South Swamp subareas. All of the CT cancer risks were within the EPA acceptable range of 1E-04 to 1E-06. The most significant exposure pathways are the consumption of fish and crawfish in Devil's Lake, catfish in the Channels, and fish in the South Swamp. Cancer risks are due primarily to HCB in the Channels, and PCBs at Devil's Lake and the South Swamp.

The highest non-cancer hazard results from the consumption of crawfish heads at Devil's Lake (HI=130), due to the presence of PCBs. RME hazards for the combined exposure pathways scenario exceed 1 for recreationists in all subareas. All of the CT non-cancer hazards were less than EPA's goal, except for the consumption of catfish fillets and crawfish heads from Devil's Lake. The most significant exposure pathways with respect to non-cancer health effects are the consumption of fish and crawfish from Devil's Lake, catfish from the Channels, and fish from the South Swamp. These non-cancer HIs above 1 are due primarily to HCBD in catfish in the Channels subarea, and PCBs in fish and crawfish from Devil's Lake and the South Swamp.

Cancer risks and non-cancer hazards from direct exposure to sediments (ingestion and dermal contact) were insignificant. In addition, the pesticide COPCs were not major contributors to risks or hazards in any of the subareas.

Table 5-12 provides a summary of RME cancer risks of 1E-04 or greater and non-cancer hazards of 1 or greater from the consumption of fish and crawfish from the various subareas. Risk assessment summary tables are also provided in standard table format in Section 10 of Volume 2.

Table 5-11
Comparison of Cancer Risks and Non-Cancer Hazards for Subsistence Users[a] with RME Recreational Scenarios

Exposure Scenario	Subsistence Users			RME Recreational		
	Channels	Devil's Lake	South Swamp	Channels	Devil's Lake	South Swamp
Cancer Risks						
Consumption of Catfish	3E-04	3E-04	8E-05	3E-04	2E-04	8E-05
Consumption of Bass	4E-05	1E-04	2E-04	4E-05	1E-04	1E-04
Consumption of Whole Crawfish	6E-05	4E-04	8E-06	5E-05	4E-04	7E-06
Consumption of Crawfish Tails	1E-06	1E-04	NA	1E-06	8E-05	NA
Consumption of Crawfish Heads	3E-04	4E-03	2E-05	3E-04	3E-03	2E-05
Incidental Ingestion of Sediment	7E-08	6E-07	NA	7E-08	6E-07	NA
Dermal Contact with Sediment	3E-08	2E-06	NA	3E-08	2E-06	NA
Combined Exposure Pathways [b]	4E-04	9E-04	2E-04	4E-04	7E-04	2E-04
Non-Cancer Hazards						
Consumption of Catfish	13	10	3	10	7	2
Consumption of Bass	1	6	6	0.9	5	6
Consumption of Whole Crawfish	2	17	0.2	1	15	0.1
Consumption of Crawfish Tails	0.2	4	NA	0.2	4	NA
Consumption of Crawfish Heads	11	150	0.8	9	130	0.6
Incidental Ingestion of Sediment	0.0002	0.01	NA	0.0002	0.01	NA
Dermal Contact with Sediment	0.0001	0.04	NA	0.0001	0.04	NA
Combined Exposure Pathways [b]	16	33	9	12	27	8

a - For informational purposes only. A population of subsistence users dependent on Devil's Swamp was not identified.
b - Conservatively based on exposure for the highest of the adult or integrated adolescent/adult scenarios, and based on combined consumption of catfish, bass, and crawfish.

Table 5-12
Summary of RME Cancer Risks ≥1E-04 and Non-Cancer Hazards ≥1
from the Consumption of Fish and Crawfish

COPC	North Bayou	Channels			North Swamp	Devil's Lake			South Swamp	
	Catfish	Catfish	Bass	Crawfish	Bass	Catfish	Bass	Crawfish	Catfish	Bass
Cancer Risks										
HCB		•								
HCBD										
PCBs						•	•	•		•
Non-Cancer Hazards										
HCB										
HCBD		•	•	•	•					
PCBs	•					•	•	•	•	•

Blank cells indicate risks or hazards are less than 1E-04 and 1, respectively

6.0 UNCERTAINTY ANALYSIS

This uncertainty analysis provides a qualitative and, where possible, semi-quantitative evaluation of the assumptions and limitations inherent in each step of the risk assessment process and their effects on the overall risks calculated for the site. For each identified source of uncertainty, the direction and magnitude of the potential effect on the risk estimate and the steps taken to mitigate uncertainties are noted. In many cases, the only possible steps to mitigate uncertainties are use of professional judgement and best available data. Uncertainties in risk assessment are most often dealt with by using a conservative approach, resulting in a tendency to overestimate risks. This section describes the uncertainties associated with each step of the risk assessment process, including data evaluation, exposure assessment, toxicity assessment, and risk characterization.

6.1 Uncertainty in Site Data

There are many uncertainties associated with obtaining and evaluating data for use in risk assessment that are not specifically addressed here. Some of these uncertainties are associated with developing the sampling plan, reviewing analytes detected at the site, and validating site data. Data collected in 1997 and used as the basis for this HHRA are of high quality and unlikely to result in significant over- or underestimation of risk. Specific uncertainties in the data collected at Devil's Swamp are described in Section 2.2.4.

The risk assessment focused on those chemicals identified as COPCs using a site-specific risk-based screening approach. Therefore, it is unlikely that other contaminants that could pose significant risk were excluded from the HHRA.

In general, catfish species sampled consisted of blue catfish or channel catfish. However, in the Channels subarea, only yellow bullhead were collected. Yellow bullhead are more localized mud-burrowing fish and do not migrate like blue or channel catfish. Therefore, contaminant concentrations in yellow bullhead are likely to overestimate blue or channel catfish tissue concentrations. In addition, yellow bullhead are less desirable game fish, and they are not likely to be consumed at the same rate as other catfish. Consequently, risks from the consumption of catfish from the Channels subarea are likely to be moderately overestimated.

6.2 Uncertainty in the Exposure Assessment

A number of uncertainties are associated with assumptions made for the exposure assessment. Areas of uncertainty include the identification of receptors and exposure pathways, calculation of exposure point concentrations and intakes, and selection of exposure parameters. Uncertainties regarding exposure assumptions develop from the natural variability of the different parameters, such as body weight or fish ingestion rate, as well as from insufficient data on the distribution of these parameters.

Exposure point concentrations in catfish and bass fillets, and crawfish heads/tails from the North Bayou, Channels, and North Swamp subareas were modeled as described in Section 3.3. Because direct measurements were not available for these media, there is a low to moderate potential for risks from fish/shellfish consumption for these subareas to be over- or underestimated.

Fish/shellfish consumption rates used in this HHRA are based on studies of recreational anglers in Louisiana and Alabama, and they are believed to be fairly representative of the potentially exposed population at Devil's Swamp. This evaluation also assumes that a particular angler fishes only in the vicinity of Devil's Swamp/Bayou Baton Rouge. Fishing in different locations and eating a wide variety of fish is likely to reduce actual exposures.

No attempt was made in this study to quantitatively evaluate the effects of fish preparation methods on human health risks, and this may result in an overestimate of risk. Contaminant burdens in fish may decrease by 10 to 70 percent, depending on how the fish is prepared and cooked (EPA 1993).

This HHRA assumes a 30-year exposure duration for adults and 12 years for an adolescent, resulting in a combined adolescent/adult exposure duration of 42 years for the RME scenario. For the CT scenario, a total exposure duration (adolescent/adult) of 30 years was assumed. These values are believed to be appropriate even though site-specific exposure duration data were not available. Assuming shorter periods of exposure will have a direct relationship on reducing the estimated risks. Shorter exposures may result in as much as an order of magnitude reduction in the estimated health risk. Conversely, long-term residents may be exposed to fish/shellfish and sediments from this area for longer than the assumed 42 years. A moderate to high level of uncertainty is associated with the assumption that current levels of exposure will remain constant over the duration of the exposure, due to possible changes in activities in the area and changes in fish tissue and sediment concentrations.

This HHRA evaluates potential risks and non-cancer hazards to recreational anglers/harvesters and occupational workers only. Other potentially significant exposure pathways that have not been quantitatively evaluated as part of this HHRA include exposures to family members of anglers via the consumption and breast milk exposure pathway. Studies have shown that PCBs in fish can result in high concentrations of PCBs in breast milk and significant exposures to nursing infants.

6.3 Uncertainty in the Toxicity Assessment

Numerous assumptions are required to develop toxicity values (SFs and RfDs) from dose-response data. A critical assumption underlying all animal-human extrapolations is that there is a relationship between toxicity in test animals and the toxicity anticipated in humans. There may be significant differences in metabolism and other physiological aspects of study animals and the human population. Although many of these aspects are well-characterized, the relationship between interspecies differences and the toxicity of specific chemicals is not well known.

Another important assumption is the existence of a threshold for non-carcinogenic effects and absence of a threshold for carcinogens. The threshold issue is currently under evaluation for many chemicals and toxic endpoints.

A major source of uncertainty involves the use of toxicity values based on experimental studies that differ substantially from typical human exposure scenarios. The derivation of the toxicity values must take into account such differences as: (1) using dose-response information from animal studies to predict effects in humans; (2) using dose-response information from high-dose studies to predict adverse health effects from low doses; (3) using data from short-term studies to predict chronic effects; and (4) extrapolating from specific populations to general populations.

The cancer SFs, in particular, are based on studies that may differ greatly from realistic situations. Experimental cancer bioassays typically expose animals to very high levels of chemicals for their entire lifetime. After the appropriate studies have been identified, the SF is calculated as the 95-percent UCL of the slope of the dose-response curve. This introduces significant conservatism into the risk assessment.

The derivation of RfDs generally involves the use of animal studies. Uncertainty factors ranging from 1 to 10,000 are incorporated into the RfD to provide an extra level of public health protection. The factors used depend on the type of study from which the value has been derived (e.g., animal or human; chronic or acute). The scientific basis for this practice is somewhat uncertain. In general, high uncertainty factors are meant to bias the results conservatively so that the RfD will not result in adverse health effects.

In addition, six contaminants lacked toxicity values (1,3,5-trichlorobenzene, 1,2,3,4-tetrachlorobenzene, 1,2,3-trichlorobenzene, lead, 4-chloro-3-methylphenol, and delta-BHC). These COPCs could not be evaluated quantitatively, which is likely to underestimate hazard and risk estimates.

6.4 Uncertainty in Risk Characterization

Because the exposure scenarios were designed to represent the upper limit of probable exposures and were intentionally conservative, point estimate risks may overstate risks from typical exposures. SFs are typically the 95-percent UCL on the mean probability of carcinogenic response (upper-bound estimates), and they are inherently conservative. In addition, the assumption that any exposure to a carcinogen produces some degree of risk is unproven; hence, it is possible that low levels of some carcinogens may not produce any excess risk.

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APPENDIX A

CALCULATION OF RISK-BASED SCREENING CONCENTRATIONS

CALCULATION OF RISK-BASED SCREENING CONCENTRATIONS

The purpose of this appendix is to summarize the equations and parameters used to develop risk-based screening concentrations (RBSCs) for each exposure medium at Devil's Swamp. The RBSCs are used to identify chemicals of potential concern (COPCs) in Section 3 of the Human Health Risk Assessment (HHRA).

Generally, RBSCs are developed using the Environmental Protection Agency (EPA) default residential exposure assumptions. However, at Devil's Swamp, residential land use is considered unlikely, and therefore a residential scenario was believed to be too conservative to provide useful risk-based screening criteria. Consequently, site-specific exposure parameters for the most conservative exposure scenarios were identified for each medium, and these parameters were used to develop site-specific RBSCs. The RBSCs were developed assuming a cancer target risk of 1E-06 and a target hazard quotient (HQ) of 0.1. RBSCs were calculated for all chemicals detected in a particular medium (e.g., sediment RBSCs were calculated for all chemicals detected in sediment).

A.1 Equations for Calculating RBSCs

RBSCs were calculated for both cancer and non-cancer health effects. For carcinogens, the lower (more conservative) of the cancer and non-cancer RBSCs was selected. The following equations were used to calculate RBSCs for each exposure medium:

Sediment

Incidental Ingestion: $RBSC_{ing\text{-}c} = TR / (SIF_{ing\text{-}c} \times SF_o)$

$RBSC_{ing\text{-}nc} = (THQ \times RfD_o) / SIF_{ing\text{-}nc}$

Dermal Contact: $RBSC_{dc\text{-}c} = TR / (SIF_{dc\text{-}c} \times ABS \times SF_o)$

$RBSC_{dc\text{-}nc} = (THQ \times RfD_o) / (SIF_{dc\text{-}nc} \times ABS)$

Both Pathways Combined: $RBSC_s = 1 / [(1/RBSC_{ing}) + (1/RBSC_{dc})]$

where: $RBSC_{ing\text{-}c}$ = Risk-based screening concentration for cancer health effects from incidental ingestion of sediment (mg/kg)

$RBSC_{ing\text{-}nc}$ = Risk-based screening concentration for non-cancer health effects from incidental ingestion of sediment (mg/kg)

$RBSC_{ing}$ = Risk-based screening concentration for incidental ingestion of sediment = the lesser of $RBSC_{ing\text{-}c}$ and $RBSC_{ing\text{-}nc}$ (mg/kg)

$RBSC_{dc-c}$ = Risk-based screening concentration for cancer health effects from dermal contact with sediment (mg/kg)

$RBSC_{dc-nc}$ = Risk-based screening concentration for non-cancer health effects from dermal contact with sediment (mg/kg)

$RBSC_{dc}$ = Risk-based screening concentration for dermal contact with sediment = the lesser of $RBSC_{dc-c}$ and $RBSC_{dc-nc}$ (mg/kg)

$RBSC_s$ = Risk-based screening concentration for sediment, including both incidental ingestion and dermal contact exposure pathways (mg/kg)

TR = Target cancer risk = 1E-06

THQ = Target hazard quotient = 0.1

SIF_{ing-c} = Summary intake factor for cancer health effects from incidental ingestion of sediment (kg/kg-day)

SIF_{ing-nc} = Summary intake factor for non-cancer health effects from incidental ingestion of sediment (kg/kg-day)

SIF_{dc-c} = Summary intake factor for cancer health effects from dermal contact with sediment (kg/kg-day)

SIF_{dc-nc} = Summary intake factor for non-cancer health effects from dermal contact with sediment (kg/kg-day)

SF_o = Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$

RfD_o = Oral reference dose (mg/kg-day)

ABS = Dermal absorption factor (unitless)

Fish/Shellfish

Consumption: $RBSC_{fish-c} = TR / (SIF_{fish-c} \times SF_o)$

$RBSC_{fish-nc} = (THQ \times RfD_o) / SIF_{fish-nc}$

where: $RBSC_{fish-c}$ = Risk-based screening concentration for cancer health effects from consumption of fish/shellfish (mg/kg)

$RBSC_{fish\text{-}nc}$ = Risk-based screening concentration for non-cancer health effects from consumption of fish/shellfish (mg/kg)

TR = Target cancer risk = 1E-06

THQ = Target hazard quotient = 0.1

$SIF_{fish\text{-}c}$ = Summary intake factor for cancer health effects from consumption of fish/shellfish (kg/kg-day)

$SIF_{fish\text{-}nc}$ = Summary intake factor for non-cancer health effects from consumption of fish/shellfish (kg/kg-day)

SF_o = Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$

RfD_o = Oral reference dose (mg/kg-day)

Surface Water

Incidental Ingestion: $RBSC_{sw\text{-}c} = TR / (SIF_{sw\text{-}c} \times SF_o)$

$RBSC_{sw\text{-}nc} = (THQ \times RfD_o) / SIF_{sw\text{-}nc}$

where: $RBSC_{sw\text{-}c}$ = Risk-based screening concentration for cancer health effects from incidental ingestion of surface water while swimming (mg/L)

$RBSC_{sw\text{-}nc}$ = Risk-based screening concentration for non-cancer health effects from incidental ingestion of surface water while swimming (mg/L)

TR = Target cancer risk = 1E-06

THQ = Target hazard quotient = 0.1

$SIF_{sw\text{-}c}$ = Summary intake factor for cancer health effects from incidental ingestion of surface water while swimming (L/kg-day)

$SIF_{sw\text{-}nc}$ = Summary intake factor for non-cancer health effects from incidental ingestion of surface water while swimming (L/kg-day)

SF_o = Oral cancer slope factor $(mg/kg\text{-}day)^{-1}$

RfD_o = Oral reference dose (mg/kg-day)

Summary intake factors were calculated as follows:

$$SIF_{ing} = \{[(IR_{sed\text{-}a} \times ED_a / BW_a) + (IR_{sed\text{-}A} \times ED_A / BW_A)] \times FI \times EF \times CF1\} / AT$$

$$SIF_{dc} = \{[(SSA_a \times ED_a \times AF_a / BW_a) + (SSA_A \times ED_A \times AF_A / BW_A)] \times EF \times CF1\} / AT$$

$$SIF_{fish} = \{[(IR_{fish\text{-}a} \times ED_a / BW_a) + (IR_{fish\text{-}A} \times ED_A / BW_A)] \times FI \times EF \times CF2\} / AT$$

$$SIF_{sw} = (IR_{sw} \times ET \times EF \times ED \times CF3) / (BW \times AT)$$

where: $IR_{sed\text{-}a}$ = Adolescent sediment ingestion rate (g/day)
ED_a = Adolescent exposure duration (yrs)
BW_a = Adolescent body weight (kg)
$IR_{sed\text{-}A}$ = Adult sediment ingestion rate (g/day)
ED_A = Adult exposure duration (yrs)
BW_A = Adult body weight (kg)
FI = Fraction ingested from the contaminated source (unitless)
EF = Exposure frequency (days/yr or events/yr)
CF1 = Conversion factor = 1E-6 kg/mg
AT = Averaging time (days); equal to exposure duration for non-cancer health effects; equal to lifetime (70 years, or 25,550 days) for cancer health effects
SSA_a = Adolescent skin surface area available for contact (cm^2)
AF_a = Dermal soil-to-skin adherence factor for adolescents (mg/cm^2-event)
SSA_A = Adult skin surface area available for contact (cm^2)
AF_A = Dermal soil-to-skin adherence factor for adults (mg/cm^2-event)
$IR_{fish\text{-}a}$ = Adolescent fish/shellfish ingestion rate (g/day)
$IR_{fish\text{-}A}$ = Adult fish/shellfish ingestion rate (g/day)
CF2 = Conversion factor = 1E-3 kg/g
IR_{sw} = Surface water ingestion rate (mL/hr)
ET = Exposure time (hrs/event)
CF3 = Conversion factor = 1E-3 L/mL

It should be noted that both cancer and non-cancer SIFs were calculated. Cancer SIFs use an averaging time of lifetime (70 years, or 25,550 days), while non-cancer SIFs use an averaging time equal to the exposure duration.

A.2 Exposure Parameters

Parameters used to calculate RBSCs are presented in Tables A-1 through A-4. For sediment and fish/shellfish, these parameters correspond to those used in Section 3.5 to evaluate risks from exposures to recreational visitors at Devil's Lake. The exposure parameters represent an integrated adolescent/adult exposure; that is, they assume that a recreational visitor is exposed for 12 years as an adolescent and an additional 30 years as an adult, for a total exposure duration of 42 years. For surface water, conservative default exposure parameters were selected from EPA sources (EPA 1989; 1997b).

A.3 Toxicity Values

Cancer slope factors and oral reference doses used to calculate RBSCs are presented in Table A-5. Toxicity values were obtained from the following sources, in order of preference:

- Integrated Risk Information System (IRIS) database (EPA 1998a);
- Health Effects Assessment Summary Tables (HEAST) (1997a);
- National Center for Environmental Assessment (NCEA) provisional values, as presented in EPA Region III RBC tables (EPA 1998b); and
- Other values as noted in Table A-5.

Only chronic toxicity values were used to calculate RBSCs. Oral toxicity values were used to evaluate the dermal pathway, and no adjustment of the oral toxicity values was made. If toxicity values were unavailable for a particular chemical, a RBSC was not calculated. Dermal absorption factors (ABSs) were obtained from the EPA's recent Dermal Risk Assessment Guidance (EPA 1998c) and are presented in Table A-5.

A.4 Summary of RBSCs

The RBSCs calculated using the equations presented in Section A.1, exposure parameters presented in Section A.2, and the toxicity values from Section A.3 are summarized in Tables A-6 through A-8 for sediment, fish/shellfish tissue, and surface water, respectively. These values are used in Section 3.3 of the HHRA to identify COPCs.

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Table A-1
Exposure Parameters for RBSC Calculations
Incidental Ingestion of Sediment

Parameter	Source	Units	Recreational Adolescent	Recreational Adult
Sediment Ingestion Rate (IR_{sed})	(a)	mg/day	100	100
Fraction Ingested from Contaminated Source (FI)	(b)	unitless	1	1
Exposure Frequency (EF)	(c)	days/year	48	48
Exposure Duration (ED)	(d)	years	12	30
Body Weight (BW)	(e)	kg	50	70
Averaging Time - Cancer (AT_c)		days	25,550	25,550
Averaging Time - Non-Cancer (AT_{nc})		days	4,380	10,950
Summary Intake Factor - Cancer (SIF_{ing-c})		kg/kg-day	1.26E-07	
Summary Intake Factor - Non-Cancer (SIF_{ing-nc})		kg/kg-day	2.09E-07	

(a) The default residential soil ingestion rate was assumed for recreational adults and adolescents.

(b) Conservatively assumes that all recreational exposure to soil/sediment occurs at the area of interest.

(c) Exposure frequency is assumed to be four times per month (based on exposures at Devil's Lake and South Swamp).

(d) Exposure duration is assumed to be 12 years for adolescents (age 6 to 18) and 30 years for adults. The adult exposure duration is listed as the default for recreational anglers in the EPA's Standard Default Exposure Factors Guidance (EPA 1991).

(e) An average body weight of 50 kg was assumed for adolescents; this corresponds to the mean body weight at age 13 (EPA 1997b). For adults, the default body weight of 70 kg was assumed.

Table A-2
Exposure Parameters for RBSC Calculations
Dermal Contact with Sediment

Parameter	Source	Units	Recreational Adolescent	Recreational Adult
Skin Surface Area Available for Contact (SSA)	(a)	cm^2	6,170	5,700
Soil-to-Skin Adherence Factor (AF)	(b)	mg/cm^2-event	1.00	0.08
Absorption Factor (ABS)	(c)	unitless	chemical-specific	
Exposure Frequency (EF)	(d)	events/yr	48	48
Exposure Duration (ED)	(e)	years	12	30
Body Weight (BW)	(f)	kg	50	70
Averaging Time - Cancer (AT_c)		days	25,550	25,550
Averaging Time - Non-Cancer (AT_{nc})		days	4,380	10,950
Summary Intake Factor - Cancer (SIF_{dc-c})		kg/kg-day	2.93E-06	
Summary Intake Factor - Non-Cancer (SIF_{dc-nc})		kg/kg-day	5.25E-06	

(a) Skin surface area for adolescents is 45 percent of median total body surface area for children age 12-13 and corresponds to head, hands, forearms, lower legs, and feet. Skin surface area for adults corresponds to the 50th percentile for head, hands, forearms, and lower legs (EPA 1998c). The 50th percentile is used rather than an upper percentile to correlate with average body weight.

(b) The adherence factor for adolescents is based on the high-end estimate for 8-12 year old children in shorts playing in wet soil. The adherence factor for adults is the weighted value for an outdoor gardener (EPA 1998c).

(c) Chemical-specific; see Table A-5.

(d) Exposure frequency is assumed to be four times per month (based on exposures at Devil's Lake and South Swamp).

(e) Exposure duration is assumed to be 12 years for adolescents (age 6 to 18) and 30 years for adults. The adult exposure duration is listed as the default for recreational anglers in the EPA's Standard Default Exposure Factors Guidance (EPA 1991).

(f) An average body weight of 50 kg was assumed for adolescents; this corresponds to the mean body weight at age 13 (EPA 1997b). For adults, the default body weight of 70 kg was assumed.

Table A-3
Exposure Parameters for RBSC Calculations
Consumption of Locally-Caught Fish/Shellfish

Parameter	Source	Units	Recreational Adolescent	Recreational Adult
Fish/Shellfish Ingestion Rate (IR)	(a)	g/day	81.8	117
Fraction Ingested from Contaminated Source (FI)	(b)	unitless	1	1
Exposure Frequency (EF)	(c)	days/year	365	365
Exposure Duration (ED)	(d)	years	12	30
Conversion Factor (CF)		kg/g	1.00E-03	1.00E-03
Body Weight (BW)	(e)	kg	50	70
Averaging Time - Cancer (AT_c)		days	25,550	25,550
Averaging Time - Non-Cancer (AT_{nc})		days	4,380	10,950
Summary Intake Factor - Cancer (SIF_{fish-c})		kg/kg-day	9.97E-04	
Summary Intake Factor - Non-Cancer ($SIF_{fish-nc}$)		kg/kg-day	1.66E-03	

(a) Fish ingestion rates are from the Houma, Louisiana consumption survey. For adults, daily catfish, bass, and crawfish consumption rates for respondents who had eaten seafood in the previous five days were added. For adolescents, the fish/shellfish ingestion rate was assumed to be 70 percent of the adult ingestion rate, based on Javitz 1980 (presented in EPA 1997b).

(b) Conservatively assumes that 100 percent of the fish/shellfish caught by a recreational angler are from the area of interest.

(c) Exposure frequency corresponds to the selected fish ingestion rate, which is a long-term daily average.

(d) Exposure duration is assumed to be 12 years for adolescents (age 6 to 18) and 30 years for adults. The adult exposure duration is listed as the default for recreational anglers in the EPA's Standard Default Exposure Factors Guidance (EPA 1991).

(e) An average body weight of 50 kg was assumed for adolescents; this corresponds to the mean body weight at age 13 (from EPA 1997b). For adults, the default body weight of 70 kg was assumed.

Table A-4
Exposure Parameters for RBSC Calculations
Incidental Ingestion of Surface Water While Swimming

Parameter	Source	Units	Recreational Adult
Surface Water Ingestion Rate (IR)	(a)	mL/hr	50
Exposure Time (ET)	(b)	hrs/event	1
Exposure Frequency (EF)	(b)	events/yr	12
Exposure Duration (ED)	(c)	years	70
Conversion Factor (CF)		L/mL	1.00E-03
Body Weight (BW)	(d)	kg	70
Averaging Time - Cancer (AT_c)		days	25,550
Averaging Time - Non-Cancer (AT_{nc})		days	25,550
Summary Intake Factor - Cancer (SIF_{sw-c})		kg/kg-day	2.35E-05
Summary Intake Factor - Non-Cancer (SIF_{sw-nc})		kg/kg-day	2.35E-05

(a) The surface water ingestion rate of 50 mL/hr while swimming is from EPA 1989.

(b) An exposure time of 60 minutes per event and an exposure frequency of 12 events per year are recommended values for swimming in the EPA's Exposure Factors Handbook (EPA 1997b).

(c) Exposure duration is conservatively assumed to be lifetime (70 years).
The adult exposure duration is listed as the default for recreational anglers in the EPA's Standard Default Exposure Factors Guidance (EPA 1991).

(d) EPA default adult body weight (EPA 1991).

Table A-5
Toxicity Values Used to Calculate RBSCs

Chemical	CAS No.	Oral SF $(mg/kg\text{-}day)^{-1}$		Chronic Oral RfD (mg/kg-day)		Dermal Absorption Factor (ABS)	
1,1,2,2-Tetrachloroethane	79345	2.0E-01	a	NA	--	0.1	k
1,2,3,4-Tetrachlorobenzene	NA	NA	--	NA	--	0.1	k
1,2,3-Trichlorobenzene	NA	NA		NA		0.1	k
1,2,4,5-Tetrachlorobenzene	95943	NA	--	3.00E-04	a	0.1	k
1,2,4-Trichlorobenzene	120821	NA	--	0.01	a	0.1	k
1,2-Dichlorobenzene	95501	NA	--	0.09	a	0.1	k
1,3,5-Trichlorobenzene	NA	NA		NA		0.1	k
1,3-Dichlorobenzene	541731	NA		3.00E-02	c	0.1	k
1,4-Dichlorobenzene	106467	2.4E-02	b	NA	--	0.1	k
2-Methylnaphthalene	91576	NA	--	2.00E-02	d	0.13	l
3,3'-Dichlorobenzidine	91941	4.5E-01	a	NA		0.1	k
4-Chloro-3-methylphenol	NA	NA		NA		0.1	k
Acenaphthene	83329	NA	--	0.06	a	0.13	k
Acenaphthylene	208968	NA	--	6.00E-02	d	0.13	k
Acetone	67641	NA	--	0.1	a	0.1	k
Aldrin	309002	1.7E+01	a	0.00003	a	0.1	k
Aluminum	7429905	NA	--	1	c	0.01	k
Anthracene	120127	NA	--	0.3	a	0.13	l
Antimony	7440360	NA	--	0.0004	a	0.01	k
Arsenic	7440382	1.5E+00	a	0.0003	a	0.03	l
Barium	7440393	NA	--	0.07	a	0.01	k
Benzene	71432	2.9E-02	a	NA	--	0.1	k
Benzo(a)anthracene	56553	7.3E-01	e	NA	--	0.13	l
Benzo(a)pyrene	50328	7.3E+00	a	NA	--	0.13	l
Benzo(b)fluoranthene	205992	7.3E-01	e	NA	--	0.13	l
Benzo(k)fluoranthene	207089	7.3E-02	e	NA	--	0.13	l
Beryllium	7440417	NA	--	0.002	a	0.01	k
BHC, alpha-	319846	6.3E+00	a	NA	--	0.04	l
BHC, beta-	319857	1.8E+00	a	NA	--	0.04	l
BHC, delta-	319868	NA	--	NA	--	0.04	l
BHC, gamma- (Lindane)	58899	1.3E+00	b	0.0003	a	0.04	l
Bis(2-ethylhexyl)phthalate	47817	1.4E-02	a	0.02	a	0.1	k
Butylbenzylphthalate	85687	NA	--	0.2	a	0.1	k
Cadmium - Solids	7440439	NA	--	0.001	a	0.01	k
Cadmium - Water	7440439	NA	--	0.0005	a	NA	--

Table A-5
Toxicity Values Used to Calculate RBSCs

Chemical	CAS No.	Oral SF $(mg/kg\text{-}day)^{-1}$		Chronic Oral RfD (mg/kg-day)		Dermal Absorption Factor (ABS)	
Carbazole	86748	2.0E-02	b	NA	--	0.1	k
Carbon disulfide	75150	NA	--	0.1	a	0.1	k
Chlordane	57749	3.5E-01	a	0.0005	a	0.04	l
Chlorobenzene	108907	NA	--	0.02	a	0.1	k
Chloroform	67663	6.1E-03	a	0.01	a	0.1	k
Chromium VI	18540299	NA	--	0.003	a	0.01	k
Chrysene	218019	7.3E-03	e	NA	--	0.13	l
Cobalt	7440484	NA	--	0.06	c	0.01	k
Copper	7440508	NA	--	0.04	b	0.01	k
DDD,pp	72548	2.4E-01	a	NA	--	0.03	l
DDE,pp	72559	3.4E-01	a	NA	--	0.03	l
DDT,pp	50293	3.4E-01	a	0.0005	a	0.03	l
Dieldrin	60571	1.6E+01	a	0.00005	a	0.1	k
Di-n-butylphthalate	84742	NA	--	0.1	a	0.1	k
Di-n-octylphthalate	117841	NA	--	0.02	b	0.1	k
Endosulfan	115297	NA	--	0.006	a	0.1	k
Endosulfan sulfate	NA	NA	--	0.006	f	0.1	k
Endrin	72208	NA	--	0.0003	a	0.1	k
Endrin aldehyde	NA	NA	--	0.0003	j	0.1	k
Endrin ketone	NA	NA	--	0.0003	j	0.1	k
Ethylbenzene	100414	NA	--	0.1	a	0.1	k
Fluoranthene	206440	NA	--	0.04	a	0.13	l
Fluorene	86737	NA	--	0.04	a	0.13	l
Heptachlor epoxide	1024573	9.1E+00	a	0.000013	a	0.1	k
Hexachlorobenzene	118741	1.6E+00	a	8.00E-04	a	0.1	k
Hexachlorobutadiene	87683	7.8E-02	a	2.00E-04	b	0.1	k
Hexachloroethane	67721	1.4E-02	a	1.00E-03	a	0.1	k
Lead	7439921	NA	--	NA	--	0.01	k
Manganese	7439965	NA	--	0.047	a	0.01	k
Mercury (inorganic)	7439976	NA	--	0.0003	a,g	0.01	k
Methoxychlor	72435	NA	--	0.005	a	0.1	k
Methyl ethyl ketone (2-butanone)	78933	NA	--	0.6	a	0.1	k
Methylene chloride	75092	7.5E-03	a	0.06	a	0.1	k

Table A-5
Toxicity Values Used to Calculate RBSCs

Chemical	CAS No.	Oral SF $(mg/kg\text{-}day)^{-1}$		Chronic Oral RfD (mg/kg-day)		Dermal Absorption Factor (ABS)	
Naphthalene	91203	NA	--	0.02	a	0.13	l
Nickel	7440020	NA	--	0.02	a	0.01	k
N-nitrosodiphenylamine	86306	4.9E-03	a	NA	--	0.1	k
Polychlorinated biphenyls (PCBs)	1336363	2.0E+00	a	2.00E-05	a	0.14	l
Pentachlorobenzene	608935	NA	--	8.00E-04	a	0.1	k
Phenanthrene	85018	NA	--	0.02	h	0.13	l
Phenol	108952	NA	--	0.6	a	0.1	k
Pyrene	129000	NA	--	0.03	a	0.13	l
Selenium	7782492	NA	--	0.005	a	0.01	k
Silver	7440224	NA	--	0.005	a	0.01	k
Thallium	7446186	NA	--	0.00008	a,i	0.01	k
Toluene	108883	NA	--	0.2	a	0.1	k
Vanadium	7440622	NA	--	0.007	b	0.01	k
Xylenes	1330207	NA	--	2	a	0.1	k
Zinc	7440666	NA	--	0.3	a	0.01	k

Sources:

a -Integrated Risk Information System (IRIS; EPA 1998a)
b -Health Effects Assessment Summary Tables (HEAST; EPA 1997a)
c -National Center for Environmental Assessment (NCEA) provisional values, as presented in EPA 1998b.
d -EPA Region III Risk-Based Concentration Tables (EPA 1998b)
e -Uses relative potency factors from EPA 1993
f -Based on oral reference dose for endosulfan
g -Based on oral reference dose for mercuric chloride
h -Based on oral reference dose for naphthalene
i -Based on oral reference dose for thallium sulfate
j -Based on oral reference dose for endrin
k -Based on default dermal absorption factors of 10 percent for organics, 1 percent for inorganics (EPA 1998c)
l -EPA Dermal Risk Assessment Guidance (EPA 1998c)

Table A-6
Risk-Based Screening Concentrations for Sediment

Chemical	$RBSC_{ing}$ mg/kg	$RBSC_{dc}$ mg/kg	$RBSC_{sed}$ mg/kg	Basis for $RBSC_{sed}$
1,1,2,2-Tetrachloroethane	40	17	12	c
1,2,3,4-Tetrachlorobenzene	NA	NA	NA	NA
1,2,3-Trichlorobenzene	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	140	57	41	nc
1,2,4-Trichlorobenzene	4,800	1,900	1,400	nc
1,2-Dichlorobenzene	43,000	17,000	12,000	nc
1,3,5-Trichlorobenzene	NA	NA	NA	NA
1,3-Dichlorobenzene	14,000	5,700	4,100	nc
1,4-Dichlorobenzene	330	140	100	c
2-Methylnaphthalene	9,600	2,900	2,200	NC
3,3'-Dichlorobenzidine	18	7.6	5.3	c
4-Chloro-3-methylphenol	NA	NA	NA	NA
Acenaphthene	29,000	8,800	6,700	nc
Acenaphthylene	29,000	8,800	6,700	nc
Acetone	48,000	19,000	14,000	nc
Aldrin	0.47	0.2	0.14	c
Aluminum	480,000	1,900,000	380,000	nc
Anthracene	140,000	44,000	34,000	nc
Antimony	190	760	150	nc
Arsenic	5.3	7.6	3.1	c
Barium	33,000	130,000	27,000	nc
Benzene	270	120	82	c
Benzo(a)anthracene	11	3.6	2.7	c
Benzo(a)pyrene	1.1	0.36	0.27	c
Benzo(b)fluoranthene	11	3.6	2.7	c
Benzo(k)fluoranthene	110	36	27	c
Beryllium	960	3,800	760	nc
BHC, alpha-	1.3	1.4	0.65	c
BHC, beta-	4.4	4.7	2.3	c
BHC, delta-	NA	NA	NA	NA
BHC, gamma- (Lindane)	6.1	6.6	3.2	c
Bis(2-ethylhexyl)phthalate	570	240	170	c
Butylbenzylphthalate	96,000	38,000	27,000	nc
Cadmium	480	1,900	380	nc
Carbazole	400	170	120	c
Carbon disulfide	48,000	19,000	14,000	nc

Table A-6
Risk-Based Screening Concentrations for Sediment

Chemical	$RBSC_{ing}$ mg/kg	$RBSC_{dc}$ mg/kg	$RBSC_{sed}$ mg/kg	Basis for $RBSC_{sed}$
Chlordane	23	24	12	c
Chlorobenzene	9,600	3,800	2,700	nc
Chloroform	1,300	560	390	c
Chromium VI	1,400	5,700	1,100	nc
Chrysene	1,100	360	270	c
Cobalt	29,000	110,000	23,000	nc
Copper	19,000	76,000	15,000	nc
DDD,pp	33	47	20	c
DDE,pp	23	33	14	c
DDT,pp	23	33	14	c
Dieldrin	0.5	0.21	0.15	c
Di-n-butylphthalate	48,000	19,000	14,000	nc
Di-n-octylphthalate	9,600	3,800	2,700	nc
Endosulfan	2,900	1,100	820	nc
Endosulfan sulfate	2,900	1,100	820	nc
Endrin	140	57	41	nc
Endrin aldehyde	140	57	41	nc
Endrin ketone	140	57	41	nc
Ethylbenzene	48,000	19,000	14,000	nc
Fluoranthene	19,000	5,900	4,500	nc
Fluorene	19,000	5,900	4,500	nc
Heptachlor epoxide	0.87	0.38	0.26	c
Hexachlorobenzene	5	2.1	1.5	c
Hexachlorobutadiene	96	38	27	nc
Hexachloroethane	480	190	140	nc
Lead	NA	NA	NA	NA
Manganese	22,000	90,000	18,000	nc
Mercury (inorganic)	140	570	110	nc
Methoxychlor	2,400	950	680	nc
Methyl ethyl ketone (2-butanone)	290,000	110,000	82,000	nc
Methylene chloride	1,100	460	320	c
Naphthalene	9,600	2,900	2,200	nc
Nickel	9,600	38,000	7,600	nc
N-nitrosodiphenylamine	1,600	700	490	c
Polychlorinated biphenyls (PCBs)	4	1.2	0.93	c
Pentachlorobenzene	380	150	110	nc

Table A-6
Risk-Based Screening Concentrations for Sediment

Chemical	$RBSC_{ing}$ mg/kg	$RBSC_{dc}$ mg/kg	$RBSC_{sed}$ mg/kg	Basis for $RBSC_{sed}$
Phenanthrene	9,600	2,900	2,200	nc
Phenol	290,000	110,000	82,000	nc
Pyrene	14,000	4,400	3,400	nc
Selenium	2,400	9,500	1,900	nc
Silver	2,400	9,500	1,900	nc
Thallium	38	150	31	nc
Toluene	96,000	38,000	27,000	nc
Vanadium	3,300	13,000	2,700	nc
Xylenes	960,000	380,000	270,000	nc
Zinc	140,000	570,000	110,000	nc

$RBSC_{ing}$ - Risk-based screening concentration for incidental ingestion of sediment
$RBSC_{dc}$ - Risk-based screening concentration for dermal contact with sediment
$RBSC_{sed}$ - Risk-based screening concentration for sediment (ingestion and dermal contact pathways combined)
c - cancer health effects
nc - noncancer health effects

Table A-7
Risk-Based Screening Concentrations for Fish/Shellfish Tissue

Chemical	$RBSC_{fish}$ mg/kg	Basis for $RBSC_{fish}$
1,2,3,4-Tetrachlorobenzene	NA	NA
1,2,4,5-Tetrachlorobenzene	0.018	nc
Aldrin	0.000059	c
Arsenic	0.00067	c
BHC, alpha-	0.00016	c
BHC, delta-	NA	NA
Chlordane	0.0029	c
DDD,pp	0.0042	c
DDE,pp	0.003	c
DDT,pp	0.003	c
Dieldrin	0.000063	c
Endosulfan	0.36	nc
Endosulfan sulfate	0.36	nc
Endrin	0.018	nc
Endrin aldehyde	0.018	nc
Heptachlor epoxide	0.00011	c
Hexachlorobenzene	0.00063	c
Hexachlorobutadiene	0.012	nc
Polychlorinated biphenyls (PCBs)	0.0005	c
Pentachlorobenzene	0.048	nc

$RBSC_{fish}$ - Risk-based screening concentration for fish/shellfish tissue
c - cancer health effects
nc - noncancer health effects

Table A-8
Risk-Based Screening Concentrations for Surface Water

Chemical	$RBSC_{sw}$ mg/L	Basis for $RBSC_{sw}$
Arsenic	0.028	c
Cadmium	2.1	nc
Copper	170	nc
Lead	NA	NA
Zinc	1,300	nc

$RBSC_{sw}$ - Risk-based screening concentration for surface water
c - cancer health effects
nc - noncancer health effects

APPENDIX B

CALCULATION OF HAZARDS AND RISKS

REASONABLE MAXIMUM EXPOSURE (RME) SCENARIO

North Bayou Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Bayou: Recreational Fish Ingestion (Adolescent)										
Catfish										
1,2,4,5-Tetra CB	0.002	3.41E-05	1.99E-04	6.82E-08	3.98E-07	NA	NA	3.0E-04	NA	1.3E-03
DDE	0.00223	3.41E-05	1.99E-04	7.61E-08	4.44E-07	NA	3.4E-01	NA	2.6E-08	NA
Hexachlorobenzene	0.155	3.41E-05	1.99E-04	5.29E-06	3.08E-05	NA	1.6E+00	8.0E-04	8.5E-06	3.9E-02
Hexachlorobutadiene	0.68	3.41E-05	1.99E-04	2.32E-05	1.35E-04	NA	7.8E-02	2.0E-04	1.8E-06	6.8E-01
Total PCBs (a)	0.143	3.41E-05	1.99E-04	4.88E-06	2.85E-05	NA	2.0E+00	2.0E-05	9.8E-06	1.4E+00
Total									2.0E-05	2.1E+00
Largemouth Bass										
1,2,4,5-Tetra CB	0.0031	2.93E-05	1.71E-04	9.09E-08	5.30E-07	NA	NA	3.0E-04	NA	1.8E-03
DDE	0.0011	2.93E-05	1.71E-04	3.22E-08	1.88E-07	NA	3.4E-01	NA	1.1E-08	NA
Hexachlorobenzene	0.0472	2.93E-05	1.71E-04	1.38E-06	8.07E-06	NA	1.6E+00	8.0E-04	2.2E-06	1.0E-02
Hexachlorobutadiene	0.16	2.93E-05	1.71E-04	4.69E-06	2.74E-05	NA	7.8E-02	2.0E-04	3.7E-07	1.4E-01
Pentachlorobenzene	0.0291	2.93E-05	1.71E-04	8.53E-07	4.98E-06	NA	NA	8.0E-04	NA	6.2E-03
Total									2.6E-06	1.5E-01
North Bayou: Incidental Ingestion of Sediment (Adolescent)										
Hexachlorobenzene	0.306	3.38E-08	1.97E-07	1.03E-08	6.04E-08	NA	1.6E+00	8.0E-04	1.7E-08	7.5E-05
Total									1.7E-08	7.5E-05
North Bayou: Dermal Contact with Sediment (Adolescent)										
Hexachlorobenzene	0.306	2.09E-06	1.22E-05	6.38E-07	3.72E-06	0.1	1.6E+00	8.0E-04	1.0E-07	4.7E-04
Total									1.0E-07	4.7E-04

NOTES:

(a) Total PCBs in catfish is the sum of PCB-1254 and PCB-1260

Channels Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Channels: Recreational Fish Ingestion (Adult)										
Catfish										
1,2,4,5-Tetra CB	0.071	8.69E-05	2.03E-04	6.17E-06	1.44E-05	NA	NA	3.0E-04	NA	4.8E-02
DDE	0.00231	8.69E-05	2.03E-04	2.01E-07	4.69E-07	NA	3.4E-01	NA	6.8E-08	NA
Hexachlorobenzene	1.495	8.69E-05	2.03E-04	1.30E-04	3.03E-04	NA	1.6E+00	8.0E-04	2.1E-04	3.8E-01
Hexachlorobutadiene	9.622	8.69E-05	2.03E-04	8.37E-04	1.95E-03	NA	7.8E-02	2.0E-04	6.5E-05	9.8E+00
Pentachlorobenzene	0.536	8.69E-05	2.03E-04	4.66E-05	1.09E-04	NA	NA	8.0E-04	NA	1.4E-01
Total PCBs (a)	0.0799	8.69E-05	2.03E-04	6.95E-06	1.62E-05	NA	2.0E+00	2.0E-05	1.4E-05	8.1E-01
Total									2.9E-04	1.1E+01
Largemouth Bass										
1,2,4,5-Tetra CB	0.0559	7.47E-05	1.74E-04	4.18E-06	9.74E-06	NA	NA	3.0E-04	NA	3.2E-02
DDE	0.00506	7.47E-05	1.74E-04	3.78E-07	8.82E-07	NA	3.4E-01	NA	1.3E-07	NA
Hexachlorobenzene	0.253	7.47E-05	1.74E-04	1.89E-05	4.41E-05	NA	1.6E+00	8.0E-04	3.0E-05	5.5E-02
Hexachlorobutadiene	1.071	7.47E-05	1.74E-04	8.00E-05	1.87E-04	NA	7.8E-02	2.0E-04	6.2E-06	9.3E-01
Pentachlorobenzene	0.207	7.47E-05	1.74E-04	1.55E-05	3.61E-05	NA	NA	8.0E-04	NA	4.5E-02
Total									3.7E-05	1.1E+00
Crawfish Whole Body										
1,2,4,5-Tetra CB	0.0337	9.80E-05	2.29E-04	3.30E-06	7.70E-06	NA	NA	3.0E-04	NA	2.6E-02
Chlordane	0.00708	9.80E-05	2.29E-04	6.94E-07	1.62E-06	NA	3.5E-01	5.0E-04	2.4E-07	3.2E-03
DDD	0.00514	9.80E-05	2.29E-04	5.04E-07	1.17E-06	NA	2.4E-01	NA	1.2E-07	NA
DDE	0.0157	9.80E-05	2.29E-04	1.54E-06	3.59E-06	NA	3.4E-01	NA	5.2E-07	NA
DDT	0.0041	9.80E-05	2.29E-04	4.02E-07	9.37E-07	NA	3.4E-01	5.0E-04	1.4E-07	1.9E-03
Dieldrin	0.0037	9.80E-05	2.29E-04	3.62E-07	8.46E-07	NA	1.6E+01	5.0E-05	5.8E-06	1.7E-02
Hexachlorobenzene	0.244	9.80E-05	2.29E-04	2.39E-05	5.58E-05	NA	1.6E+00	8.0E-04	3.8E-05	7.0E-02
Hexachlorobutadiene	1.13	9.80E-05	2.29E-04	1.11E-04	2.58E-04	NA	7.8E-02	2.0E-04	8.6E-06	1.3E+00
Pentachlorobenzene	0.159	9.80E-05	2.29E-04	1.56E-05	3.63E-05	NA	NA	8.0E-04	NA	4.5E-02
Total									5.4E-05	1.5E+00
Crawfish Tails										
Hexachlorobutadiene	0.161	9.80E-05	2.29E-04	1.58E-05	3.68E-05	NA	7.8E-02	2.0E-04	1.2E-06	1.8E-01
Pentachlorobenzene	0.0525	9.80E-05	2.29E-04	5.14E-06	1.20E-05	NA	NA	8.0E-04	NA	1.5E-02
Total									1.2E-06	2.0E-01

Channels Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Heads										
1,2,4,5-Tetra CB	0.109	9.80E-05	2.29E-04	1.07E-05	2.49E-05	NA	NA	3.0E-04	NA	8.3E-02
DDE	0.0094	9.80E-05	2.29E-04	9.21E-07	2.15E-06	NA	3.4E-01	NA	3.1E-07	NA
Hexachlorobenzene	1.469	9.80E-05	2.29E-04	1.44E-04	3.36E-04	NA	1.6E+00	8.0E-04	2.3E-04	4.2E-01
Hexachlorobutadiene	7.882	9.80E-05	2.29E-04	7.72E-04	1.80E-03	NA	7.8E-02	2.0E-04	6.0E-05	9.0E+00
Pentachlorobenzene	0.243	9.80E-05	2.29E-04	2.38E-05	5.55E-05	NA	NA	8.0E-04	NA	6.9E-02
Total									2.9E-04	9.6E+00
Channels: Incidental Ingestion of Sediment (Recreational - Adult)										
Hexachlorobenzene	0.688	6.04E-08	1.41E-07	4.15E-08	9.69E-08	NA	1.6E+00	8.0E-04	6.6E-08	1.2E-04
Hexachlorobutadiene	0.164	6.04E-08	1.41E-07	9.90E-09	2.31E-08	NA	7.8E-02	2.0E-04	7.7E-10	1.2E-04
Total									6.7E-08	2.4E-04
Channels: Incidental Ingestion of Sediment (Occupational - Adult)										
Hexachlorobenzene	0.688	3.35E-09	5.87E-08	2.31E-09	4.04E-08	NA	1.6E+00	8.0E-04	3.7E-09	5.0E-05
Hexachlorobutadiene	0.164	3.35E-09	5.87E-08	5.50E-10	9.63E-09	NA	7.8E-02	2.0E-04	4.3E-11	4.8E-05
Total									3.7E-09	9.9E-05
Hexachlorobenzene	0.688	2.75E-07	6.43E-07	1.89E-07	4.42E-07	0.1	1.6E+00	8.0E-04	3.0E-08	5.5E-05
Hexachlorobutadiene	0.164	2.75E-07	6.43E-07	4.52E-08	1.05E-07	0.1	7.8E-02	2.0E-04	3.5E-10	5.3E-05
Total									3.1E-08	1.1E-04
Channels: Dermal Contact with Sediment (Occupational - Adult)										
Hexachlorobenzene	0.688	3.06E-08	5.35E-07	2.10E-08	3.68E-07	0.1	1.6E+00	8.0E-04	3.4E-09	4.6E-05
Hexachlorobutadiene	0.164	3.06E-08	5.35E-07	5.02E-09	8.78E-08	0.1	7.8E-02	2.0E-04	3.9E-11	4.4E-05
Total									3.4E-09	9.0E-05

NOTES:

(a) Total PCBs in catfish is PCB-1260 (PCB-1254 was ND)

(b) Chlordane is the total of alpha-chlordane and gamma-chlordane

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Adolescent)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.0709	2.93E-05	1.71E-04	2.08E-06	1.21E-05	NA	NA	3.0E-04	NA	4.0E-02
DDE	0.00204	2.93E-05	1.71E-04	5.98E-08	3.49E-07	NA	3.4E-01	NA	2.0E-08	NA
Hexachlorobenzene	0.174	2.93E-05	1.71E-04	5.10E-06	2.98E-05	NA	1.6E+00	8.0E-04	8.2E-06	3.7E-02
Hexachlorobutadiene	2.12	2.93E-05	1.71E-04	6.21E-05	3.63E-04	NA	7.8E-02	2.0E-04	4.8E-06	1.8E+00
Pentachlorobenzene	0.287	2.93E-05	1.71E-04	8.41E-06	4.91E-05	NA	NA	8.0E-04	NA	6.1E-02
Total PCBs	0.0626	2.93E-05	1.71E-04	1.84E-06	1.07E-05	NA	2.0E+00	2.0E-05	3.7E-06	5.4E-01
Total									1.7E-05	2.5E+00
Crawfish Whole Body										
DDD	0.0248	3.84E-05	2.24E-04	9.52E-07	5.56E-06	NA	2.4E-01	NA	2.3E-07	NA
DDE	0.0581	3.84E-05	2.24E-04	2.23E-06	1.30E-05	NA	3.4E-01	NA	7.6E-07	NA
DDT	0.00506	3.84E-05	2.24E-04	1.94E-07	1.13E-06	NA	3.4E-01	5.0E-04	6.6E-08	2.3E-03
Hexachlorobenzene	0.0194	3.84E-05	2.24E-04	7.45E-07	4.35E-06	NA	1.6E+00	8.0E-04	1.2E-06	5.4E-03
Hexachlorobutadiene	0.186	3.84E-05	2.24E-04	7.14E-06	4.17E-05	NA	7.8E-02	2.0E-04	5.6E-07	2.1E-01
Total									2.8E-06	2.2E-01
Crawfish Tails										
Hexachlorobutadiene	0.0554	3.84E-05	2.24E-04	2.13E-06	1.24E-05	NA	7.8E-02	2.0E-04	1.7E-07	6.2E-02
Total									1.7E-07	6.2E-02
Crawfish Heads										
DDE	0.0581	3.84E-05	2.24E-04	2.23E-06	1.30E-05	NA	3.4E-01	NA	7.6E-07	NA
Hexachlorobenzene	0.117	3.84E-05	2.24E-04	4.49E-06	2.62E-05	NA	1.6E+00	8.0E-04	7.2E-06	3.3E-02
Hexachlorobutadiene	1.302	3.84E-05	2.24E-04	5.00E-05	2.92E-04	NA	7.8E-02	2.0E-04	3.9E-06	1.5E+00
Pentachlorobenzene	0.0861	3.84E-05	2.24E-04	3.31E-06	1.93E-05	NA	NA	8.0E-04	NA	2.4E-02
Total									1.2E-05	1.5E+00

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Adult)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.0709	7.47E-05	1.74E-04	5.30E-06	1.24E-05	NA	NA	3.0E-04	NA	4.1E-02
DDE	0.00204	7.47E-05	1.74E-04	1.52E-07	3.56E-07	NA	3.4E-01	NA	5.2E-08	NA
Hexachlorobenzene	0.174	7.47E-05	1.74E-04	1.30E-05	3.03E-05	NA	1.6E+00	8.0E-04	2.1E-05	3.8E-02
Hexachlorobutadiene	2.12	7.47E-05	1.74E-04	1.58E-04	3.69E-04	NA	7.8E-02	2.0E-04	1.2E-05	1.8E+00
Pentachlorobenzene	0.287	7.47E-05	1.74E-04	2.14E-05	5.00E-05	NA	NA	8.0E-04	NA	6.3E-02
Total PCBs	0.0626	7.47E-05	1.74E-04	4.68E-06	1.09E-05	NA	2.0E+00	2.0E-05	9.4E-06	5.5E-01
Total									4.3E-05	2.5E+00
Crawfish Whole Body										
DDD	0.0248	9.80E-05	2.29E-04	2.43E-06	5.67E-06	NA	2.4E-01	NA	5.8E-07	NA
DDE	0.0581	9.80E-05	2.29E-04	5.69E-06	1.33E-05	NA	3.4E-01	NA	1.9E-06	NA
DDT	0.00506	9.80E-05	2.29E-04	4.96E-07	1.16E-06	NA	3.4E-01	5.0E-04	1.7E-07	2.3E-03
Hexachlorobenzene	0.0194	9.80E-05	2.29E-04	1.90E-06	4.43E-06	NA	1.6E+00	8.0E-04	3.0E-06	5.5E-03
Hexachlorobutadiene	0.186	9.80E-05	2.29E-04	1.82E-05	4.25E-05	NA	7.8E-02	2.0E-04	1.4E-06	2.1E-01
Pentachlorobenzene	0.0376	9.80E-05	2.29E-04	3.68E-06	8.59E-06	NA	NA	8.0E-04	NA	1.1E-02
Total									7.1E-06	2.3E-01
Crawfish Tails										
Hexachlorobutadiene	0.0554	9.80E-05	2.29E-04	5.43E-06	1.27E-05	NA	7.8E-02	2.0E-04	4.2E-07	6.3E-02
Pentachlorobenzene	0.0124	9.80E-05	2.29E-04	1.21E-06	2.83E-06	NA	NA	8.0E-04	NA	3.5E-03
Total									4.2E-07	6.7E-02
Crawfish Heads										
DDE	0.0581	9.80E-05	2.29E-04	5.69E-06	1.33E-05	NA	3.4E-01	NA	1.9E-06	NA
Hexachlorobenzene	0.117	9.80E-05	2.29E-04	1.15E-05	2.67E-05	NA	1.6E+00	8.0E-04	1.8E-05	3.3E-02
Hexachlorobutadiene	1.302	9.80E-05	2.29E-04	1.28E-04	2.98E-04	NA	7.8E-02	2.0E-04	9.9E-06	1.5E+00
Pentachlorobenzene	0.0861	9.80E-05	2.29E-04	8.43E-06	1.97E-05	NA	NA	8.0E-04	NA	2.5E-02
Total									3.0E-05	1.5E+00

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Integrated)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.0709	1.04E-04	1.73E-04	7.37E-06	1.23E-05	NA	NA	3.0E-04	NA	4.1E-02
DDE	0.00204	1.04E-04	1.73E-04	2.12E-07	3.54E-07	NA	3.4E-01	NA	7.2E-08	NA
Hexachlorobenzene	0.174	1.04E-04	1.73E-04	1.81E-05	3.02E-05	NA	1.6E+00	8.0E-04	2.9E-05	3.8E-02
Hexachlorobutadiene	2.12	1.04E-04	1.73E-04	2.20E-04	3.67E-04	NA	7.8E-02	2.0E-04	1.7E-05	1.8E+00
Pentachlorobenzene	0.287	1.04E-04	1.73E-04	2.99E-05	4.98E-05	NA	NA	8.0E-04	NA	6.2E-02
Total PCBs	0.0626	1.04E-04	1.73E-04	6.51E-06	1.09E-05	NA	2.0E+00	2.0E-05	1.3E-05	5.4E-01
Total									5.9E-05	2.5E+00
Crawfish Whole Body										
DDD	0.0248	1.36E-04	2.27E-04	3.38E-06	5.64E-06	NA	2.4E-01	NA	8.1E-07	NA
DDE	0.0581	1.36E-04	2.27E-04	7.92E-06	1.32E-05	NA	3.4E-01	NA	2.7E-06	NA
DDT	0.00506	1.36E-04	2.27E-04	6.90E-07	1.15E-06	NA	3.4E-01	5.0E-04	2.3E-07	2.3E-03
Hexachlorobenzene	0.0194	1.36E-04	2.27E-04	2.65E-06	4.41E-06	NA	1.6E+00	8.0E-04	4.2E-06	5.5E-03
Hexachlorobutadiene	0.186	1.36E-04	2.27E-04	2.54E-05	4.23E-05	NA	7.8E-02	2.0E-04	2.0E-06	2.1E-01
Pentachlorobenzene	0.0376	1.36E-04	2.27E-04	5.13E-06	8.55E-06	NA	NA	8.0E-04	NA	1.1E-02
Total									1.0E-05	2.3E-01
Crawfish Tails										
Hexachlorobutadiene	0.0554	1.36E-04	2.27E-04	7.55E-06	1.26E-05	NA	7.8E-02	2.0E-04	5.9E-07	6.3E-02
Pentachlorobenzene	0.0124	1.36E-04	2.27E-04	1.69E-06	2.82E-06	NA	NA	8.0E-04	NA	3.5E-03
Total									5.9E-07	6.6E-02
Crawfish Heads										
DDE	0.0581	1.36E-04	2.27E-04	7.92E-06	1.32E-05	NA	3.4E-01	NA	2.7E-06	NA
Hexachlorobenzene	0.117	1.36E-04	2.27E-04	1.60E-05	2.66E-05	NA	1.6E+00	8.0E-04	2.6E-05	3.3E-02
Hexachlorobutadiene	1.302	1.36E-04	2.27E-04	1.78E-04	2.96E-04	NA	7.8E-02	2.0E-04	1.4E-05	1.5E+00
Pentachlorobenzene	0.0861	1.36E-04	2.27E-04	1.17E-05	1.96E-05	NA	NA	8.0E-04	NA	2.4E-02
Total									4.2E-05	1.5E+00

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Recreational Fish Ingestion (Adolescent)										
Catfish										
1,2,4,5-Tetra CB	0.0112	6.82E-05	3.98E-04	7.64E-07	4.46E-06	NA	NA	3.0E-04	NA	1.5E-02
DDE	0.0157	6.82E-05	3.98E-04	1.07E-06	6.25E-06	NA	3.4E-01	NA	3.6E-07	NA
Hexachlorobenzene	0.071	6.82E-05	3.98E-04	4.84E-06	2.83E-05	NA	1.6E+00	8.0E-04	7.8E-06	3.5E-02
Hexachlorobutadiene	0.349	6.82E-05	3.98E-04	2.38E-05	1.39E-04	NA	7.8E-02	2.0E-04	1.9E-06	6.9E-01
Total PCBs (a)	0.323	6.82E-05	3.98E-04	2.20E-05	1.29E-04	NA	2.0E+00	2.0E-05	4.4E-05	6.4E+00
Total									5.4E-05	7.2E+00
Largemouth Bass										
1,2,4,5-Tetra CB	0.0185	5.86E-05	3.42E-04	1.08E-06	6.33E-06	NA	NA	3.0E-04	NA	2.1E-02
DDE	0.00551	5.86E-05	3.42E-04	3.23E-07	1.88E-06	NA	3.4E-01	NA	1.1E-07	NA
Hexachlorobenzene	0.0295	5.86E-05	3.42E-04	1.73E-06	1.01E-05	NA	1.6E+00	8.0E-04	2.8E-06	1.3E-02
Hexachlorobutadiene	0.369	5.86E-05	3.42E-04	2.16E-05	1.26E-04	NA	7.8E-02	2.0E-04	1.7E-06	6.3E-01
Pentachlorobenzene	0.0312	5.86E-05	3.42E-04	1.83E-06	1.07E-05	NA	NA	8.0E-04	NA	1.3E-02
Total PCBs	0.247	5.86E-05	3.42E-04	1.45E-05	8.45E-05	NA	2.0E+00	2.0E-05	2.9E-05	4.2E+00
Total									3.4E-05	4.9E+00
Crawfish Whole Body										
DDD	0.0325	7.68E-05	4.48E-04	2.50E-06	1.46E-05	NA	2.4E-01	NA	6.0E-07	NA
DDE	0.0862	7.68E-05	4.48E-04	6.62E-06	3.86E-05	NA	3.4E-01	NA	2.3E-06	NA
DDT	0.00784	7.68E-05	4.48E-04	6.02E-07	3.51E-06	NA	3.4E-01	5.0E-04	2.0E-07	7.0E-03
Hexachlorobenzene	0.0083	7.68E-05	4.48E-04	6.37E-07	3.72E-06	NA	1.6E+00	8.0E-04	1.0E-06	4.6E-03
Hexachlorobutadiene	0.141	7.68E-05	4.48E-04	1.08E-05	6.32E-05	NA	7.8E-02	2.0E-04	8.4E-07	3.2E-01
Pentachlorobenzene	0.0663	7.68E-05	4.48E-04	5.09E-06	2.97E-05	NA	NA	8.0E-04	NA	3.7E-02
Total PCBs (b)	0.641	7.68E-05	4.48E-04	4.92E-05	2.87E-04	NA	2.0E+00	2.0E-05	9.8E-05	1.4E+01
Total									1.0E-04	1.5E+01
Crawfish Tails										
Total PCBs	0.155	7.68E-05	4.48E-04	1.19E-05	6.94E-05	NA	2.0E+00	2.0E-05	2.4E-05	3.5E+00
Total									2.4E-05	3.5E+00

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Heads										
1,2,4,5-Tetra CB	0.0449	7.68E-05	4.48E-04	3.45E-06	2.01E-05	NA	NA	3.0E-04	NA	6.7E-02
DDE	0.00952	7.68E-05	4.48E-04	7.31E-07	4.26E-06	NA	3.4E-01	NA	2.5E-07	NA
Hexachlorobenzene	0.05	7.68E-05	4.48E-04	3.84E-06	2.24E-05	NA	1.6E+00	8.0E-04	6.1E-06	2.8E-02
Hexachlorobutadiene	0.424	7.68E-05	4.48E-04	3.26E-05	1.90E-04	NA	7.8E-02	2.0E-04	2.5E-06	9.5E-01
Pentachlorobenzene	0.061	7.68E-05	4.48E-04	4.68E-06	2.73E-05	NA	NA	8.0E-04	NA	3.4E-02
Total PCBs	5.8	7.68E-05	4.48E-04	4.45E-04	2.60E-03	NA	2.0E+00	2.0E-05	8.9E-04	1.3E+02
Total									9.0E-04	1.3E+02
Devil's Lake: Recreational Fish Ingestion (Adult)										
Catfish										
1,2,4,5-Tetra CB	0.0112	1.74E-04	4.06E-04	1.95E-06	4.54E-06	NA	NA	3.0E-04	NA	1.5E-02
DDE	0.0157	1.74E-04	4.06E-04	2.73E-06	6.37E-06	NA	3.4E-01	NA	9.3E-07	NA
Hexachlorobenzene	0.071	1.74E-04	4.06E-04	1.23E-05	2.88E-05	NA	1.6E+00	8.0E-04	2.0E-05	3.6E-02
Hexachlorobutadiene	0.349	1.74E-04	4.06E-04	6.07E-05	1.42E-04	NA	7.8E-02	2.0E-04	4.7E-06	7.1E-01
Total PCBs (a)	0.323	1.74E-04	4.06E-04	5.62E-05	1.31E-04	NA	2.0E+00	2.0E-05	1.1E-04	6.6E+00
Total									1.4E-04	7.3E+00
Largemouth Bass										
1,2,4,5-Tetra CB	0.0185	1.49E-04	3.49E-04	2.76E-06	6.45E-06	NA	NA	3.0E-04	NA	2.1E-02
DDE	0.00551	1.49E-04	3.49E-04	8.23E-07	1.92E-06	NA	3.4E-01	NA	2.8E-07	NA
Hexachlorobenzene	0.0295	1.49E-04	3.49E-04	4.41E-06	1.03E-05	NA	1.6E+00	8.0E-04	7.1E-06	1.3E-02
Hexachlorobutadiene	0.369	1.49E-04	3.49E-04	5.51E-05	1.29E-04	NA	7.8E-02	2.0E-04	4.3E-06	6.4E-01
Pentachlorobenzene	0.0312	1.49E-04	3.49E-04	4.66E-06	1.09E-05	NA	NA	8.0E-04	NA	1.4E-02
Total PCBs	0.247	1.49E-04	3.49E-04	3.69E-05	8.61E-05	NA	2.0E+00	2.0E-05	7.4E-05	4.3E+00
Total									8.5E-05	5.0E+00

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Whole Body										
DDD	0.0325	1.96E-04	4.57E-04	6.37E-06	1.49E-05	NA	2.4E-01	NA	1.5E-06	NA
DDE	0.0862	1.96E-04	4.57E-04	1.69E-05	3.94E-05	NA	3.4E-01	NA	5.7E-06	NA
DDT	0.00784	1.96E-04	4.57E-04	1.54E-06	3.58E-06	NA	3.4E-01	5.0E-04	5.2E-07	7.2E-03
Hexachlorobenzene	0.0083	1.96E-04	4.57E-04	1.63E-06	3.79E-06	NA	1.6E+00	8.0E-04	2.6E-06	4.7E-03
Hexachlorobutadiene	0.141	1.96E-04	4.57E-04	2.76E-05	6.45E-05	NA	7.8E-02	2.0E-04	2.2E-06	3.2E-01
Pentachlorobenzene	0.0663	1.96E-04	4.57E-04	1.30E-05	3.03E-05	NA	NA	8.0E-04	NA	3.8E-02
Total PCBs (b)	0.641	1.96E-04	4.57E-04	1.26E-04	2.93E-04	NA	2.0E+00	2.0E-05	2.5E-04	1.5E+01
Total									2.6E-04	1.5E+01
Crawfish Tails										
Total PCBs	0.155	1.96E-04	4.57E-04	3.04E-05	7.09E-05	NA	2.0E+00	2.0E-05	6.1E-05	3.5E+00
Total									6.1E-05	3.5E+00
Crawfish Heads										
1,2,4,5-Tetra CB	0.0449	1.96E-04	4.57E-04	8.80E-06	2.05E-05	NA	NA	3.0E-04	NA	6.8E-02
DDE	0.00952	1.96E-04	4.57E-04	1.87E-06	4.35E-06	NA	3.4E-01	NA	6.3E-07	NA
Hexachlorobenzene	0.05	1.96E-04	4.57E-04	9.80E-06	2.29E-05	NA	1.6E+00	8.0E-04	1.6E-05	2.9E-02
Hexachlorobutadiene	0.424	1.96E-04	4.57E-04	8.31E-05	1.94E-04	NA	7.8E-02	2.0E-04	6.5E-06	9.7E-01
Pentachlorobenzene	0.061	1.96E-04	4.57E-04	1.20E-05	2.79E-05	NA	NA	8.0E-04	NA	3.5E-02
Total PCBs	5.8	1.96E-04	4.57E-04	1.14E-03	2.65E-03	NA	2.0E+00	2.0E-05	2.3E-03	1.3E+02
Total									2.3E-03	1.3E+02
Devil's Lake: Recreational Fish Ingestion (Integrated)										
Catfish										
1,2,4,5-Tetra CB	0.0112	2.42E-04	4.04E-04	2.71E-06	4.52E-06	NA	NA	3.0E-04	NA	1.5E-02
DDE	0.0157	2.42E-04	4.04E-04	3.80E-06	6.34E-06	NA	3.4E-01	NA	1.3E-06	NA
Hexachlorobenzene	0.071	2.42E-04	4.04E-04	1.72E-05	2.86E-05	NA	1.6E+00	8.0E-04	2.8E-05	3.6E-02
Hexachlorobutadiene	0.349	2.42E-04	4.04E-04	8.45E-05	1.41E-04	NA	7.8E-02	2.0E-04	6.6E-06	7.0E-01
Total PCBs (a)	0.323	2.42E-04	4.04E-04	7.82E-05	1.30E-04	NA	2.0E+00	2.0E-05	1.6E-04	6.5E+00
Total									1.9E-04	7.3E+00

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Largemouth Bass										
1,2,4,5-Tetra CB	0.0185	2.08E-04	3.47E-04	3.85E-06	6.41E-06	NA	NA	3.0E-04	NA	2.1E-02
DDE	0.00551	2.08E-04	3.47E-04	1.15E-06	1.91E-06	NA	3.4E-01	NA	3.9E-07	NA
Hexachlorobenzene	0.0295	2.08E-04	3.47E-04	6.14E-06	1.02E-05	NA	1.6E+00	8.0E-04	9.8E-06	1.3E-02
Hexachlorobutadiene	0.369	2.08E-04	3.47E-04	7.68E-05	1.28E-04	NA	7.8E-02	2.0E-04	6.0E-06	6.4E-01
Pentachlorobenzene	0.0312	2.08E-04	3.47E-04	6.49E-06	1.08E-05	NA	NA	8.0E-04	NA	1.4E-02
Total PCBs	0.247	2.08E-04	3.47E-04	5.14E-05	8.56E-05	NA	2.0E+00	2.0E-05	1.0E-04	4.3E+00
Total									1.2E-04	5.0E+00
Crawfish Whole Body										
DDD	0.0325	2.73E-04	4.55E-04	8.86E-06	1.48E-05	NA	2.4E-01	NA	2.1E-06	NA
DDE	0.0862	2.73E-04	4.55E-04	2.35E-05	3.92E-05	NA	3.4E-01	NA	8.0E-06	NA
DDT	0.00784	2.73E-04	4.55E-04	2.14E-06	3.56E-06	NA	3.4E-01	5.0E-04	7.3E-07	7.1E-03
Hexachlorobenzene	0.0083	2.73E-04	4.55E-04	2.26E-06	3.77E-06	NA	1.6E+00	8.0E-04	3.6E-06	4.7E-03
Hexachlorobutadiene	0.141	2.73E-04	4.55E-04	3.85E-05	6.41E-05	NA	7.8E-02	2.0E-04	3.0E-06	3.2E-01
Pentachlorobenzene	0.0663	2.73E-04	4.55E-04	1.81E-05	3.01E-05	NA	NA	8.0E-04	NA	3.8E-02
Total PCBs (b)	0.641	2.73E-04	4.55E-04	1.75E-04	2.91E-04	NA	2.0E+00	2.0E-05	3.5E-04	1.5E+01
Total									3.7E-04	1.5E+01
Crawfish Tails										
Total PCBs	0.155	2.73E-04	4.55E-04	4.23E-05	7.05E-05	NA	2.0E+00	2.0E-05	8.5E-05	3.5E+00
Total									8.5E-05	3.5E+00
Crawfish Heads										
1,2,4,5-Tetra CB	0.0449	2.73E-04	4.55E-04	1.22E-05	2.04E-05	NA	NA	3.0E-04	NA	6.8E-02
DDE	0.00952	2.73E-04	4.55E-04	2.60E-06	4.33E-06	NA	3.4E-01	NA	8.8E-07	NA
Hexachlorobenzene	0.05	2.73E-04	4.55E-04	1.36E-05	2.27E-05	NA	1.6E+00	8.0E-04	2.2E-05	2.8E-02
Hexachlorobutadiene	0.424	2.73E-04	4.55E-04	1.16E-04	1.93E-04	NA	7.8E-02	2.0E-04	9.0E-06	9.6E-01
Pentachlorobenzene	0.061	2.73E-04	4.55E-04	1.66E-05	2.77E-05	NA	NA	8.0E-04	NA	3.5E-02
Total PCBs	5.8	2.73E-04	4.55E-04	1.58E-03	2.64E-03	NA	2.0E+00	2.0E-05	3.2E-03	1.3E+02
Total									3.2E-03	1.3E+02

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Adolescent)										
Benzo(a)anthracene	0.51	4.51E-08	2.63E-07	2.30E-08	1.34E-07	NA	7.3E-01	NA	1.7E-08	NA
Benzo(a)pyrene	0.28	4.51E-08	2.63E-07	1.26E-08	7.36E-08	NA	7.3E+00	NA	9.2E-08	NA
Total PCBs (d)	1.073	4.51E-08	2.63E-07	4.84E-08	2.82E-07	NA	2.0E+00	2.0E-05	9.7E-08	1.4E-02
Total									2.1E-07	1.4E-02
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Adult)										
Benzo(a)anthracene	0.51	8.05E-08	1.88E-07	4.11E-08	9.58E-08	NA	7.3E-01	NA	3.0E-08	NA
Benzo(a)pyrene	0.28	8.05E-08	1.88E-07	2.25E-08	5.26E-08	NA	7.3E+00	NA	1.6E-07	NA
Total PCBs (d)	1.073	8.05E-08	1.88E-07	8.64E-08	2.02E-07	NA	2.0E+00	2.0E-05	1.7E-07	1.2E-02
Total									1.8E-07	1.2E-02
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Integrated)										
Benzo(a)anthracene	0.51	1.26E-07	2.09E-07	6.41E-08	1.07E-07	NA	7.3E-01	NA	4.7E-08	NA
Benzo(a)pyrene	0.28	1.26E-07	2.09E-07	3.52E-08	5.86E-08	NA	7.3E+00	NA	2.6E-07	NA
Total PCBs (d)	1.073	1.26E-07	2.09E-07	1.35E-07	2.25E-07	NA	2.0E+00	2.0E-05	2.7E-07	1.1E-02
Total									5.9E-07	1.1E-02
Devil's Lake: Dermal Contact with Sediment (Recreational - Adolescent)										
Benzo(a)anthracene	0.51	2.78E-06	1.62E-05	1.42E-06	8.28E-06	0.13	7.3E-01	NA	1.3E-07	NA
Benzo(a)pyrene	0.28	2.78E-06	1.62E-05	7.79E-07	4.54E-06	0.13	7.3E+00	NA	7.4E-07	NA
Total PCBs (d)	1.073	2.78E-06	1.62E-05	2.99E-06	1.74E-05	0.14	2.0E+00	2.0E-05	8.4E-07	1.2E-01
Total									1.7E-06	1.2E-01

Devil's Lake Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Dermal Contact with Sediment (Recreational - Adult)										
Benzo(a)anthracene	0.51	3.67E-07	8.57E-07	1.87E-07	4.37E-07	0.13	7.3E-01	NA	1.8E-08	NA
Benzo(a)pyrene	0.28	3.67E-07	8.57E-07	1.03E-07	2.40E-07	0.13	7.3E+00	NA	9.8E-08	NA
Total PCBs (d)	1.073	3.67E-07	8.57E-07	3.94E-07	9.19E-07	0.14	2.0E+00	2.0E-05	1.1E-07	6.4E-03
Total									2.3E-07	6.4E-03
Devil's Lake: Dermal Contact with Sediment (Recreational - Integrated)										
Benzo(a)anthracene	0.51	2.93E-06	5.25E-06	1.49E-06	2.68E-06	0.13	7.3E-01	NA	1.4E-07	NA
Benzo(a)pyrene	0.28	2.93E-06	5.25E-06	8.20E-07	1.47E-06	0.13	7.3E+00	NA	7.8E-07	NA
Total PCBs (d)	1.073	2.93E-06	5.25E-06	3.14E-06	5.63E-06	0.14	2.0E+00	2.0E-05	8.8E-07	3.9E-02
Total									1.8E-06	3.9E-02

NOTES:

(a) Total PCBs in catfish is the sum of PCB-1254 and PCB-1260

(b) Total PCBs in crawfish (whole body) is PCB-1254 (PCB 1260 was ND)

(c) Chlordane is the sume of alpha-chlordane and gamma-chlordane

(d) Total PCBs in sediment is the sum of PCB-1248, PCB-1254, and PCB-1260

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Adolescent)										
Catfish										
Aldrin	0.00174	6.82E-05	3.98E-04	1.19E-07	6.93E-07	NA	1.7E+01	3.0E-05	2.0E-06	2.3E-02
Dieldrin	0.00175	6.82E-05	3.98E-04	1.19E-07	6.97E-07	NA	1.6E+01	5.0E-05	1.9E-06	1.4E-02
Hexachlorobenzene	0.00849	6.82E-05	3.98E-04	5.79E-07	3.38E-06	NA	1.6E+00	8.0E-04	9.3E-07	4.2E-03
Hexachlorobutadiene	0.194	6.82E-05	3.98E-04	1.32E-05	7.72E-05	NA	7.8E-02	2.0E-04	1.0E-06	3.9E-01
Total PCBs (a)	0.118	6.82E-05	3.98E-04	8.05E-06	4.70E-05	NA	2.0E+00	2.0E-05	1.6E-05	2.3E+00
Total									2.2E-05	2.8E+00
Largemouth Bass										
Hexachlorobenzene	0.00431	5.86E-05	3.42E-04	2.53E-07	1.47E-06	NA	1.6E+00	8.0E-04	4.0E-07	1.8E-03
Total PCBs	0.325	5.86E-05	3.42E-04	1.91E-05	1.11E-04	NA	2.0E+00	2.0E-05	3.8E-05	5.6E+00
Total									3.9E-05	5.6E+00
Crawfish Whole Body										
DDD	0.00477	7.68E-05	4.48E-04	3.66E-07	2.14E-06	NA	2.4E-01	NA	8.8E-08	NA
DDE	0.0111	7.68E-05	4.48E-04	8.52E-07	4.97E-06	NA	3.4E-01	NA	2.9E-07	NA
DDT	0.00865	7.68E-05	4.48E-04	6.64E-07	3.88E-06	NA	3.4E-01	5.0E-04	2.3E-07	7.8E-03
Hexachlorobenzene	0.0081	7.68E-05	4.48E-04	6.22E-07	3.63E-06	NA	1.6E+00	8.0E-04	1.0E-06	4.5E-03
Hexachlorobutadiene	0.0498	7.68E-05	4.48E-04	3.82E-06	2.23E-05	NA	7.8E-02	2.0E-04	3.0E-07	1.1E-01
Total									1.9E-06	1.2E-01
Crawfish Heads										
1,2,4,5-Tetra CB	0.0176	7.68E-05	4.48E-04	1.35E-06	7.88E-06	NA	NA	3.0E-04	NA	2.6E-02
Hexachlorobenzene	0.0048	7.68E-05	4.48E-04	3.69E-07	2.15E-06	NA	1.6E+00	8.0E-04	5.9E-07	2.7E-03
Hexachlorobutadiene	0.0433	7.68E-05	4.48E-04	3.33E-06	1.94E-05	NA	7.8E-02	2.0E-04	2.6E-07	9.7E-02
Total PCBs	0.0266	7.68E-05	4.48E-04	2.04E-06	1.19E-05	NA	2.0E+00	2.0E-05	4.1E-06	6.0E-01
Total									4.9E-06	7.2E-01

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Adult)										
Catfish										
Aldrin	0.00174	1.74E-04	4.06E-04	3.03E-07	7.06E-07	NA	1.7E+01	3.0E-05	5.1E-06	2.4E-02
Dieldrin	0.00175	1.74E-04	4.06E-04	3.04E-07	7.10E-07	NA	1.6E+01	5.0E-05	4.9E-06	1.4E-02
Hexachlorobenzene	0.00849	1.74E-04	4.06E-04	1.48E-06	3.44E-06	NA	1.6E+00	8.0E-04	2.4E-06	4.3E-03
Hexachlorobutadiene	0.194	1.74E-04	4.06E-04	3.37E-05	7.87E-05	NA	7.8E-02	2.0E-04	2.6E-06	3.9E-01
Total PCBs (a)	0.118	1.74E-04	4.06E-04	2.05E-05	4.79E-05	NA	2.0E+00	2.0E-05	4.1E-05	2.4E+00
Total									5.6E-05	2.8E+00
Largemouth Bass										
Hexachlorobenzene	0.00431	1.49E-04	3.49E-04	6.44E-07	1.50E-06	NA	1.6E+00	8.0E-04	1.0E-06	1.9E-03
Total PCBs	0.325	1.49E-04	3.49E-04	4.86E-05	1.13E-04	NA	2.0E+00	2.0E-05	9.7E-05	5.7E+00
Total									9.8E-05	5.7E+00
Crawfish Whole Body										
DDD	0.00477	1.96E-04	4.57E-04	9.35E-07	2.18E-06	NA	2.4E-01	NA	2.2E-07	NA
DDE	0.0111	1.96E-04	4.57E-04	2.17E-06	5.07E-06	NA	3.4E-01	NA	7.4E-07	NA
DDT	0.00865	1.96E-04	4.57E-04	1.69E-06	3.95E-06	NA	3.4E-01	5.0E-04	5.8E-07	7.9E-03
Hexachlorobenzene	0.0081	1.96E-04	4.57E-04	1.59E-06	3.70E-06	NA	1.6E+00	8.0E-04	2.5E-06	4.6E-03
Hexachlorobutadiene	0.0498	1.96E-04	4.57E-04	9.76E-06	2.28E-05	NA	7.8E-02	2.0E-04	7.6E-07	1.1E-01
Total									4.8E-06	1.3E-01
Crawfish Heads										
1,2,4,5-Tetra CB	0.0176	1.96E-04	4.57E-04	3.45E-06	8.05E-06	NA	NA	3.0E-04	NA	2.7E-02
Hexachlorobenzene	0.0048	1.96E-04	4.57E-04	9.40E-07	2.19E-06	NA	1.6E+00	8.0E-04	1.5E-06	2.7E-03
Hexachlorobutadiene	0.0433	1.96E-04	4.57E-04	8.48E-06	1.98E-05	NA	7.8E-02	2.0E-04	6.6E-07	9.9E-02
Total PCBs	0.0266	1.96E-04	4.57E-04	5.21E-06	1.22E-05	NA	2.0E+00	2.0E-05	1.0E-05	6.1E-01
Total									1.3E-05	7.4E-01

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - RME Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Integrated)										
Catfish										
Aldrin	0.00174	2.42E-04	4.04E-04	4.21E-07	7.02E-07	NA	1.7E+01	3.0E-05	7.2E-06	2.3E-02
Dieldrin	0.00175	2.42E-04	4.04E-04	4.24E-07	7.06E-07	NA	1.6E+01	5.0E-05	6.8E-06	1.4E-02
Hexachlorobenzene	0.00849	2.42E-04	4.04E-04	2.06E-06	3.43E-06	NA	1.6E+00	8.0E-04	3.3E-06	4.3E-03
Hexachlorobutadiene	0.194	2.42E-04	4.04E-04	4.70E-05	7.83E-05	NA	7.8E-02	2.0E-04	3.7E-06	3.9E-01
Total PCBs (a)	0.118	2.42E-04	4.04E-04	2.86E-05	4.76E-05	NA	2.0E+00	2.0E-05	5.7E-05	2.4E+00
Total									7.8E-05	2.8E+00
Largemouth Bass										
Hexachlorobenzene	0.00431	2.08E-04	3.47E-04	8.97E-07	1.49E-06	NA	1.6E+00	8.0E-04	1.4E-06	1.9E-03
Total PCBs	0.325	2.08E-04	3.47E-04	6.76E-05	1.13E-04	NA	2.0E+00	2.0E-05	1.4E-04	5.6E+00
Total									1.4E-04	5.6E+00
Crawfish Whole Body										
DDD	0.00477	2.73E-04	4.55E-04	1.30E-06	2.17E-06	NA	2.4E-01	NA	3.1E-07	NA
DDE	0.0111	2.73E-04	4.55E-04	3.03E-06	5.05E-06	NA	3.4E-01	NA	1.0E-06	NA
DDT	0.00865	2.73E-04	4.55E-04	2.36E-06	3.93E-06	NA	3.4E-01	5.0E-04	8.0E-07	7.9E-03
Hexachlorobenzene	0.0081	2.73E-04	4.55E-04	2.21E-06	3.68E-06	NA	1.6E+00	8.0E-04	3.5E-06	4.6E-03
Hexachlorobutadiene	0.0498	2.73E-04	4.55E-04	1.36E-05	2.26E-05	NA	7.8E-02	2.0E-04	1.1E-06	1.1E-01
Total									6.7E-06	1.3E-01
Crawfish Heads										
1,2,4,5-Tetra CB	0.0176	2.73E-04	4.55E-04	4.80E-06	8.00E-06	NA	NA	3.0E-04	NA	2.7E-02
Hexachlorobenzene	0.0048	2.73E-04	4.55E-04	1.31E-06	2.18E-06	NA	1.6E+00	8.0E-04	2.1E-06	2.7E-03
Hexachlorobutadiene	0.0433	2.73E-04	4.55E-04	1.18E-05	1.97E-05	NA	7.8E-02	2.0E-04	9.2E-07	9.8E-02
Total PCBs	0.0266	2.73E-04	4.55E-04	7.25E-06	1.21E-05	NA	2.0E+00	2.0E-05	1.5E-05	6.0E-01
Total									1.8E-05	7.3E-01

NOTES:

(a) Total PCBs in catfish is PCB-1254 (PCB-1260 was ND)

(b) Chlordane in catfish is the sum of alpha-chlordane and gamma-chlordane

(c) Total PCBs in sediment is the sum of PCB-1248 and PCB-1254 (PCB-1260 was ND)

CENTRAL TENDENCY (CT) EXPOSURE SCENARIO

North Bayou Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Bayou: Recreational Fish Ingestion (Adolescent)										
Catfish										
Hexachlorobenzene	0.0308	1.66E-05	9.70E-05	5.12E-07	2.99E-06	NA	1.6E+00	8.0E-04	8.2E-07	3.7E-03
Hexachlorobutadiene	0.0502	1.66E-05	9.70E-05	8.35E-07	4.87E-06	NA	7.8E-02	2.0E-04	6.5E-08	2.4E-02
Total PCBs (a)	0.02	1.66E-05	9.70E-05	3.33E-07	1.94E-06	NA	2.0E+00	2.0E-05	6.7E-07	9.7E-02
Total									1.5E-06	1.3E-01
Largemouth Bass										
1,2,4,5-Tetra CB	0.0017	3.60E-06	2.10E-05	6.12E-09	3.57E-08	NA	NA	3.0E-04	NA	1.2E-04
DDE	0.0011	3.60E-06	2.10E-05	3.96E-09	2.31E-08	NA	3.4E-01	NA	1.3E-09	NA
Hexachlorobenzene	0.0374	3.60E-06	2.10E-05	1.35E-07	7.85E-07	NA	1.6E+00	8.0E-04	2.2E-07	9.8E-04
Hexachlorobutadiene	0.0857	3.60E-06	2.10E-05	3.09E-07	1.80E-06	NA	7.8E-02	2.0E-04	2.4E-08	9.0E-03
Pentachlorobenzene	0.0048	3.60E-06	2.10E-05	1.73E-08	1.01E-07	NA	NA	8.0E-04	NA	1.3E-04
Total									2.4E-07	1.0E-02
North Bayou: Incidental Ingestion of Sediment (Adolescent)										
Hexachlorobenzene	0.14	1.13E-08	6.58E-08	1.58E-09	9.21E-09	NA	1.6E+00	8.0E-04	2.5E-09	1.2E-05
Total									2.5E-09	1.2E-05
North Bayou: Dermal Contact with Sediment (Adolescent)										
Hexachlorobenzene	0.14	6.95E-07	4.06E-06	9.74E-08	5.68E-07	0.1	1.6E+00	8.0E-04	1.6E-08	7.1E-05
Total									1.6E-08	7.1E-05

NOTES:

(a) Total PCBs in catfish is the sum of PCB-1254 and PCB-1260

Channels Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Channels: Recreational Fish Ingestion (Adult)										
Catfish										
1,2,4,5-Tetra CB	0.0301	2.53E-05	9.86E-05	7.63E-07	2.97E-06	NA	NA	3.0E-04	NA	9.9E-03
DDE	0.00177	2.53E-05	9.86E-05	4.49E-08	1.74E-07	NA	3.4E-01	NA	1.5E-08	NA
Hexachlorobenzene	0.204	2.53E-05	9.86E-05	5.17E-06	2.01E-05	NA	1.6E+00	8.0E-04	8.3E-06	2.5E-02
Hexachlorobutadiene	0.339	2.53E-05	9.86E-05	8.59E-06	3.34E-05	NA	7.8E-02	2.0E-04	6.7E-07	1.7E-01
Pentachlorobenzene	0.0294	2.53E-05	9.86E-05	7.45E-07	2.90E-06	NA	NA	8.0E-04	NA	3.6E-03
Total PCBs (a)	0.0693	2.53E-05	9.86E-05	1.76E-06	6.83E-06	NA	2.0E+00	2.0E-05	3.5E-06	3.4E-01
Total									1.2E-05	5.5E-01
Largemouth Bass										
1,2,4,5-Tetra CB	0.022	5.51E-06	2.14E-05	1.21E-07	4.71E-07	NA	NA	3.0E-04	NA	1.6E-03
DDE	0.00476	5.51E-06	2.14E-05	2.62E-08	1.02E-07	NA	3.4E-01	NA	8.9E-09	NA
Hexachlorobenzene	0.209	5.51E-06	2.14E-05	1.15E-06	4.48E-06	NA	1.6E+00	8.0E-04	1.8E-06	5.6E-03
Hexachlorobutadiene	0.695	5.51E-06	2.14E-05	3.83E-06	1.49E-05	NA	7.8E-02	2.0E-04	3.0E-07	7.4E-02
Pentachlorobenzene	0.0946	5.51E-06	2.14E-05,	5.21E-07	2.03E-06	NA	NA	8.0E-04	NA	2.5E-03
Total									2.2E-06	8.4E-02
Crawfish Whole Body										
1,2,4,5-Tetra CB	0.00744	1.18E-05	4.61E-05	8.81E-08	3.43E-07	NA	NA	3.0E-04	NA	1.1E-03
Chlordane	0.00345	1.18E-05	4.61E-05	4.09E-08	1.59E-07	NA	3.5E-01	5.0E-04	1.4E-08	3.2E-04
DDD	0.00088	1.18E-05	4.61E-05	1.04E-08	4.05E-08	NA	2.4E-01	NA	2.5E-09	NA
DDE	0.00179	1.18E-05	4.61E-05	2.12E-08	8.25E-08	NA	3.4E-01	NA	7.2E-09	NA
DDT	0.000845	1.18E-05	4.61E-05	1.00E-08	3.89E-08	NA	3.4E-01	5.0E-04	3.4E-09	7.8E-05
Dieldrin	0.00082	1.18E-05	4.61E-05	9.71E-09	3.78E-08	NA	1.6E+01	5.0E-05	1.6E-07	7.6E-04
Hexachlorobenzene	0.145	1.18E-05	4.61E-05	1.72E-06	6.68E-06	NA	1.6E+00	8.0E-04	2.7E-06	8.4E-03
Hexachlorobutadiene	0.42	1.18E-05	4.61E-05	4.98E-06	1.94E-05	NA	7.8E-02	2.0E-04	3.9E-07	9.7E-02
Pentachlorobenzene	0.063	1.18E-05	4.61E-05	7.46E-07	2.90E-06	NA	NA	8.0E-04	NA	3.6E-03
Total									3.3E-06	1.1E-01
Crawfish Tails										
Hexachlorobutadiene	0.125	1.18E-05	4.61E-05	1.48E-06	5.76E-06	NA	7.8E-02	2.0E-04	1.2E-07	2.9E-02
Pentachlorobenzene	0.0445	1.18E-05	4.61E-05	5.27E-07	2.05E-06	NA	NA	8.0E-04	NA	2.6E-03
Total									1.2E-07	3.1E-02

Channels Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Heads										
1,2,4,5-Tetra CB	0.0945	1.18E-05	4.61E-05	1.12E-06	4.35E-06	NA	NA	3.0E-04	NA	1.5E-02
DDE	0.00184	1.18E-05	4.61E-05	2.18E-08	8.48E-08	NA	3.4E-01	NA	7.4E-09	NA
Hexachlorobenzene	0.807	1.18E-05	4.61E-05	9.56E-06	3.72E-05	NA	1.6E+00	8.0E-04	1.5E-05	4.6E-02
Hexachlorobutadiene	4.748	1.18E-05	4.61E-05	5.62E-05	2.19E-04	NA	7.8E-02	2.0E-04	4.4E-06	1.1E+00
Pentachlorobenzene	0.192	1.18E-05	4.61E-05	2.27E-06	8.85E-06	NA	NA	8.0E-04	NA	1.1E-02
Total									2.0E-05	1.2E+00
Channels: Incidental Ingestion of Sediment (Recreational - Adult)										
Hexachlorobenzene	0.213	6.04E-09	2.35E-08	1.29E-09	5.00E-09	NA	1.6E+00	8.0E-04	2.1E-09	6.3E-06
Hexachlorobutadiene	0.0488	6.04E-09	2.35E-08	2.95E-10	1.15E-09	NA	7.8E-02	2.0E-04	2.3E-11	5.7E-06
Total									2.1E-09	1.2E-05
Channels: Incidental Ingestion of Sediment (Occupational - Adult)										
Hexachlorobenzene	0.213	1.68E-09	2.94E-08	3.57E-10	6.25E-09	NA	1.6E+00	8.0E-04	5.7E-10	7.8E-06
Hexachlorobutadiene	0.0488	1.68E-09	2.94E-08	8.19E-11	1.43E-09	NA	7.8E-02	2.0E-04	6.4E-12	7.2E-06
Total									5.8E-10	1.5E-05
Channels: Dermal Contact with Sediment (Recreational - Adult)										
Hexachlorobenzene	0.213	5.51E-08	2.14E-07	1.17E-08	4.56E-08	0.1	1.6E+00	8.0E-04	1.9E-09	5.7E-06
Hexachlorobutadiene	0.0488	5.51E-08	2.14E-07	2.69E-09	1.05E-08	0.1	7.8E-02	2.0E-04	2.1E-11	5.2E-06
Total									1.9E-09	1.1E-05
Channels: Dermal Contact with Sediment (Occupational - Adult)										
Hexachlorobenzene	0.213	1.53E-08	2.68E-07	3.26E-09	5.70E-08	0.1	1.6E+00	8.0E-04	5.2E-10	7.1E-06
Hexachlorobutadiene	0.0488	1.53E-08	2.68E-07	7.47E-10	1.31E-08	0.1	7.8E-02	2.0E-04	5.8E-12	6.5E-06
Total									5.2E-10	1.4E-05

NOTES:

(a) Total PCBs in catfish is PCB-1260 (PCB-1254 was ND)

(b) Chlordane is the total of alpha-chlordane and gamma-chlordane

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Adolescent)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.013	3.60E-06	2.10E-05	4.68E-08	2.73E-07	NA	NA	3.0E-04	NA	9.1E-04
DDE	0.00096	3.60E-06	2.10E-05	3.46E-09	2.02E-08	NA	3.4E-01	NA	1.2E-09	NA
Hexachlorobenzene	0.0733	3.60E-06	2.10E-05	2.64E-07	1.54E-06	NA	1.6E+00	8.0E-04	4.2E-07	1.9E-03
Hexachlorobutadiene	0.29	3.60E-06	2.10E-05	1.04E-06	6.09E-06	NA	7.8E-02	2.0E-04	8.1E-08	3.0E-02
Pentachlorobenzene	0.0287	3.60E-06	2.10E-05	1.03E-07	6.03E-07	NA	NA	8.0E-04	NA	7.5E-04
Total PCBs	0.0226	3.60E-06	2.10E-05	8.14E-08	4.75E-07	NA	2.0E+00	2.0E-05	1.6E-07	2.4E-02
Total									6.7E-07	5.8E-02
Crawfish Whole Body										
DDD	0.0248	7.71E-06	4.50E-05	1.91E-07	1.12E-06	NA	2.4E-01	NA	4.6E-08	NA
DDE	0.0581	7.71E-06	4.50E-05	4.48E-07	2.61E-06	NA	3.4E-01	NA	1.5E-07	NA
DDT	0.00506	7.71E-06	4.50E-05	3.90E-08	2.28E-07	NA	3.4E-01	5.0E-04	1.3E-08	4.6E-04
Hexachlorobenzene	0.0121	7.71E-06	4.50E-05	9.33E-08	5.45E-07	NA	1.6E+00	8.0E-04	1.5E-07	6.8E-04
Hexachlorobutadiene	0.112	7.71E-06	4.50E-05	8.64E-07	5.04E-06	NA	7.8E-02	2.0E-04	6.7E-08	2.5E-02
Total									4.3E-07	2.6E-02
Crawfish Tails										
Hexachlorobutadiene	0.0334	7.71E-06	4.50E-05	2.58E-07	1.50E-06	NA	7.8E-02	2.0E-04	2.0E-08	7.5E-03
Total									2.0E-08	7.5E-03
Crawfish Heads										
DDE	0.0581	7.71E-06	4.50E-05	4.48E-07	2.61E-06	NA	3.4E-01	NA	1.5E-07	NA
Hexachlorobenzene	0.0852	7.71E-06	4.50E-05	6.57E-07	3.83E-06	NA	1.6E+00	8.0E-04	1.1E-06	4.8E-03
Hexachlorobutadiene	1.266	7.71E-06	4.50E-05	9.77E-06	5.70E-05	NA	7.8E-02	2.0E-04	7.6E-07	2.8E-01
Pentachlorobenzene	0.0598	7.71E-06	4.50E-05	4.61E-07	2.69E-06	NA	NA	8.0E-04	NA	3.4E-03
Total									2.0E-06	2.9E-01

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Adult)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.013	5.51E-06	2.14E-05	7.16E-08	2.79E-07	NA	NA	3.0E-04	NA	9.3E-04
DDE	0.00096	5.51E-06	2.14E-05	5.29E-09	2.06E-08	NA	3.4E-01	NA	1.8E-09	NA
Hexachlorobenzene	0.0733	5.51E-06	2.14E-05	4.04E-07	1.57E-06	NA	1.6E+00	8.0E-04	6.5E-07	2.0E-03
Hexachlorobutadiene	0.29	5.51E-06	2.14E-05	1.60E-06	6.21E-06	NA	7.8E-02	2.0E-04	1.2E-07	3.1E-02
Pentachlorobenzene	0.0287	5.51E-06	2.14E-05	1.58E-07	6.15E-07	NA	NA	8.0E-04	NA	7.7E-04
Total PCBs	0.0226	5.51E-06	2.14E-05	1.25E-07	4.84E-07	NA	2.0E+00	2.0E-05	2.5E-07	2.4E-02
Total									1.0E-06	5.9E-02
Crawfish Whole Body										
DDD	0.0248	1.10E-05	4.29E-05	2.73E-07	1.06E-06	NA	2.4E-01	NA	6.6E-08	NA
DDE	0.0581	1.10E-05	4.29E-05	6.40E-07	2.49E-06	NA	3.4E-01	NA	2.2E-07	NA
DDT	0.00506	1.10E-05	4.29E-05	5.58E-08	2.17E-07	NA	3.4E-01	5.0E-04	1.9E-08	4.3E-04
Hexachlorobenzene	0.0121	1.10E-05	4.29E-05	1.33E-07	5.19E-07	NA	1.6E+00	8.0E-04	2.1E-07	6.5E-04
Hexachlorobutadiene	0.112	1.10E-05	4.29E-05	1.23E-06	4.80E-06	NA	7.8E-02	2.0E-04	9.6E-08	2.4E-02
Total									6.1E-07	2.5E-02
Crawfish Tails										
Hexachlorobutadiene	0.0334	1.10E-05	4.29E-05	3.68E-07	1.43E-06	NA	7.8E-02	2.0E-04	2.9E-08	7.2E-03
Total									2.9E-08	7.2E-03
Crawfish Heads										
DDE	0.0581	1.10E-05	4.29E-05	6.40E-07	2.49E-06	NA	3.4E-01	NA	2.2E-07	NA
Hexachlorobenzene	0.0852	1.10E-05	4.29E-05	9.39E-07	3.65E-06	NA	1.6E+00	8.0E-04	1.5E-06	4.6E-03
Hexachlorobutadiene	1.266	1.10E-05	4.29E-05	1.40E-05	5.43E-05	NA	7.8E-02	2.0E-04	1.1E-06	2.7E-01
Pentachlorobenzene	0.0598	1.10E-05	4.29E-05	6.59E-07	2.56E-06	NA	NA	8.0E-04	NA	3.2E-03
Total									2.8E-06	2.8E-01

North Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
North Swamp: Recreational Fish Ingestion (Integrated)										
Largemouth Bass										
1,2,4,5-Tetra CB	0.013	9.11E-06	2.13E-05	1.18E-07	2.76E-07	NA	NA	3.0E-04	NA	9.2E-04
DDE	0.00096	9.11E-06	2.13E-05	8.75E-09	2.04E-08	NA	3.4E-01	NA	3.0E-09	NA
Hexachlorobenzene	0.0733	9.11E-06	2.13E-05	6.68E-07	1.56E-06	NA	1.6E+00	8.0E-04	1.1E-06	1.9E-03
Hexachlorobutadiene	0.29	9.11E-06	2.13E-05	2.64E-06	6.16E-06	NA	7.8E-02	2.0E-04	2.1E-07	3.1E-02
Pentachlorobenzene	0.0287	9.11E-06	2.13E-05	2.61E-07	6.10E-07	NA	NA	8.0E-04	NA	7.6E-04
Total PCBs	0.0226	9.11E-06	2.13E-05	2.06E-07	4.80E-07	NA	2.0E+00	2.0E-05	4.1E-07	2.4E-02
Total									1.7E-06	5.8E-02
Crawfish Whole Body										
DDD	0.0248	1.87E-05	4.37E-05	4.65E-07	1.08E-06	NA	2.4E-01	NA	1.1E-07	NA
DDE	0.0581	1.87E-05	4.37E-05	1.09E-06	2.54E-06	NA	3.4E-01	NA	3.7E-07	NA
DDT	0.00506	1.87E-05	4.37E-05	9.48E-08	2.21E-07	NA	3.4E-01	5.0E-04	3.2E-08	4.4E-04
Hexachlorobenzene	0.0121	1.87E-05	4.37E-05	2.27E-07	5.29E-07	NA	1.6E+00	8.0E-04	3.6E-07	6.6E-04
Hexachlorobutadiene	0.112	1.87E-05	4.37E-05	2.10E-06	4.90E-06	NA	7.8E-02	2.0E-04	1.6E-07	2.4E-02
Pentachlorobenzene	0.0196	1.87E-05	4.37E-05	3.67E-07	8.57E-07	NA	NA	8.0E-04	NA	1.1E-03
Total									1.0E-06	2.7E-02
Crawfish Tails										
Hexachlorobutadiene	0.0334	1.87E-05	4.37E-05	6.26E-07	1.46E-06	NA	7.8E-02	2.0E-04	4.9E-08	7.3E-03
Pentachlorobenzene	0.0065	1.87E-05	4.37E-05	1.22E-07	2.84E-07	NA	NA	8.0E-04	NA	3.6E-04
Total									4.9E-08	7.7E-03
Crawfish Heads										
DDE	0.0581	1.87E-05	4.37E-05	1.09E-06	2.54E-06	NA	3.4E-01	NA	3.7E-07	NA
Hexachlorobenzene	0.0852	1.87E-05	4.37E-05	1.60E-06	3.72E-06	NA	1.6E+00	8.0E-04	2.6E-06	4.7E-03
Hexachlorobutadiene	1.266	1.87E-05	4.37E-05	2.37E-05	5.53E-05	NA	7.8E-02	2.0E-04	1.9E-06	2.8E-01
Pentachlorobenzene	0.0598	1.87E-05	4.37E-05	1.12E-06	2.61E-06	NA	NA	8.0E-04	NA	3.3E-03
Total									4.8E-06	2.8E-01

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Recreational Fish Ingestion (Adolescent)										
Catfish										
1,2,4,5-Tetra CB	0.0025	3.33E-05	1.94E-04	8.31E-08	4.85E-07	NA	NA	3.0E-04	NA	1.6E-03
DDE	0.0114	3.33E-05	1.94E-04	3.79E-07	2.21E-06	NA	3.4E-01	NA	1.3E-07	NA
Hexachlorobenzene	0.0122	3.33E-05	1.94E-04	4.06E-07	2.37E-06	NA	1.6E+00	8.0E-04	6.5E-07	3.0E-03
Hexachlorobutadiene	0.0731	3.33E-05	1.94E-04	2.43E-06	1.42E-05	NA	7.8E-02	2.0E-04	1.9E-07	7.1E-02
Total PCBs (a)	0.182	3.33E-05	1.94E-04	6.05E-06	3.53E-05	NA	2.0E+00	2.0E-05	1.2E-05	1.8E+00
Total									1.3E-05	1.8E+00
Largemouth Bass										
1,2,4,5-Tetra CB	0.0072	7.20E-06	4.20E-05	5.18E-08	3.02E-07	NA	NA	3.0E-04	NA	1.0E-03
DDE	0.00164	7.20E-06	4.20E-05	1.18E-08	6.89E-08	NA	3.4E-01	NA	4.0E-09	NA
Hexachlorobenzene	0.018	7.20E-06	4.20E-05	1.30E-07	7.56E-07	NA	1.6E+00	8.0E-04	2.1E-07	9.5E-04
Hexachlorobutadiene	0.0945	7.20E-06	4.20E-05	6.80E-07	3.97E-06	NA	7.8E-02	2.0E-04	5.3E-08	2.0E-02
Pentachlorobenzene	0.0116	7.20E-06	4.20E-05	8.35E-08	4.87E-07	NA	NA	8.0E-04	NA	6.1E-04
Total PCBs	0.0964	7.20E-06	4.20E-05	6.94E-07	4.05E-06	NA	2.0E+00	2.0E-05	1.4E-06	2.0E-01
Total									1.7E-06	2.2E-01
Crawfish Whole Body										
DDD	0.00255	1.54E-05	9.00E-05	3.93E-08	2.30E-07	NA	2.4E-01	NA	9.4E-09	NA
DDE	0.00928	1.54E-05	9.00E-05	1.43E-07	8.35E-07	NA	3.4E-01	NA	4.9E-08	NA
DDT	0.00126	1.54E-05	9.00E-05	1.94E-08	1.13E-07	NA	3.4E-01	5.0E-04	6.6E-09	2.3E-04
Hexachlorobenzene	0.00484	1.54E-05	9.00E-05	7.47E-08	4.36E-07	NA	1.6E+00	8.0E-04	1.2E-07	5.4E-04
Hexachlorobutadiene	0.0292	1.54E-05	9.00E-05	4.51E-07	2.63E-06	NA	7.8E-02	2.0E-04	3.5E-08	1.3E-02
Pentachlorobenzene	0.0145	1.54E-05	9.00E-05	2.24E-07	1.31E-06	NA	NA	8.0E-04	NA	1.6E-03
Total PCBs (b)	0.0454	1.54E-05	9.00E-05	7.00E-07	4.09E-06	NA	2.0E+00	2.0E-05	1.4E-06	2.0E-01
Total									1.6E-06	2.2E-01
Crawfish Tails										
Total PCBs	0.0899	1.54E-05	9.00E-05	1.39E-06	8.09E-06	NA	2.0E+00	2.0E-05	2.8E-06	4.0E-01
Total									2.8E-06	4.0E-01

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Heads										
1,2,4,5-Tetra CB	0.0332	1.54E-05	9.00E-05	5.12E-07	2.99E-06	NA	NA	3.0E-04	NA	1.0E-02
DDE	0.00952	1.54E-05	9.00E-05	1.47E-07	8.57E-07	NA	3.4E-01	NA	5.0E-08	NA
Hexachlorobenzene	0.0338	1.54E-05	9.00E-05	5.21E-07	3.04E-06	NA	1.6E+00	8.0E-04	8.3E-07	3.8E-03
Hexachlorobutadiene	0.331	1.54E-05	9.00E-05	5.11E-06	2.98E-05	NA	7.8E-02	2.0E-04	4.0E-07	1.5E-01
Pentachlorobenzene	0.0442	1.54E-05	9.00E-05	6.82E-07	3.98E-06	NA	NA	8.0E-04	NA	5.0E-03
Total PCBs	2.48	1.54E-05	9.00E-05	3.83E-05	2.23E-04	NA	2.0E+00	2.0E-05	7.7E-05	1.1E+01
Total									7.8E-05	1.1E+01
Devil's Lake: Recreational Fish Ingestion (Adult)										
Catfish										
1,2,4,5-Tetra CB	0.0025	5.07E-05	1.97E-04	1.27E-07	4.93E-07	NA	NA	3.0E-04	NA	1.6E-03
DDE	0.0114	5.07E-05	1.97E-04	5.78E-07	2.25E-06	NA	3.4E-01	NA	2.0E-07	NA
Hexachlorobenzene	0.0122	5.07E-05	1.97E-04	6.18E-07	2.41E-06	NA	1.6E+00	8.0E-04	9.9E-07	3.0E-03
Hexachlorobutadiene	0.0731	5.07E-05	1.97E-04	3.71E-06	1.44E-05	NA	7.8E-02	2.0E-04	2.9E-07	7.2E-02
Total PCBs (a)	0.182	5.07E-05	1.97E-04	9.23E-06	3.59E-05	NA	2.0E+00	2.0E-05	1.8E-05	1.8E+00
Total									2.0E-05	1.9E+00
Largemouth Bass										
1,2,4,5-Tetra CB	0.0072	1.10E-05	4.29E-05	7.93E-08	3.09E-07	NA	NA	3.0E-04	NA	1.0E-03
DDE	0.00164	1.10E-05	4.29E-05	1.81E-08	7.03E-08	NA	3.4E-01	NA	6.1E-09	NA
Hexachlorobenzene	0.018	1.10E-05	4.29E-05	1.98E-07	7.71E-07	NA	1.6E+00	8.0E-04	3.2E-07	9.6E-04
Hexachlorobutadiene	0.0945	1.10E-05	4.29E-05	1.04E-06	4.05E-06	NA	7.8E-02	2.0E-04	8.1E-08	2.0E-02
Pentachlorobenzene	0.0116	1.10E-05	4.29E-05	1.28E-07	4.97E-07	NA	NA	8.0E-04	NA	6.2E-04
Total PCBs	0.0964	1.10E-05	4.29E-05	1.06E-06	4.13E-06	NA	2.0E+00	2.0E-05	2.1E-06	2.1E-01
Total									2.5E-06	2.3E-01

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Crawfish Whole Body										
DDD	0.00255	2.37E-05	9.21E-05	6.04E-08	2.35E-07	NA	2.4E-01	NA	1.5E-08	NA
DDE	0.00928	2.37E-05	9.21E-05	2.20E-07	8.55E-07	NA	3.4E-01	NA	7.5E-08	NA
DDT	0.00126	2.37E-05	9.21E-05	2.99E-08	1.16E-07	NA	3.4E-01	5.0E-04	1.0E-08	2.3E-04
Hexachlorobenzene	0.0048	2.37E-05	9.21E-05	1.14E-07	4.42E-07	NA	1.6E+00	8.0E-04	1.8E-07	5.5E-04
Hexachlorobutadiene	0.0292	2.37E-05	9.21E-05	6.92E-07	2.69E-06	NA	7.8E-02	2.0E-04	5.4E-08	1.3E-02
Pentachlorobenzene	0.0145	2.37E-05	9.21E-05	3.44E-07	1.34E-06	NA	NA	8.0E-04	NA	1.7E-03
Total PCBs (b)	0.0454	2.37E-05	9.21E-05	1.08E-06	4.18E-06	NA	2.0E+00	2.0E-05	2.2E-06	2.1E-01
Total									2.5E-06	2.3E-01
Crawfish Tails										
Total PCBs	0.0899	2.37E-05	9.21E-05	2.13E-06	8.28E-06	NA	2.0E+00	2.0E-05	4.3E-06	4.1E-01
Total									4.3E-06	4.1E-01
Crawfish Heads										
1,2,4,5-Tetra CB	0.0332	2.37E-05	9.21E-05	7.87E-07	3.06E-06	NA	NA	3.0E-04	NA	1.0E-02
DDE	0.00952	2.37E-05	9.21E-05	2.26E-07	8.77E-07	NA	3.4E-01	NA	7.7E-08	NA
Hexachlorobenzene	0.0338	2.37E-05	9.21E-05	8.01E-07	3.11E-06	NA	1.6E+00	8.0E-04	1.3E-06	3.9E-03
Hexachlorobutadiene	0.331	2.37E-05	9.21E-05	7.84E-06	3.05E-05	NA	7.8E-02	2.0E-04	6.1E-07	1.5E-01
Pentachlorobenzene	0.0442	2.37E-05	9.21E-05	1.05E-06	4.07E-06	NA	NA	8.0E-04	NA	5.1E-03
Total PCBs	2.48	2.37E-05	9.21E-05	5.88E-05	2.29E-04	NA	2.0E+00	2.0E-05	1.2E-04	1.1E+01
Total									1.2E-04	1.2E+01
Devil's Lake: Recreational Fish Ingestion (Integrated)										
Catfish										
1,2,4,5-Tetra CB	0.0025	8.40E-05	1.96E-04	2.10E-07	4.90E-07	NA	NA	3.0E-04	NA	1.6E-03
DDE	0.0114	8.40E-05	1.96E-04	9.57E-07	2.23E-06	NA	3.4E-01	NA	3.3E-07	NA
Hexachlorobenzene	0.0122	8.40E-05	1.96E-04	1.02E-06	2.39E-06	NA	1.6E+00	8.0E-04	1.6E-06	3.0E-03
Hexachlorobutadiene	0.0731	8.40E-05	1.96E-04	6.14E-06	1.43E-05	NA	7.8E-02	2.0E-04	4.8E-07	7.2E-02
Total PCBs (a)	0.182	8.40E-05	1.96E-04	1.53E-05	3.57E-05	NA	2.0E+00	2.0E-05	3.1E-05	1.8E+00
Total									3.1E-05	1.9E+00

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Largemouth Bass										
1,2,4,5-Tetra CB	0.0072	1.82E-05	4.25E-05	1.31E-07	3.06E-07	NA	NA	3.0E-04	NA	1.0E-03
DDE	0.00164	1.82E-05	4.25E-05	2.99E-08	6.97E-08	NA	3.4E-01	NA	1.0E-08	NA
Hexachlorobenzene	0.018	1.82E-05	4.25E-05	3.28E-07	7.65E-07	NA	1.6E+00	8.0E-04	5.2E-07	9.6E-04
Hexachlorobutadiene	0.0945	1.82E-05	4.25E-05	1.72E-06	4.02E-06	NA	7.8E-02	2.0E-04	1.3E-07	2.0E-02
Pentachlorobenzene	0.0116	1.82E-05	4.25E-05	2.11E-07	4.93E-07	NA	NA	8.0E-04	NA	6.2E-04
Total PCBs	0.0964	1.82E-05	4.25E-05	1.76E-06	4.10E-06	NA	2.0E+00	2.0E-05	3.5E-06	2.0E-01
Total									4.2E-06	2.3E-01
Crawfish Whole Body										
DDD	0.00255	3.91E-05	9.13E-05	9.98E-08	2.33E-07	NA	2.4E-01	NA	2.4E-08	NA
DDE	0.00928	3.91E-05	9.13E-05	3.63E-07	8.47E-07	NA	3.4E-01	NA	1.2E-07	NA
DDT	0.00126	3.91E-05	9.13E-05	4.93E-08	1.15E-07	NA	3.4E-01	5.0E-04	1.7E-08	2.3E-04
Hexachlorobenzene	0.0048	3.91E-05	9.13E-05	1.88E-07	4.38E-07	NA	1.6E+00	8.0E-04	3.0E-07	5.5E-04
Hexachlorobutadiene	0.0292	3.91E-05	9.13E-05	1.14E-06	2.67E-06	NA	7.8E-02	2.0E-04	8.9E-08	1.3E-02
Pentachlorobenzene	0.0145	3.91E-05	9.13E-05	5.67E-07	1.32E-06	NA	NA	8.0E-04	NA	1.7E-03
Total PCBs (b)	0.0454	3.91E-05	9.13E-05	1.78E-06	4.14E-06	NA	2.0E+00	2.0E-05	3.6E-06	2.1E-01
Total									4.1E-06	2.2E-01
Crawfish Tails										
Total PCBs	0.0899	3.91E-05	9.13E-05	3.52E-06	8.21E-06	NA	2.0E+00	2.0E-05	7.0E-06	4.1E-01
Total									7.0E-06	4.1E-01
Crawfish Heads										
1,2,4,5-Tetra CB	0.0332	3.91E-05	9.13E-05	1.30E-06	3.03E-06	NA	NA	3.0E-04	NA	1.0E-02
DDE	0.00952	3.91E-05	9.13E-05	3.72E-07	8.69E-07	NA	3.4E-01	NA	1.3E-07	NA
Hexachlorobenzene	0.0338	3.91E-05	9.13E-05	1.32E-06	3.09E-06	NA	1.6E+00	8.0E-04	2.1E-06	3.9E-03
Hexachlorobutadiene	0.331	3.91E-05	9.13E-05	1.29E-05	3.02E-05	NA	7.8E-02	2.0E-04	1.0E-06	1.5E-01
Pentachlorobenzene	0.0442	3.91E-05	9.13E-05	1.73E-06	4.03E-06	NA	NA	8.0E-04	NA	5.0E-03
Total PCBs	2.48	3.91E-05	9.13E-05	9.70E-05	2.26E-04	NA	2.0E+00	2.0E-05	1.9E-04	1.1E+01
Total									2.0E-04	1.1E+01

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Adolescent)										
Benzo(a)anthracene	0.312	2.25E-08	1.32E-07	7.03E-09	4.10E-08	NA	7.3E-01	NA	5.1E-09	NA
Benzo(a)pyrene	0.201	2.25E-08	1.32E-07	4.53E-09	2.64E-08	NA	7.3E+00	NA	3.3E-08	NA
Total PCBs (d)	0.556	2.25E-08	1.32E-07	1.25E-08	7.31E-08	NA	2.0E+00	2.0E-05	2.5E-08	3.7E-03
Total									6.3E-08	3.7E-03
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Adult)										
Benzo(a)anthracene	0.312	1.21E-08	4.70E-08	3.77E-09	1.47E-08	NA	7.3E-01	NA	2.8E-09	NA
Benzo(a)pyrene	0.201	1.21E-08	4.70E-08	2.43E-09	9.44E-09	NA	7.3E+00	NA	1.8E-08	NA
Total PCBs (d)	0.556	1.21E-08	4.70E-08	6.71E-09	2.61E-08	NA	2.0E+00	2.0E-05	1.3E-08	1.3E-03
Total									3.4E-08	1.3E-03
Devil's Lake: Incidental Ingestion of Sediment (Recreational - Integrated)										
Benzo(a)anthracene	0.312	3.46E-08	8.08E-08	1.08E-08	2.52E-08	NA	7.3E-01	NA	7.9E-09	NA
Benzo(a)pyrene	0.201	3.46E-08	8.08E-08	6.96E-09	1.62E-08	NA	7.3E+00	NA	5.1E-08	NA
Total PCBs (d)	0.556	3.46E-08	8.08E-08	1.92E-08	4.49E-08	NA	2.0E+00	2.0E-05	3.8E-08	2.2E-03
Total									9.7E-08	2.2E-03
Devil's Lake: Dermal Contact with Sediment (Recreational - Adolescent)										
Benzo(a)anthracene	0.312	1.39E-06	8.11E-06	4.34E-07	2.53E-06	0.13	7.3E-01	NA	4.1E-08	NA
Benzo(a)pyrene	0.201	1.39E-06	8.11E-06	2.80E-07	1.63E-06	0.13	7.3E+00	NA	2.7E-07	NA
Total PCBs (d)	0.556	1.39E-06	8.11E-06	7.73E-07	4.51E-06	0.14	2.0E+00	2.0E-05	2.2E-07	3.2E-02
Total									5.3E-07	3.2E-02
Devil's Lake: Dermal Contact with Sediment (Recreational - Adult)										
Benzo(a)anthracene	0.312	1.10E-07	4.28E-07	3.44E-08	1.34E-07	0.13	7.3E-01	NA	3.3E-09	NA
Benzo(a)pyrene	0.201	1.10E-07	4.28E-07	2.21E-08	8.61E-08	0.13	7.3E+00	NA	2.1E-08	NA
Total PCBs (d)	0.556	1.10E-07	4.28E-07	6.12E-08	2.38E-07	0.14	2.0E+00	2.0E-05	1.7E-08	1.7E-03
Total									4.1E-08	1.7E-03

Devil's Lake Risk Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
Devil's Lake: Dermal Contact with Sediment (Recreational - Integrated)										
Benzo(a)anthracene	0.312	1.46E-06	3.50E-06	4.57E-07	1.09E-06	0.13	7.3E-01	NA	4.3E-08	NA
Benzo(a)pyrene	0.201	1.46E-06	3.50E-06	2.94E-07	7.04E-07	0.13	7.3E+00	NA	2.8E-07	NA
Total PCBs (d)	0.556	1.46E-06	3.50E-06	8.14E-07	1.95E-06	0.14	2.0E+00	2.0E-05	2.3E-07	1.4E-02
Total									5.5E-07	1.4E-02

NOTES:

(a) Total PCBs in catfish is the sum of PCB-1254 and PCB-1260

(b) Total PCBs in crawfish (whole body) is PCB-1254 (PCB 1260 was ND)

(c) Chlordane is the sume of alpha-chlordane and gamma-chlordane

(d) Total PCBs in sediment is the sum of PCB-1248, PCB-1254, and PCB-1260

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario

Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Adolescent)										
Catfish										
Aldrin	0.00174	3.33E-05	1.94E-04	5.79E-08	3.38E-07	NA	1.7E+01	3.0E-05	9.8E-07	1.1E-02
Dieldrin	0.00175	3.33E-05	1.94E-04	5.82E-08	3.40E-07	NA	1.6E+01	5.0E-05	9.3E-07	6.8E-03
Hexachlorobenzene	0.0063	3.33E-05	1.94E-04	2.10E-07	1.22E-06	NA	1.6E+00	8.0E-04	3.4E-07	1.5E-03
Hexachlorobutadiene	0.051	3.33E-05	1.94E-04	1.70E-06	9.89E-06	NA	7.8E-02	2.0E-04	1.3E-07	4.9E-02
Total PCBs (a)	0.0228	3.33E-05	1.94E-04	7.58E-07	4.42E-06	NA	2.0E+00	2.0E-05	1.5E-06	2.2E-01
Total									3.9E-06	2.9E-01
Largemouth Bass										
Hexachlorobenzene	0.0043	7.20E-06	4.20E-05	3.10E-08	1.81E-07	NA	1.6E+00	8.0E-04	5.0E-08	2.3E-04
Total PCBs	0.325	7.20E-06	4.20E-05	2.34E-06	1.37E-05	NA	2.0E+00	2.0E-05	4.7E-06	6.8E-01
Total									4.7E-06	6.8E-01
Crawfish Whole Body										
DDD	0.00109	1.54E-05	9.00E-05	1.68E-08	9.81E-08	NA	2.4E-01	NA	4.0E-09	NA
DDE	0.00621	1.54E-05	9.00E-05	9.58E-08	5.59E-07	NA	3.4E-01	NA	3.3E-08	NA
DDT	0.00152	1.54E-05	9.00E-05	2.35E-08	1.37E-07	NA	3.4E-01	5.0E-04	8.0E-09	2.7E-04
Hexachlorobenzene	0.0023	1.54E-05	9.00E-05	3.55E-08	2.07E-07	NA	1.6E+00	8.0E-04	5.7E-08	2.6E-04
Hexachlorobutadiene	0.0124	1.54E-05	9.00E-05	1.91E-07	1.12E-06	NA	7.8E-02	2.0E-04	1.5E-08	5.6E-03
Total									1.2E-07	6.1E-03
Crawfish Heads										
1,2,4,5-Tetra CB	0.0037	1.54E-05	9.00E-05	5.71E-08	3.33E-07	NA	NA	3.0E-04	NA	1.1E-03
Hexachlorobenzene	0.0022	1.54E-05	9.00E-05	3.39E-08	1.98E-07	NA	1.6E+00	8.0E-04	5.4E-08	2.5E-04
Hexachlorobutadiene	0.0067	1.54E-05	9.00E-05	1.03E-07	6.03E-07	NA	7.8E-02	2.0E-04	8.1E-09	3.0E-03
Total PCBs	0.0131	1.54E-05	9.00E-05	2.02E-07	1.18E-06	NA	2.0E+00	2.0E-05	4.0E-07	5.9E-02
Total									4.7E-07	6.3E-02

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Adult)										
Catfish										
Aldrin	0.00174	5.07E-05	1.97E-04	8.82E-08	3.43E-07	NA	1.7E+01	3.0E-05	1.5E-06	1.1E-02
Dieldrin	0.00175	5.07E-05	1.97E-04	8.87E-08	3.45E-07	NA	1.6E+01	5.0E-05	1.4E-06	6.9E-03
Hexachlorobenzene	0.0063	5.07E-05	1.97E-04	3.19E-07	1.24E-06	NA	1.6E+00	8.0E-04	5.1E-07	1.6E-03
Hexachlorobutadiene	0.051	5.07E-05	1.97E-04	2.59E-06	1.01E-05	NA	7.8E-02	2.0E-04	2.0E-07	5.0E-02
Total PCBs (a)	0.0228	5.07E-05	1.97E-04	1.16E-06	4.49E-06	NA	2.0E+00	2.0E-05	2.3E-06	2.2E-01
Total									5.9E-06	2.9E-01
Largemouth Bass										
Hexachlorobenzene	0.0043	1.10E-05	4.29E-05	4.74E-08	1.84E-07	NA	1.6E+00	8.0E-04	7.6E-08	2.3E-04
Total PCBs	0.325	1.10E-05	4.29E-05	3.58E-06	1.39E-05	NA	2.0E+00	2.0E-05	7.2E-06	7.0E-01
Total									7.2E-06	7.0E-01
Crawfish Whole Body										
DDD	0.00109	2.37E-05	9.21E-05	2.58E-08	1.00E-07	NA	2.4E-01	NA	6.2E-09	NA
DDE	0.00621	2.37E-05	9.21E-05	1.47E-07	5.72E-07	NA	3.4E-01	NA	5.0E-08	NA
DDT	0.00152	2.37E-05	9.21E-05	3.60E-08	1.40E-07	NA	3.4E-01	5.0E-04	1.2E-08	2.8E-04
Hexachlorobenzene	0.0023	2.37E-05	9.21E-05	5.45E-08	2.12E-07	NA	1.6E+00	8.0E-04	8.7E-08	2.6E-04
Hexachlorobutadiene	0.0124	2.37E-05	9.21E-05	2.94E-07	1.14E-06	NA	7.8E-02	2.0E-04	2.3E-08	5.7E-03
Total									1.8E-07	6.3E-03
Crawfish Heads										
1,2,4,5-Tetra CB	0.0037	2.37E-05	9.21E-05	8.77E-08	3.41E-07	NA	NA	3.0E-04	NA	1.1E-03
Hexachlorobenzene	0.0022	2.37E-05	9.21E-05	5.21E-08	2.03E-07	NA	1.6E+00	8.0E-04	8.3E-08	2.5E-04
Hexachlorobutadiene	0.0067	2.37E-05	9.21E-05	1.59E-07	6.17E-07	NA	7.8E-02	2.0E-04	1.2E-08	3.1E-03
Total PCBs	0.0131	2.37E-05	9.21E-05	3.10E-07	1.21E-06	NA	2.0E+00	2.0E-05	6.2E-07	6.0E-02
Total									7.2E-07	6.5E-02

South Swamp Cancer Risk and Non-Cancer Hazard Calculations - CT Scenario										
Chemical	Exposure Conc. (mg/kg)	SIF-C (kg/kg-day)	SIF-NC (kg/kg-day)	Intake - C (mg/kg-day)	Intake - NC (mg/kg-day)	Absorption Factor (ABS)	Oral SF (kg-day/mg)	Oral RfD (mg/kg-day)	Cancer Risk	HQ
South Swamp: Recreational Fish Ingestion (Integrated)										
Catfish										
Aldrin	0.00174	8.40E-05	1.96E-04	1.46E-07	3.41E-07	NA	1.7E+01	3.0E-05	2.5E-06	1.1E-02
Dieldrin	0.00175	8.40E-05	1.96E-04	1.47E-07	3.43E-07	NA	1.6E+01	5.0E-05	2.4E-06	6.9E-03
Hexachlorobenzene	0.0063	8.40E-05	1.96E-04	5.29E-07	1.23E-06	NA	1.6E+00	8.0E-04	8.5E-07	1.5E-03
Hexachlorobutadiene	0.051	8.40E-05	1.96E-04	4.28E-06	9.99E-06	NA	7.8E-02	2.0E-04	3.3E-07	5.0E-02
Total PCBs (a)	0.0228	8.40E-05	1.96E-04	1.91E-06	4.47E-06	NA	2.0E+00	2.0E-05	3.8E-06	2.2E-01
Total									9.8E-06	2.9E-01
Largemouth Bass										
Hexachlorobenzene	0.0043	1.82E-05	4.25E-05	7.83E-08	1.83E-07	NA	1.6E+00	8.0E-04	1.3E-07	2.3E-04
Total PCBs	0.325	1.82E-05	4.25E-05	5.92E-06	1.38E-05	NA	2.0E+00	2.0E-05	1.2E-05	6.9E-01
Total									1.2E-05	6.9E-01
Crawfish Whole Body										
DDD	0.00109	3.91E-05	9.13E-05	4.26E-08	9.95E-08	NA	2.4E-01	NA	1.0E-08	NA
DDE	0.00621	3.91E-05	9.13E-05	2.43E-07	5.67E-07	NA	3.4E-01	NA	8.3E-08	NA
DDT	0.00152	3.91E-05	9.13E-05	5.95E-08	1.39E-07	NA	3.4E-01	5.0E-04	2.0E-08	2.8E-04
Hexachlorobenzene	0.0023	3.91E-05	9.13E-05	9.00E-08	2.10E-07	NA	1.6E+00	8.0E-04	1.4E-07	2.6E-04
Hexachlorobutadiene	0.0124	3.91E-05	9.13E-05	4.85E-07	1.13E-06	NA	7.8E-02	2.0E-04	3.8E-08	5.7E-03
Total									2.9E-07	6.2E-03
Crawfish Heads										
1,2,4,5-Tetra CB	0.0037	3.91E-05	9.13E-05	1.45E-07	3.38E-07	NA	NA	3.0E-04	NA	1.1E-03
Hexachlorobenzene	0.0022	3.91E-05	9.13E-05	8.61E-08	2.01E-07	NA	1.6E+00	8.0E-04	1.4E-07	2.5E-04
Hexachlorobutadiene	0.0067	3.91E-05	9.13E-05	2.62E-07	6.12E-07	NA	7.8E-02	2.0E-04	2.0E-08	3.1E-03
Total PCBs	0.0131	3.91E-05	9.13E-05	5.13E-07	1.20E-06	NA	2.0E+00	2.0E-05	1.0E-06	6.0E-02
Total									1.2E-06	6.4E-02
NOTES:										
(a) Total PCBs in catfish is PCB-1254 (PCB-1260 was ND)										
(b) Chlordane in catfish is the sum of alpha-chlordane and gamma-chlordane										
(c) Total PCBs in sediment is the sum of PCB-1248 and PCB-1254 (PCB-1260 was ND)										

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HUMAN HEALTH RISK ASSESSMENT
DEVIL'S SWAMP, BATON ROUGE
LOUISIANA

(VOLUME 2 -STANDARD TABLES)

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TABLE 1.1

SELECTION OF EXPOSURE PATHWAYS

NORTH BAYOU

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Tapwater	Resident	Child/Adult	Dermal	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
						Ingestion	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
				Recreationist/Fisher	Child/Adult	Dermal	On-Site	None	No groundwater seeps or wells
						Ingestion	On-Site	None	No groundwater seeps or wells
	Surface water	Surface water	North Bayou	Recreationist/Fisher	Child/Adult	Dermal	On-Site	Quant	1997 field observations noted evidence of fishing activities near the Scenic Site, and in the Upper North Bayou
						Ingestion	On-Site	Quant	1997 field observations noted evidence of fishing activities near the Scenic Site and in the Upper North Bayou
	Sediment	Sediment	North Bayou	Recreationist/Fisher	Child/Adult	Dermal	On-Site	Quant	1997 field observations noted evidence of fishing activities near the Scenic Site and in the Upper North Bayou
					Child/Adult	Ingestion	On-Site	Quant	1997 field observations noted evidence of fishing activities near the Scenic Site and in the Upper North Bayou
		Animal Tissue	Catfish/Largemouth Bass	Recreationist/Fisher	Child/Adult	Ingestion	On-Site	Quant	1997 field observations noted evidence of fishing activities near the Scenic Site and in the Upper North Bayou

TABLE 1.2

SELECTION OF EXPOSURE PATHWAYS

CHANNELS

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Tapwater	Resident	Child/Adult	Dermal	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
						Ingestion	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
				Recreationist/Fisher	Child/Adult	Dermal	On-site	None	No groundwater seeps or wells on site
						Ingestion	On-site	None	No groundwater seeps or wells on site
				Industrial Worker	Adult	Dermal	On-site	None	No groundwater seeps or wells on site
						Ingestion	On-site	None	No groundwater seeps or wells on site
	Surface water	Surface water	Channels	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities
				Industrial Worker	Adult	Dermal	On-site	Quant	Historical use by investigative or remedial workers exists; current and future work in this capacity is expected
						Ingestion	On-site	Quant	Historical use by investigative or remedial workers exists; current and future work in this capacity is expected
	Sediment	Sediment	Channels	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities
				Industrial Worker	Adult	Dermal	On-site	Quant	Historical use by investigative or remedial workers exists; current and future work in this capacity is expected
						Ingestion	On-site	Quant	Historical use by investigative or remedial workers exists; current and future work in this capacity is expected
		Animal Tissue	Crawfish/Catfish/ Largemouth Bass	Recreationist/Fisher	Child/Adult	Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities

TABLE 1.3

SELECTION OF EXPOSURE PATHWAYS

NORTH SWAMP

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Tapwater	Resident	Child/Adult	Dermal	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
						Ingestion	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
				Recreationist/Fisher	Child/Adult	Dermal	On-site	None	No groundwater seeps or wells on site
						Ingestion	On-site	None	No groundwater seeps or wells on site
	Surface water	Surface water	North Swamp	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
	Sediment	Sediment	North Swamp	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
		Animal Tissue	Largemouth Bass/ Crawfish	Recreationist/Fisher	Child/Adult	Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area

TABLE 1.4

SELECTION OF EXPOSURE PATHWAYS

DEVIL'S LAKE

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Tapwater	Resident	Child/Adult	Dermal	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
						Ingestion	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
				Recreationist/Fisher	Child/Adult	Dermal	On-site	None	No groundwater seeps or wells on site
						Ingestion	On-site	None	No groundwater seeps or wells on site
	Surface water	Surface water	Devil's Lake	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
	Sediment	Sediment	Devil's Lake	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
		Animal Tissue	Catfish/Largemouth Bass/ Crawfish	Recreationist/Fisher	Child/Adult	Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area

TABLE 1.5

SELECTION OF EXPOSURE PATHWAYS

SOUTH SWAMP

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Groundwater	Groundwater	Tapwater	Resident	Child/Adult	Dermal	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
						Ingestion	Off-Site	None	Wells serving local residents do not draw from this shallow aquifer; remedial activities in progress are designed to prevent future deep aquifer contamination
				Recreationist/Fisher	Child/Adult	Dermal	On-site	None	No groundwater seeps or wells on site
						Ingestion	On-site	None	No groundwater seeps or wells on site
	Surface water	Surface water	South Swamp	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
	Sediment	Sediment	South Swamp	Recreationist/Fisher	Child/Adult	Dermal	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
						Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area
		Animal Tissue	Catfish/Crawfish/ Largemouth Bass	Recreationist/Fisher	Child/Adult	Ingestion	On-site	Quant	1997 field observations noted evidence of fishing activities throughout this area

TABLE 2.1.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH BAYOU - CATFISH

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: North Bayou Catfish Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.012		0.025		mg/kg	NB-4	3/4	0.002-0.002	0.025	NA	0.018	NA	NA	YES	ASL
	ALDRIN	0.0017		0.00166		mg/kg	NB-4	1/3	0.0007-0.001	0.00166	NA	0.000059	NA	NA	YES	ASL
7440-38-2	ARSENIC	0.058		0.185	J	mg/kg	NB-9	1/2	0.044-0.045	0.185	NA	0.00067	NA	NA	YES	ASL
57-47-9	CHLORDANE-ALPHA	0.018		0.00182		mg/kg	SC-4	2/2	0.0007-0.0007	0.00182	NA	0.0029	NA	NA	YES	ASL
	CHLORDANE-GAMMA	0.0011		0.00688		mg/kg	NB-4	2/3	0.0007-0.001	0.00688	NA	0.0029	NA	NA	YES	ASL
72-54-8	DDD,PP	0.0015		0.00326		mg/kg	NB-4	2/3	0.0007-0.001	0.00326	NA	0.0042	NA	NA	NO	BSL
72-55-9	DDE,PP	0.0027		0.00477		mg/kg	SC-4	1/3	0.0007-0.001	0.00477	NA	0.003	NA	NA	YES	ASL
50-29-3	DDT,PP	0.0015		0.00336		mg/kg	NB-4	2/3	0.0007-0.001	0.00336	NA	0.003	NA	NA	YES	ASL
60-57-1	DIELDRIN	0.002		0.00653		mg/kg	NB-4	1/3	0.0007-0.001	0.00653	NA	0.000063	NA	NA	YES	ASL
115-29-7	ENDOSULFAN,B	0.0036		0.0297		mg/kg	NB-4	1/3	0.0007-0.001	0.0297	NA	0.36	NA	NA	NO	BSL
118-74-1	HEXACHLOROBENZENE	0.036		0.158		mg/kg	NB-5	4/4	0.002-0.02	0.158	NA	0.00063	NA	NA	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.18		1.22		mg/kg	NB-9	4/4	0.002-0.02	1.22	NA	0.012	NA	NA	YES	ASL
	PCB	0.46		0.457		mg/kg	NB-4	1/2	0.02-0.02	0.457	NA	0.0005	NA	NA	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.0083		0.0387		mg/kg	NB-9	4/4	0.002-0.002	0.0387	NA	0.048	NA	NA	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level

TABLE 2.1.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH BAYOU - LARGEMOUTH BASS TISSUE

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: North Bayou Bass Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	0.002		0.0375		mg/kg	NB-9	1/4	0.002-0.002	0.0375	NA	0.018	N/A	N/A	YES	ASL
7440-38-2	ARSENIC	0.304		0.304		mg/kg	NB-9	1/1	0.043-0.043	0.304	NA	0.00067	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.004		0.00437		mg/kg	NB-9	1/1	0.001-0.001	0.00437	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.048	J	0.0897		mg/kg	NB-2	4/4	0.002-0.002	0.0897	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.012		0.71		mg/kg	NB-2	4/4	0.0021-0.1	0.71	NA	0.012	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.025		0.0746		mg/kg	NB-9	3/4	0.002-0.0022	0.0746	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
ASL = Above Screening Level

TABLE 2.1.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH BAYOU SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Bayou Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
79-34-5	1,1,2,2 - TETRACHLOROETHANE	911.75		911.75		ug/kg	NB-9a	1 / 5	6 - 8.2	911.75	NA	1.2E+04	NA	NA	No	BSL
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	1.8		10.3		ug/kg	NB-4a	8 / 15	1.58 - 2.23	10.3	NA	4.1E+04	NA	NA	No	BSL
120-82-1	1,2,4 - TRICHLOROBENZENE	2.25		21.4		ug/kg	NB-9a	5 / 15	1.58 - 2.23	21.4	NA	1.4E+06	NA	NA	No	BSL
99-35-4	1,3,5 - TRICHLOROBENZENE	2.7		27.4		ug/kg	NB-9a	10 / 15	1.58 - 2.56	27.4	NA	NA	NA	NA	No	NTV
67-64-1	ACETONE	63	J	12,000	J	ug/kg	NB-2	2 / 4	12 - 16	12,000	NA	1.4E+07	NA	NA	No	BSL
20859-73-8	ALUMINUM	11,000		11,000		mg/kg	NB-9a	1 / 1	11.7 - 11.7	11,000	20,800	3.8E+05	NA	NA	No	BSL
7440-36-0	ANTIMONY	0.462	J	0.462	J	mg/kg	NB-9a	1 / 1	0.058 - 0.058	0.462	0.11	1.5E+02	NA	NA	No	BSL
7440-38-2	ARSENIC	0.854	J	21.9	J	mg/kg	NB-7	10 / 10	0.105 - 0.153	21.9	8.2	3.1E+00	NA	NA	Yes	ASL
7440-39-3	BARIUM	121		121		mg/kg	NB-9a	1 / 1	0.584 - 0.584	121	182	2.7E+04	NA	NA	No	BSL
56-55-3	BENZO(A)ANTHRACENE	200		200		ug/kg	NB-3	1 / 13	120 - 600	200	NA	2.7E+03	NA	NA	No	BSL
50-32-8	BENZO(A)PYRENE	230		230		ug/kg	NB-3	1 / 13	170 - 840	230	NA	2.7E+02	NA	NA	No	BSL
205-99-2	BENZO(B)FLUORANTHENE	150		150		ug/kg	NB-3	1 / 13	120 - 600	150	NA	2.7E+03	NA	NA	No	BSL
7440-41-7	BERYLLIUM	0.435		0.435		mg/kg	NB-9a	1 / 1	0.023 - 0.023	0.435	0.73	7.6E+02	NA	NA	No	BSL
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	180	J	180	J	ug/kg	NB-9a	1 / 13	120 - 600	180	1,935	1.7E+05	NA	NA	No	BSL
7440-43-9	CADMIUM	0.041		22	J	mg/kg	NB-7	10 / 10	0.011 - 0.023	22	0.43	3.8E+02	NA	NA	No	BSL
592-01-8	CALCIUM	1,510		1,510		mg/kg	NB-9a	1 / 1	87.6 - 87.6	1,510	3,260	NA	NA	NA	No	NUT
7440-47-3	CHROMIUM	11.3	J	11.3	J	mg/kg	NB-9a	1 / 1	0.584 - 0.584	11.3	19	1.1E+03	NA	NA	No	BSL
218-01-9	CHRYSENE	160		270		ug/kg	NB-3	4 / 13	120 - 600	270	NA	2.7E+05	NA	NA	No	BSL
7440-48-4	COBALT	4.13		4.13		mg/kg	NB-9a	1 / 1	0.117 - 0.117	4.13	6.7	2.3E+04	NA	NA	No	BSL
7440-50-8	COPPER	1.22	J	22.5	J	mg/kg	NB-7	10 / 10	0.105 - 0.235	22.5	26.8	1.5E+04	NA	NA	No	BSL
206-44-0	FLUORANTHENE	180		180		ug/kg	NB-3	1 / 13	83 - 420	180	NA	4.5E+06	NA	NA	No	BSL
118-74-1	HEXACHLOROBENZENE	10.2		1,500		ug/kg	NB-3	15 / 15	1.92 - 600	1,500	7.3	1.5E+03	NA	NA	Yes	BSL
87-68-3	HEXACHLOROBUTADIENE	4.7		220		ug/kg	NB-1	15 / 15	1 - 170	220	NA	2.7E+04	NA	NA	No	BSL
67-72-1	HEXACHLOROETHANE	7.92		7.92		ug/kg	NB-3	1 / 15	1.58 - 2.23	7.92	NA	1.4E+05	NA	NA	No	BSL
7439-89-6	IRON	11,000		11,000		mg/kg	NB-9a	1 / 1	58.4 - 58.4	11,000	15,600	NA	NA	NA	No	NUT
7439-92-1	LEAD	5.78	J	2720		mg/kg	NB-7	10 / 10	0.053 - 7.51	2,720	24.2	4.0E+02	NA	NA	Yes	ASL
	MAGNESIUM	1,210		1,210		mg/kg	NB-9a	1 / 1	29.2 - 29.2	1,210	2,820	NA	NA	NA	No	NUT
7439-96-5	MANGANESE	298		298		mg/kg	NB-9a	1 / 1	58.4 - 58.4	298	523	1.8E+04	NA	NA	No	BSL
7439-97-6	MERCURY	0.032	J	0.078	J	mg/kg	NB-6	3 / 10	0.021 - 0.031	0.078	0.02	1.1E+02	NA	NA	No	BSL
75-09-2	METHYLENE CHLORIDE	6.9	J	11		ug/kg	NB-2	4 / 4	6 - 8.2	11	NA	3.2E+05	NA	NA	No	BSL
91-20-3	NAPHTHALENE	150		150		ug/kg	NB-8	1 / 13	83 - 420	150	NA	2.2E+06	NA	NA	No	BSL

TABLE 2.1.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH BAYOU SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Bayou Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
7440-02-0	NICKEL	8.4	J	8.4	J	mg/kg	NB-9a	1 / 1	0.584 - 0.584	8.4	15.1	7.6E+03	NA	NA	No	BSL
608-93-5	PENTACHLOROBENZENE	2.63		86.6		ug/kg	SC-4a	11 / 15	1.58 - 33	86.6	NA	1.1E+05	NA	NA	No	BSL
85-01-8	PHENANTHRENE	130		190		ug/kg	NB-3	2 / 13	83 - 420	190	NA	2.2E+06	NA	NA	No	BSL
	POTASSIUM	725		725		mg/kg	NB-9a	1 / 1	117 - 117	725	1,990	NA	NA	NA	No	NUT
129-00-0	PYRENE	110		200		ug/kg	NB-3	2 / 13	83 - 420	200	NA	3.4E+06	NA	NA	No	BSL
7782-49-2	SELENIUM	0.609		0.609		mg/kg	NB-9a	1 / 1	0.234 - 0.234	0.609	0.21	1.9E+03	NA	NA	No	BSL
7440-22-4	SILVER	0.042	J	0.042	J	mg/kg	NB-9a	1 / 1	0.012 - 0.012	0.042	0.06	1.9E+03	NA	NA	No	BSL
	SODIUM	203		203		mg/kg	NB-9a	1 / 1	58.4 - 58.4	203	242	NA	NA	NA	No	NUT
7440-28-0	THALLIUM	0.376	J	0.376	J	mg/kg	NB-9a	1 / 1	0.012 - 0.012	0.376	0.28	3.1E+01	NA	NA	No	BSL
7440-62-2	VANADIUM	16.5	J	16.5	J	mg/kg	NB-9a	1 / 1	0.234 - 0.234	16.5	30.5	2.7E+03	NA	NA	No	BSL
7440-66-6	ZINC	7.86	J	49.1	J	mg/kg	NB-9	10 / 10	0.21 - 1.17	49.1	94.4	1.1E+05	NA	NA	No	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NUT = Nutrient
NTV = No Toxicity Value

TABLE 2.2.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
CHANNELS - CATFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish
Exposure Point: Channels Catfish Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.0068	J	0.421		mg/kg	NC-7	5/7	0.002-0.2	0.421	NA	NA	N/A	N/A	NO	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	0.015	J	1.51		mg/kg	NC-7	6/7	0.002-0.2	1.51	NA	0.018	N/A	N/A	YES	ASL
7440-38-2	ARSENIC	0.19	J	0.225	J	mg/kg	NC-7	5/7	1-1	0.225	NA	0.00067	N/A	N/A	YES	ASL
57-47-9	CHLORDANE-ALPHA	0.002		0.00198		mg/kg	NC-7	1/2	1-1	0.00198	NA	0.0029	N/A	N/A	NO	BSL
	CHLORDANE-GAMMA	0.0019		0.00189		mg/kg	NC-7	1/3	0.00067	0.00189	NA	0.0029	N/A	N/A	NO	BSL
72-54-8	DDD,PP	0.0015		0.00295		mg/kg	NS-10	2/3	0.00067-0.001	0.00295	NA	0.0042	N/A	N/A	NO	BSL
72-55-9	DDE,PP	0.0027		0.00495		mg/kg	NS-2	3/3	0.00067-0.001	0.00495	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0019		0.00193		mg/kg	CS-1	1/3	0.00067-0.001	0.00193	NA	0.003	N/A	N/A	NO	BSL
60-57-1	DIELDRIN	0.002		0.002		mg/kg	CS-1	1/3	0.00067-0.001	0.002	NA	0.000063	N/A	N/A	YES	ASL
	ENDOSULFAN,B	0.0036		0.00358		mg/kg	CS-1	1/3	0.00067-0.001	0.00358	NA	0.36	N/A	N/A	NO	BSL
118-74-1	HEXACHLOROBENZENE	0.125		2.24		mg/kg	NC-7	7/7	0.002-0.5	2.24	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.062		18		mg/kg	NC-7	7/7	0.0021-0.7	18	NA	0.012	N/A	N/A	YES	ASL
	PCB-1260	0.43		0.425		mg/kg	NS-10	1/1	0.02-0.02	0.425	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.053		2.41		mg/kg	NS-7	7/7	0.002-0.2	2.41	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.2.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
CHANNELS - LARGEMOUTH BASS WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: Channels Bass Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.016	J	0.138		mg/kg	NC-9	5/9	0.002-0.0024	0.138	NA	NA	N/A	N/A	NO	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	0.009	J	0.194		mg/kg	NC-9	7/9	0.002-0.002	0.194	NA	0.018	N/A	N/A	YES	ASL
7440-38-2	ARSENIC	0.046		0.215		mg/kg	NC-12	4/4	0.043-0.045	0.215	NA	0.00067	N/A	N/A	YES	ASL
	BHC,D	0.0016		0.0017	J	mg/kg	NS-10	2/2	0.001-0.001	0.0017	NA	NA	N/A	N/A	NO	NTV
72-54-8	DDD,PP	0.0032		0.0056	J	mg/kg	NS-10	2/2	0.001-0.001	0.0056	NA	0.0042	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.016		0.023	J	mg/kg	NS-10	2/2	0.001-0.001	0.023	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.011	J	0.0116		mg/kg	NC-9	2/2	0.001-0.001	0.0116	NA	0.003	N/A	N/A	YES	ASL
60-57-1	DIELDRIN	0.0031		0.00313		mg/kg	NS-10	1/2	0.001-0.001	0.00313	NA	0.000063	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.081		1.02	J	mg/kg	NC-12	9/9	0.002-0.2	1.02	NA	0.00063	N/A	N/A	YES	ASL
87-58-3	HEXACHLOROBUTADIENE	0.2	J	10.5		mg/kg	NC-9	9/9	0.0021-0.2	10.5	NA	0.012	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.026		0.788		mg/kg	NC-9	9/9	0.002-0.2	0.788	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.2.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
CHANNELS - WHOLE BODY CRAWFISH TISSUE

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish
Exposure Point: Channels Crawfish Wholebody

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.019		0.166		mg/kg	NC-9	5/7	0.002-0 0024	0.166	NA	NA	N/A	N/A	NO	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	0.0094		1.47		mg/kg	NC-9	5/7	0.002-1	1.47	NA	0.018	N/A	N/A	YES	ASL
7440-38-2	ARSENIC	0.025		5.59		mg/kg	NC-7	5/5	0.043-0.046	5.59	NA	0.00067	N/A	N/A	YES	ASL
57-47-9	CHLORDANE-ALPHA	0.0014		0.00708		mg/kg	NC-7	4/4	0.00067-0.001	0.00708	NA	0.0029	N/A	N/A	YES	ASL
72-54-8	DDD,PP	0.0096		0.0099		mg/kg	NS-2	2/4	0.00067-0.0035	0.0099	NA	0.0042	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.0018		0.0289		mg/kg	NS-2	2/4	0.00067-0.0035	0.0289	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0069		0.00685		mg/kg	NS-2	1/4	0.00067-0.0035	0.00685	NA	0.003	N/A	N/A	YES	ASL
60-57-1	DIELDRIN	0.0011		0.0012		mg/kg	NC-6	1/4	0.00067-0.0035	0.0012	NA	0.000063	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.027		0.74		mg/kg	NC-7	7/7	0.002-0.25	0.74	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.11		6.2		mg/kg	NC-7	7/7	0.002-1	6.24	NA	0.012	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.02		0.587		mg/kg	NC-7	7/7	0.002-0.25	0.587	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.2.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
CHANNELS SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Distributory Channel Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
79-34-5	1,1,2,2 - TETRACHLOROETHANE	350.47		402		ug/kg	NC-5a	2 / 12	5.8 - 10	402	NA	1.2E+04	NA	NA	No	BSL
	1,2,3,4 - TETRACHLOROBENZENE	3.17		3,090		ug/kg	NC-12	11 / 23	1.56 - 1130	3,090	NA	NA	NA	NA	No	NTV
	1,2,3 - TRICHLOROBENZENE	1.97	J	118		ug/kg	NC-12	5 / 23	1.56 - 3.49	118	NA	NA	NA	NA	No	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	2.17		7,060		ug/kg	NC-12	20 / 23	1.56 - 940	7,060	NA	4.1E+04	NA	NA	No	BSL
120-82-1	1,2,4 - TRICHLOROBENZENE	4.25		208		ug/kg	NC-7a	16 / 23	1.56 - 140	208	NA	1.4E+06	NA	NA	No	BSL
95-50-1	1,2 - DICHLOROBENZENE	155		155		ug/kg	NC-12	1 / 23	10 - 42.1	155	NA	1.2E+07	NA	NA	No	BSL
99-35-4	1,3,5 - TRICHLOROBENZENE	2.92		9,000		ug/kg	NC-12	20 / 23	1.56 - 1080	9,000	NA	NA	NA	NA	No	NTV
542-75-6	1,3 - DICHLOROBENZENE	29.4		1,940		ug/kg	NC-12	16 / 23	10 - 203	1,940	NA	4.1E+06	NA	NA	No	BSL
106-46-7	1,4 - DICHLOROBENZENE	180	J	490		ug/kg	NC-5	6 / 18	82 - 180	490	NA	1.0E+05	NA	NA	No	BSL
67-64-1	ACETONE	84	J	130	J	ug/kg	CS-1	5 / 11	12 - 20	130	NA	1.4E+07	NA	NA	No	BSL
309-00-2	ALDRIN	1.33		5.02		ug/kg	NS-3	3 / 7	0.778 - 1.36	5.02	NA	1.4E+02	NA	NA	No	BSL
20859-73-8	ALUMINUM	8 640		10,400		mg/kg	NC-12	2 / 2	8.78 - 9.38	10,400	20,800	3.8E+05	NA	NA	No	BSL
7440-36-0	ANTIMONY	0.563	J	0.705	J	mg/kg	NC-5a	2 / 2	0.047 - 0.047	0.705	0.11	1.5E+02	NA	NA	No	BSL
7440-38-2	ARSENIC	1.09	J	13.2	J	mg/kg	NS-1	11 / 11	0.088 - 0.204	13.2	8.2	3.1E+00	NA	NA	Yes	ASL
7440-39-3	BARIUM	108		119		mg/kg	NC-12	2 / 2	0.469 - 0.473	119	182	2.7E+04	NA	NA	No	BSL
56-55-3	BENZO(A)ANTHRACENE	150		330		ug/kg	NC-5a	3 / 17	120 - 260	330	NA	2.7E+03	NA	NA	No	BSL
50-32-8	BENZO(A)PYRENE	190		190		ug/kg	NC-4	1 / 17	160 - 370	190	NA	2.7E+02	NA	NA	No	BSL
205-99-2	BENZO(B)FLUORANTHENE	290		290		ug/kg	NC-5a	1 / 17	120 - 260	290	NA	2.7E+03	NA	NA	No	BSL
207-08-9	BENZO(K)FLUORANTHENE	150		150		ug/kg	NC-5a	1 / 17	120 - 260	150	NA	2.7E+04	NA	NA	No	BSL
7440-41-7	BERYLLIUM	0.343		0.371		mg/kg	NC-12	2 / 2	0.018 - 0.019	0.371	0.73	7.6E+02	NA	NA	No	BSL
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	280	J	4,900		ug/kg	NC-3	5 / 18	120 - 260	4,900	1,935	1.7E+05	NA	NA	No	BSL
7440-43-9	CADMIUM	0.29	J	18.5		mg/kg	NS-1	13 / 13	0.011 - 0.033	18.5	0.43	3.8E+02	NA	NA	No	BSL
592-01-8	CALCIUM	1,800		1,850		mg/kg	NC-12	2 / 2	65.8 - 70.3	1,850	3,260	NA	NA	NA	No	NUT
57-47-9	CHLORDANE-ALPHA	7.48		7.48		ug/kg	NS-10	1 / 7	0.778 - 1.36	7.48	NA	1.2E+04	NA	NA	No	BSL
	CHLORDANE-GAMMA	2.29		3.08		ug/kg	NS-3	2 / 7	0.778 - 1.36	3.08	1.1	1.2E+04	NA	NA	No	BSL
	CHLORDANE-TECHNICAL	47.9		47.9		ug/kg	NS-10	1 / 7	3.89 - 6.82	47.9	NA	1.2E+04	NA	NA	No	BSL
108-90-7	CHLOROBENZENE	22		22		ug/kg	NC-12	1 / 12	5.8 - 10	22	NA	2.7E+06	NA	NA	No	BSL
7440-47-3	CHROMIUM	9.52	J	9.71	J	mg/kg	NC-12	2 / 2	0.439 - 0.469	9.71	19	1.1E+03	NA	NA	No	BSL
218-01-9	CHRYSENE	180		390	J	ug/kg	NC-5a	3 / 17	120 - 260	390	NA	2.7E+05	NA	NA	No	BSL
7440-48-4	COBALT	3.55		4.49		mg/kg	NC-12	2 / 2	0.094 - 0.095	4.49	6.7	2.3E+04	NA	NA	No	BSL
7440-50-8	COPPER	3.56	J	12.2	J	mg/kg	NS-2	11 / 11	0.11 - 0.406	12.2	26.8	1.5E+04	NA	NA	No	BSL

TABLE 2.2.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
CHANNELS SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Distributory Channel Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
72-54-8	DDD,PP	3.01		4.54		ug/kg	NC-5a	3 / 7	0.778 - 1.36	4.54	NA	2.0E+04	NA	NA	No	BSL
72-55-9	DDE,PP	4.95		4.95		ug/kg	NC-9a	1 / 7	0.778 - 1.36	4.95	NA	1.4E+04	NA	NA	No	BSL
206-44-0	FLUORANTHENE	230		230		ug/kg	NC-5a	1 / 17	82 - 180	230	NA	4.5E+06	NA	NA	No	BSL
118-74-1	HEXACHLOROBENZENE	8.17		60,700		ug/kg	NC-12	23 / 23	1.56 - 940	60,700	7.3	1.5E+03	NA	NA	Yes	ASL
87-68-3	HEXACHLOROBUTADIENE	2.5		89,000	J	ug/kg	NC-12	22 / 23	0.8 - 2000	89,000	NA	2.7E+04	NA	NA	Yes	ASL
67-72-1	HEXACHLOROETHANE	2.1		2.1		ug/kg	NC-5a	1 / 23	1.56 - 3.49	2.1	NA	1.4E+05	NA	NA	No	BSL
7439-89-6	IRON	7,080		7,270.00		mg/kg	NC-5a	2 / 2	43.9 - 46.9	7,270	15,600	NA	NA	NA	No	NUT
7439-92-1	LEAD	12	J	194		mg/kg	NS-1	10 / 10	0.054 - 3.49	194	24.2	4.0E+02	NA	NA	No	BSL
	MAGNESIUM	870		1,240		mg/kg	NC-12	2 / 2	23.4 - 23.6	1,240	2,820	NA	NA	NA	No	NUT
7439-96-5	MANGANESE	240		395		mg/kg	NC-12	2 / 2	46.9 - 47.3	395	523	1.8E+04	NA	NA	No	BSL
7439-97-6	MERCURY	0.022	J	0.154	J	mg/kg	NC-7	9 / 11	0.019 - 0.041	0.154	0.02	1.1E+02	NA	NA	No	BSL
75-09-2	METHYLENE CHLORIDE	6	J	22	J	ug/kg	NC-7	4 / 12	6 - 10	22	NA	3.2E+05	NA	NA	No	BSL
7440-02-0	NICKEL	6.47	J	7.44	J	mg/kg	NC-12	2 / 2	0.439 - 0.469	7.44	15.1	7.6E+03	NA	NA	No	BSL
608-93-5	PENTACHLOROBENZENE	2.56		38,700		ug/kg	NC-12	20 / 23	1.56 - 940	38,700	NA	1.1E+05	NA	NA	No	BSL
85-01-8	PHENANTHRENE	95		320		ug/kg	NC-6	4 / 17	82 - 180	320	NA	2.2E+06	NA	NA	No	BSL
	POTASSIUM	876		915		mg/kg	NC-5a	2 / 2	87.8 - 93.8	915	1,990	NA	NA	NA	No	NUT
129-00-0	PYRENE	120		230		ug/kg	NC-5a	3 / 17	82 - 180	230	NA	3.4E+06	NA	NA	No	BSL
7782-49-2	SELENIUM	0.179		0.245		mg/kg	NC-12	2 / 2	0.176 - 0.188	0.245	0.21	1.9E+03	NA	NA	No	BSL
7440-22-4	SILVER	0.04	J	0.045	J	mg/kg	NC-5a	2 / 2	0.009 - 0.009	0.045	0.06	1.9E+03	NA	NA	No	BSL
	SODIUM	122		198		mg/kg	NC-12	2 / 2	46.9 - 47.3	198	242	NA	NA	NA	No	NUT
7440-28-0	THALLIUM	0.167	J	0.257	J	mg/kg	NC-12	2 / 2	0.009 - 0.009	0.257	0.28	3.1E+01	NA	NA	No	BSL
7440-62-2	VANADIUM	15.5	J	15.8	J	mg/kg	NC-5a	2 / 2	0.176 - 0.188	15.8	30.5	2.7E+03	NA	NA	No	BSL
1330-20-7	XYLENE,TOTAL	5.8		10		ug/kg	NC-7	3 / 12	5.8 - 10	10	NA	2.7E+08	NA	NA	No	BSL
7440-66-6	ZINC	17.5	J	79.8		mg/kg	NS-1	11 / 11	0.219 - 4.06	79.8	94.4	1.1E+05	NA	NA	No	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NUT = Nutrient
NTV = No Toxicity Value

TABLE 2.3.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH SWAMP - LARGEMOUTH BASS WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: North Swamp Bass Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.01		0.134		mg/kg	NS-12a	5/7	0.002-0.0024	0.134	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.053		0.168		mg/kg	NS-7	4/7	0.002-0.002	0.168	NA	0.018	N/A	N/A	YES	ASL
7440-38-2	ARSENIC	0.144		0.144		mg/kg	NS-12	1/1	0.04-0.04	0.144	NA	0.00067	N/A	N/A	YES	ASL
	BHC,D	0.0019		0.0019		mg/kg	NS-12	1/2	0.001-0.001	0.0019	NA	NA	N/A	N/A	NO	NTV
72-55-9	DDE,PP	0.0016		0.00927		mg/kg	NS-12	2/2	0.001-0.001	0.00927	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0071		0.00706		mg/kg	NS-12	1/2	0.001-0.001	0.00706	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0047	J	0.349		mg/kg	NS-4	7/7	0.002-0.02	0.349	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.0038	J	9.38		mg/kg	NS-13	7/7	0.0021-0.2	9.38	NA	0.012	N/A	N/A	YES	ASL
11097-69-1	PCBS TOTAL	0.074		0.197		mg/kg	NS-13	2/3	0.02-0.02	0.197	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.11		0.605		mg/kg	NS-12a	5/7	0.022-0.2	0.605	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.3.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH SWAMP - CRAWFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: North Swamp Crawfish Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
7440-38-2	ARSENIC	0.27		0.268		mg/kg	NS-6	1/1	0.05-0.05	0.268	NA	0.00067	N/A	N/A	YES	ASL
72-54-8	DDD,PP	0.025		0.025		mg/kg	NS-6	1/1	0.003-0.003	0.025	NA	0.0042	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.058		0.058		mg/kg	NS-6	1/1	0.003-0.003	0.058	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0051		0.0051		mg/kg	NS-6	1/1	0.003-0.003	0.0051	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0062		0.0194		mg/kg	NS-4	4/4	0.002-0.002	0.0194	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.063		0.186		mg/kg	NS-4	4/4	0.002-0.01	0.186	NA	0.012	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.01		0.0376		mg/kg	NS-4	4/4	0.002-0.002	0.0376	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level

TABLE 2.3.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NORTH SWAMP SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Swamp Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	7.31		7.31		ug/kg	NS-7	1 / 7	3.16 - 5.44	7.31	NA	NA	NA	NA	No	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	6.36		40.4		ug/kg	NS-12	7 / 7	3.16 - 5.44	40.4	NA	4.1E+04	NA	NA	No	BSL
120-82-1	1,2,4 - TRICHLOROBENZENE	8.42		28.2		ug/kg	NS-13	5 / 7	3.16 - 5.44	28.2	NA	1.4E+06	NA	NA	No	BSL
99-35-4	1,3,5 - TRICHLOROBENZENE	6.02		56.7		ug/kg	NS-12	7 / 7	3.16 - 5.44	56.7	NA	NA	NA	NA	No	NTV
7440-38-2	ARSENIC	7.66	J	7.66	J	mg/kg	NS-6	1 / 1	0.219 - 0.219	7.66	8.2	3.1E+00	NA	NA	Yes	ASL
7440-43-9	CADMIUM	2.12		5.49		mg/kg	NS-13	2 / 2	0.022 - 0.039	5.49	0.43	3.8E+02	NA	NA	No	BSL
7440-50-8	COPPER	11.5	J	11.5	J	mg/kg	NS-6	1 / 1	0.439 - 0.439	11.5	26.8	1.5E+04	NA	NA	No	BSL
72-54-8	DDD,PP	2.82		2.82		ug/kg	NS-13	1 / 3	1.58 - 2.21	2.82	NA	2.0E+04	NA	NA	No	BSL
72-55-9	DDE,PP	5.53		5.53		ug/kg	NS-13	1 / 3	1.58 - 2.21	5.53	NA	1.4E+04	NA	NA	No	BSL
118-74-1	HEXACHLOROBENZENE	6.22		29.4		ug/kg	NS-12	5 / 7	3.16 - 5.44	29.4	7.3	1.5E+03	NA	NA	No	BSL
87-68-3	HEXACHLOROBUTADIENE	7.2		43		ug/kg	NS-13	7 / 7	3.2 - 6	43	NA	2.7E+04	NA	NA	No	BSL
7439-92-1	LEAD	50.3		148		mg/kg	NS-13	2 / 2	0.439 - 0.45	148	24.2	4.0E+02	NA	NA	No	BSL
7439-97-6	MERCURY	0.066	J	0.066	J	mg/kg	NS-6	1 / 1	0.044 - 0.044	0.066	0.02	1.1E+02	NA	NA	No	BSL
608-93-5	PENTACHLOROBENZENE	5.69		10.9		ug/kg	NS-12	2 / 7	3.16 - 5.44	10.9	NA	1.1E+05	NA	NA	No	BSL
7440-66-6	ZINC	64		64		mg/kg	NS-6	1 / 1	4.39 - 4.39	64	94.4	1.1E+05	NA	NA	No	BSL

Definitions: NA = Not Applicable
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ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE - CATFISH FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: Devil's Lake Catfish Fillets

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.011		0.011		mg/kg	DL-1	1/3	0.002-0.0024	0.011	NA	NA	N/A	N/A	NO	NTV
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	0.0083		0.0271		mg/kg	DL-1	2/3	0.002-0.002	0.0271	NA	0.018	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.0083		0.0157		mg/kg	DL-6	2/2	0.001-0.001	0.0157	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0038		0.0778		mg/kg	DL-6	3/3	0.002-0.040	0.0778	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.028		0.459		mg/kg	DL-1	3/3	0.002-0.042	0.459	NA	0.012	N/A	N/A	YES	ASL
	PCB TOTAL	0.065		0.323		mg/kg	DL-1	3/3	0.02-0.02	0.323	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.035		0.0463		mg/kg	DL-6	2/3	0.002-0.002	0.0463	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: Devil's Lake Bass Fillets

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.016		0.0164		mg/kg	DL-1	1/5	0.002-0.0024	0.0164	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.0032		0.0507		mg/kg	DL-3	4/5	0.002-0.002	0.0507	NA	0.018	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.0055		0.00551		mg/kg	DL-5	1/3	0.001-0.001	0.00551	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0059		0.0428		mg/kg	DL-6	5/5	0.002-0.002	0.0428	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.0032		0.617		mg/kg	DL-1	5/5	0.0021-0.2	0.617	NA	0.012	N/A	N/A	YES	ASL
	PCB TOTAL	0.13		0.367		mg/kg	DL-1	4/5	0.02-0.02	0.367	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.011		0.0576		mg/kg	DL-3	3/5	0.002-0.0022	0.0576	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE - CRAWFISH WHOLE BODY

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Devil's Lake Whole Body Crawfish

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.0023		0.00234		mg/kg	DL-1	1/4	0.002-0.0024	0.00234	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.0088		0.0145		mg/kg	DL-1	2/4	0.002-0.002	0.0145	NA	0.018	N/A	N/A	NO	BSL
7440-38-2	ARSENIC	0.113		0.872		mg/kg	DL-6	4/4	0.043-0.05	0.872	NA	0.00067	N/A	N/A	YES	ASL
72-54-8	DDD,PP	0.0013		0.0325		mg/kg	DL-2	2/4	0.00067-0.0039	0.0325	NA	0.0042	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.003		0.0862		mg/kg	DL-2	3/4	0.00067-0.0039	0.0862	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0078		0.00784		mg/kg	DL-2	1/4	0.00067-0.0039	0.00784	NA	0.003	N/A	N/A	YES	ASL
	ENDRIN ALDEHYDE	0.0092		0.00924		mg/kg	DL-1	1/4	0.00067-0.0039	0.00924	NA	0.018	N/A	N/A	NO	BSL
118-74-1	HEXACHLOROBENZENE	0.0026		0.0088		mg/kg	DL-1	4/4	0.002-0.002	0.0088	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.003		0.141		mg/kg	DL-1	4/4	0.002-0.0021	0.141	NA	0.012	N/A	N/A	YES	ASL
	PCB TOTAL	0.89		0.892		mg/kg	DL-1	1/4	0.02-0.02	0.892	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.0038		0.0751		mg/kg	DL-1	4/4	0.002-0.002	0.0751	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE - CRAWFISH HEADS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: Devil's Lake Crawfish Heads

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.0097		0.0097		mg/kg	DL-1	1/1	0.002-0.002	0.0097	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.0045		0.0045		mg/kg	DL-1	1/1	0.002-0.002	0.0045	NA	0.018	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.0095		0.0095		mg/kg	DL-1	1/1	0.00067-0.00067	0.0095	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.05		0.05		mg/kg	DL-1	1/1	0.002-0.002	0.05	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.42		0.42		mg/kg	DL-1	1/1	0.02-0.02	0.42	NA	0.012	N/A	N/A	YES	ASL
	PCB-1254	5.8		5.8		mg/kg	DL-1	1/1	0.2-0.2	5.8	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.061		0.061		mg/kg	DL-1	1/1	0.002-0.002	0.061	NA	0.048	N/A	N/A	YES	ASL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.5
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE - CRAWFISH TAILS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: Devil's Lake Crawfish Tails

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.018		0.018		mg/kg	DL-1	1/1	0.002-0.002	0.018	NA	NA	N/A	N/A	NO	NTV
87-68-3	HEXACHLOROBUTADIENE	0.012		0.012		mg/kg	DL-1	1/1	0.002-0.002	0.012	NA	0.012	N/A	N/A	NO	BSL
	PCB TOTAL	0.16		0.16		mg/kg	DL-1	1/1	0.02-0.02	0.16	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.014		0.014		mg/kg	DL-1	1/1	0.002-0.002	0.014	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.4.6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Devil's Lake Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	8.15		13.5		ug/kg	DL-1	3 / 6	3.17 - 4.22	13.5	NA	4.1E+04	NA	NA	No	BSL
120-82-1	1,2,4-TRICHLOROBENZENE	7.1		20.4		ug/kg	DL-5	5 / 6	3.17 - 4.22	20.4	NA	1.4E+06	NA	NA	No	BSL
99-35-4	1,3,5-TRICHLOROBENZENE	4.01		13.9		ug/kg	DL-5	5 / 6	3.43 - 4.85	13.9	NA	NA	NA	NA	No	NTV
542-75-6	1,3-DICHLOROBENZENE	87	J	85	J	ug/kg	DSL007	2 / 8	19.2 - 46.3	85	NA	4.1E+06	NA	NA	No	BSL
106-46-7	1,4-DICHLOROBENZENE	150	J	1,400	J	ug/kg	DSL020	3 / 7	180 - 200	1,400	NA	1.0E+05	NA	NA	No	BSL
95-53-4	2-METHYLNAPHTHALENE	130	J	4,800		ug/kg	DSL020	5 / 9	260 - 280	4,800	NA	2.2E+06	NA	NA	No	BSL
91-94-1	3,3-DICHLOROBENZIDINE	240	J	240	J	ug/kg	DSL012	1 / 5	1300 - 1400	240	NA	5.3E+03	NA	NA	No	BSL
	4-CHLORO-3-METHYLPHENOL	100	J	100	J	ug/kg	DSL011	1 / 5	360 - 400	100	NA	NA	NA	NA	No	NTV
83-32-9	ACENAPHTHENE	53	J	1,400	J	ug/kg	DSL020	11 / 15	180 - 200	1,400	NA	6.7E+06	NA	NA	No	BSL
208-96-8	ACENAPHTHYLENE	90	J	1,100	J	ug/kg	DSL020	10 / 14	180 - 200	1,100	NA	6.7E+06	NA	NA	No	BSL
67-64-1	ACETONE	87		290		ug/kg	DS-025	3 / 3	26 - 26	290	NA	1.4E+07	NA	NA	No	BSL
309-00-2	ALDRIN	0.12	J	0.27	J	ug/kg	DSL009	3 / 9	1.58 - 2.11	0.27	NA	1.4E+02	NA	NA	No	BSL
2089-73-8	ALUMINUM	9,600		36,100		mg/kg	DSL019	32 / 32	19.1 - 19.1	36,100	20,800	3.8E+05	NA	NA	No	BSL
120-12-7	ANTHRACENE	51	J	2,300	J	ug/kg	DSL020	16 / 20	180 - 200	2,300	NA	3.4E+07	NA	NA	No	BSL
7440-36-0	ANTIMONY	0.662	J	0.662	J	mg/kg	DL-5	1 / 1	0.095 - 0.095	0.662	0.11	1.5E+02	NA	NA	No	BSL
7440-38-2	ARSENIC	1.9	J	32.3		mg/kg	DSL025	35 / 35	0.191 - 0.266	32.3	8.2	3.1E+00	NA	NA	Yes	ASL
7440-39-3	BARIUM	107		696		mg/kg	DSL026	32 / 32	0.953 - 0.953	696	182	2.7E+04	NA	NA	No	BSL
56-55-3	BENZO(A)ANTHRACENE	71	J	3,000	J	ug/kg	DSL020	18 / 22	260 - 280	3,000	NA	2.7E+03	NA	NA	Yes	ASL
50-32-8	BENZO(A)PYRENE	57	J	560	J	ug/kg	DSL016	14 / 18	360 - 400	560	NA	2.7E+02	NA	NA	Yes	ASL
205-99-2	BENZO(B)FLUORANTHENE	62	J	740	J	ug/kg	DSL016	13 / 17	260 - 280	740	NA	2.7E+03	NA	NA	No	BSL
207-08-9	BENZO(K)FLUORANTHENE	100	J	740	J	ug/kg	DSL016	11 / 15	260 - 280	740	NA	2.7E+04	NA	NA	No	BSL
7440-41-7	BERYLLIUM	0.4		1.9		mg/kg	DSL026	32 / 32	0.038 - 0.038	1.9	0.73	7.6E+02	NA	NA	No	BSL
319-84-6	BHC,A	0.13	J	3.6	J	ug/kg	DSL026	7 / 13	1.58 - 2.11	3.6	NA	6.5E+02	NA	NA	No	BSL
319-85-7	BHC,B	0.39	J	3.8	J	ug/kg	DSL011	4 / 10	1.58 - 2.11	3.8	NA	2.3E+03	NA	NA	No	BSL
319-86-8	BHC,D	0.15	J	2.4	J	ug/kg	DSL008	8 / 14	1.58 - 2.11	2.4	NA	NA	NA	NA	No	NTV
58-89-9	BHC,G(LINDANE)	0.15	J	6.5	J	ug/kg	DSL026	3 / 9	1.63 - 2.17	6.5	NA	3.2E+03	NA	NA	No	BSL
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	57	J	5,900		ug/kg	DSL020	24 / 28	260 - 280	5,900	1,935	1.7E+05	NA	NA	No	BSL
85-68-7	BUTYLBENZYLPHTHALATE	190	J	1,000	J	ug/kg	DSL016	4 / 8	260 - 280	1,000	NA	2.7E+07	NA	NA	No	BSL
7440-43-9	CADMIUM	1.1		25.7		mg/kg	DSL011	26 / 26	0.024 - 0.056	25.7	0.43	3.8E+02	NA	NA	No	BSL
592-01-8	CALCIUM	1,700		5,620		mg/kg	DSL002	32 / 32	143 - 143	5,620	3,260	NA	NA	NA	No	NUT
86-74-8	CARBAZOLE	76	J	76	J	ug/kg	DSL013	1 / 5	1.3 - 260	76	NA	1.2E+05	NA	NA	No	BSL

TABLE 2.4.6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Devil's Lake Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
75-15-0	CARBON DISULFIDE	3	J	3	J	ug/kg	DSL026	2 / 3	13 - 13	3	NA	1.4E+07	NA	NA	No	BSL
57-47-9	CHLORDANE-ALPHA	0.085	J	51		ug/kg	DSL021	14 / 20	1.58 - 2.11	51	NA	1.2E+04	NA	NA	No	BSL
	CHLORDANE-GAMMA	0.4	J	11	J	ug/kg	DSL011	14 / 19	1.58 - 2.11	11	1.1	1.2E+04	NA	NA	No	BSL
108-90-7	CHLOROBENZENE	1,000	J	1,000	J	ug/kg	DSL020	1 / 2	13 - 13	1,000	NA	2.7E+06	NA	NA	No	BSL
67-66-3	CHLOROFORM	2	J	2	J	ug/kg	DSL017	2 / 3	13 - 13	2	NA	3.9E+02	NA	NA	No	BSL
7440-47-3	CHROMIUM	12.1		55.4		mg/kg	DSL008	32 / 32	0.953 - 0.953	55.4	19	1.1E+03	NA	NA	No	BSL
218-01-9	CHRYSENE	95	J	3,900	J	ug/kg	DSL020	19 / 23	260 - 280	3,900	NA	2.7E+05	NA	NA	No	BSL
7440-48-4	COBALT	7.26		29.2		mg/kg	DSL026	32 / 32	0.191 - 0.191	29.2	6.7	2.3E+04	NA	NA	No	BSL
7440-50-8	COPPER	8		53.6		mg/kg	DSL019	35 / 35	0.381 - 0.532	53.6	26.8	1.5E+04	NA	NA	No	BSL
72-54-8	DDD, PP	0.31	J	16	J	ug/kg	DSL021	3 / 3	-	16	NA	2.0E+04	NA	NA	No	BSL
72-55-9	DDE, PP	0.31	J	19	J	ug/kg	DSL021	11 / 11	-	19	NA	1.4E+04	NA	NA	No	BSL
50-29-3	DDT,PP	16.8		16.8		ug/kg	DL-4	1 / 6	1.58 - 2.11	16.8	NA	1.4E+04	NA	NA	No	BSL
60-57-1	DIELDRIN	0.28	J	0.28	J	ug/kg	DSL001	1 / 7	1.58 - 2.11	0.28	NA	1.5E+02	NA	NA	No	BSL
84-74-2	DI-N-BUTYLPHTHALATE	47	J	170	J	ug/kg	DSL015	5 / 9	180 - 200	170	NA	1.4E+07	NA	NA	No	BSL
117-84-0	DI-N-OCTYLPHTHALATE	240	J	12,000	J	ug/kg	DSL020	8 / 12	360 - 400	12,000	NA	2.7E+06	NA	NA	No	BSL
115-29-7	ENDOSULFAN	1.8	J	4.2	J	ug/kg	DSL013	3 / 8	1.58 - 2.11	4.2	NA	8.2E+05	NA	NA	No	BSL
	ENDOSULFAN SULFATE	0.17	J	5.4	J	ug/kg	DSL022	14 / 20	1.58 - 2.11	5.4	NA	8.2E+05	NA	NA	No	BSL
72-20-8	ENDRIN	0.75	J	3.22		ug/kg	DL-4	3 / 8	1.58 - 2.11	3.22	NA	4.1E+04	NA	NA	No	BSL
	ENDRIN ALDEHYDE	0.82	J	15	J	ug/kg	DSL013	9 / 15	1.58 - 2.11	15	NA	4.1E+04	NA	NA	No	BSL
	ENDRIN KETONE	0.18	J	7.1	J	ug/kg	DSL018	7 / 7	-	7.1	NA	4.1E+04	NA	NA	No	BSL
100-41-4	ETHYLBENZENE	1,800		1,800		ug/kg	DSL020	1 / 2	13 - 13	1,800	NA	1.4E+07	NA	NA	No	BSL
206-44-0	FLUORANTHENE	88	J	2,700		ug/kg	DSL015	19 / 23	180 - 200	2,700	NA	4.5E+06	NA	NA	No	BSL
86-73-7	FLUORENE	51	J	4,300		ug/kg	DSL015	14 / 18	180 - 200	4,300	NA	4.5E+06	NA	NA	No	BSL
1024-57-3	HEPTACHLOR EPOXIDE	14	J	14	J	ug/kg	DSL013	1 / 7	1.58 - 2.11	14	NA	2.6E+02	NA	NA	No	BSL
118-74-1	HEXACHLOROBENZENE	3.72		8.61		ug/kg	DL-5	5 / 6	3.17 - 4.22	8.61	7.3	1.5E+03	NA	NA	No	BSL
87-68-3	HEXACHLOROBUTADIENE	4.7	J	14		ug/kg	DL-1	5 / 6	3.3 - 4.4	14	NA	2.7E+04	NA	NA	No	BSL
7439-89-6	IRON	10,400		33,700		mg/kg	DSL026	32 / 32	95.3 - 95.3	33,700	15,600	NA	NA	NA	No	NUT
7439-92-1	LEAD	11.6		176	J	mg/kg	DSL019	37 / 37	0.381 - 0.562	176	24.2	4.0E+02	NA	NA	No	BSL
	MAGNESIUM	1,620		5,080		mg/kg	DSL012	32 / 32	47.6 - 47.6	5,080	2,820	NA	NA	NA	No	NUT
7439-96-5	MANGANESE	170		1,870		mg/kg	DSL026	32 / 32	95.3 - 95.3	1,870	523	1.8E+04	NA	NA	No	BSL
7439-97-6	MERCURY	0.088		0.65		mg/kg	DSL029	14 / 14	0.038 - 0.053	0.65	0.02	1.1E+02	NA	NA	No	BSL
72-43-5	METHOXYCHLOR	0.58	J	67	J	ug/kg	DSL015	8 / 14	1.58 - 2.11	67	NA	6.8E+05	NA	NA	No	BSL
78-93-3	METHYL ETHYL KETONE (MEK)	13	J	87	J	ug/kg	DS-025	9 / 10	52 - 52	87	NA	8.2E+07	NA	NA	No	BSL
91-20-3	NAPHTHALENE	57	J	1,600	J	ug/kg	DSL020	2 / 6	180 - 200	1,600	NA	2.2E+06	NA	NA	No	BSL

TABLE 2.4.6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
DEVIL'S LAKE SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Devil's Lake Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
7440-02-0	NICKEL	12.8		140		mg/kg	DSL020	32 / 32	0.953 - 0.953	140	15.1	7.6E+03	NA	NA	No	BSL
86-30-6	N-NITROSODIPHENYLAMINE	54	J	13,000		ug/kg	DSL020	13 / 17	180 - 200	13,000	NA	4.9E+05	NA	NA	No	BSL
11097-69-1	PCB-TOTAL	56	J	6,400	J	ug/kg	DSL016	27 / 30	31.7 - 42.2	6,400	NA	9.3E+02	NA	NA	Yes	ASL
85-01-8	PHENANTHRENE	77	J	17,000		ug/kg	DSL015	15 / 19	180 - 200	17,000	NA	2.2E+06	NA	NA	No	BSL
108-95-2	PHENOL	68	J	97	J	ug/kg	DSL011	2 / 6	360 - 400	97	NA	8.2E+07	NA	NA	No	BSL
	POTASSIUM	922		3,870		mg/kg	DSL014	32 / 32	191 - 191	3,870	1,990	NA	NA	NA	No	NUT
129-00-0	PYRENE	79	J	7,400		ug/kg	DSL015	21 / 24	180 - 200	7,400	NA	3.4E+06	NA	NA	No	BSL
7782-49-2	SELENIUM	0.509		0.65		mg/kg	DSL001	2 / 2	0.381 - 0.381	0.65	0.21	1.9E+03	NA	NA	No	BSL
7440-22-4	SILVER	0.078	J	1.6		mg/kg	DSL028	2 / 2	0.019 - 0.019	1.6	0.06	1.9E+03	NA	NA	No	BSL
	SODIUM	276		2,610		mg/kg	DSL026	32 / 32	95.3 - 95.3	2,610	242	NA	NA	NA	No	NUT
7440-28-0	THALLIUM	0.527	J	0.527	J	mg/kg	DL-5	1 / 1	0.019 - 0.019	0.527	0.28	3.1E+01	NA	NA	No	BSL
7440-62-2	VANADIUM	21.9		75.3		mg/kg	DSL026	32 / 32	0.381 - 0.381	75.3	30.5	2.7E+03	NA	NA	No	BSL
1330-20-7	XYLENE,TOTAL	310	J	310	J	ug/kg	DSL020	1 / 2	13 - 13	310	NA	2.7E+08	NA	NA	No	BSL
7440-66-6	ZINC	43.8		244		mg/kg	DSL019	35 / 35	1.91 - 5.32	244	94.4	1.1E+05	NA	NA	No	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NUT = Nutrient
NTV = No Toxicity Value

TABLE 2.5.1
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP - CATFISH FILLETS

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: South Swamp Catfish Fillets

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.0034		0.00337		mg/kg	SB-2	1/2	0.002-0.002	0.00337	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.007		0.0109		mg/kg	SB-2	2/2	0.002-0.002	0.0109	NA	0.018	N/A	N/A	NO	BSL
	ALDRIN	0.0017		0.00174		mg/kg	SB-2	1/1	0.00067-0.00067	0.00174	NA	0.000059	N/A	N/A	YES	ASL
57-47-9	CHLORDANE-ALPHA	0.00093		0.000932		mg/kg	SB-2	1/1	0.00067-0.00067	0.000932	NA	0.0029	N/A	N/A	NO	BSL
	CHLORDANE-GAMMA	0.001		0.00103		mg/kg	SB-2	1/1	0.00067-0.00067	0.00103	NA	0.0029	N/A	N/A	NO	BSL
72-54-8	DDD,PP	0.0019		0.00188		mg/kg	SB-2	1/1	0.00067-0.00067	0.00188	NA	0.0042	N/A	N/A	NO	BSL
72-55-9	DDE,PP	0.0015		0.00145		mg/kg	SB-2	1/1	0.00067-0.00067	0.00145	NA	0.003	N/A	N/A	NO	BSL
50-29-3	DDT,PP	0.0007		0.000695		mg/kg	SB-2	1/1	0.00067-0.00067	0.000695	NA	0.003	N/A	N/A	NO	BSL
60-57-1	DIELDRIN	0.00175		0.00175		mg/kg	SB-2	1/1	0.00067-0.00067	0.00175	NA	0.000063	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0053		0.00849		mg/kg	SB-2	2/2	0.002-0.002	0.00849	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.13		0.194		mg/kg	SB-2	2/2	0.002-0.002	0.194	NA	0.012	N/A	N/A	YES	ASL
	PCB - Total	0.12		0.118		mg/kg	SB-2	1/2	0.02-0.02	0.118	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.0088		0.0119		mg/kg	SB-2	2/2	0.002-0.002	0.0119	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.5.2
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: South Swamp Bass Fillets

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
118-74-1	HEXACHLOROBENZENE	0.0043		0.0043		mg/kg	SS-5	1/1	0.001-0.001	0.0043	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.0041		0.0041		mg/kg	SS-5	1/1	0.001-0.001	0.0041	NA	0.012	N/A	N/A	NO	BSL
	PCB - Total	0.33		0.33		mg/kg	SS-5	1/1	0.001-0.001	0.33	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.003		0.003		mg/kg	SS-5	1/1	0.001-0.001	0.003	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
BSL = Below Screening Level
ASL = Above Screening Level

TABLE 2.5.3
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP - CRAWFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: South Swamp Crawfish Whole Body

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.0026		0.00719		mg/kg	SS-2	2/6	0.002-0.002	0.00719	NA	NA	N/A	N/A	NO	NTV
7440-38-2	ARSENIC	0.245		1.16		mg/kg	SS-4	5/5	1-1	1.16	NA	0.00067	N/A	N/A	YES	ASL
72-54-8	DDD,PP	0.0073		0.00734		mg/kg	SS-4	1/5	0.001-0.0034	0.00734	NA	0.0042	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.0024		0.0111		mg/kg	SS-2/SS-4	5/5	0.001-0.0034	0.0111	NA	0.003	N/A	N/A	YES	ASL
50-29-3	DDT,PP	0.0075		0.00865		mg/kg	SS-2	2/5	0.001-0.0034	0.00865	NA	0.003	N/A	N/A	YES	ASL
118-74-1	HEXACHLOROBENZENE	0.0032		0.0053		mg/kg	SS-3	2/6	0.002-0.6	0.0053	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.005		0.0697		mg/kg	SS-2	4/6	0.002-0.7	0.0697	NA	0.012	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.0047		0.0122		mg/kg	SS-2	5/6	0.002-0.002	0.0122	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.5.4
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP - CRAWFISH HEADS

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: South Swamp Crawfish Heads

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
	1,2,3,4 - TETRACHLOROBENZENE	0.002		0.00202		mg/kg	SS-2	1/3	0.002-0.002	0.00202	NA	NA	N/A	N/A	NO	NTV
79-34-5	1,2,4,5 - TETRACHLOROBENZENE	0.002		0.021		mg/kg	SS-2	2/3	0.002-0.002	0.021	NA	0.018	N/A	N/A	YES	ASL
72-55-9	DDE,PP	0.001		0.00148		mg/kg	SS-2	2/3	0.00067-0.00067	0.00148	NA	0.003	N/A	N/A	NO	BSL
118-74-1	HEXACHLOROBENZENE	0.0028		0.00659		mg/kg	SS-2	2/3	0.002-0.002	0.00659	NA	0.00063	N/A	N/A	YES	ASL
87-68-3	HEXACHLOROBUTADIENE	0.0068		0.0757		mg/kg	SS-2	2/3	0.002-0.002	0.0757	NA	0.012	N/A	N/A	YES	ASL
	PCB - Total	0.052		0.0517		mg/kg	SS-2	1/3	0.02-0.02	0.0517	NA	0.0005	N/A	N/A	YES	ASL
608-93-5	PENTACHLOROBENZENE	0.0083		0.0186		mg/kg	SS-2	3/3	0.002-0.002	0.0186	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
BSL = Below Screening Level
ASL = Above Screening Level
NTV = No Toxicity Value

TABLE 2.5.5
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP - CRAWFISH TAILS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: South Swamp Crawfish Tails

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
87-68-3	HEXACHLOROBUTADIENE	0.0068		0.00677		mg/kg	SS-2	1/3	0.002-0.002	0.00677	NA	0.012	N/A	N/A	NO	BSL
608-93-5	PENTACHLOROBENZENE	0.004		0.0043		mg/kg	SS-2	2/3	0.002-0.002	0.0043	NA	0.048	N/A	N/A	NO	BSL

Definitions: NA = Not Applicable
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
BSL = Below Screening Level

TABLE 2.5.6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Swamp Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
95-94-3	1,2,4,5 - TETRACHLOROBENZENE	5.33		12.3		ug/kg	SS-4	4 / 8	2.55 - 3.86	12.3	NA	4.1E+04	NA	NA	No	BSL
120-82-1	1,2,4 - TRICHLOROBENZENE	9.21		11.1		ug/kg	SS-4	2 / 8	2.55 - 3.86	11.1	NA	1.4E+06	NA	NA	No	BSL
95-50-1	1,2 - DICHLOROBENZENE	43	J	380	J	ug/kg	DS-001	5 / 13	18.2 - 46.6	380	NA	1.2E+07	NA	NA	No	BSL
99-35-4	1,3,5 - TRICHLOROBENZENE	7.66		14.1		ug/kg	SS-4	2 / 8	2.55 - 3.9	14.1	NA	NA	NA	NA	No	NTV
106-46-7	1,4 - DICHLOROBENZENE	52	J	160	J	ug/kg	DS-014	5 / 11	130 - 200	160	NA	1.0E+05	NA	NA	No	BSL
95-53-4	2 - METHYLNAPHTHALENE	37	J	110	U	ug/kg	SB-3	3 / 9	190 - 290	110	NA	2.2E+06	NA	NA	No	BSL
67-64-1	ACETONE	88		470		ug/kg	DS-015	15 / 15	-	470	NA	1.4E+07	NA	NA	No	BSL
20859-73-8	ALUMINUM	10,300		33,600		mg/kg	DS-003	15 / 15	-	33,600	NA	3.8E+05	NA	NA	No	BSL
120-12-7	ANTHRACENE	36	J	140	J	ug/kg	DS-011	3 / 9	130 - 200	140	NA	3.4E+07	NA	NA	No	BSL
7440-38-2	ARSENIC	4.54	J	36.1		mg/kg	DS-005	21 / 21	0.188 - 0.274	36.1	NA	3.1E+00	NA	NA	Yes	ASL
7440-39-3	BARIUM	116		276		mg/kg	DS-003	15 / 15	-	276	NA	2.7E+04	NA	NA	No	BSL
71-43-2	BENZENE	3	J	3	J	ug/kg	DS-010	1 / 1	-	3	NA	8.2E+04	NA	NA	No	BSL
56-55-3	BENZO(A)ANTHRACENE	53	J	67	J	ug/kg	DS-014	2 / 8	190 - 290	67	NA	2.7E+03	NA	NA	No	BSL
7440-41-7	BERYLLIUM	1.6		2.4		mg/kg	DS-010	13 / 13	-	2.4	NA	7.6E+02	NA	NA	No	BSL
319-85-7	BHC,B	0.82	J	0.82	J	ug/kg	DS-003	1 / 9	1.27 - 1.93	0.82	NA	2.3E+03	NA	NA	No	BSL
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	41	J	5,400	J	ug/kg	DS-004	15 / 19	190 - 290	5,400	NA	1.7E+05	NA	NA	No	BSL
85-68-7	BUTYLBENZYLPHTHALATE	58	J	350	J	ug/kg	DS-001	6 / 12	190 - 290	350	NA	2.7E+07	NA	NA	No	BSL
7440-43-9	CADMIUM	0.672		14		mg/kg	DS-001	23 / 23	0.019 - 0.048	14	NA	3.8E+02	NA	NA	No	BSL
592-01-8	CALCIUM	5,230		9,170		mg/kg	DS-002	15 / 15	-	9,170	NA	NA	NA	NA	No	NUT
86-74-8	CARBAZOLE	75	J	75	J	ug/kg	DS-001	1 / 7	0.96 - 1.4	75	NA	1.2E+05	NA	NA	No	BSL
7440-47-3	CHROMIUM	16.5		94.8		mg/kg	DS-001	15 / 15	-	94.8	NA	1.1E+03	NA	NA	No	BSL
218-01-9	CHRYSENE	100	J	100	J	ug/kg	DS-015	2 / 8	190 - 290	100	NA	2.7E+05	NA	NA	No	BSL
7440-48-4	COBALT	7.3		20.1		mg/kg	DS-011	15 / 15	-	20.1	NA	2.3E+04	NA	NA	No	BSL
7440-50-8	COPPER	13.5	J	137		mg/kg	DS-001	21 / 21	0.376 - 0.548	137	NA	1.5E+04	NA	NA	No	BSL
72-54-8	DDD,PP	3.24		3.24		ug/kg	SS-2	1 / 8	1.27 - 1.93	3.24	NA	2.0E+04	NA	NA	No	BSL
117-84-0	DI-N-OCTYLPHTHALATE	50	J	50	J	ug/kg	DS-008	1 / 7	270 - 410	50	NA	2.7E+06	NA	NA	No	BSL
72-20-8	ENDRIN	1.3	J	1.3	J	ug/kg	DS-011	1 / 9	1.27 - 1.93	1.3	NA	4.1E+04	NA	NA	No	BSL
	ENDRIN KETONE	0.71	J	0.71	J	ug/kg	DS-011	1 / 1	-	0.71	NA	4.1E+04	NA	NA	No	BSL
206-44-0	FLUORANTHENE	29	J	99	J	ug/kg	DS-011	10 / 16	130 - 200	99	NA	4.5E+06	NA	NA	No	BSL
86-73-7	FLUORENE	70	J	70	J	ug/kg	DS-001	1 / 7	130 - 200	70	NA	4.5E+06	NA	NA	No	BSL
118-74-1	HEXACHLOROBENZENE	6		6		ug/kg	SS-4	1 / 8	2.55 - 3.86	6	NA	1.5E+03	NA	NA	No	BSL

TABLE 2.5.6
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SOUTH SWAMP SEDIMENT

Scenario Timeframe: Current
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: South Swamp Sediment

CAS Number	Chemical	Minimum Concentration	Minimum Qualifier	Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value	Screening Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection
87-68-3	HEXACHLOROBUTADIENE	4.5		21		ug/kg	SS-4	8 / 8	2.8 - 4.3	21	NA	2.7E+04	NA	NA	No	BSL
7439-89-6	IRON	15,800		35,500		mg/kg	DS-010	15 / 15	-	35,500	NA	NA	NA	NA	No	NUT
7439-92-1	LEAD	14.9	J	98.5	J	mg/kg	DS-015	23 / 23	0.376 - 0.548	98.5	NA	4.0E+02	NA	NA	No	BSL
	MAGNESIUM	4,130		8,690		mg/kg	DS-003	15 / 15	-	8,690	NA	NA	NA	NA	No	NUT
7439-96-5	MANGANESE	385		645		mg/kg	DS-002	15 / 15	-	645	NA	1.8E+04	NA	NA	No	BSL
7439-97-6	MERCURY	0.05	J	0.168	J	mg/kg	SS-4	6 / 6	0.038 - 0.055	0.168	NA	1.1E+02	NA	NA	No	BSL
78-93-3	METHYL ETHYL KETONE (MEK)	16		93		ug/kg	DS-015	13 / 13	-	93	NA	8.2E+07	NA	NA	No	BSL
75-09-2	METHYLENE CHLORIDE	12	J	120		ug/kg	DS-015	15 / 15	-	120	NA	3.2E+05	NA	NA	No	BSL
91-20-3	NAPHTHALENE	56	J	56	J	ug/kg	DS-001	1 / 7	130 - 200	56	NA	2.2E+06	NA	NA	No	BSL
7440-02-0	NICKEL	17.6		41.9		mg/kg	DS-008	15 / 15	-	41.9	NA	7.6E+03	NA	NA	No	BSL
86-30-6	N-NITROSODIPHENYLAMINE	61	J	150	J	ug/kg	DS-001	3 / 9	130 - 200	150	NA	4.9E+05	NA	NA	No	BSL
11097-69-1	PCB - TOTAL	16	J	130	J	ug/kg	DS-014	10 / 18	25.5 - 38.6	130	NA	9.3E+02	NA	NA	No	BSL
85-01-8	PHENANTHRENE	26	J	960		ug/kg	DS-011	12 / 18	130 - 200	960	NA	2.2E+06	NA	NA	No	BSL
	POTASSIUM	1,050		3,690		mg/kg	DS-005	15 / 15	-	3,690	NA	NA	NA	NA	No	NUT
129-00-0	PYRENE	33	J	170	J	ug/kg	DS-015	11 / 17	130 - 200	170	NA	3.4E+06	NA	NA	No	BSL
7440-22-4	SILVER	2.7		11.8		mg/kg	DS-014	10 / 10	-	11.8	NA	1.9E+03	NA	NA	No	BSL
	SODIUM	444		1,050		mg/kg	DS-005	14 / 14	-	1,050	NA	NA	NA	NA	No	NUT
108-88-3	TOLUENE	8	J	8	J	ug/kg	DS-010	1 / 1	-	8	NA	2.7E+07	NA	NA	No	BSL
7440-62-2	VANADIUM	27		82		mg/kg	DS-003	15 / 15	-	82	NA	2.7E+03	NA	NA	No	BSL
7440-66-6	ZINC	61.7		213		mg/kg	DS-001	21 / 21	3.76 - 5.48	213	NA	1.1E+05	NA	NA	No	BSL

Definitions: NA = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
J = Estimated Value
BSL = Below Screening Level
ASL = Above Screening Level
NUT = Nutrient
NTV = No Toxicity Value

TABLE 3.1.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NORTH BAYOU - CATFISH FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: North Bayou Catfish

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (Whole Body)	Maximum Qualifier	EPC Units	Predicted Reasonable Maximum Exposure			Predicted Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.022		mg/kg	0.002	95% UCL- T	(1)	ND	NA	NA
DDE,PP	mg/kg	NA	NA	0.00477		mg/kg	0.00223	95% UCL- T	(2)	ND	NA	NA
HEXACHLOROBENZENE	mg/kg	NA	NA	0.158		mg/kg	0.155	95% UCL- T	(2)	0.0308	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	1.22		mg/kg	0.68	95% UCL- T	(1)	0.0502	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.457		mg/kg	0.143	95% UCL- T	(2)	0.02	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.1.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NORTH BAYOU - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: North Bayou Bass

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (Whole Body)	Maximum Qualifier	EPC Units	Predicted Reasonable Maximum Exposure			Predicted Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.0375		mg/kg	0.0031	95% UCL- T	(1)	0.0017	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.00437		mg/kg	0.0011	95% UCL- T	(1)	0.0011	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0897		mg/kg	0.0472	95% UCL- T	(1)	0.0374	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.71		mg/kg	0.16	95% UCL- T	(1)	0.0857	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.0746		mg/kg	0.0291	95% UCL- T	(1)	0.0048	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.1.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NORTH BAYOU - SEDIMENT

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: North Bayou Sediment

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
HEXACHLOROBENZENE	mg/kg	NA	NA	1.5		mg/kg	0.306	95% UCL- T	(1)	0.14	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.2.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
CHANNELS - CATFISH FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish
Exposure Point: Channels Catfish

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (Whole Body)	Maximum Qualifier	EPC Units	Predicted Reasonable Maximum Exposure			Predicted Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	1.51		mg/kg	0.071	95% UCL- T	(1)	0.0301	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.00495		mg/kg	0.00231	95% UCL- T	(1)	0.00177	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	2.24		mg/kg	1.495	95% UCL- T	(1)	0.204	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	18		mg/kg	9.622	95% UCL- T	(1)	0.339	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.425		mg/kg	0.0799	95% UCL- T	(1)	0.0693	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	2.41		mg/kg	0.536	95% UCL- T	(1)	0.0294	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.2.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
CHANNELS - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: Channels Bass

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (Whole Body)	Maximum Qualifier	EPC Units	Predicted Reasonable Maximum Exposure			Predicted Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.194		mg/kg	0.0559	95% UCL- T	(1)	0.022	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.023	J	mg/kg	0.00506	95% UCL- T	(1)	0.00476	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	1.02	J	mg/kg	0.253	95% UCL- T	(1)	0.209	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	10.5		mg/kg	1.071	95% UCL- T	(1)	0.695	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.788		mg/kg	0.207	95% UCL- T	(1)	0.0946	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.2.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
CHANNELS - WHOLE BODY CRAWFISH TISSUE

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish
Exposure Point: Channels Crawfish Whole Body

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	1.47		mg/kg	0.033659	95% UCL- T	(1)	0.00744	Mean- T	(1)
CHLORDANE-ALPHA	mg/kg	NA	NA	0.00708		mg/kg	0.00708	Max	(2)	0.00345	Mean- T	(1)
DDD,PP	mg/kg	NA	NA	0.0099		mg/kg	0.005138	95% UCL- T	(1)	0.00088	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.0289		mg/kg	0.01566	95% UCL- T	(1)	0.001787	Mean- T	(1)
DDT,PP	mg/kg	NA	NA	0.00685		mg/kg	0.004097	95% UCL- T	(1)	0.0008448	Mean- T	(1)
DIELDRIN	mg/kg	NA	NA	0.00595		mg/kg	0.003698	95% UCL- T	(1)	0.0008199	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.74		mg/kg	0.244	95% UCL- T	(1)	0.14464	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	6.24		mg/kg	1.1257	95% UCL- T	(1)	0.42	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.587		mg/kg	0.15928	95% UCL- T	(1)	0.063	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.2.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
CHANNELS - SEDIMENT

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Channels Sediment

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
HEXACHLOROBENZENE	mg/kg	NA	NA	61		mg/kg	.688	95% UCL- T	(1)	.213	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	89	J	mg/kg	.164	95% UCL- T	(1)	.0488	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NORTH SWAMP - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: North Swamp Bass

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (Whole Body)	Maximum Qualifier	EPC Units	Predicted Reasonable Maximum Exposure			Predicted Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.168		mg/kg	0.0709	95% UCL- T	(1)	0.013	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.00927		mg/kg	0.00204	95% UCL- T	(1)	0.00096	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.349		mg/kg	0.174	95% UCL- T	(1)	0.0733	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	9.4		mg/kg	2.12	95% UCL- T	(1)	0.29	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.197		mg/kg	0.0626	95% UCL- T	(1)	0.0026	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.605		mg/kg	0.287	95% UCL- T	(1)	0.0287	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NORTH SWAMP - CRAWFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: North Swamp Crawfish Whole Body

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
DDD,PP	mg/kg	NA	NA	0.0248		mg/kg	0.0248	95% UCL- T	(1)	0.0248	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.0581		mg/kg	0.0581	95% UCL- T	(1)	0.0581	Mean- T	(1)
DDT,PP	mg/kg	NA	NA	0.0051		mg/kg	0.00506	95% UCL- T	(1)	0.00506	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0194		mg/kg	0.0194	Max	(2)	0.01205	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.186		mg/kg	0.186	Max	(2)	0.11249	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - CATFISH FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: Devil's Lake Catfish Fillets

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.0271		mg/kg	0.011246	95% UCL- T	(1)	0.00246	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.0157		mg/kg	0.0157	Max	(2)	0.0114	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0778		mg/kg	0.071	95% UCL- T	(1)	0.01216	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.459		mg/kg	0.349	95% UCL- T	(1)	0.073	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.323		mg/kg	0.323	Max	(2)	0.182	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: Devil's Lake Bass Fillets

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.0507		mg/kg	0.01847	95% UCL- T	(1)	0.00722	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.00551		mg/kg	0.00551	Max	(2)	0.0016356	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0428		mg/kg	0.0295	95% UCL- T	(1)	0.01797	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.617		mg/kg	0.3687	95% UCL- T	(1)	0.09452	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.367		mg/kg	0.247	95% UCL- T	(1)	0.0964	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.0576		mg/kg	0.0312	95% UCL- T	(1)	0.0116	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - CRAWFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: Devil's Lake Crawfish Whole Body

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
DDD,PP	mg/kg	NA	NA	0.0325		mg/kg	0.0325	Max	(2)	0.002549	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.0862		mg/kg	0.0862	Max	(2)	0.00928	Mean- T	(1)
DDT,PP	mg/kg	NA	NA	0.00784		mg/kg	0.00784	Max	(2)	0.00126	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0088		mg/kg	0.00831	95% UCL- T	(1)	0.00484	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.141		mg/kg	0.141	Max	(2)	0.02924	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.892		mg/kg	0.641	95% UCL- T	(1)	0.04543	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.0751		mg/kg	0.0663	95% UCL- T	(1)	0.01453	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - CRAWFISH HEADS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: Devil's Lake Crawfish Heads

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.0449		mg/kg	0.0449	Max	(2)	0.033167	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.00952		mg/kg	0.00952	95% UCL- T	(1)	0.00952	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.05		mg/kg	0.05	Max	(2)	0.0338	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.424		mg/kg	0.424	Max	(2)	0.33	Mean- T	(1)
PCBs	mg/kg	NA	NA	5.8		mg/kg	5.8	Max	(2)	2.479	Mean- T	(1)
PENTACHLOROBENZENE	mg/kg	NA	NA	0.061		mg/kg	0.061	Max	(2)	0.04418	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - CRAWFISH TAILS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: Devil's Lake Crawfish Tails

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs	mg/kg	NA	NA	0.155		mg/kg	0.155	Max	(2)	0.0899	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.4.6
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
DEVIL'S LAKE - SEDIMENT

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Devil's Lake Sediment

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
PCBs - Total	mg/kg	NA	NA	6.4		mg/kg	1.073	95% UCL- T	(1)	0.556	Mean- T	(1)
Benzo(a)anthracene	mg/kg	NA	NA	3.0	J	mg/kg	0.51	95% UCL- T	(1)	0.312	Mean- T	(1)
Benzo(a)pyrene	mg/kg	NA	NA	0.56	J	mg/kg	0.28	95% UCL- T	(1)	0.201	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.

(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.5.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SOUTH SWAMP - CATFISH FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Catfish Tissue
Exposure Point: South Swamp Catfish Fillets

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
ALDRIN	mg/kg	NA	NA	0.00174		mg/kg	0.00174	95% UCL- T	(1)	0.00174	Mean- T	(1)
DIELDRIN	mg/kg	NA	NA	0.00175		mg/kg	0.00175	95% UCL- T	(1)	0.00175	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.00849		mg/kg	0.00849	Max	(2)	0.006259	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.194		mg/kg	0.194	Max	(2)	0.051	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.118		mg/kg	0.118	Max	(2)	0.02276	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.5.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SOUTH SWAMP - LARGEMOUTH BASS FILLETS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Bass Tissue
Exposure Point: South Swamp Bass Fillets

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
HEXACHLOROBENZENE	mg/kg	NA	NA	0.00431		mg/kg	0.00431	95% UCL- T	(1)	0.00431	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.325		mg/kg	0.325	95% UCL- T	(1)	0.325	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.5.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SOUTH SWAMP - CRAWFISH WHOLE BODY

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: South Swamp Crawfish Whole Body

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
DDD,PP	mg/kg	NA	NA	0.00734		mg/kg	0.00477	95% UCL- T	(1)	0.00109	Mean- T	(1)
DDE,PP	mg/kg	NA	NA	0.0111		mg/kg	0.0111	Max	(2)	0.0062	Mean- T	(1)
DDT,PP	mg/kg	NA	NA	0.00865		mg/kg	0.00865	Max	(2)	0.00152	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.0053		mg/kg	0.00809	95% UCL- T	(1)	0.0023	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.0697		mg/kg	0.0497	95% UCL- T	(1)	0.0124	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 3.5.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
SOUTH SWAMP - CRAWFISH HEADS

Scenario Timeframe: Current / Future
Medium: Sediment
Exposure Medium: Crawfish Tissue
Exposure Point: South Swamp Crawfish Heads

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
1,2,4,5 - TETRACHLOROBENZENE	mg/kg	NA	NA	0.021		mg/kg	0.0176	95% UCL- T	(1)	0.003725	Mean- T	(1)
HEXACHLOROBENZENE	mg/kg	NA	NA	0.00659		mg/kg	0.00476	95% UCL- T	(1)	0.002237	Mean- T	(1)
HEXACHLOROBUTADIENE	mg/kg	NA	NA	0.0757		mg/kg	0.0433	95% UCL- T	(1)	0.0067	Mean- T	(1)
PCBs	mg/kg	NA	NA	0.0517		mg/kg	0.02658	95% UCL- T	(1)	0.01314	Mean- T	(1)

Statistics: Maximum Detected Value (Max); 95% UCL of Normal Data (95% UCL-N); 95% UCL of Log-transformed Data (95% UCL-T); Mean of Log-transformed Data (Mean-T); Mean of Normal Data (Mean-N).

(1) Evaluation of normality indicates data are log-normally distributed.
(2) 95% UCL exceeds maximum detected concentration. Therefore, maximum concentration used for EPC.

NA = Not Applicable. Mean and 95% UCL not computed because data are log-normally distributed.

TABLE 4.1.1

VALUES USED FOR DAILY INTAKE CALCULATIONS

NORTH BAYOU CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Catfish	IR	Fish Ingestion Rate	g/day	19.9	Dellenbarger et.al. 1993	9.7	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	3.41E-05		1.66E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.99E-04		9.70E-05		

See Volume 1 for cited references.

TABLE 4.1.2

VALUES USED FOR DAILY INTAKE CALCULATIONS

NORTH BAYOU CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Bass	IR	Fish Ingestion Rate	g/day	17.1	Dellenbarger et.al. 1993	2.1	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.93E-05		3.60E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.71E-04		2.10E-05		

See Volume 1 for cited references.

TABLE 4.1.3

VALUES USED FOR DAILY INTAKE CALCULATIONS

NORTH BAYOU SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fishers
Receptor Age: Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Sediment	IR	Sediment Ingestion Rate	mg/day	100	Dellenbarger et.al. 1993	100	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	3.38E-08		1.13E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.97E-07		6.60E-08		

See Volume 1 for cited references.

TABLE 4.1.4

VALUES USED FOR DAILY INTAKE CALCULATIONS

NORTH BAYOU DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fishers
Receptor Age: Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Dermal Contact with Sediment	SA	Skin Surface Area Available for Contact	cm2	6,170	EPA 1998b	6,170	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	1.00	EPA 1996b; EPA 1998b	1.00	EPA 1996a; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b	chemical-specific	EPA 1998b	
	EF	Exposure Frequency	events/yr	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	4,380	EPA 1991a	4,380	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/mg-day	2.09E-06		6.95E-07		
	SIFd-N	Summary Intake Factor - Noncancer	kg/mg-day	1.22E-05		4.06E-06		

See Volume 1 for cited references.

TABLE 4.2.1

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Ingestion of Catfish	IR	Fish Ingestion Rate	g/day	28.4	Dellenbarger et.al. 1993	13.8	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	8.69E-05		2.53E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.03E-04		9.86E-05		

See Volume 1 for cited references.

TABLE 4.2.2

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Ingestion of Bass	IR	Fish Ingestion Rate	g/day	24.4	Dellenbarger et.al. 1993	3	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	7.47E-05		5.51-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.74E-04		2.14E-05		

See Volume 1 for cited references.

TABLE 4.2.3

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS CONSUMPTION OF CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other Crawfish
Exposure Medium: Animal Tissue
Exposure Point: Ingestion of Crawfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Ingestion of Crawfish	IR	Shellfish Ingestion Rate	g/day	64	Dellenbarger et.al. 1993	12.9	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	9.80E-05		1.18E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.29E-04		4.61E-05		

See Volume 1 for cited references.

TABLE 4.2.4

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Ingestion of Sediment	IR	Sediment Ingestion Rate	mg/day	100	Dellenbarger el.al.1993	50	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	6.04E-08		6.04E-09		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.41E-07		2.35E-08		

See Volume 1 for cited references.

TABLE 4.2.5

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS RECREATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	5,700	EPA 1998b	5,700	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	0.08	EPA 1996b; EPA 1998b	0.08	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b	chemical-specific	EPA 1998b	
	EF	Exposure Frequency	events/yr	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.75E-07		5.51E-08		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	6.43E-07		2.14E-07		

See Volume 1 for cited references.

TABLE 4.2.6

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS OCCUPATIONAL SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Work Researcher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Ingestion of Sediment	IR	Sediment Ingestion Rate	mg/day	50	Dellenbarger et.al. 1993	50	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	30	EPA 1991a	15	EPA 1991a	
	ED	Exposure Duration	years	4	EPA 1991a	4	EPA 1991a	
	CF1	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	1460	EPA 1991a	1460	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	3.35E-09		1.68E-09		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	5.87E-08		2.94E-08		

See Volume 1 for cited references.

TABLE 4.2.7

VALUES USED FOR DAILY INTAKE CALCULATIONS

CHANNELS OCCUPATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Work Researcher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adult Dermal Contact with Sediment	SA	Skin Surface Area Available for Contact	cm2	5,700	EPA 1998b	5,700	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	0.08	EPA 1996b; EPA 1998b	0.08	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b	chemical-specific	EPA 1998b	
	EF	Exposure Frequency	events/yr	30	EPA 1991a	15	EPA 1991a	
	ED	Exposure Duration	years	4	EPA 1991a	4	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	1460	EPA 1991a	1460	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	3.06E-08		1.53E-08		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	5.35E-07		2.68E-07		

See Volume 1 for cited references.

TABLE 4.3.1
VALUES USED FOR DAILY INTAKE CALCULATIONS
NORTH SWAMP CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Bass	IR	Fish Ingestion Rate	g/day	17.1	Dellenbarger et.al. 1993	2.1	Dellenbarger et.al. 1992	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.93E-05		3.60E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.71E-04		2.10E-05		
Adult Ingestion of Bass	IR	Fish Ingestion Rate	g/day	24	Dellenbarger et.al. 1993	3	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	7.47E-05		5.51E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.74E-04		2.14E-05		
Integrated Ingestion of Bass	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.04E-04		9.11E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.73E-04		2.13E-05		

See Volume 1 for cited references.

TABLE 4.3.2
VALUES USED FOR DAILY INTAKE CALCULATIONS
NORTH SWAMP CONSUMPTION OF CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other Crawfish
Exposure Medium: Tissue
Exposure Point: Ingestion of Crawfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Crawfish	IR	Shellfish Ingestion Rate	g/day	44.8	Dellenbarger et.al. 1993	9	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	3.84E-05		7.71E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.24E-04		4.50E-05		
Adult Ingestion of Crawfish	IR	Shellfish Ingestion Rate	g/day	64	Dellenbarger et.al. 1993	12	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	0.5	EPA 1991a	0.5	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	9.80E-05		1.10E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.29E-04		4.29E-05		
Integrated Ingestion of Crawfish	CF	Conversion Factor	kg/g			30	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.36E-04		1.87E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.27E-04		4.37E-05		

See Volume 1 for cited references.

TABLE 4.3.3
VALUES USED FOR DAILY INTAKE CALCULATIONS
NORTH SWAMP SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Sediment								
	IR	Sediment Ingestion Rate	g/day	100	Dellenbarger et.al. 1993	100	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	3.38E-08		1.13E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.97E-07		6.58E-08		
Adult Ingestion of Sediment								
	IR	Sediment Ingestion Rate	g/day	100	Dellenbarger et.al. 1993	50	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	6.04E-08		6.04E-09		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.41E-07		2.35E-08		
Ingestion of Sediment								SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))xFI xEDA/BWA))xFIxEF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	9.42E-08		1.73E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.57E-07		4.04E-08		

See Volume 1 for cited references.

TABLE 4.3.4
VALUES USED FOR DAILY INTAKE CALCULATIONS
NORTH SWAMP DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	6,170	EPA 1998b	6,170	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	1.00	EPA 1996b; EPA 1998b	1.00	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b		EPA 1998b	
	EF	Exposure Frequency	events/yr	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.09E-06		6.95E-07		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	1.22E-05		4.06E-06		
Adult Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	5,700	EPA 1998b	5,700	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	0.08	EPA 1996b; EPA 1998b	0.08	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b		EPA 1998b	
	EF	Exposure Frequency	events/yr	36	EPA 1991a	12	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.75E-07		5.51E-08		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	6.43E-07		2.14E-07		
Integrated Dermal Contact with Sediment								
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.20E-06		7.32E-07		SIF=(((SAxEDaxAFa/BWa)+(SAAxEDAxAFA/BWA))xABSxEFxCF)/AT
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	3.94E-06		1.75E-06		

See Volume 1 for cited references.

TABLE 4.4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS
DEVIL'S LAKE CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Catfish								
	IR	Fish Ingestion Rate	g/day	19.9	Dellenbarger et.al. 1993	9.7	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	6.82E-05		3.33E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.98E-04		1.94E-04		
Adult Ingestion of Catfish								
	IR	Fish Ingestion Rate	g/day	28.4	Dellenbarger et.al. 1993	13.8	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.74E-04		5.07E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.06E-04		1.97E-04		
Integrated Ingestion of Catfish								
	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.42E-04		8.40E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.04E-04		1.96E-04		

See Volume 1 for cited references.

TABLE 4.4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS
DEVIL'S LAKE CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Bass	IR	Fish Ingestion Rate	g/day	17.1	Dellenbarger et.al.1993	2.1	Dellenbarger et.al.1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	5.86E-05		7.20E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.42E-04		4.20E-05		
Adult Ingestion of Bass	IR	Fish Ingestion Rate	g/day	24.4	Dellenbarger et.al.1993	3	Dellenbarger et.al.1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.49E-04		1.10E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.49E-04		4.29E-05		
Integrated Ingestion of Bass	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/Bwa)+(IRAxEDA/BWA))xFIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.08E-04		1.82E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.47E-04		4.25E-05		

See Volume 1 for cited references.

TABLE 4.4.3
VALUES USED FOR DAILY INTAKE CALCULATIONS
DEVIL'S LAKE CONSUMPTION OF CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other Crawfish
Exposure Medium: Tissue
Exposure Point: Ingestion of Crawfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Crawfish								
	IR	Shellfish Ingestion Rate	g/day	44.8	Dellenbarger et.al. 1993	9	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	7.68E-05		1.54E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.48E-04		9.00E-05		
Adult Ingestion of Crawfish								
	IR	Shellfish Ingestion Rate	g/day	64	Dellenbarger et.al. 1993	12	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.96E-04		2.37E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.57E-04		9.21E-05		
Integrated Ingestion of Crawfish								
	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.73E-04		3.91E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.55E-04		9.13E-05		

See Volume 1 for cited references.

TABLE 4.4.4
VALUES USED FOR DAILY INTAKE CALCULATIONS
DEVIL'S LAKE SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Sediment								
	IR	Sediment Ingestion Rate	mg/day	100	Dellenbarger et.al. 1993	100	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	4.51E-08		2.25E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.63E-07		1.32E-07		
Adult Ingestion of Sediment								
	IR	Sediment Ingestion Rate	mg/day	100	Dellenbarger et.al. 1993	50	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	8.05E-08		1.21E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.88E-07		4.70E-08		
Integrated Ingestion of Sediment								
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.26E-07		3.46E-08		SIF=(((IRaxEDa/Bwa)+(IRAxEDA/BWA))xFIxEFxCF)/AT
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.09E-07		8.08E-08		

See Volume 1 for cited references.

TABLE 4.4.5
VALUES USED FOR DAILY INTAKE CALCULATIONS
DEVIL'S LAKE DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	6,170	EPA 1998b	6,170	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	1.00	EPA 1996b; EPA 1998b	1.00	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b	chemical-specific	EPA 1998b	
	EF	Exposure Frequency	events/yr	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a; EPA 1997b	1.00E-06	EPA 1991a; EPA 1997b	
	BW	Body Weight	kg	50	EPA 1991a	50	EPA 1991a	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.78E-06		1.39E-06		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	1.62E-05		8.11E-06		
Adult Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	5,700	EPA 1998b	5,700	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	0.08	EPA 1996b; EPA 1998b	0.08	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b	chemical-specific	EPA 1998b	
	EF	Exposure Frequency	events/yr	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a; EPA 1997b	1.00E-06	EPA 1991a; EPA 1997b	
	BW	Body Weight	kg	70	EPA 1991a	70	EPA 1991a	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	3.67E-07		1.10E-07		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	8.57E-07		4.28E-07		
Integrated Dermal Contact with Sediment								SIF=(((SAxEDaxAFa/BWa)+(SAAxEDAxAFA/BWA))xABSxEFxCF)/AT
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.93E-06		1.46E-06		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	5.25E-06		3.50E-06		

See Volume 1 for cited references.

TABLE 4.5.1
VALUES USED FOR DAILY INTAKE CALCULATIONS
SOUTH SWAMP CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Catfish								
	IR	Fish Ingestion Rate	g/day	19.9	Dellenbarger et.al. 1993	9.7	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	6.82E-05		3.33E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.98E-04		1.94E-04		
Adult Ingestion of Catfish								
	IR	Fish Ingestion Rate	g/day	28.4	Dellenbarger et.al. 1993	13.8	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.74E-04		5.07E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.06E-04		1.97E-04		
Integrated Ingestion of Catfish								
	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.42E-04		8.40E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.04E-04		1.96E-04		

See Volume 1 for cited references.

TABLE 4.5.2
VALUES USED FOR DAILY INTAKE CALCULATIONS
SOUTH SWAMP CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Bass								
	IR	Fish Ingestion Rate	g/day	17.1	Dellenbarger et.al. 1993	2.1	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	5.86E-05		7.20E-06		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.42E-04		4.20E-05		
Adult Ingestion of Bass								
	IR	Fish Ingestion Rate	g/day	24.4	Dellenbarger et.al. 1993	3	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	365	EPA 1991a	365	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.49E-04		1.10E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.49E-04		4.29E-05		
Integrated Ingestion of Bass								
	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.08E-04		1.82E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	3.47E-04		4.25E-05		

See Volume 1 for cited references.

TABLE 4.5.3
VALUES USED FOR DAILY INTAKE CALCULATIONS
SOUTH SWAMP CONSUMPTION OF CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other Crawfish
Exposure Medium: Tissue
Exposure Point: Ingestion of Crawfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Crawfish	IR	Shellfish Ingestion Rate	g/day	44.8	Dellenbarger et.al. 1993	9	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	7.68E-05		1.54E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.48E-04		9.00E-05		
Adult Ingestion of Crawfish	IR	Shellfish Ingestion Rate	g/day	64	Dellenbarger et.al. 1993	12	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	182.5	EPA 1991a	182.5	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-03	EPA 1991a	1.00E-03	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.96E-04		2.37E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.57E-04		9.21E-05		
Integrated Ingestion of Crawfish	CF	Conversion Factor	kg/g	1.0E-03		1.0E-03	EPA 1991a	SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	2.73E-04		3.91E-05		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	4.55E-04		9.13E-05		

See Volume 1 for cited references.

TABLE 4.5.4
VALUES USED FOR DAILY INTAKE CALCULATIONS
SOUTH SWAMP SEDIMENT INGESTION

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Ingestion of Sediment	IR	Sediment Ingestion Rate	g/day	100	Dellenbarger et.al. 1993	100	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	4.51E-08		2.25E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.63E-07		1.32E-07		
Adult Ingestion of Sediment	IR	Sediment Ingestion Rate	g/day	100	Dellenbarger et.al. 1993	50	Dellenbarger et.al. 1993	SIF=(IRxFIxEFxEDxCF)/(BWxAT)
	FI	Fraction Ingested from Cont'd Source	unitless	1	EPA 1991a	1	EPA 1991a	
	EF	Exposure Frequency	days/year	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF1	Conversion Factor	kg/g	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	AT-C	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	AT-N	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	8.05E-08		1.21E-08		
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	1.88E-07		4.70E-08		
Integrated Ingestion of Sediment	SIF-C	Summary Intake Factor - Cancer	kg/kg-day	1.26E-07		3.46E-08		SIF=(((IRaxEDa/BWa)+(IRAxEDA/BWA))x FIxEFxCF)/AT
	SIF-N	Summary Intake Factor - Noncancer	kg/kg-day	2.09E-07		8.08E-08		

See Volume 1 for cited references.

TABLE 4.5.5
VALUES USED FOR DAILY INTAKE CALCULATIONS
SOUTH SWAMP DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Adolescent Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	6,170	EPA 1998b	6,170	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	1.00	EPA 1996b; EPA 1998b	1.00	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b		EPA 1998b	
	EF	Exposure Frequency	events/yr	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	12	EPA 1991a	12	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	50	EPA 1991a; EPA 1997b	50	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	4380	EPA 1991a	4380	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.78E-06		1.39E-06		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	1.62E-05		8.11E-06		
Adult Dermal Contact with Sediment								
	SA	Skin Surface Area Available for Contact	cm2	5,700	EPA 1998b	5,700	EPA 1998b	SIF=(SAxAFxABSxEFxEDxCF)/(BWxAT)
	AF	Soil-to-Skin Adherence Factor	mg/cm2-event	0.08	EPA 1996b; EPA 1998b	0.08	EPA 1996b; EPA 1998b	
	ABS	Absorption Factor	unitless	chemical-specific	EPA 1998b		EPA 1998b	
	EF	Exposure Frequency	events/yr	48	EPA 1991a	24	EPA 1991a	
	ED	Exposure Duration	years	30	EPA 1991a	18	EPA 1991a	
	CF	Conversion Factor	kg/mg	1.00E-06	EPA 1991a	1.00E-06	EPA 1991a	
	BW	Body Weight	kg	70	EPA 1991a; EPA 1997b	70	EPA 1991a; EPA 1997b	
	ATC	Average Time - Cancer	days	25550	EPA 1991a	25550	EPA 1991a	
	ATN	Average Time - Noncancer	days	10950	EPA 1991a	6570	EPA 1991a	
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	3.67E-07		1.10E-07		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	8.57E-07		4.28E-07		
Integrated Dermal Contact with Sediment								SIF=(((SAxEDaxAFa/BWa)+(SAAxEDAxAFA/BWA))xABSxEFxCF)/AT
	SIFd-C	Summary Intake Factor - Cancer	kg/kg-day	2.93E-06		1.46E-06		
	SIFd-N	Summary Intake Factor - Noncancer	kg/kg-day	5.25E-06		3.50E-06		

See Volume 1 for cited references.

TABLE 5
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
DEVIL'S SWAMP

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor	Adjusted Dermal RfD	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD	Dates of RfD
1,2,4,5 - Tetrachlorobenzene	Chronic	3.0E-04	mg/kg-day	NA	NA	NA	Kidney	1,000	IRIS	1998
Aldrin	Chronic	3.0E-05	mg/kg-day	NA	NA	NA	Liver	1,000	IRIS	1998
Chlordane	Chronic	5.0E-04	mg/kg-day	NA	NA	NA	Liver	300	Relative Potency Factors	1993
DDT,pp	Chronic	5.0E-04	mg/kg-day	NA	NA	NA	Liver	100	IRIS	1998
Dieldrin	Chronic	5.0E-05	mg/kg-day	NA	NA	NA	Liver	1,000	IRIS	1998
Hexachlorobenzene	Chronic	8.0E-04	mg/kg-day	NA	NA	NA	Liver	100	IRIS	1998
Hexachlorobutadiene	Chronic	2.0E-04	mg/kg-day	NA	NA	NA	Kidney	1,000	HEAST	1997
Polychlorinated biphenyls (PCBs)	Chronic	2.0E-05	mg/kg-day	NA	NA	NA	Immune System	300	IRIS	1998
Pentachlorobenzene	Chronic	8.0E-04	mg/kg-day	NA	NA	NA	Liver, Kidney	10,000	IRIS	1998

No Adjustments Required
NA = Not Applicable

TABLE 6

CANCER TOXICITY DATA -- ORAL/DERMAL

DEVIL'S SWAMP

Chemical of Potential Concern	Oral Cancer Slope Factor	Oral to Dermal Adjustment Factor	Adjusted Dermal Cancer Slope Factor	Units	Weight of Evidence/ Cancer Guideline Description	Source	Date
Aldrin	1.7E+01	NA	NA	mg/kg-day/mg	B2	IRIS	1998
Benzo(a)anthracene	7.3E-01	NA	NA	mg/kg-day/mg	B2	Relative Potency Factors	1993
Benzo(a)pyrene	7.3E+00	NA	NA	mg/kg-day/mg	B2	IRIS	1998
Chlordane	3.5E-01	NA	NA	mg/kg-day/mg	B2	Relative Potency Factors	1993
DDD,pp	2.4E-01	NA	NA	mg/kg-day/mg	B2	IRIS	1998
DDE,pp	3.4E-01	NA	NA	mg/kg-day/mg	B2	IRIS	1998
DDT,pp	3.4E-01	NA	NA	mg/kg-day/mg	B2	IRIS	1998
Dieldrin	1.6E+01	NA	NA	mg/kg-day/mg	B2	IRIS	1998
Hexachlorobenzene	1.6E+00	NA	NA	mg/kg-day/mg	B2	IRIS	1998
Hexachlorobutadiene	7.8E-02	NA	NA	mg/kg-day/mg	C	IRIS	1998
Polychlorinated biphenyls (PCB	2.0E+00	NA	NA	mg/kg-day/mg	B2	IRIS	1998

No Adjustments Required

NA = Not Applicable

TABLE 7A1.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other-Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adolescent)	Hexachlorobenzene	0.155	mg/kg	0.155	mg/kg	M	3.1E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.9E-02
	Hexachlorobutadiene	0.68	mg/kg	0.68	mg/kg	M	1.4E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.8E-01
	1,2,4,5-Tetra CB	0.002	mg/kg	0.002	mg/kg	M	4.0E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.3E-03
	Total PCBs	0.143	mg/kg	0.143	mg/kg	M	2.8E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.4E+00
												Total Hazard Index Across All Exposure Routes/Pathways	2.1E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.99E-04

TABLE 7A.1.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other-Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass	Hexachlorobenzene	0.0472	mg/kg	0.0472	mg/kg	M	8.1E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.0E-02
	1,2,4,5-Tetra CB	0.0031	mg/kg	0.0031	mg/kg	M	5.3E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.8E-03
	Pentachlorobenzene	0.0291	mg/kg	0.0291	mg/kg	M	4.0E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.2E-03
	Hexachlorobutadiene	0.16	mg/kg	0.16	mg/kg	M	2.7E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.4E-01
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.71E-04

TABLE 7A.1.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adolescent)	Hexachlorobenzene	0.306	mg/kg	0.306	mg/kg	M	6.4E-08	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.5E-05
												Total Hazard Index Across All Exposure Routes/Pathways	7.5E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.97E-07

TABLE 7A.1.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adolescent)	Hexachlorobenzene	0.306	mg/kg	0.306	mg/kg	M	3.72E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.7E-04
												Total Hazard Index Across All Exposure Routes/Pathways	4.7E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.22E-05

TABLE 7A.2.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other-Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Hexachlorobenzene	1.495	mg/kg	1.495	mg/kg	M	3.0E-04	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.8E-01
	Hexachlorobutadiene	9.622	mg/kg	9.622	mg/kg	M	2.0E-03	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.8E+00
	1,2,4,5-Tetra CB	0.071	mg/kg	0.071	mg/kg	M	1.4E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	4.8E-02
	Pentachlorobenzene	0.536	mg/kg	0.536	mg/kg	M	1.1E-04	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.4E-01
	Total PCBs	0.0799	mg/kg	0.143	mg/kg	M	1.6E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	8.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.03E-04

TABLE 7A.2.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.253	mg/kg	0.253	mg/kg	M	4.4E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-02
	Hexachlorobutadiene	1.071	mg/kg	1.071	mg/kg	M	1.9E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.3E-01
	1,2,4,5 - Tetra CB	0.0559	mg/kg	0.0559	mg/kg	M	9.7E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	3.2E-02
	Pentachlorobenzene	0.207	mg/kg	0.207	mg/kg	M	3.6E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.74E-04

TABLE 7A.2.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Hexachlorobenzene	0.161	mg/kg	0.161	mg/kg	M	3.7E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.8E-01
	Pentachlorobenzene	0.0525	mg/kg	0.0525	mg/kg	M	1.2E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	2.0E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29 E-04

TABLE 7A.2.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium; Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	1.469	mg/kg	1.469	mg/kg	M	3.4E-04	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.2E-01
	Hexachlorobutadiene	7.882	mg/kg	7.882	mg/kg	M	1.8E-03	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.0E+00
	1,2,4,5 - Tetra CB	0.109	mg/kg	0.109	mg/kg	M	2.5E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	8.3E-02
	Pentachlorobenzene	0.243	mg/kg	0.243	mg/kg	M	5.6E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.9E-02
												Total Hazard Index Across All Exposure Routes/Pathways	9.6E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29E-04

TABLE 7A.2.5 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.244	mg/kg	0.244	mg/kg	M	5.6E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.0E-02
	Hexachlorobutadiene	1.126	mg/kg	1.126	mg/kg	M	2.6E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.3E+00
	1,2,4,5 - Tetra CB	0.0337	mg/kg	0.0337	mg/kg	M	7.7E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.6E-02
	Pentachlorobenzene	0.159	mg/kg	0.159	mg/kg	M	3.6E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.5E-02
	Chlordane	0.00708	mg/kg	0.00708	mg/kg	M	1.6E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	3.2E-03
	DDT	0.0041	mg/kg	0.0041	mg/kg	M	9.4E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	1.9E-03
	Dieldrin	0.0037	mg/kg	0.0037	mg/kg	M	8.5E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	1.7E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29E-04

TABLE 7A.2.6 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Incidental Ingestion of Sediment Definition (Adult Recreational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	9.7E-08	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.2E-04
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	2.3E-08	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.2E-04
												Total Hazard Index Across All Exposure Routes/Pathways	2.4E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.41E-07

TABLE 7A2.7 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult Recreational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	4.42E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-05
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	1.05E-07	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.3E-05
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx6.43E-07

TABLE 7A2.8. RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT OCCUPATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Ingestion of Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Incidental Ingestion of Sediment (Adult Occupational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	4.0E-08	mg/kg-day	8.0E-04	NA	NA	NA	5.0E-05
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	9.63E-09	mg/kg-day	2.0E-04	NA	NA	NA	4.8E-05
												Total Hazard Index Across All Exposure Routes/Pathways	9.8E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx5.8E-08

TABLE 7A.2.9 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT OCCUPATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult Occupational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	3.68E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-05
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	3.78E-08	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	4.4E-05
												Total Hazard Index Across All Exposure Routes/Pathways	9.0E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx5.35E-07

TABLE 7A.3.1.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	32	ug/kg	3.7E-02
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	3.6E-04	mg/kg-day	2.0E-04	mg/kg-day	77.9	ug/kg	1.8E+00
	1,2,4,5-Tetra CB	0.0709	mg/kg	0.0709	mg/kg	M	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	8.97	ug/kg	4.0E-02
	Pentachlorobenzene	0.287	mg/kg	0.287	mg/kg	M	4.9E-05	mg/kg-day	8.0E-04	mg/kg-day	7.73	ug/kg	6.1E-02
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	1.1E-05	mg/kg-day	2.0E-05	mg/kg-day	10	ug/kg	5.4E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.71 E-04

TABLE 7A.3.1.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adolescent)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	1.2E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.2E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.2E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.24 E-04

TABLE 7A.3.1.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age:

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	2.6E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.3E-02
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	2.9E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E+00
	Pentachlorobenzene	0.0861	mg/kg	0.0861	mg/kg	M	1.9E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.24 E-04

TABLE 7A.3.1.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Whole Body Crawfish (Adolescent)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	4.3E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.4E-03
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	4.2E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.1E-01
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	1.1E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.3E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.24 E-04

TABLE 7A.3.2.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.8E-02
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	3.7E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.8E+00
	1,2,4,5 - Tetra CB	0.0709	mg/kg	0.0709	mg/kg	M	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	4.1E-02
	Pentachlorobenzene	0.287	mg/kg	0.287	mg/kg	M	5.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.3E-02
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	1.1E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.5E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.71 E-04

TABLE 7A.3.2.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	1.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.6E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.6E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29 E-04

TABLE 7A.3.2.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	2.7E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.3E-02
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	3.0E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E-+00
	Pentachlorobenzene	0.0861	mg/kg	0.0861	mg/kg	M	2.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29 E-04

TABLE 7A.3.2.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	4.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-03
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	4.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.1E-01
	Pentachlorobenzene	0.0376	mg/kg	0.0376	mg/kg	M	8.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.1E-02
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	1.2E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.3E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.29 E-04

TABLE 7A.3.3.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.8E-02
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	3.7E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.8E+00
	1,2,4,5 - Tetra CB	0.0709	mg/kg	0.0709	mg/kg	M	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	4.1E-02
	Pentachlorobenzene	0.287	mg/kg	0.287	mg/kg	M	5.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.2E-02
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	1.1E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.4E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.73 E-04

TABLE 7A.3.3.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Integrated)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	1.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.6E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.6E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.27 E-04

TABLE 7A.3.3.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	2.7E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.3E-02
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	3.0E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E+00
	Pentachlorobenzene	0.0861	mg/kg	0.0861	mg/kg	M	2.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.27 E-04

TABLE 7A.3.3.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	4.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-03
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	4.2E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.1E-01
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	1.2E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.3E-03
	Pentachlorobenzene	0.0376	mg/kg	0.0376	mg/kg	M	8.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	2.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.27 E-04

TABLE 7A.4.1.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Recreational Catfish (Adolescent)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	2.8E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.5E-02
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	1.4E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.9E-01
	1,2,4,5 - Tetra CB	0.0112	mg/kg	0.0112	mg/kg	M	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.5E-02
	Total PCBs	0.323	mg/kg	0.387	mg/kg	M	1.3E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.4E+00
												Total Hazard Index Across All Exposure Routes/Pathways	7.2E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.98E-04

TABLE 7A.4.1.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Large Mouth Bass (Adolescent)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	1.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.3E-02
	1,2,4,5 - Tetra CB	0.0185	mg/kg	0.0185	mg/kg	M	6.3E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.1E-02
	Pentachlorobenzene	0.0312	mg/kg	0.0312	mg/kg	M	1.1E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.3E-02
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	1.3E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.3E-01
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	8.4E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.2E+00
												Total Hazard Index Across All Exposure Routes/Pathways	4.9E+00

(1) Medium Specific (M) EPC selected for hazard calculation.
(2) EPCx3.42E-04

TABLE 7A.4.1.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	6.9E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.5E+00
												Total Hazard Index Across All Exposure Routes/Pathways	3.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7A.4.1.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	2.2E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.8E-02
	1,2,4,5-Tetra CB	0.0449	mg/kg	0.0449	mg/kg	M	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	6.7E-02
	Pentachlorobenzene	0.061	mg/kg	0.061	mg/kg	M	2.7E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.4E-02
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	1.9E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.5E-01
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	2.6E-03	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.3E+02
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E+02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7A.4.1.5 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	3.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-03
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	6.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.2E-01
	Pentachlorobenzene	0.0663	mg/kg	0.0663	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.7E-02
	DDT	0.00784	mg/kg	0.00784	mg/kg	M	3.5E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.0E-03
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	2.9E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.4E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7A.4.1.6 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adolescent)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	2.8E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.4E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.63E-07

TABLE 7A.4.1.7 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adolscent)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	1.7E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.2E-01
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.62E-05

TABLE 7A.4.2.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	2.9E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.6E-02
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	1.4E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.1E-01
	1,2,4,5 - Tetra CB	0.0112	mg/kg	0.0112	mg/kg	M	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.5E-02
	Total PCBs	0.323	mg/kg	0.323	mg/kg	M	1.3E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.6E+00
												Total Hazard Index Across All Exposure Routes/Pathways	7.3E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.06E-04

TABLE 7A.4.2.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	1.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.3E-02
	1,2,4,5 - Tetra CB	0.0185	mg/kg	0.0185	mg/kg	M	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.1E-02
	Pentachlorobenzene	0.0312	mg/kg	0.0312	mg/kg	M	1.1E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.4E-02
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	1.3E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.4E-01
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	8.6E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.3E+00
												Total Hazard Index Across All Exposure Routes/Pathways	5.0E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.49E-04

TABLE 7A.4.2.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	7.1E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.5E+00
												Total Hazard Index Across All Exposure Routes/Pathways	3.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57E-04

TABLE 7A.4.2.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	2.3E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.8E-02
	1,2,4,5 - Tetra CB	0.0449	mg/kg	0.0449	mg/kg	M	2.1E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	6.8E-02
	Pentachlorobenzene	0.061	mg/kg	0.061	mg/kg	M	2.8E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.5E-02
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	1.9E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.6E-01
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	2.64E-03	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.3E+02
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E+02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57E-04

TABLE 7A.4.2.5 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	3.8E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.7E-03
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	6.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.2E-01
	Pentachlorobenzene	0.0663	mg/kg	0.0663	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.7E-02
	DDT	0.00784	mg/kg	0.00784	mg/kg	M	3.5E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.0E-03
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	2.9E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.40E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57E-04

TABLE 7A.4.2.6 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adult)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	2.0E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.2E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.88E-07

TABLE 7A.4.2.7 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	9.2E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.4E-03
												Total Hazard Index Across All Exposure Routes/Pathways	6.4E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx8.57E-07

TABLE 7A.4.3.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	2.9E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.6E-02
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	1.4E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.0E-01
	1,2,4,5-Tetra CB	0.0112	mg/kg	0.0112	mg/kg	M	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.5E-02
	Total PCBs	0.323	mg/kg	0.387	mg/kg	M	1.3E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.5E+00
												Total Hazard Index Across All Exposure Routes/Pathways	7.3E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.04E-04

TABLE 7A.4.3.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	1.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.3E-02
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	1.3E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	6.4E-01
	1,2,4,5 - Tetra CB	0.0185	mg/kg	0.0185	mg/kg	M	6.4E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.1E-02
	Pentachlorobenzene	0.0312	mg/kg	0.0312	mg/kg	M	1.1E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.4E-02
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	8.6E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.3E+00
												Total Hazard Index Across All Exposure Routes/Pathways	5.0E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.47E-04

TABLE 7A.4.3.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Integrated)	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	7.0E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.5E+00
												Total Hazard Index Across All Exposure Routes/Pathways	3.5E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55E-04

TABLE 7A.4.3.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	2.3E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.8E-02
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	1.9E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.6E-01
	1,2,3,5 - Tetra CB	0.0449	mg/kg	0.0449	mg/kg	M	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	6.8E-02
	Pentachlorobenzene	0.061	mg/kg	0.061	mg/kg	M	2.8E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.5E-02
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	2.6E-03	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.3E+02
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E+02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55E-04

TABLE 7A.4.3.5 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	3.8E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.7E-03
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	6.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.2E-01
	Pentachlorobenzene	0.0663	mg/kg	0.0663	mg/kg	M	3.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.8E-02
	DDT	0.00784	mg/kg	0.00784	mg/kg	M	3.6E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.1E-03
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	2.9E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.5E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55 E-04

TABLE 7A.4.3.6 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Integrated)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	2.3E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.09E-07

TABLE 7A.4.3.7RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Integrated)	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	5.6E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.9E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3.9E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx5.25E-06

TABLE 7A.5.1.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion in Catfish (Adolescent)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	3.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.2E-03
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	7.7E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.9E-01
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	6.9E-07	mg/kg-day	3.0E-05	mg/kg-day	NA	NA	2.3E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	7.0E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	1.4E-02
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	4.7E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.3E+00
												Total Hazard Index Across All Exposure Routes/Pathways	2.8E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.98E-04

TABLE 7A.5.1.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.5E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.8E-03
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.1E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.6E+00
												Total Hazard Index Across All Exposure Routes/Pathways	5.6E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.42E-04

TABLE 7A.5.1.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	2.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.7E-03
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	1.9E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.7E-02
	1,2,3,5 - Tetra CB	0.0176	mg/kg	0.0176	mg/kg	M	7.9E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.6E-02
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	7.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7A.5.1.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	3.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.5E-03
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	2.2E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.1E-01
	DDT	0.00865	mg/kg	0.00865	mg/kg	M	3.9E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.8E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7A.5.2.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	3.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.3E-03
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	7.9E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.9E-01
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	7.1E-07	mg/kg-day	3.0E-05	mg/kg-day	NA	NA	2.4E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	7.1E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	1.4E-02
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	4.8E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.4E+00
												Total Hazard Index Across All Exposure Routes/Pathways	2.8E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.06 E-04

TABLE 7A.5.2.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.5E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.9E-03
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.1E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.7E+00
												Total Hazard Index Across All Exposure Routes/Pathways	5.7E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.49 E-04

TABLE 7A.5.2.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	2.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.7E-03
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	2.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.9E-02
	1,2,3,5 - Tetra CB	0.0176	mg/kg	0.0176	mg/kg	M	8.5E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.7E-02
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	7.4E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57 E-04

TABLE 7A.5.2.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	3.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-03
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	2.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.1E-01
	DDT	0.00865	mg/kg	0.00865	mg/kg	M	4.0E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.9E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57 E-04

TABLE 7A.5.3.1 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	3.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.3E-03
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	7.8E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.9E-01
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	7.0E-07	mg/kg-day	3.0E-05	mg/kg-day	NA	NA	2.3E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	7.1E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	1.4E-02
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	4.8E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.4E+00
												Total Hazard Index Across All Exposure Routes/Pathways	2.8E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.04 E-04

TABLE 7A.5.3.2 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.5E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.9E-03
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.1E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.6E+00
												Total Hazard Index Across All Exposure Routes/Pathways	5.6E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.47 E-04

TABLE 7A.5.3.3 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Consumption of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Consumption of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	2.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.7E-03
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	2.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.8E-02
	1,2,4,5 - Tetra CB	0.0176	mg/kg	0.0176	mg/kg	M	8.0E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	2.7E-02
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	1.2E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	7.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55 E-04

TABLE 7A.5.3.4 RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	3.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-03
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	2.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.1E-01
	DDT	0.00865	mg/kg	0.00865	mg/kg	M	3.9E-06	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	7.9E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55 E-04

TABLE 7B.1.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adolescent)	Hexachlorobenzene	0.0308	mg/kg	0.0308	mg/kg	M	3.0E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.7E-03
	Hexachlorobutadiene	0.0502	mg/kg	0.0502	mg/kg	M	4.9E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.4E-02
	Total PCBs	0.02	mg/kg	0.02	mg/kg	M	1.9E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	9.7E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.7E-05

TABLE 7B.1.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	1,2,4,5 Tetrachlorobenzene	0.0017	mg/kg	0.0017	mg/kg	M	3.6E-08	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.2E-04
	Pentachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	1.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.3E-04
	Hexachlorobenzene	0.0374	mg/kg	0.0374	mg/kg	M	7.9E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	9.8E-04
	Hexachlorobutadiene	0.0857	mg/kg	0.0857	mg/kg	M	1.8E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.0E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.0E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.1E-05

TABLE 7B.1.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adolescent)	Hexachlorobenzene	0.14	mg/kg	0.14	mg/kg	M	9.2E-09	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.2E-05
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx6.58E-08

TABLE 7B.1.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adolescent)	Hexachlorobenzene	0.14	mg/kg	0.14	mg/kg	M	5.7E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.1E-05
												Total Hazard Index Across All Exposure Routes/Pathways	7.1E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.06E-06

TABLE 7B.2.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.204	mg/kg	0.204	mg/kg	M	2.0E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-02
	Hexachlorobutadiene	0.339	mg/kg	0.339	mg/kg	M	3.3E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.7E-01
	1,2,4,5 - Tetra CB	0.0301	mg/kg	0.0301	mg/kg	M	3.0E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	9.9E-03
	Pentachlorobenzene	0.0294	mg/kg	0.0294	mg/kg	M	2.9E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.6E-03
	DDE	0.00177	mg/kg	0.00177	mg/kg	M	1.7E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
	Total PCBs	0.0693	mg/kg	0.0693	mg/kg	M	6.8E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.4E-01
												Total Hazard Index Across All Exposure Routes/Pathways	5.5E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.86E-05

TABLE 7B.2.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.209	mg/kg	0.209	mg/kg	M	4.5E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.6E-03
	Hexachlorobutadiene	0.695	mg/kg	0.695	mg/kg	M	1.5E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.4E-02
	1,2,4,5 - Tetra CB	0.022	mg/kg	0.022	mg/kg	M	4.7E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.6E-03
	Pentachlorobenzene	0.0946	mg/kg	0.0946	mg/kg	M	2.0E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	8.4E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.14E-05

TABLE 7B.2.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Hexachlorobenzene	0.125	mg/kg	0.125	mg/kg	M	5.8E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.9E-02
	Pentachlorobenzene	0.0445	mg/kg	0.0445	mg/kg	M	2.1E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	3.1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.61E-05

TABLE 7B.2.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.807	mg/kg	0.807	mg/kg	M	3.7E-05	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-02
	Hexachlorobutadiene	4.748	mg/kg	4.748	mg/kg	M	2.2E-04	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.1E+00
	1,2,4,5 - Tetra CB	0.0945	mg/kg	0.0945	mg/kg	M	4.4E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.5E-02
	Pentachlorobenzene	0.192	mg/kg	0.192	mg/kg	M	8.8E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.61E-05

TABLE 7B.2.5 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.145	mg/kg	0.145	mg/kg	M	6.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	8.4E-03
	Hexachlorobutadiene	0.42	mg/kg	0.42	mg/kg	M	1.9E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	9.7E-02
	1,2,4,5 - Tetra CB	0.0074	mg/kg	0.0074	mg/kg	M	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.1E-03
	Pentachlorobenzene	0.063	mg/kg	0.063	mg/kg	M	2.9E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.6E-03
	Dieldrin	0.00082	mg/kg	0.00082	mg/kg	M	3.8E-08	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	7.6E-04
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.61E-05

TABLE 7B.2.6 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT RECREATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adult Recreational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	5.0E-09	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.3E-06
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	1.15E-09	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.7E-06
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.35E-06

TABLE 7B.2.7 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT RECREATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult Recreational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	5.0E-09	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.3E-06
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	1.2E-09	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.7E-06
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.14E-07

TABLE 7B.2.8 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT OCCUPATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Ingestion of Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Incidental Ingestion of Sediment (Adult Occupational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	6.3E-09	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.8E-06
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	1.4E-09	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.2E-06
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.94E-08

TABLE 7B.2.9 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
CHANNELS ADULT OCCUPATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult Occupational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	4.56E-08	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.7E-06
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	1.05E-08	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.2E-06
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.14E-07

TABLE 7B.3.1.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	1.5E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.9E-03
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	6.1E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.0E-02
	1,2,4,5 - Tetra CB	0.013	mg/kg	0.013	mg/kg	M	2.7E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	9.1E-04
	Pentachlorobenzene	0.0287	mg/kg	0.0287	mg/kg	M	6.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.5E-04
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	4.7E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	5.8E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.1E-05

TABLE 7B.3.1.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adolescent)	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	1.5E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	7.5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.5E-05

TABLE 7B.3.1.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	3.8E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.8E-03
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	5.7E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.8E-01
	Pentachlorobenzene	0.0598	mg/kg	0.0598	mg/kg	M	2.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.4E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.9E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.50E-05

TABLE 7B.3.1.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Whole Body Crawfish (Adolescent)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	5.4E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.8E-04
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	5.0E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.5E-02
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	2.3E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	4.6E-04
												Total Hazard Index Across All Exposure Routes/Pathways	2.6E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.50E-05

TABLE 7B.3.2.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	1.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.0E-03
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	6.2E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.1E-02
	1,2,4,5 - Tetra CB	0.013	mg/kg	0.013	mg/kg	M	2.8E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	9.3E-04
	Pentachlorobenzene	0.0287	mg/kg	0.0287	mg/kg	M	6.2E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.7E-04
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	4.8E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	5.9E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.14E-05

TABLE 7B.3.2.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	1.4E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.2E-03
												Total Hazard Index Across All Exposure Routes/Pathways	7.5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.29 E-05

TABLE 7B.3.2.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	3.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.6E-03
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	5.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.7E-01
	Pentachlorobenzene	0.0598	mg/kg	0.0598	mg/kg	M	2.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.2E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.8E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.29 E-05

TABLE 7B.3.2.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	5.2E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.5E-04
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	4.8E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.4E-02
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	2.2E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	4.3E-04
												Total Hazard Index Across All Exposure Routes/Pathways	2.5E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.29E-05

TABLE 7B.3.3.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	1.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.9E-03
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	6.2E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.1E-02
	1,2,4,5 - Tetra CB	0.013	mg/kg	0.013	mg/kg	M	2.8E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	9.2E-04
	Pentachlorobenzene	0.0287	mg/kg	0.287	mg/kg	M	6.1E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	7.6E-04
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	4.8E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	5.8E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx2.13 E-05

TABLE 7B.3.3.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Integrated)	Pentachlorobenzene	0.0065	mg/kg	0.0065	mg/kg	M	2.8E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.6E-04
	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	1.5E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.3E-03
												Total Hazard Index Across All Exposure Routes/Pathways	7.7E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.37E-05

TABLE 7B.3.3.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	3.7E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	4.7E-03
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	5.53E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.8E-01
	Pentachlorobenzene	0.0598	mg/kg	0.0598	mg/kg	M	2.6E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.3E-03
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	2.5E-06	mg/kg-day	NA	NA	NA	NA	NA
												Total Hazard Index Across All Exposure Routes/Pathways	2.8E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.37 E-05

TABLE 7B.3.3.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	5.3E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.6E-04
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	4.9E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.4E-02
	DDT	0.0051	mg/kg	0.0051	mg/kg	M	2.2E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	4.4E-04
	Pentachlorobenzene	0.0196	mg/kg	0.0196	mg/kg	M	8.6E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.1E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.7E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.37E-05

TABLE 7B.4.1.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Recreational Catfish (Adolescent)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	2.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.0E-03
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	1.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.1E-02
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	3.5E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.8E+00
	1,2,4,5 - Tetrachlorobenzene	0.0025	mg/kg	0.0025	mg/kg	M	4.9E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.8E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.94E-04

TABLE 7B.4.1.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	7.6E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	9.5E-04
	1,2,4,5 - Tetra CB	0.0072	mg/kg	0.0072	mg/kg	M	3.0E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.0E-03
	Pentachlorobenzene	0.0116	mg/kg	0.0116	mg/kg	M	4.9E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.1E-04
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	4.0E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.0E-02
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	4.0E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.2E-01

(1) Medium Specific (M) EPC selected for hazard calculation.
(2) EPCx4.20E-04

TABLE 7B.4.1.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	8.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	4.0E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.00E-04

TABLE 7B.4.1.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	3.0E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.8E-03
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	3.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E-01
	1,2,4,5 - Tetra CB	0.0332	mg/kg	0.0332	mg/kg	M	3.0E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.0E-02
	Pentachlorobenzene	0.0442	mg/kg	0.0442	mg/kg	M	4.0E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.0E-03
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	2.2E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.1E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.00E-04

TABLE 7B.4.1.5 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	4.4E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.4E-04
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	2.6E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.3E-02
	Pentachlorobenzene	0.0145	mg/kg	0.0145	mg/kg	M	1.3E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.6E-03
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	4.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.00E-04

TABLE 7B.4.1.6 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adolescent)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	8.3E-08	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.1E-03
												Total Hazard Index Across All Exposure Routes/Pathways	4.1E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.32E-07

TABLE 7B.4.1.7 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adolescent)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	5.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	3.6E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3.6E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx8.11E-06

TABLE 7B.4.2.1 CT
CALCULATION OF NON-CANCER HAZARDS
CETNRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	2.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.0E-03
	1,2,4,5 - Tetra CB	0.0025	mg/kg	0.0025	mg/kg	M	4.9E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.6E-03
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	1.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.2E-02
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	3.6E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.8E+00
												Total Hazard Index Across All Exposure Routes/Pathways	1.9E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.97E-04

TABLE 7B.4.2.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	7.7E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	9.6E-04
	1,2,4,5 - Tetra CB	0.0072	mg/kg	0.0072	mg/kg	M	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.0E-03
	Pentachlorobenzene	0.0116	mg/kg	0.0116	mg/kg	M	5.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	6.2E-04
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	4.1E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.0E-02
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	4.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.29E-05

TABLE 7B.4.2.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Adult)	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	8.3E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	4.1E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.21E-05

TABLE 7B.4.2.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	3.1E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.9E-03
	1,2,4,5 - Tetra CB	0.0332	mg/kg	0.0332	mg/kg	M	3.1E-06	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.0E-02
	Pentachlorobenzene	0.0442	mg/kg	0.0442	mg/kg	M	4.1E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.1E-03
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	3.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E-01
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	2.3E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.1E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.2E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.21E-05

TABLE 7B.4.2.5 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	4.4E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-04
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	2.7E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.3E-02
	DDT	0.00126	mg/kg	0.00126	mg/kg	M	1.2E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.3E-04
	Pentachlorobenzene	0.0145	mg/kg	0.0145	mg/kg	M	1.3E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.7E-03
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	4.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.21E-05

TABLE 7B.4.2.6 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Adult)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	3.0E-08	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.70E-08

TABLE 7B.4.2.7 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Adult)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	2.7E-07	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.9E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1.9E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.28E-07

TABLE 7B.4.3.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	2.4E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.0E-03
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	1.4E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	7.2E-02
	1,2,4,5 - Tetrachlorobenzene	0.0025	mg/kg	0.0025	mg/kg	M	4.9E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.6E-03
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	3.6E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.8E+00
												Total Hazard Index Across All Exposure Routes/Pathways	1.9E+00

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.96E-04

TABLE 7B.4.3.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	1,2,4,5 - Tetrachlorobenzene	0.0072	mg/kg	0.0072	mg/kg	M	3.10E-07		3.00E-04	mg/kg-day	NA	NA	1.00E-03
	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	7.7E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	9.6E-04
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	4.0E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	2.0E-02
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	4.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.3E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.25E-05

TABLE 7B.4.3.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Tails (Integrated)	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	8.2E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	4.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	4.1E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.13E-05

TABLE 7B.4.3.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Integrated)	1,2,4,5 - Tetrachlorobenzene	0.0332	mg/kg	0.0332	mg/kg	M	3.00E-06	mg/kg-day	3.00E-04	mg/kg-day	NA	NA	1.00E-02
	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	3.1E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	3.9E-03
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	3.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.5E-01
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	2.3E-04	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.1E+01
												Total Hazard Index Across All Exposure Routes/Pathways	1.1E+01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.13E-05

TABLE 7B.4.3.5 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	DDT	0.00126	mg/kg	0.00126	mg/kg	M	1.20E-07	mg/kg-day	5.00E-04	mg/kg-day	NA	NA	2.30E-04
	Pentachlorobenzene	0.0145	mg/kg	0.00126	mg/kg	M	1.30E-06	mg/kg-day	8.00E-04	mg/kg-day	NA	NA	1.70E-03
	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	4.4E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	5.5E-04
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	2.7E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	1.3E-02
	DDD	0.00255	mg/kg	0.00255	mg/kg	M	2.3E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
	DDE	0.00928	mg/kg	0.00928	mg/kg	M	8.5E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	4.1E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.1E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.13E-05

TABLE 7B.4.3.6 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Sediment (Integrated)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	5.1E-08	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2.5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx8.08E-08

TABLE 7B.4.3.7 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal Contact with Sediment (Integrated)	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	2.2E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	1.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1.5E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.50E-06

TABLE 7B.5.1.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion in Catfish (Adolescent)	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	1.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.5E-03
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	9.9E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	4.9E-02
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	3.4E-07	mg/kg-day	3.0E-05	mg/kg-day	NA	NA	1.1E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	3.4E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	6.8E-03
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	4.4E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.2E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.9E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.98E-04

TABLE 7B.5.1.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.8E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.3E-04
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.4E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.8E-01
												Total Hazard Index Across All Exposure Routes/Pathways	6.8E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.42E-04

TABLE 7B.5.1.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adolescent)	1,2,4,5 - Tetrachlorobenzene	0.0037	mg/kg	0.0037	mg/kg	M	3.30E-07	mg/kg-day	3.00E-04	mg/kg-day	NA	NA	1.10E-03
	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	2.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-04
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	6.0E-07	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.0E-03
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	1.2E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	5.9E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7B.5.1.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	2.1E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.6E-04
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	1.1E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.6E-03
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.7E-04
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	5.6E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
												Total Hazard Index Across All Exposure Routes/Pathways	6.1E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.48 E-04

TABLE 7B.5.2.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Adult)	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	3.40E-07	mg/kg-day	3.00E-05	mg/kg-day	NA	NA	1.1E-02
	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	1.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.6E-03
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	1.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.0E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	3.5E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	6.9E-03
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	4.5E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.2E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.9E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.06 E-04

TABLE 7B.5.2.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.8E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.3E-04
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.4E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	7.0E-01
												Total Hazard Index Across All Exposure Routes/Pathways	7.0E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.49 E-04

TABLE 7B.5.2.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	2.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-04
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	6.2E-07	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.1E-03
	1,2,4,5 - Tetrachlorobenzene	0.0037	mg/kg	0.0037	mg/kg	M	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.1E-03
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	1.2E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.5E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57 E-04

TABLE 7B.5.2.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	2.1E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.6E-04
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	1.1E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.7E-03
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	1.4E-08	mg/kg-day	5.0E-01	mg/kg-day	NA	NA	2.8E-04
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	5.7E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
												Total Hazard Index Across All Exposure Routes/Pathways	6.3E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.57 E-04

TABLE 7B.5.3.1 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	1.2E-06	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	1.5E-03
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	1.0E-05	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.0E-02
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	3.4E-07	mg/kg-day	2.5E-05	mg/kg-day	NA	NA	1.1E-02
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	3.4E-07	mg/kg-day	5.0E-05	mg/kg-day	NA	NA	6.9E-03
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	4.5E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	2.2E-01
												Total Hazard Index Across All Exposure Routes/Pathways	2.9E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.04 E-04

TABLE 7B.5.3.2 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	1.8E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.3E-04
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.4E-05	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.9E-01
												Total Hazard Index Across All Exposure Routes/Pathways	6.9E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx3.47 E-04

TABLE 7B.5.3.3 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Consumption of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose (2)	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Consumption of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	2.0E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.5E-04
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	6.1E-07	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	3.1E-03
	1,2,4,5 - Tetrachlorobenzene	0.0037	mg/kg	0.0037	mg/kg	M	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	NA	NA	1.1E-03
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	1.2E-06	mg/kg-day	2.0E-05	mg/kg-day	NA	NA	6.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	6.4E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55 E-04

TABLE 7B.5.3.4 CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer) (2)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	2.1E-07	mg/kg-day	8.0E-04	mg/kg-day	NA	NA	2.6E-04
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	1.1E-06	mg/kg-day	2.0E-04	mg/kg-day	NA	NA	5.7E-03
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	NA	NA	2.8E-04
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	5.7E-07	mg/kg-day	NA	mg/kg-day	NA	NA	NA
												Total Hazard Index Across All Exposure Routes/Pathways	6.2E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx4.55 E-04

TABLE 8.A.1.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adolescent)	DDE	0.00223	mg/kg	0.00223	mg/kg	M	7.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.6E-08
	Hexachlorobenzene	0.155	mg/kg	0.155	mg/kg	M	5.3E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.5E-06
	Hexachlorobutadiene	0.68	mg/kg	0.68	mg/kg	M	2.3E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.8E-06
	Total PCBs	0.143	mg/kg	0.143	mg/kg	M	4.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9.8E-06
											2.0E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.41E-05

TABLE 8A.1.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	DDE	0.0011	mg/kg	0.0011	mg/kg	M	3.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.1E-08
	Hexachlorobenzene	0.0472	mg/kg	0.0472	mg/kg	M	1.4E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-06
	Hexachlorobutadiene	0.16	mg/kg	0.16	mg/kg	M	4.7E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.7E-07
											2.6E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.93E-05

TABLE 8A.1.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adolescent)	Hexachlorobenzene	0.306	mg/kg	0.306	mg/kg	M	1.0E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.7E-08
											1.7E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.38E-08

TABLE 8A.1.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Dermal Contact Sediment (Adolescent)	Hexachlorobenzene	0.306	mg/kg	0.306	mg/kg	M	6.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-07
											1.0E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.09E-06

TABLE 8A.2.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	1.495	mg/kg	1.495	mg/kg	M	1.3E-04	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-04
	Hexachlorobutadiene	9.622	mg/kg	9.622	mg/kg	M	8.4E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.5E-05
	DDE	0.00231	mg/kg	0.00231	mg/kg	M	2.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6.8E-08
	Total PCBs	0.0799	mg/kg	0.0799	mg/kg	M	6.95-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-05
											2.9E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx8.69E-05

TABLE 8A.2.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.253	mg/kg	0.253	mg/kg	M	1.9E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.0E-05
	Hexachlorobutadiene	1.071	mg/kg	1.071	mg/kg	M	8.0E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.2E-06
	DDE	0.00506	mg/kg	0.00506	mg/kg	M	3.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-07
											3.7E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.47E-05

TABLE 8A.2.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Hexachlorobenzene	0.161	mg/kg	0.161	mg/kg	M	1.6E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.2E-06
											1.2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx9.80E-05

TABLE 8A.2.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	1.469	mg/kg	1.469	mg/kg	M	1.4E-04	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.3E-04
	Hexachlorobutadiene	7.882	mg/kg	7.882	mg/kg	M	7.7E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.0E-05
	DDE	0.0094	mg/kg	0.0094	mg/kg	M	9.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.1E-07
											2.9E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx9.80E-05

TABLE 8A.2.5 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.244	mg/kg	0.244	mg/kg	M	2.4E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.8E-05
	Hexachlorobutadiene	1.126	mg/kg	1.126	mg/kg	M	1.1E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.6E-06
	Chlordane	0.00708	mg/kg	0.00708	mg/kg	M	6.9E-07	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	2.4E-07
	DDD	0.00514	mg/kg	0.00514	mg/kg	M	5.0E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	DDT	0.0041	mg/kg	0.0041	mg/kg	M	4.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	DDE	0.01566	mg/kg	0.01566	mg/kg	M	1.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.2E-07
	Dieldrin	0.0037	mg/kg	0.0037	mg/kg	M	3.6E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	5.8E-06
											5.4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx9.80E-05

TABLE 8A.2.6 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion Sediment (Adult Recreational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	4.45E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	6.6E-08
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	9.9E-09	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	7.7E-10
											6.7E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx6.04E-08

TABLE 8A.2.7 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult Recreational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	1.9E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.0E-08
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	4.5E-08	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.5E-10
											3.1E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.75E-07

TABLE 8A.2.8 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS FOR ADULT OCCUPATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Ingestion of Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Incidental Ingestion of Sediment (Adult Occupational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	2.3E-09	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.7E-09
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	5.5E-10	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.3E-11
											3.7E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.35E-09

TABLE 8A.2.9 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT OCCUPATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult Occupational)	Hexachlorobenzene	0.688	mg/kg	0.688	mg/kg	M	2.1E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-09
	Hexachlorobutadiene	0.164	mg/kg	0.164	mg/kg	M	5.0E-09	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.9E-11
											3.4E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.06E-08

TABLE 8A.3.1.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	5.1E-06	mg/kg-day	1.6+00	$(mg/kg\text{-}day)^{-1}$	8.2E-06
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	6.2E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.8E-06
	DDE	0.00204	mg/kg	0.00204	mg/kg	M	6.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	1.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.7E-06
											1.7E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.93E-05

TABLE 8A 3.1.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adolescent)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	2.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.7E-07
											1.7E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.84E-05

TABLE 8A.3.1.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	4.5E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	7.2E-06
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	5.0E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.9E-06
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	2.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.6E-07
											1.2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.84E-05

TABLE 8A.3.1.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Whole Body Crawfish (Adolescent)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	7.45E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-06
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	7.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	5.6E-07
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	9.5E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2.3E-07
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	2.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.6E-07
	DDT	0.0051	mg/kg	0.0051	mg/kg	M	1.9E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6.6E-08
											2.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.84E-05

TABLE 8A.3.2.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Risk Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	1.3E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-05
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	1.6E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.2E-05
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	4.7E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9.4E-06
	DDE	0.0020	mg/kg	0.0020	mg/kg	M	1.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.2E-08
											4.2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.47E-05

TABLE 8A.3.2.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	5.4E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.2E-07
										Total Risk Across All Exposure Routes/Pathways	4.2E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx9.80E-05

TABLE 8A.3.2.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	1.1E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.8E-05
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	1.3E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	9.9E-06
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	5.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.9E-06
										Total Risk Across All Exposure Routes/Pathways	3.0E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx9.80E-05

TABLE 8A.3.2.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	1.9E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.0E-06
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	1.8E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.4E-06
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	2.4E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	5.8E-07
	DDT	0.0051	mg/kg	0.0051	mg/kg	M	5.0E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-07
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	5.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.9E-06
										Total Risk Across All Exposure Routes/Pathways	7.1E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.80E-05

TABLE 8A.3.3.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.174	mg/kg	0.174	mg/kg	M	1.8E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.9E-05
	Hexachlorobutadiene	2.12	mg/kg	2.12	mg/kg	M	2.2E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.7E-05
	DDE	0.0020	mg/kg	0.0020	mg/kg	M	2.1E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.2E-08
	Total PCBs	0.0626	mg/kg	0.0626	mg/kg	M	6.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.3E-05
										Total Risk Across All Exposure Routes/Pathways	5.9E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.04E-04

TABLE 8A.3.3.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Integrated)	Hexachlorobutadiene	0.0554	mg/kg	0.0554	mg/kg	M	7.6E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	5.9E-07
										Total Risk Across All Exposure Routes/Pathways	5.9E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.36E-04

TABLE 8A.3.3.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.117	mg/kg	0.117	mg/kg	M	1.6E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-05
	Hexachlorobutadiene	1.302	mg/kg	1.302	mg/kg	M	1.8E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.4E-05
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	7.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.7E-06
										Total Risk Across All Exposure Routes/Pathways	4.2E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.36E-04

TABLE 8A.3.3.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED INGESTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0194	mg/kg	0.0194	mg/kg	M	2.7E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	4.2E-06
	Hexachlorobutadiene	0.186	mg/kg	0.186	mg/kg	M	2.5E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.0E-06
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	3.4E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	8.1E-07
	DDT	0.0051	mg/kg	0.0051	mg/kg	M	6.9E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.3E-07
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	7.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.7E-06
										Total Risk Across All Exposure Routes/Pathways	1.0E-05

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.36E-04

TABLE 8A.4.1.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adolescent)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	4.8E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	7.8E-06
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	2.4E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.9E-06
	DDE	0.0157	mg/kg	0.0157	mg/kg	M	1.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.6E-07
	Total PCBs	0.323	mg/kg	0.323	mg/kg	M	2.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.4E-05
										Total Risk Across All Exposure Routes/Pathways	5.4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx6.82E-05

TABLE 8A.4.1.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Large Mouth Bass (Adolescent)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	1.7E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-06
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	2.2E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.7E-06
	DDE	0.0055	mg/kg	0.0055	mg/kg	M	3.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.1E-07
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	1.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.9E-05
										Total Risk Across All Exposure Routes/Pathways	3.4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.86E-05

TABLE 8A.4.1.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adolescent)	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	1.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.4E-05
										Total Risk Across All Exposure Routes/Pathways	2.4E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.68E-05

TABLE 8A.4.1.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	3.8E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	6.1E-06
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	3.3E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.5E-06
	DDE	0.0095	mg/kg	0.0095	mg/kg	M	7.3E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.5E-07
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	4.5E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8.9E-04
										Total Risk Across All Exposure Routes/Pathways	9.0E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.68E-05

TABLE 8A.4.1.5 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	6.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	1.1E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.4E-07
	DDD	0.0325	mg/kg	0.0325	mg/kg	M	2.5E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6.0E-07
	DDE	0.0862	mg/kg	0.0862	mg/kg	M	6.6E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.3E-06
	DDT	0.00784	mg/kg	0.00784	mg/kg	M	6.0E-04	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-07
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	4.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9.8E-05
										Total Risk Across All Exposure Routes/Pathways	1.0E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.68E-05

TABLE 8A.4.1.6 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adolescent)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	2.3E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-08
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	1.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9.2E-08
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	4.8E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9.7E-08
										Total Risk Across All Exposure Routes/Pathways	2.1E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx4.51E-08

TABLE 8A.4.1.7 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adolescent)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	1.4E-06	mg/kg-day	7.30E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	7.8E-07	mg/kg-day	7.30E+00	$(mg/kg\text{-}day)^{-1}$	7.4E-07
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	2.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8.4E-07
										Total Risk Across All Exposure Routes/Pathways	1.7E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.78E-06

TABLE 8A.4.2.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	1.2E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.0E-05
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	6.1E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.7E-06
	DDE	0.0157	mg/kg	0.0157	mg/kg	M	2.7E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	9.3E-07
	Total PCBs	0.323	mg/kg	0.323	mg/kg	M	5.6E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-04
										Total Risk Across All Exposure Routes/Pathways	1.4E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.74E-04

TABLE 8A.4.2.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	4.4E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	7.1E-06
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	5.5E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.3E-06
	DDE	0.0055	mg/kg	0.0055	mg/kg	M	8.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.8E-07
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	3.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7.4E-05
										Total Risk Across All Exposure Routes/Pathways	8.5E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.49E-04

TABLE 8A.4.2.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	3.0E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6.1E-05
										Total Risk Across All Exposure Routes/Pathways	6.1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.96E-04

TABLE 8A.4.2.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	9.8E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-05
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	8.3E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.5E-06
	DDE	0.0095	mg/kg	0.0095	mg/kg	M	1.9E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6.3E-07
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	1.1E-03	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.3E-03
										Total Risk Across All Exposure Routes/Pathways	2.3E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.96E-04

TABLE 8A.4.2.5 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	1.6E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-06
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	2.8E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.2E-06
	DDD	0.0325	mg/kg	0.0325	mg/kg	M	6.4E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-06
	DDE	0.0862	mg/kg	0.0862	mg/kg	M	1.7E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.7E-06
	DDT	0.0078	mg/kg	0.0078	mg/kg	M	1.5E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.2E-07
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	1.3E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.5E-04
										Total Risk Across All Exposure Routes/Pathways	2.6E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.96E-04

TABLE 8A.4.2.6 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adult)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	4.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3.0E-08
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	2.3E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-07
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	8.6E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.7E-07
										Total Risk Across All Exposure Routes/Pathways	1.8E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx8.05E-08

TABLE 8A.4.2.7 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	1.9E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-08
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	1.0E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	9.8E-08
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	3.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-07
										Total Risk Across All Exposure Routes/Pathways	2.3E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.67E-07

TABLE 8A.4.3.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.071	mg/kg	0.071	mg/kg	M	1.7E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-05
	Hexachlorobutadiene	0.349	mg/kg	0.349	mg/kg	M	8.5E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.6E-06
	DDE	0.0157	mg/kg	0.0157	mg/kg	M	3.8E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-06
	Total PCBs	0.323	mg/kg	0.323	mg/kg	M	7.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-04
										Total Risk Across All Exposure Routes/Pathways	1.9E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.42E-04

TABLE 8A.4.3.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0295	mg/kg	0.0295	mg/kg	M	6.1E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	9.8E-06
	Hexachlorobutadiene	0.369	mg/kg	0.369	mg/kg	M	7.7E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.0E-06
	DDE	0.0055	mg/kg	0.0055	mg/kg	M	1.2E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.9E-07
	Total PCBs	0.247	mg/kg	0.247	mg/kg	M	5.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-04
										Total Risk Across All Exposure Routes/Pathways	1.2E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.08E-04

TABLE 8A.4.3.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Integrated)	Total PCBs	0.155	mg/kg	0.155	mg/kg	M	4.2E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8.5E-05
										Total Risk Across All Exposure Routes/Pathways	8.5E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.73E-04

TABLE 8A.4.3.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.05	mg/kg	0.05	mg/kg	M	1.4E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-05
	Hexachlorobutadiene	0.424	mg/kg	0.424	mg/kg	M	1.2E-04	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	9.0E-06
	DDE	0.0095	mg/kg	0.0095	mg/kg	M	2.6E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8.8E-07
	Total PCBs	5.8	mg/kg	5.8	mg/kg	M	1.6E-03	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.2E-03
										Total Risk Across All Exposure Routes/Pathways	3.2E-03

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.73E-04

TABLE 8A.4.3.5 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0083	mg/kg	0.0083	mg/kg	M	2.3E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.6E-06
	Hexachlorobutadiene	0.141	mg/kg	0.141	mg/kg	M	3.9E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.0E-06
	DDD	0.0325	mg/kg	0.0325	mg/kg	M	8.9E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2.1E-06
	DDE	0.0862	mg/kg	0.0862	mg/kg	M	2.4E-05	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8.0E-06
	DDT	0.00784	mg/kg	0.00784	mg/kg	M	2.1E-04	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.3E-07
	Total PCBs	0.641	mg/kg	0.641	mg/kg	M	1.8E-04	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.5E-04
										Total Risk Across All Exposure Routes/Pathways	3.7E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.73E-04

TABLE 8A.4.3.6 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Integrated)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	6.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4.7E-08
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	3.5E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-07
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	1.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.7E-07
										Total Risk Across All Exposure Routes/Pathways	5.9E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.26E-07

TABLE 8A.4.3.7 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Integrated)	Benzo(a)anthracene	0.51	mg/kg	0.51	mg/kg	M	1.5E-06	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	Benzo(a)pyrene	0.28	mg/kg	0.28	mg/kg	M	8.2E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	7.8E-07
	Total PCBs	1.073	mg/kg	1.073	mg/kg	M	3.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	8.8E-07
										Total Risk Across All Exposure Routes/Pathways	1.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.93E-06

TABLE 8A.5.1.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion in Catfish (Adolescent)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	5.8E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	9.3E-07
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	1.3E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	Aldrin	0.0017	mg/kg	0.0017	mg/kg	M	1.2E-07	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2.0E-06
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	1.2E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1.9E-06
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	8.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-05
										Total Risk Across All Exposure Routes/Pathways	2.2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx6.82E-05

TABLE 8A.5.1.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Largemouth Bass
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	2.5E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	4.0E-07
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	1.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.8E-05
										Total Risk Across All Exposure Routes/Pathways	3.9E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.86E-05

TABLE 8A.5.1.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	3.7E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.9E-07
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	3.3E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.6E-07
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	2.0E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.1E-06
										Total Risk Across All Exposure Routes/Pathways	4.9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.68E-05

TABLE 8A.5.1.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	6.2E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	3.8E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.0E-07
	DDD	0.0048	mg/kg	0.0048	mg/kg	M	3.7E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	8.8E-08
	DDT	0.0087	mg/kg	0.0087	mg/kg	M	6.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.3E-07
	DDE	0.0111	mg/kg	0.0111	mg/kg	M	8.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.9E-07
										Total Risk Across All Exposure Routes/Pathways	1.9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.68E-05

TABLE 8A.5.2.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	1.5E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.4E-06
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	3.4E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.6E-06
	Aldrin	0.0017	mg/kg	0.0017	mg/kg	M	3.0E-07	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	5.1E-06
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	3.0E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	4.9E-06
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	2.1E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.1E-05
										Total Risk Across All Exposure Routes/Pathways	5.6E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.74E-04

TABLE 8A.5.2.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other -Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	6.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	4.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	9.7E-05
										Total Risk Across All Exposure Routes/Pathways	9.8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.49E-04

TABLE 8A.5.2.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	9.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-06
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	8.5E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.6E-07
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	5.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-05
										Total Risk Across All Exposure Routes/Pathways	1.3E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.96E-04

TABLE 8A.5.2.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	1.6E-06	mg/kg-day	1.6E+00	mg/kg-day	2.5E-06
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	9.8E-06	mg/kg-day	7.8E-02	mg/kg-day	7.6E-07
	DDD	0.0048	mg/kg	0.0048	mg/kg	M	9.4E-07	mg/kg-day	2.4E-01	mg/kg-day	2.2E-07
	DDT	0.0087	mg/kg	0.0087	mg/kg	M	1.7E-06	mg/kg-day	3.4E-01	mg/kg-day	5.8E-07
	DDE	0.0111	mg/kg	0.0111	mg/kg	M	2.2E-06	mg/kg-day	3.4E-01	mg/kg-day	7.4E-07
										Total Risk Across All Exposure Routes/Pathways	4.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.96E-04

TABLE 8A.5.3.1 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0085	mg/kg	0.0085	mg/kg	M	2.1E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.3E-06
	Hexachlorobutadiene	0.194	mg/kg	0.194	mg/kg	M	4.7E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.7E-06
	Aldrin	0.0017	mg/kg	0.0017	mg/kg	M	4.2E-07	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	7.2E-06
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	4.2E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	6.8E-06
	Total PCBs	0.118	mg/kg	0.118	mg/kg	M	2.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	5.7E-05
										Total Risk Across All Exposure Routes/Pathways	7.8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.42E-04

TABLE 8A.5.3.2 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	9.0E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-06
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	6.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-04
										Total Risk Across All Exposure Routes/Pathways	1.4E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.08E-04

TABLE 8A.5.3.3 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	1.3E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-06
	Hexachlorobutadiene	0.0433	mg/kg	0.0433	mg/kg	M	1.2E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	9.2E-07
	Total PCBs	0.0266	mg/kg	0.0266	mg/kg	M	7.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-05
										Total Risk Across All Exposure Routes/Pathways	1.8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.73E-04

TABLE 8A.5.3.4 RME
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0081	mg/kg	0.0081	mg/kg	M	2.2E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.5E-06
	Hexachlorobutadiene	0.0498	mg/kg	0.0498	mg/kg	M	1.4E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	DDD	0.0048	mg/kg	0.0048	mg/kg	M	1.3E-06	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	3.1E-07
	DDT	0.0087	mg/kg	0.0087	mg/kg	M	2.4E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8.0E-07
	DDE	0.0111	mg/kg	0.0111	mg/kg	M	3.0E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-06
										Total Risk Across All Exposure Routes/Pathways	6.7E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.73E-04

TABLE 8B.1.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adolescent)	Hexachlorobenzene	0.0308	mg/kg	0.0308	mg/kg	M	5.1E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.2E-07
	Hexachlorobutadiene	0.0502	mg/kg	0.0502	mg/kg	M	8.4E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.5E-08
	Total PCBs	0.02	mg/kg	0.02	mg/kg	M	8.4E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6.7E-07
											1.5E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.66E-05

TABLE 8B.1.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0374	mg/kg	0.0374	mg/kg	M	1.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-07
	Hexachlorobutadiene	0.0857	mg/kg	0.0857	mg/kg	M	3.1E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.4E-08
	DDE	0.0011	mg/kg	0.0011	mg/kg	M	4.0E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-09
											2.4E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.60E-06

TABLE 8B.1.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adolescent)	Hexachlorobenzene	0.14	mg/kg	0.119	mg/kg	M	1.6E-09	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.5E-09
											2.5E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.13E-08

TABLE 8B.1.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH BAYOU ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact Sediment (Adolescent)	Hexachlorobenzene	0.14	mg/kg	0.119	mg/kg	M	9.7E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-08
											1.6E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx6.95E-07

TABLE 8B.2.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.204	mg/kg	0.204	mg/kg	M	5.2E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.3E-06
	Hexachlorobutadiene	0.339	mg/kg	0.339	mg/kg	M	8.6E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.7E-07
	DDE	0.00177	mg/kg	0.00177	mg/kg	M	4.5E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-08
	Total PCBs	0.0693	mg/kg	0.0693	mg/kg	M	1.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.5E-06
											1.2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.53E-05

TABLE 8B.2.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.209	mg/kg	0.209	mg/kg	M	1.2E-05	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.8E-06
	Hexachlorobutadiene	0.695	mg/kg	0.695	mg/kg	M	3.8E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.0E-07
	DDE	0.00476	mg/kg	0.00476	mg/kg	M	2.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8.9E-09
											2.2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.51E-06

TABLE 8B.2.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Hexachlorobutadiene	0.125	mg/kg	0.125	mg/kg	M	1.5E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.2E-07
											1.2E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.18E-05

TABLE 8B.2.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.807	mg/kg	0.807	mg/kg	M	9.6E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-05
	Hexachlorobutadiene	4.748	mg/kg	4.748	mg/kg	M	5.6E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.4E-06
	DDE	0.00184	mg/kg	0.00184	mg/kg	M	2.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.4E-09
											2.0E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.18E-05

TABLE 8B.2.5 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.115	mg/kg	0.115	mg/kg	M	1.4E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-06
	Hexachlorobutadiene	0.42	mg/kg	0.42	mg/kg	M	5.0E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.9E-07
	DDD	0.00088	mg/kg	0.00088	mg/kg	M	1.0E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2.5E-09
	DDE	0.00179	mg/kg	0.00179	mg/kg	M	2.1E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.2E-09
	DDT	0.000845	mg/kg	0.000845	mg/kg	M	1.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.4E-09
	Chlordane	0.00345	mg/kg	0.00345	mg/kg	M	4.1E-08	mg/kg-day	3.5E-01	$(mg/kg\text{-}day)^{-1}$	1.4E-08
	Dieldrin	0.00082	mg/kg	0.00082	mg/kg	M	9.7E-09	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1.6E-07
											3.3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.18E-05

TABLE 8B.2.6 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT RECREATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion Sediment (Adult Recreational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	1.3E-09	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-09
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	3.0E-10	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.3E-11
											2.1E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx6.04E-09

TABLE 8B.2.7 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT RECREATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult Recreational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	1.2E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.9E-09
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	2.7E-09	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.1E-11
											1.9E-09

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.51E-08

TABLE 8B.2.8 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS FOR ADULT OCCUPATIONAL INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hqzard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adult Occupational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	3.6E-10	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.7E-10
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	8.2E-11	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.4E-12
											5.8E-10

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.68E-09

TABLE 8B.2.9 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
CHANNELS ADULT OCCUPATIONAL DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Worker Researcher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult Occupational)	Hexachlorobenzene	0.213	mg/kg	0.213	mg/kg	M	3.3E-09	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.2E-10
	Hexachlorobutadiene	0.0488	mg/kg	0.0488	mg/kg	M	7.5E-10	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	5.8E-12
											5.2E-10

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.53E-08

TABLE 8B.3.1.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	2.6E-07	mg/kg-day	1.6+00	$(mg/kg\text{-}day)^{-1}$	4.2E-07
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	1.0E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.1E-08
	DDE	0.00096	mg/kg	0.00096	mg/kg	M	3.5E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.2E-09
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	8.1E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-07
											6.7E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.60E-06

TABLE 8B.3.1.2 CT
CALCULATION OF CANCER RISKS
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adolescent)	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	2.6E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.0E-08
											2.0E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.71E-06

TABLE 8B.3.1.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	6.6E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	9.8E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	7.6E-07
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	4.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-07
											2.0E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.71E-06

TABLE 8B.3.1.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Whole Body Crawfish (Adolescent)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	9.3E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-07
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	8.6E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.7E-08
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	3.9E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-08
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	1.9E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4.6E-08
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	4.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-07
											4.3E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.71E-06

TABLE 8B.3.2.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	4.0E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	6.5E-07
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	1.6E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	DDE	0.00096	mg/kg	0.00096	mg/kg	M	5.3E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-09
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	1.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.5E-07
											1.0E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.51E-06

TABLE 8B.3.2.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	3.7E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.9E-08
										Total Risk Across All Exposure Routes/Pathways	2.9E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.10E-05

TABLE 8B.3.2.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	9.4E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-06
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	1.4E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	6.4E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.2E-07
										Total Risk Across All Exposure Routes/Pathways	2.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.10E-05

TABLE 8B.3.2.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	1.3E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-07
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	1.2E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	9.6E-08
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	5.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.9E-08
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	2.7E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6.6E-08
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	6.4E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.2E-07
										Total Risk Across All Exposure Routes/Pathways	6.1E-07

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.10E-05

TABLE 8B.3.3.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0733	mg/kg	0.0733	mg/kg	M	6.7E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.1E-06
	Hexachlorobutadiene	0.29	mg/kg	0.29	mg/kg	M	2.6E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.1E-07
	DDE	0.00096	mg/kg	0.00096	mg/kg	M	8.8E-09	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.0E-09
	Total PCBs	0.0226	mg/kg	0.0226	mg/kg	M	2.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.1E-07
										Total Risk Across All Exposure Routes/Pathways	1.7E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx9.11E-06

TABLE 8B.3.3.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Integrated)	Hexachlorobutadiene	0.0334	mg/kg	0.0334	mg/kg	M	6.3E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.9E-08
										Total Risk Across All Exposure Routes/Pathways	4.9E-08

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.87E-05

TABLE 8B.3.3.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0852	mg/kg	0.0852	mg/kg	M	1.6E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-06
	Hexachlorobutadiene	1.266	mg/kg	1.266	mg/kg	M	2.4E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.9E-06
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	1.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.7E-07
										Total Risk Across All Exposure Routes/Pathways	4.8E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.87E-05

TABLE 8B.3.3.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
NORTH SWAMP INTEGRATED INGESTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0121	mg/kg	0.0121	mg/kg	M	2.3E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.6E-07
	Hexachlorobutadiene	0.112	mg/kg	0.112	mg/kg	M	2.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.6E-07
	DDT	0.00506	mg/kg	0.00506	mg/kg	M	9.5E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.2E-08
	DDD	0.0248	mg/kg	0.0248	mg/kg	M	4.6E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1.1E-07
	DDE	0.0581	mg/kg	0.0581	mg/kg	M	1.1E-06	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.7E-07
										Total Risk Across All Exposure Routes/Pathways	1.0E-06

(1) Medium-Specific (M) EPC selected for hazard calculation.
(2) EPCx1.87E-05

TABLE 8B.4.1.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adolescent)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	4.1E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	6.5E-07
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	2.4E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.9E-07
	DDE	0.0114	mg/kg	0.0114	mg/kg	M	3.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	6.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1.3E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.33E-05

TABLE 8B.4.1.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Large Mouth Bass (Adolescent)	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	1.3E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-07
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	6.8E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	5.3E-08
	DDE	0.00164	mg/kg	0.00164	mg/kg	M	1.2E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4.0E-09
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	6.9E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-06
										Total Risk Across All Exposure Routes/Pathways	1.7E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.20E-06

TABLE 8B.4.1.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adolescent)	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	1.4E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-06
										Total Risk Across All Exposure Routes/Pathways	2.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.54E-05

TABLE 8B.4.1.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	5.2E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.3E-07
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	5.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.0E-07
	DDE	0.00952	mg/kg	0.00952	mg/kg	M	1.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.0E-08
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	3.8E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7.7E-05
										Total Risk Across All Exposure Routes/Pathways	7.8E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.54E-05

TABLE 8B.4.1.5 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	7.5E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	4.5E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.5E-08
	DDT	0.00126	mg/kg	0.00126	mg/kg	M	1.9E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6.6E-09
	DDD	0.00255	mg/kg	0.00255	mg/kg	M	3.9E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	9.4E-09
	DDE	0.00928	mg/kg	0.00928	mg/kg	M	1.4E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	4.9E-08
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	7.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-06
										Total Risk Across All Exposure Routes/Pathways	1.6E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.54E-05

TABLE 8B.4.1.6 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adolescent)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	7.0E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	5.1E-09
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	4.5E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	3.3E-08
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	1.4E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-08
										Total Risk Across All Exposure Routes/Pathways	6.7E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.25E-08

TABLE 8B.4.1.7 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adolescent)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	4.3E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4.1E-08
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	2.8E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2.7E-07
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	8.8E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.5E-07
										Total Risk Across All Exposure Routes/Pathways	5.5E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.39E-06

TABLE 8B.4.2.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	6.2E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	9.9E-07
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	3.7E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.9E-07
	DDE	0.0114	mg/kg	0.0114	mg/kg	M	5.8E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-07
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	9.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.8E-05
										Total Risk Across All Exposure Routes/Pathways	2.0E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.07E-05

TABLE 8B.4.2.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	2.0E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.2E-07
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	1.0E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.1E-08
	DDE	0.00164	mg/kg	0.00164	mg/kg	M	1.8E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	6.1E-09
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-06
										Total Risk Across All Exposure Routes/Pathways	2.5E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.10E-05

TABLE 8B.4.2.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Adult)	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	2.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.3E-06
										Total Risk Across All Exposure Routes/Pathways	4.3E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.37E-05

TABLE 8B.4.2.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	8.0E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.3E-06
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	7.8E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	6.1E-07
	DDE	0.00952	mg/kg	0.00952	mg/kg	M	2.3E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.7E-08
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	5.9E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-04
										Total Risk Across All Exposure Routes/Pathways	1.2E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.37E-05

TABLE 8B.4.2.5 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	1.1E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.8E-07
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	6.9E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	5.4E-08
	DDT	0.00126	mg/kg	0.00126	mg/kg	M	3.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	DDD	0.00255	mg/kg	0.00255	mg/kg	M	6.0E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1.5E-08
	DDE	0.00928	mg/kg	0.00928	mg/kg	M	2.2E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	7.5E-08
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	1.1E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.2E-06
										Total Risk Across All Exposure Routes/Pathways	2.5E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.37E-05

TABLE 8B.4.2.6 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Adult)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	3.8E-09	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	2.8E-09
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	2.4E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	1.8E-08
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	7.6E-09	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-08
										Total Risk Across All Exposure Routes/Pathways	3.6E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.21E-08

TABLE 8B.4.2.7 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE ADULT DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Adult)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	3.4E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	3.3E-09
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	2.2E-08	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-08
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	6.9E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.9E-08
										Total Risk Across All Exposure Routes/Pathways	4.4E-08

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.10E-07

TABLE 8B.4.3.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0122	mg/kg	0.0122	mg/kg	M	1.0E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.6E-06
	Hexachlorobutadiene	0.0731	mg/kg	0.0731	mg/kg	M	6.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	4.8E-07
	DDE	0.0114	mg/kg	0.0114	mg/kg	M	9.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.3E-07
	Total PCBs	0.182	mg/kg	0.182	mg/kg	M	1.5E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.1E-05
										Total Risk Across All Exposure Routes/Pathways	3.1E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx8.40E-05

TABLE 8B.4.3.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.018	mg/kg	0.018	mg/kg	M	3.3E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.2E-07
	Hexachlorobutadiene	0.0945	mg/kg	0.0945	mg/kg	M	1.7E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	DDE	0.00164	mg/kg	0.00164	mg/kg	M	3.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	Total PCBs	0.0964	mg/kg	0.0964	mg/kg	M	1.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.5E-06
										Total Risk Across All Exposure Routes/Pathways	4.2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.82E-05

TABLE 8B.4.3.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH TAILS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Tails
Exposure Medium: Crawfish Tails
Exposure Point: Ingestion of Crawfish Tails
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Tails (Integrated)	Total PCBs	0.0899	mg/kg	0.0899	mg/kg	M	3.5E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7.0E-06
										Total Risk Across All Exposure Routes/Pathways	7.0E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.91E-05

TABLE 8B.4.3.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0338	mg/kg	0.0338	mg/kg	M	1.3E-06	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	2.1E-06
	Hexachlorobutadiene	0.331	mg/kg	0.331	mg/kg	M	1.3E-05	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.0E-06
	DDE	0.00952	mg/kg	0.00952	mg/kg	M	3.7E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Total PCBs	2.48	mg/kg	2.48	mg/kg	M	9.7E-05	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.9E-04
										Total Risk Across All Exposure Routes/Pathways	2.0E-04

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.91E-05

TABLE 8B.4.3.5 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0048	mg/kg	0.0048	mg/kg	M	1.9E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.0E-07
	Hexachlorobutadiene	0.0292	mg/kg	0.0292	mg/kg	M	1.1E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.9E-08
	DDT	0.00126	mg/kg	0.00126	mg/kg	M	4.9E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.7E-08
	DDD	0.00255	mg/kg	0.00255	mg/kg	M	1.0E-07	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	2.4E-08
	DDE	0.00928	mg/kg	0.00928	mg/kg	M	3.6E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.2E-07
	Total PCBs	0.0454	mg/kg	0.0454	mg/kg	M	1.8E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.6E-06
										Total Risk Across All Exposure Routes/Pathways	4.1E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.91E-05

TABLE 8B.4.3.6 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED INGESTION OF SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Incidental Ingestion of Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Sediment (Integrated)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	1.1E-08	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	7.9E-09
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	7.0E-09	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	5.1E-08
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	2.2E-08	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.4E-08
										Total Risk Across All Exposure Routes/Pathways	1.0E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.46E-08

TABLE 8B.4.3.7 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED DERMAL CONTACT WITH SEDIMENT

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Dermal Contact with Sediment
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal Contact with Sediment (Integrated)	Benzo(a)anthracene	0.312	mg/kg	0.312	mg/kg	M	4.6E-07	mg/kg-day	7.3E-01	$(mg/kg\text{-}day)^{-1}$	4.3E-08
	Benzo(b)pyrene	0.201	mg/kg	0.201	mg/kg	M	2.9E-07	mg/kg-day	7.3E+00	$(mg/kg\text{-}day)^{-1}$	2.8E-07
	Total PCBs	0.63	mg/kg	0.63	mg/kg	M	9.2E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.6E-07
										Total Risk Across All Exposure Routes/Pathways	5.8E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.46E-06

TABLE 8B.5.1.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion in Catfish (Adolescent)	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	2.1E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	3.4E-07
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	1.7E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	5.8E-08	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	9.8E-07
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	5.8E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	9.3E-07
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	7.6E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.5E-06
										Total Risk Across All Exposure Routes/Pathways	3.9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.33E-05

TABLE 8B.5.1.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Largemouth Bass
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adolescent)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	3.1E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.0E-08
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	2.3E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.7E-06
										Total Risk Across All Exposure Routes/Pathways	4.7E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx7.20E-06

TABLE 8B.5.1.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adolescent)	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	3.4E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.4E-08
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	1.0E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	8.1E-09
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	2.0E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	4.0E-07
										Total Risk Across All Exposure Routes/Pathways	4.7E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.54E-05

TABLE 8B.5.1.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adolescent)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	3.5E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.7E-08
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	1.9E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.5E-08
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	2.4E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.3E-08
	DDD	0.00109	mg/kg	0.00109	mg/kg	M	1.7E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	4.0E-09
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	9.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	3.3E-08
										Total Risk Across All Exposure Routes/Pathways	1.2E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.54E-05

TABLE 8B.5.2.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Adult)	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	3.2E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	5.1E-07
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	2.6E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.0E-07
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	8.8E-08	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	1.5E-06
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	8.9E-08	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	1.4E-06
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	1.2E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.3E-06
										Total Risk Across All Exposure Routes/Pathways	5.9E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx5.07E-05

TABLE 8B.5.2.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Adult)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	4.7E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	7.6E-08
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	3.6E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	7.2E-06
										Total Risk Across All Exposure Routes/Pathways	7.2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.1E-05

TABLE 8B.5.2.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Adult)	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	5.2E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.3E-08
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	1.6E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	1.2E-08
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	3.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	6.2E-07
										Total Risk Across All Exposure Routes/Pathways	7.2E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.37E-05

TABLE 8B.5.2.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP ADULT CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Adult)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	5.4E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.7E-08
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	2.9E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.3E-08
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	3.6E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	1.2E-08
	DDE	0.00109	mg/kg	0.00109	mg/kg	M	2.6E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	6.2E-09
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	1.5E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	5.0E-08
										Total Risk Across All Exposure Routes/Pathways	1.8E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx2.37E-05

TABLE 8B.5.3.1 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF CATFISH

Scenario Timeframe: Current/Future
Medium: Other - Catfish Tissue
Exposure Medium: Catfish Tissue
Exposure Point: Ingestion of Catfish Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Catfish (Integrated)	Hexachlorobenzene	0.0063	mg/kg	0.0063	mg/kg	M	5.3E-07	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	8.5E-07
	Hexachlorobutadiene	0.051	mg/kg	0.051	mg/kg	M	4.3E-06	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.3E-07
	Aldrin	0.00174	mg/kg	0.00174	mg/kg	M	1.5E-07	mg/kg-day	1.7E+01	$(mg/kg\text{-}day)^{-1}$	2.5E-06
	Dieldrin	0.00175	mg/kg	0.00175	mg/kg	M	1.5E-07	mg/kg-day	1.6E+01	$(mg/kg\text{-}day)^{-1}$	2.4E-06
	Total PCBs	0.0228	mg/kg	0.0228	mg/kg	M	1.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	3.8E-06
										Total Risk Across All Exposure Routes/Pathways	9.8E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx8.40E-05

TABLE 8B.5.3.2 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF LARGEMOUTH BASS

Scenario Timeframe: Current/Future
Medium: Other - Bass Tissue
Exposure Medium: Bass Tissue
Exposure Point: Ingestion of Bass Tissue
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Largemouth Bass (Integrated)	Hexachlorobenzene	0.0043	mg/kg	0.0043	mg/kg	M	7.8E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.3E-07
	Total PCBs	0.325	mg/kg	0.325	mg/kg	M	5.9E-06	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.2E-05
										Total Risk Across All Exposure Routes/Pathways	1.2E-05

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx1.82E-05

TABLE 8B.5.3.3 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF CRAWFISH HEADS

Scenario Timeframe: Current/Future
Medium: Other - Crawfish Heads
Exposure Medium: Crawfish Heads
Exposure Point: Ingestion of Crawfish Heads
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Heads (Integrated)	Hexachlorobenzene	0.0022	mg/kg	0.0022	mg/kg	M	8.6E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	Hexachlorobutadiene	0.0067	mg/kg	0.0067	mg/kg	M	2.6E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	Total PCBs	0.0131	mg/kg	0.0131	mg/kg	M	5.1E-07	mg/kg-day	2.0E+00	$(mg/kg\text{-}day)^{-1}$	1.0E-06
										Total Risk Across All Exposure Routes/Pathways	1.2E-06

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.91E-05

TABLE 8B.5.3.4 CT
CALCULATION OF CANCER RISKS
CENTRAL TENDENCY
SOUTH SWAMP INTEGRATED CONSUMPTION OF WHOLE BODY CRAWFISH

Scenario Timeframe: Current/Future
Medium: Other - Whole Body Crawfish
Exposure Medium: Whole Body Crawfish
Exposure Point: Ingestion of Whole Body Crawfish
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Cancer) (2)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion of Crawfish Whole Body (Integrated)	Hexachlorobenzene	0.0023	mg/kg	0.0023	mg/kg	M	9.0E-08	mg/kg-day	1.6E+00	$(mg/kg\text{-}day)^{-1}$	1.4E-07
	Hexachlorobutadiene	0.0124	mg/kg	0.0124	mg/kg	M	4.9E-07	mg/kg-day	7.8E-02	$(mg/kg\text{-}day)^{-1}$	3.8E-08
	DDT	0.00152	mg/kg	0.00152	mg/kg	M	6.0E-08	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	2.0E-08
	DDD	0.00109	mg/kg	0.00109	mg/kg	M	4.3E-08	mg/kg-day	2.4E-01	$(mg/kg\text{-}day)^{-1}$	1.0E-08
	DDE	0.00621	mg/kg	0.00621	mg/kg	M	2.4E-07	mg/kg-day	3.4E-01	$(mg/kg\text{-}day)^{-1}$	8.3E-08
										Total Risk Across All Exposure Routes/Pathways	2.9E-07

(1) Medium-Specific (M) EPC selected for risk calculation.
(2) EPCx3.91E-05

TABLE 9A.1 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

NORTH BAYOU ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Hexachlorobenzene	1.7E-08	NA	NA	1.7E-08	Hexachlorobenzene	Liver	7.5E-05	NA	NA	0.00075
		Sediments	Hexachlorobenzene	NA	NA	1.0E-07	1.0E-07	Hexachlorobenzene	Liver	NA	NA	4.7E-04	0.00047
	Tissue	Catfish	Hexachlorobenzene	8.5E-06	NA	NA	8.5E-06	Hexachlorobenzene	Liver	3.9E-02	NA	NA	0.039
			Hexachlorobutadiene	1.8E-06	NA	NA	1.8E-06	Hexachlorobutadiene	Kidney	6.8E-01	NA	NA	0.68
			DDE	2.6E-08	NA	NA	2.6E-08	1,2,3,5-Tetra CB	Kidney	1.3E-02	NA	NA	0.013
			Total PCBs	9.8E-06	NA	NA	9.8E-06	Total PCBs	Immune Sys	1.4E+00	NA	NA	1.4
		Largemouth Bass	Hexachlorobenzene	2.2E-06	NA	NA	2.2E-06	Hexachlorobenzene	Liver	1.0E-02	NA	NA	0.01
			Hexachlorobutadiene	3.7E-07	NA	NA	3.7E-07	Hexachlorobutadiene	Kidney	1.4E-01	NA	NA	0.14
			DDE	1.1E-08	NA	NA	1.1E-08	1,2,3,5-Tetra CB	Kidney	1.8E-03	NA	NA	0.0018
								Pentachlorobenzene	Kidney	6.20E-03	NA	NA	0.0062
						Total Risk Across All Media and All Exposure Routes	2.3E-05					Total Hazard Index Across All Media and All Exposure Routes	2.3

Total Liver HI =	0.05
Total Immune System HI =	1.4
Total Kidney HI =	0.8

TABLE 9A.2.1 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Hexachlorobenzene	6.6E-08	NA	NA	6.6E-08	Hexachlorobenzene	Liver	1.2E-04	NA	NA	0.00012
			Hexachlorobutadiene	7.7E-10	NA	NA	7.7E-10	Hexachlorobutadiene	Kidney	1.2E-04	NA	NA	0.00012
		Sediments	Hexachlorobenzene	NA	NA	3.0E-08	3.0E-08	Hexachlorobenzene	Liver	NA	NA	5.5E-05	0.000055
			Hexachlorobutadiene	NA	NA	3.5E-10	3.5E-10	Hexachlorobutadiene	Kidney	NA	NA	5.3E-05	0.000053
	Tissue	Catfish	Hexachlorobenzene	2.1E-04	NA	NA	2.1E-04	Hexachlorobenzene	Liver	3.8E-01	NA	NA	0.38
			Hexachlorobutadiene	6.5E-05	NA	NA	6.5E-05	Hexachlorobutadiene	Kidney	9.8E+00	NA	NA	9.8
			DDE	6.8E-08	NA	NA	6.8E-08	Pentachlorobenzene	Kidney	1.4E-01	NA	NA	0.14
			Total PCBs	1.4E-05	NA	NA	1.4E-05	Total PCBs	Immune Sys	8.1E-01	NA	NA	0.81
								1,2,3,5-Tetra CB	Kidney	4.8E-02	NA	NA	0.048
		Largemouth Bass	Hexachlorobenzene	3.0E-05	NA	NA	3.0E-05	Hexachlorobenzene	Liver	5.5E-02	NA	NA	0.055
			Hexachlorobutadiene	6.2E-06	NA	NA	6.2E-06	Hexachlorobutadiene	Kidney	9.3E-01	NA	NA	0.93
			DDE	1.3E-07	NA	NA	1.3E-07	Pentachlorobenzene	Kidney	4.5E-02	NA	NA	0.045
								1,2,3,5-Tetra CB	Kidney	3.2E-02	NA	NA	0.032
		Crawfish Whole (1)	Hexachlorobenzene	3.8E-05	NA	NA	3.8E-05	Hexachlorobenzene	Liver	7.0E-02	NA	NA	0.07
			Hexachlorobutadiene	8.6E-06	NA	NA	8.6E-06	Hexachlorobutadiene	Kidney	1.3E+00	NA	NA	1.3
			Chlordane	2.4E-07	NA	NA	2.4E-07	Chlordane	Liver	3.2E-03	NA	NA	0.0032
			DDE	5.2E-07	NA	NA	5.2E-07	DDT	Liver	1.9E-03	NA	NA	0.0019
								Pentachlorobenzene	Kidney	4.5E-02	NA	NA	0.045
								1,2,3,5-Tetra CB	Kidney	2.6E-02	NA	NA	0.026
			Dieldrin	5.8E-06	NA	NA	5.8E-06	Dieldrin	Liver	1.7E-02	NA	NA	0.017
		Crawfish Heads (2)	Hexachlorobenzene	2.3E-04	NA	NA	2.3E-04	Hexachlorobenzene	Liver	4.2E-01	NA	NA	0.42
			Hexachlorobutadiene	6.0E-05	NA	NA	6.0E-05	Hexachlorobutadiene	Kidney	9.0E+00	NA	NA	9
			DDE	3.1E-07	NA	NA	3.1E-07	Pentachlorobenzene	Kidney	6.9E-02	NA	NA	0.069
								1,2,3,5- Tetra CB	Kidney	8.3E-02	NA	NA	0.082
		Crawfish Tails (3)	Hexachlorobutadiene	1.2E-06	NA	NA	1.2E-06	Hexachlorobutadiene	Kidney	1.8E-01	NA	NA	0.18
								Pentachlorobenzene	Kidney	1.50E-02	NA	NA	0.015

(1) Total Risk with Whole Body Crawfish	3.8E-04
(2) Total Risk with Crawfish Heads	6.2E-04
(3) Total Risk with Crawfish Tails	3.3E-04

(1) Total Hazard with Whole Body Crawfis	13.7
(2) Total Hazard with Crawfish Heads	21.4
(3) Total Hazard with Crawfish Tails	12.2

(1) Total Liver HI =	0.5
(1) Total Immune System HI =	0.8
(1) Total Kidney HI =	12.0

TABLE 9A.2.2 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT OCCUPATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Worker Researcher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Hexachlorobenzene	3.7E-09	NA	NA	3.7E-09	Hexachlorobenzene	Liver	5.0E-05	NA	NA	0.00005
			Hexachlorobutadiene	4.3E-11	NA	NA	4.3E-11	Hexachlorobutadiene	Kidney	4.8E-05	NA	NA	0.000048
		Sediments	Hexachlorobenzene	NA	NA	NA	NA	Hexachlorobenzene	Liver	4.6E-05	NA	NA	0.000046
			Hexachlorobutadiene	NA	NA	NA	NA	Hexachlorobutadiene	Kidney	4.4E-05	NA	NA	0.000044
			Total Risk Across All Media and All Exposure Routes				3.7E-09	Total Hazard Index Across All Media and All Exposure Routes					0.0002

Total Liver HI = 0.00010
Total Kidney HI = 0.00009

TABLE 9A.3.1 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

NORTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Largemouth Bass	Hexachlorobenzene	8.2E-06	NA	NA	8.2E-06	Hexachlorobenzene	Liver	3.7E-02	NA	NA	0.037
			Hexachlorobutadiene	4.8E-06	NA	NA	4.8E-06	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			DDE	2.0E-08	NA	NA	2.0E-08	Pentachlorobenzene	Kidney	6.1E-02	NA	NA	0.061
			Total PCBs	3.7E-06	NA	NA	3.7E-06	Total PCBs	Immune Sys	5.4E-01	NA	NA	0.54
								1,2,3,5-Tetra CB	Kidney	4.0E-02	NA	NA	0.04
		Crawfish Whole (1)	Hexachlorobenzene	1.2E-06	NA	NA	1.2E-06	Hexachlorobenzene	Liver	5.4E-03	NA	NA	0.0054
			Hexachlorobutadiene	5.6E-07	NA	NA	5.6E-07	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
			DDD	2.3E-07	NA	NA	2.3E-07						
			DDT	6.6E-08	NA	NA	6.6E-08	DDT	Liver	2.3E-03	NA	NA	0.0023
			DDE	7.6E-07	NA	NA	7.6E-07						
		Crawfish Heads (2)	Hexachlorobenzene	7.2E-06	NA	NA	7.2E-06	Hexachlorobenzene	Liver	3.3E-02	NA	NA	0.033
			Hexachlorobutadiene	3.9E-06	NA	NA	3.9E-06	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
			DDE	7.6E-07	NA	NA	7.6E-07	Pentachlorobenzene	Liver	2.4E-02	NA	NA	0.024
		Crawfish Tails (3)	Hexachlorobutadiene	1.7E-07	NA	NA	1.7E-07	Hexachlorobutadiene	Kidney	6.2E-02	NA	NA	0.062

(1) Total Risk with Whole Body Crawfish	2.0E-05	(1) Total Hazard with Whole Body Crawfish	2.7
(2) Total Risk with Crawfish Heads	2.8E-05	(2) Total Hazard with Crawfish Heads	3.9
(3) Total Risk with Crawfish Tails	1.6E-05	(3) Total Hazard with Crawfish Tails	2.4

(1) Total Liver HI =	0.04
(1) Total Immune System HI =	0.5
(1) Total Kidney HI =	2.0

TABLE 9A.3.2 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

NORTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Largemouth Bass	Hexachlorobenzene	2.1E-05	NA	NA	2.1E-05	Hexachlorobenzene	Liver	3.8E-02	NA	NA	0.038
			Hexachlorobutadiene	1.2E-05	NA	NA	1.2E-05	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			DDE	5.2E-08	NA	NA	5.2E-08	Pentachlorobenzene	Kidney	6.3E-02	NA	NA	0.063
			Total PCBs	9.4E-06	NA	NA	9.4E-06	Total PCBs	Immune Sys	5.5E-01	NA	NA	0.55
								1,2,3,5-Tetra CB	Kidney	4.1E-02	NA	NA	0.041
		Crawfish Whole (1)	Hexachlorobenzene	3.0E-06	NA	NA	3.0E-06	Hexachlorobenzene	Liver	5.5E-03	NA	NA	0.0055
			Hexachlorobutadiene	1.4E-06	NA	NA	1.4E-06	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
			DDD	5.8E-07	NA	NA	5.8E-07	Pentachlorobenzene	Kidney	1.1E-02	NA	NA	0.011
			DDT	1.7E-07	NA	NA	1.7E-07	DDT	Liver	2.3E-03	NA	NA	0.0023
			DDE	1.9E-06	NA	NA	1.9E-06						
		Crawfish Heads (2)	Hexachlorobenzene	1.8E-05	NA	NA	1.8E-05	Hexachlorobenzene	Liver	3.3E-02	NA	NA	0.033
			Hexachlorobutadiene	9.9E-06	NA	NA	9.9E-06	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
			DDE	1.9E-06	NA	NA	1.9E-06	Pentachlorobenzene	Kidney	2.5E-02	NA	NA	0.025
		Crawfish Tails (3)	Hexachlorobutadiene	4.2E-07	NA	NA	4.2E-07	Hexachlorobutadiene	Kidney	6.3E-02	NA	NA	0.063

(1) Total Risk with Whole Body Crawfish	5.0E-05
(2) Total Risk with Crawfish Heads	7.2E-05
(3) Total Risk with Crawfish Tails	4.3E-05

(1) Total Hazard with Whole Body Crawfish	2.7
(2) Total Hazard with Crawfish Heads	4.0
(3) Total Hazard with Crawfish Tails	2.6

(1)Total Liver HI =	0.04
(1) Total Immune System HI =	0.6
(1) Total Kidney HI =	2.1

TABLE 9A.3.3 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

NORTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Largemouth Bass	Hexachlorobenzene	2.9E-05	NA	NA	2.9E-05	Hexachlorobenzene	Liver	3.8E-02	NA	NA	0.038
			Hexachlorobutadiene	1.7E-05	NA	NA	1.7E-05	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			DDE	7.2E-08	NA	NA	7.2E-08	Pentachlorobenzene	Kidney	6.2E-02	NA	NA	0.062
			Total PCBs	1.3E-05	NA	NA	1.3E-05	Total PCBs	Immune Sys	5.4E-01	NA	NA	0.54
								1,2,3,5-Tetra CB	Kidney	4.1E-02	NA	NA	0.041
		Crawfish Whole (1)	Hexachlorobenzene	4.2E-06	NA	NA	4.2E-06	Hexachlorobenzene	Liver	5.5E-03	NA	NA	0.0055
			Hexachlorobutadiene	2.0E-06	NA	NA	2.0E-06	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
			DDD	8.1E-07	NA	NA	8.1E-07	Pentachlorobenzene	Kidney	1.1E-02	NA	NA	0.011
			DDT	2.3E-07	NA	NA	2.3E-07	DDT	Liver	2.3E-03	NA	NA	0.0023
			DDE	2.7E-06	NA	NA	2.7E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.6E-05	NA	NA	2.6E-05	Hexachlorobenzene	Liver	3.3E-02	NA	NA	0.033
			Hexachlorobutadiene	1.4E-05	NA	NA	1.4E-05	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
			DDT	2.3E-07	NA	NA	2.3E-07	Pentachlorobenzene	Kidney	2.4E-02	NA	NA	0.024
			DDD	8.1E-07	NA	NA	8.1E-07						
			DDE	2.7E-06	NA	NA	2.7E-06						
		Crawfish Tails (3)	Hexachlorobutadiene	5.9E-07	NA	NA	5.9E-07	Hexachlorobutadiene	Kidney	6.3E-02	NA	NA	0.063

(1) Total Risk with Whole Body Crawfish	6.9E-05	(1) Total Hazard with Whole Body Crawfish	2.7
(2) Total Risk with Crawfish Heads	1.0E-04	(2) Total Hazard with Crawfish Heads	4.3
(3) Total Risk with Crawfish Tails	6.0E-05	(3) Total Hazard with Crawfish Tails	2.4

(1) Total Liver HI =	0.04
(1) Total Immune System HI =	0.5
(1) Total Kidney HI =	2.1

TABLE 9A.4.1 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Benzo(a)anthracene	1.7E-08	NA	1.30E-07	1.5E-07	Total PCBs	Immune Sys	1.4E-02	NA	NA	0.014
			Benzo(a)pyrene	9.2E-08	NA	7.40E-07	8.3E-07						
			Total PCBs	9.7E-08	NA	8.4E-07	9.4E-07	Total PCBs	Immune Sys	NA	NA	1.4E-01	0.14
	Tissue	Catfish	Hexachlorobenzene	7.8E-06	NA	NA	7.8E-06	Hexachlorobenzene	Liver	3.5E-02	NA	NA	0.035
			Hexachlorobutadiene	1.9E-06	NA	NA	1.9E-06	Hexachlorobutadiene	Kidney	6.9E-01	NA	NA	0.69
			DDE	3.6E-07	NA	NA	3.6E-07	1,2,3,5-Tetra CB	Kidney	1.5E-02	NA	NA	0.015
			Total PCBs	4.4E-05	NA	NA	4.4E-05	Total PCBs	Immune Sys	6.4E+00	NA	NA	6.4
		Largemouth Bass	Hexachlorobenzene	2.8E-06	NA	NA	2.8E-06	Hexachlorobenzene	Liver	1.3E-02	NA	NA	0.013
			Hexachlorobutadiene	1.7E-06	NA	NA	1.7E-06	Hexachlorobutadiene	Kidney	6.3E-01	NA	NA	0.63
			DDE	1.1E-07	NA	NA	1.1E-07	Pentachlorobenzene	Kidney	1.3E-02	NA	NA	0.013
			Total PCBs	2.9E 05	NA	NA	2.9E-05	Total PCBs	Immune Sys	4.2E+00	NA	NA	4.2
								1,2,3,5-Tetra CB	Kidney	2.1E-02	NA	NA	0.021
		Crawfish Whole (1)	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06	Hexachlorobenzene	Liver	4.6E-03	NA	NA	0.0046
			Hexachlorobutadiene	8.4E-07	NA	NA	8.4E-07	Hexachlorobutadiene	Kidney	3.2E-01	NA	NA	0.32
			DDD	6.0E-07	NA	NA	6.0E-07	Pentachlorobenzene	Kidney	3.7E-02	NA	NA	0.037
			DDE	2.3E-06	NA	NA	2.3E-06	DDT	Liver	7.0E-03	NA	NA	0.007
			DDT	2.0E-07	NA	NA	2.0E-07						
			Total PCBs	9.8E-05	NA	NA	9.8E-05	Total PCBs	Immune Sys	1.4E+01	NA	NA	14
		Crawfish Heads (2)	Hexachlorobenzene	6.1E-06	NA	NA	6.1E-06	Hexachlorobenzene	Liver	2.8E-02	NA	NA	0.028
			Hexachlorobutadiene	2.5E-06	NA	NA	2.5E-06	Hexachlorobutadiene	Kidney	9.5E-01	NA	NA	0.95
			DDE	2.5E-07	NA	NA	2.5E-07	Pentachlorobenzene	Kidney	3.4E-02	NA	NA	0.034
								1,2,3,5-Tetra CB	Kidney	6.7E-02	NA	NA	0.067
			Total PCBs	8.9E-04	NA	NA	8.9E-04	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	2.4E-05	NA	NA	2.4E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	1.9E-04
(2) Total Risk with Crawfish Heads	9.9E-04
(3) Total Risk with Crawfish Tails	1.1E-04

(1) Total Hazard with Whole Body Crawfish	26.5
(2) Total Hazard with Crawfish Heads	143.2
(3) Total Hazard with Crawfish Tails	15.7

(1) Total Liver HI =	0.05
(1) Total Immune System HI =	24.8
(1) Total Kidney HI =	1.6

TABLE 9A.4.2 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Benzo(a)anthracene	3.0E-08	NA	1.8E-08	4.8E-08	Total PCBs	Immune Sys	1.2E-02	NA	NA	0.012
			Benzo(a)pyrene	1.6E-07	NA	9.8E-08	2.6E-07						
			Total PCBs	1.7E-07	NA	1.1E-07	2.8E-07	Total PCBs	Immune Sys	NA	NA	6.4E-03	0.0064
	Tissue	Catfish	Hexachlorobenzene	2.0E-05	NA	NA	2.0E-05	Hexachlorobenzene	Liver	3.6E-02	NA	NA	0.036
			Hexachlorobutadiene	4.7E-06	NA	NA	4.7E-06	Hexachlorobutadiene	Kidney	7.1E-01	NA	NA	0.71
			DDE	9.3E-07	NA	NA	9.3E-07	1,2,4,5-Tetra CB	Kidney	1.5E-02	NA	NA	0.015
			Total PCBs	1.1E-04	NA	NA	1.1E-04	Total PCBs	Immune Sys	6.6E+00	NA	NA	6.6
		Largemouth Bass	Hexachlorobenzene	7.1E-06	NA	NA	7.1E-06	Hexachlorobenzene	Liver	1.3E-02	NA	NA	0.013
			Hexachlorobutadiene	4.3E-06	NA	NA	4.3E-06	Hexachlorobutadiene	Kidney	6.4E-01	NA	NA	0.64
			DDE	2.8E-07	NA	NA	2.8E-07	Pentachlorobenzene	Kidney	1.4E-02	NA	NA	0.014
			Total PCBs	7.4E-05	NA	NA	7.4E-05	Total PCBs	Immune Sys	4.3E+00	NA	NA	4.3
								1,2,4,5-Tetra CB	Kidney	2.1E-02	NA	NA	0.021
		Crawfish Whole (1)	Hexachlorobenzene	2.6E-06	NA	NA	2.6E-06	Hexachlorobenzene	Liver	4.7E-03	NA	NA	0.0047
			Hexachlorobutadiene	2.2E-06	NA	NA	2.2E-06	Hexachlorobutadiene	Kidney	3.2E-01	NA	NA	0.32
			DDD	1.5E-06	NA	NA	1.5E-06	Pentachlorobenzene	Kidney	3.7E-02	NA	NA	0.037
			DDE	5.7E-06	NA	NA	5.7E-06	DDT	Liver	7.0E-03	NA	NA	0.007
			DDT	5.2E-07	NA	NA	5.2E-07						
			Total PCBs	2.5E-04	NA	NA	2.5E-04	Total PCBs	Immune Sys	1.5E+01	NA	NA	15
		Crawfish Heads (2)	Hexachlorobenzene	1.6E-05	NA	NA	1.6E-05	Hexachlorobenzene	Liver	2.9E-02	NA	NA	0.029
			Hexachlorobutadiene	6.5E-06	NA	NA	6.5E-06	Hexachlorobutadiene	Kidney	9.7E-01	NA	NA	0.97
			DDE	6.3E-07	NA	NA	6.3E-07	Pentachlorobenzene	Kidney	3.5E-02	NA	NA	0.035
								1,2,4,5-Tetra CB	Kidney	6.8E-02	NA	NA	0.068
			Total PCBs	2.3E-03	NA	NA	2.3E-03	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	6.1E-05	NA	NA	6.1E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	4.8E-04
(2) Total Risk with Crawfish Heads	2.5E-03
(3) Total Risk with Crawfish Tails	2.8E-04

(1) Total Hazard with Whole Body Crawfish	27.7
(2) Total Hazard with Crawfish Heads	143.5
(3) Total Hazard with Crawfish Tails	15.9

(1) Total Liver HI =	0.05
(1) Total Immune System HI =	25.9
(1) Total Kidney HI =	1.7

TABLE 9A.4.3 RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediments	Benzo(a)anthracene	4.7E-08	NA	1.40E-07	1.9E-07	Total PCBs	Immune Sys	1.1E-02	NA	NA	0.011
			Benzo(a)pyrene	2.6E-07	NA	7.80E-07	1.0E-06						
			Total PCBs	2.7E-07	NA	8.8E-07	1.2E-06	Total PCBs	Immune Sys	NA	NA	3.9E-02	0.039
	Tissue	Catfish	Hexachlorobenzene	2.8E-05	NA	NA	2.8E-05	Hexachlorobenzene	Liver	3.6E-02	NA	NA	0.036
			Hexachlorobutadiene	6.6E-06	NA	NA	6.6E-06	Hexachlorobutadiene	Kidney	7.0E-01	NA	NA	0.7
			DDE	1.3E-06	NA	NA	1.3E-06	1,2,4,5-Tetra CB	Kidney	1.5E-02	NA	NA	0.015
			Total PCBs	1.6E-04	NA	NA	1.6E-04	Total PCBs	Immune Sys	6.5E+00	NA	NA	6.5
		Largemouth Bass	Hexachlorobenzene	9.8E-06	NA	NA	9.8E-06	Hexachlorobenzene	Liver	1.3E-02	NA	NA	0.013
			Hexachlorobutadiene	6.0E-06	NA	NA	6.0E-06	Hexachlorobutadiene	Kidney	6.4E-01	NA	NA	0.64
			DDE	3.9E-07	NA	NA	3.9E-07	Pentachlorobenzene	Kidney	1.4E-02	NA	NA	0.014
			Total PCBs	1.0E-04	NA	NA	1.0E-04	Total PCBs	Immune Sys	4.3E+00	NA	NA	4.3
								1,2,4,5-Tetra CB	Kidney	2.1E-02	NA	NA	0.021
		Crawfish Whole (1)	Hexachlorobenzene	3.6E-06	NA	NA	3.6E-06	Hexachlorobenzene	Liver	4.7E-03	NA	NA	0.0047
			Hexachlorobutadiene	3.0E-06	NA	NA	3.0E-06	Hexachlorobutadiene	Kidney	3.2E-01	NA	NA	0.32
			DDD	2.1E-06	NA	NA	2.1E-06	Pentachlorobenzene	Kidney	3.8E-02	NA	NA	0.038
			DDE	8.0E-06	NA	NA	8.0E-06	DDT	Liver	7.1E-03	NA	NA	0.0071
			DDT	7.3E-07	NA	NA	7.3E-07						
			Total PCBs	3.5E-04	NA	NA	3.5E-04	Total PCBs	Immune Sys	1.5E+01	NA	NA	15
		Crawfish Heads (2)	Hexachlorobenzene	2.2E-05	NA	NA	2.2E-05	Hexachlorobenzene	Liver	2.8E-02	NA	NA	0.028
			Hexachlorobutadiene	9.0E-06	NA	NA	9.0E-06	Hexachlorobutadiene	Kidney	9.6E-01	NA	NA	0.96
			DDE	6.6E-07	NA	NA	6.6E-07	Pentachlorobenzene	Kidney	3.5E-02	NA	NA	0.035
								1,2,4,5-Tetra CB	Kidney	6.8E-02	NA	NA	0.068
			Total PCBs	3.2E-03	NA	NA	3.2E-03	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	8.5E-05	NA	NA	8.5E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	6.8E-04
(2) Total Risk with Crawfish Heads	3.5E-03
(3) Total Risk with Crawfish Tails	4.0E-04

(1) Total Hazard with Whole Body Crawfish	27.7
(2) Total Hazard with Crawfish Heads	143.4
(3) Total Hazard with Crawfish Tails	15.8

(1) Total Liver HI =	0.05
(1) Total Immune System HI =	25.9
(1) Total Kidney HI =	1.7

TABLE 9A.5.1 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

SOUTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Catfish	Hexachlorobenzene	9.3E-07	NA	NA	9.3E-07	Hexachlorobenzene	Liver	4.2E-03	NA	NA	0.0042
			Hexachlorobutadiene	1.0E-06	NA	NA	1.0E-06	Hexachlorobutadiene	Kidney	3.9E-01	NA	NA	0.39
			Aldrin	2.0E-06	NA	NA	2.0E-06	Aldrin	Liver	2.3E-02	NA	NA	0.023
			Dieldrin	1.9E-06	NA	NA	1.9E-06	Dieldrin	Liver	1.4E-02	NA	NA	0.014
			Total PCBs	1.6E-05	NA	NA	1.6E-05	Total PCBs	Immune Sys	2.3E+00	NA	NA	2.3
		Largemouth Bass	Hexachlorobenzene	4.0E-07	NA	NA	4.0E-07	Hexachlorobenzene	Liver	1.8E-03	NA	NA	0.0018
			Total PCBs	3.8E-05	NA	NA	3.8E-05	Total PCBs	Immune Sys	5.6E+00	NA	NA	5.6
		Crawfish Whole (1)	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06	Hexachlorobenzene	Liver	4.5E-03	NA	NA	0.0045
			Hexachlorobutadiene	3.0E-07	NA	NA	3.0E-07	Hexachlorobutadiene	Kidney	1.1E-01	NA	NA	0.11
			DDT	2.3E-07	NA	NA	2.3E-07	DDT	Liver	7.8E-03	NA	NA	0.0078
			DDD	8.8E-08	NA	NA	8.8E-08						
			DDE	2.9E-07	NA	NA	2.9E-07						
		Crawfish Heads (2)	Hexachlorobenzene	5.9E-07	NA	NA	5.9E-07	Hexachlorobenzene	Liver	2.7E-03	NA	NA	0.0027
			Hexachlorobutadiene	2.6E-07	NA	NA	2.6E-07	Hexachlorobutadiene	Kidney	9.7E-02	NA	NA	0.097
			Total PCBs	4.1E-06	NA	NA	4.1E-06	Total PCBs	Immune Sys	6.0E-01	NA	NA	0.6
								1,2,3,5-Tetra CB	Kidney	2.6E-02	NA	NA	0.026

(1) Total Risk with Whole Body Crawfish	6.2E-05
(2) Total Risk with Crawfish Heads	6.5E-05

(1) Total Hazard with Whole Body Crawfish	8.5
(2) Total Hazard with Crawfish Heads	9.1

(1) Total Liver HI =	0.04
(1) Total Immune System HI =	7.9
(1) Total Kidney HI =	0.5

TABLE 9A.5.2 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

SOUTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Catfish	Hexachlorobenzene	2.4E-06	NA	NA	2.4E-06	Hexachlorobenzene	Liver	4.3E-03	NA	NA	0.0043
			Hexachlorobutadiene	2.6E-06	NA	NA	2.6E-06	Hexachlorobutadiene	Kidney	3.9E-01	NA	NA	0.39
			Aldrin	5.1E-06	NA	NA	5.1E-06	Aldrin	Liver	2.4E-02	NA	NA	0.024
			Dieldrin	4.9E-06	NA	NA	4.9E-06	Dieldrin	Liver	1.4E-02	NA	NA	0.014
			Total PCBs	4.1E-05	NA	NA	4.1E-05	Total PCBs	Immune Sys	2.4E+00	NA	NA	2.4
		Largemouth Bass	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06	Hexachlorobenzene	Liver	1.9E-03	NA	NA	0.0019
			Total PCBs	9.7E-05	NA	NA	9.7E-05	Total PCBs	Immune Sys	5.7E+00	NA	NA	5.7
		Crawfish Whole (1)	Hexachlorobenzene	2.5E-06	NA	NA	2.5E-06	Hexachlorobenzene	Liver	4.6E-03	NA	NA	0.0046
			Hexachlorobutadiene	7.6E-07	NA	NA	7.6E-07	Hexachlorobutadiene	Kidney	1.1E-01	NA	NA	0.11
			DDT	5.8E-07	NA	NA	5.8E-07	DDT	Liver	7.9E-03	NA	NA	0.0079
			DDD	2.2E-07	NA	NA	2.2E-07						
			DDE	7.4E-07	NA	NA	7.4E-07						
		Crawfish Heads (2)	Hexachlorobenzene	1.5E-06	NA	NA	1.5E-06	Hexachlorobenzene	Liver	2.7E-03	NA	NA	0.0027
			Hexachlorobutadiene	6.6E-05	NA	NA	6.6E-07	Hexachlorobutadiene	Kidney	9.9E-02	NA	NA	0.099
			Total PCBs	1.0E-05	NA	NA	1.0E-05	Total PCBs	Immune Sys	6.1E-01	NA	NA	0.61
								1,2,3,5-Tetra CB	Kidney	2.7E-02	NA	NA	0.027

(1) Total Risk with Whole Body Crawfish: 1.6E-04

(2) Total Risk with Crawfish Heads: 1.7E-04

(1) Total Hazard with Whole Body Crawfish: 8.7

(2) Total Hazard with Crawfish Heads: 9.3

(1) Total Liver HI = 0.04

TABLE 9A.5.3 RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

SOUTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Tissue	Catfish	Hexachlorobenzene	3.3E-06	NA	NA	3.3E-06	Hexachlorobenzene	Liver	4.3E-03	NA	NA	0.0043
			Hexachlorobutadiene	3.7E-06	NA	NA	3.7E-06	Hexachlorobutadiene	Kidney	3.9E-01	NA	NA	0.39
			Aldrin	7.2E-06	NA	NA	7.2E-06	Aldrin	Liver	2.3E-02	NA	NA	0.023
			Dieldrin	6.8E-06	NA	NA	6.8E-06	Dieldrin	Liver	1.4E-02	NA	NA	0.014
			Total PCBs	5.7E-05	NA	NA	5.7E-05	Total PCBs	Immune Sys	2.4E+00	NA	NA	2.4
		Largemouth Bass	Hexachlorobenzene	1.4E-06	NA	NA	1.4E-06	Hexachlorobenzene	Liver	1.9E-03	NA	NA	0.0019
			Total PCBs	1.4E-04	NA	NA	1.4E-04	Total PCBs	Immune Sys	5.6E+00	NA	NA	5.6
		Crawfish Whole (1)	Hexachlorobenzene	3.5E-06	NA	NA	3.5E-06	Hexachlorobenzene	Liver	4.6E-03	NA	NA	0.0046
			Hexachlorobutadiene	1.1E-06	NA	NA	1.1E-06	Hexachlorobutadiene	Kidney	1.1E-01	NA	NA	0.11
			DDT	8.0E-07	NA	NA	8.0E-07	DDT	Liver	7.9E-03	NA	NA	0.0079
			DDD	3.1E-07	NA	NA	3.1E-07						
			DDE	1.0E-06	NA	NA	1.0E-06				NA	NA	
		Crawfish Heads (2)	Hexachlorobenzene	2.1E-06	NA	NA	2.1E-05	Hexachlorobenzene	Liver	2.7E-03	NA	NA	0.0027
			Hexachlorobutadiene	9.2E-07	NA	NA	9.2E-07	Hexachlorobutadiene	Kidney	9.8E-02	NA	NA	0.098
								1,2,4,5-Tetra CB	Kidney	2.7E-02	NA	NA	0.027
			Total PCBs	1.5E-05	NA	NA	1.5E-05	Total PCBs	Immune Sys	6.0E-01	NA	NA	0.6

(1) Total Risk with Whole Body Crawfish	2.3E-04
(2) Total Risk with Crawfish Heads	2.6E-04

(1) Total Hazard with Whole Body Crawfish	8.6
(2) Total Hazard with Crawfish Heads	9.2

(1) Total Liver HI =	0.04
(1) Total Immune System HI =	8.0
(1) Total Kidney HI =	0.5

TABLE 9B.1 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

NORTH BAYOU ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Ingestion	Hexachlorobenzene	2.5E-09	NA	NA	2.5E-09	Hexachlorobenzene	Liver	1.2E-05	NA	NA	0.000012
		Dermal	Hexachlorobenzene	NA	NA	1.3E-08	1.3E-08	Hexachlorobenzene	Liver	NA	NA	7.1E-05	0.000071
	Tissue	Catfish	Hexachlorobenzene	8.2E-07	NA	NA	8.2E-07	Hexachlorobenzene	Liver	3.7E-03	NA	NA	0.0037
			Hexachlorobutadiene	6.5E-08	NA	NA	6.5E-08	Hexachlorobutadiene	Kidney	2.4E-02	NA	NA	0.024
			Total PCBs	6.7E-07	NA	NA	6.7E-07	Total PCBs	Immune Sys	9.7E-02	NA	NA	0.097
		Largemouth Bass	Hexachlorobenzene	2.2E-07	NA	NA	2.2E-07	Hexachlorobenzene	Liver	9.8E-04	NA	NA	0.00098
			Hexachlorobutadiene	2.4E-08	NA	NA	2.4E-08	Hexachlorobutadiene	Kidney	9.0E-03	NA	NA	0.009
								Pentachlorobenzene	Liver	1.3E-04	NA	NA	0.00013
								1,2,4,5, Tetrachlorobenzene	Kidney	1.2E-04	NA	NA	0.00012
			Total Risk Across All Media and All Exposure Routes				1.8E-06	Total Hazard Index Across All Media and All Exposure Routes					0.1

Total Liver HI =	0.005
Total Immune System HI =	0.1
Total Kidney HI =	0.03

TABLE 9B.2.1 CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS
CENTRAL TENDENCY
CHANNELS ADULT RECREATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Ingestion	Hexachlorobenzene	2.1E-09	NA	NA	2.1E-09	Hexachlorobenzene	Liver	6.3E-06	NA	NA	0.0000063
			Hexachlorobutadiene	2.3E-11	NA	NA	2.3E-11	Hexachlorobutadiene	Kidney	5.7E-06	NA	NA	0.0000057
		Dermal	Hexachlorobenzene	NA	NA	2.2E-09	2.2E-09	Hexachlorobenzene	Liver	NA	NA	6.5E-06	0.0000065
			Hexachlorobutadiene	NA	NA	2.6E-11	2.6E-11	Hexachlorobutadiene	Kidney	NA	NA	6.5E-06	0.0000065
	Tissue	Catfish	Hexachlorobenzene	8.3E-06	NA	NA	8.3E-06	Hexachlorobenzene	Liver	2.5E-02	NA	NA	0.025
			Hexachlorobutadiene	6.7E-07	NA	NA	6.7E-07	Hexachlorobutadiene	Kidney	1.7E-01	NA	NA	0.17
			DDE	1.5E-08	NA	NA	1.5E-08	1,2,4,5 - Tetra CB	Liver	9.9E-03	NA	NA	0.0099
								Pentachlorobenzene	Liver	3.6E-03	NA	NA	0.0036
			Total PCBs	3.5E-06	NA	NA	3.5E-06	Total PCBs	Immune Sys	3.4E-01	NA	NA	0.34
		Largemouth Bass	Hexachlorobenzene	1.8E-06	NA	NA	1.8E-06	Hexachlorobenzene	Liver	5.6E-03	NA	NA	0.0056
			Hexachlorobutadiene	3.0E-07	NA	NA	3.0E-07	Hexachlorobutadiene	Kidney	7.4E-02	NA	NA	0.074
			DDE	8.9E-09	NA	NA	8.9E-09	1,2,4,5 - Tetra CB	Liver	1.6E-03	NA	NA	0.0016
								Pentachlorobenzene	Liver	2.5E-03	NA	NA	0.0025
		Crawfish Whole (1)	Hexachlorobenzene	2.2E-06	NA	NA	2.2E-06	Hexachlorobenzene	Liver	6.6E-03	NA	NA	0.0066
			Hexachlorobutadiene	3.9E-07	NA	NA	3.9E-07	Hexachlorobutadiene	Kidney	9.7E-02	NA	NA	0.097
			DDE	7.2E-09	NA	NA	7.2E-09	1,2,4,5 - Tetra CB	Liver	1.1E-03	NA	NA	0.0011
								Pentachlorobenzene	Liver	3.6E-03	NA	NA	0.0036
			Dieldrin	1.6E-07	NA	NA	1.6E-07	Dieldrin	Liver	7.6E-04	NA	NA	0.00076
		Crawfish Heads (2)	Hexachlorobenzene	1.5E-05	NA	NA	1.5E-05	Hexachlorobenzene	Liver	4.6E-02	NA	NA	0.046
			Hexachlorobutadiene	4.4E-06	NA	NA	4.4E-06	Hexachlorobutadiene	Kidney	1.1E+00	NA	NA	1.1
			DDE	7.4E-09	NA	NA	7.4E-09	1,2,4,5,- Tetra CB	Liver	1.5E-02	NA	NA	0.015
								Pentachlorobenzene	Liver	1.1E-02	NA	NA	0.011
		Crawfish Tails (3)	Hexachlorobenzene	1.2E-07	NA	NA	1.2E-07	Hexachlorobenzene	Liver	2.9E-02	NA	NA	0.029
								Pentachlorobenzene	Liver	2.6E-03	NA	NA	0.0026

(1) Total Risk with Whole Body Crawfish	1.7E-05
(2) Total Risk with Crawfish Heads	3.4E-05
(3) Total Risk with Crawfish Tails	1.5E-05

(1) Total Risk with Whole Body Crawfish	0.7
(2) Total Risk with Crawfish Heads	1.8
(3) Total Risk with Crawfish Tails	0.7

(1) Total Liver HI =	0.04
(1) Total Immune System HI =	0.3
(1) Total Kidney HI =	0.3

TABLE 9B.2.2 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

CHANNELS ADULT OCCUPATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Worker Researcher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Ingestion	Hexachlorobenzene	5.7E-10	NA	NA	5.7E-10	Hexachlorobenzene	Liver	7.8E-06	NA	NA	0.0000078
			Hexachlorobutadiene	6.4E-12	NA	NA	6.4E-12	Hexachlorobutadiene	Kindey	7.2E-06	NA	NA	0.0000072
		Dermal	Hexachlorobenzene	NA	NA	6.0E-10	6.0E-10	Hexachlorobenzene	Liver	NA	NA	8.2E-06	0.0000082
			Hexachlorobutadiene	NA	NA	7.2E-12	7.2E-12	Hexachlorobutadiene	Kindey	NA	NA	8.1E-06	0.0000081
			Total Risk Across All Media and All Exposure Routes				1.2E-09	Total Hazard Index Across All Media and All Exposure Routes					0.00003

Total Liver HI =	0.00002
Total Immune System HI =	NA
Total Kidney HI =	0.00002

TABLE 9B.3.1 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

NORTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	4.2E-07	NA	NA	4.2E-07	Hexachlorobenzene	Liver	1.9E-03	NA	NA	0.0019
			Hexachlorobutadiene	8.1E-08	NA	NA	8.1E-08	Hexachlorobutadiene	Kidney	3.0E-02	NA	NA	0.03
								1,2,4,5, - Tetra CB	Liver	9.1E-04	NA	NA	0.00091
								Pentachlorobenzene	Liver	7.5E-04	NA	NA	0.00075
			Total PCBs	1.6E-07	NA	NA	1.6E-07	Total PCBs	Immune Sys	2.4E-02	NA	NA	0.024
		Crawfish Whole (1)	Hexachlorobenzene	1.5E-07	NA	NA	1.5E-07	Hexachlorobenzene	Liver	6.8E-04	NA	NA	0.00068
			Hexachlorobutadiene	6.7E-08	NA	NA	6.7E-08	Hexachlorobutadiene	Kidney	2.5E-02	NA	NA	0.025
			DDD	4.6E-08	NA	NA	4.6E-08	DDT	Liver	4.6E-04	NA	NA	0.00046
			DDE	1.5E-07	NA	NA	1.5E-07						
		Crawfish Heads (2)	Hexachlorobenzene	1.1E-06	NA	NA	1.1E-06	Hexachlorobenzene	Liver	4.8E-03	NA	NA	0.0048
			Hexachlorobutadiene	7.6E-07	NA	NA	7.6E-07	Hexachlorobutadiene	Kidney	2.8E-01	NA	NA	0.28
								Pentachlorobenzene	Liver	3.4E-03			0.0034
		Crawfish Tails (3)	Hexachlorobenzene	2.8E-08	NA	NA	2.8E-08	Hexachlorobenzene	Liver	7.5E-03	NA	NA	0.0075

(1) Total Risk with Whole Body Crawfish	1.1E-06
(2) Total Risk with Crawfish Heads	2.5E-06
(3) Total Risk with Crawfish Tails	6.9E-07

(1) Total Risk with Whole Body Crawfish	0.1
(2) Total Risk with Crawfish Heads	0.3
(3) Total Risk with Crawfish Tails	0.07

(1) Total Liver HI =	0.01
(1) Total Immune System HI =	0.02
(1) Total Kidney HI =	0.06

TABLE 9B.3.2 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

NORTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	6.5E-07	NA	NA	6.5E-07	Hexachlorobenzene	Liver	2.0E-03	NA	NA	0.002
			Hexachlorobutadiene	1.2E-07	NA	NA	1.2E-07	Hexachlorobutadiene	Kidney	3.1E-02	NA	NA	0.031
								1,2,4,5, - Tetra CB	Liver	9.3E-04	NA	NA	0.00093
								Pentachlorobenzene	Liver	7.7E-04	NA	NA	0.00077
			Total PCBs	2.5E-07	NA	NA	2.5E-07	Total PCBs	Immune Sys	2.4E-02	NA	NA	0.024
		Crawfish Whole (1)	Hexachlorobenzene	2.1E-07	NA	NA	2.1E-07	Hexachlorobenzene	Liver	6.5E-04	NA	NA	0.00065
			Hexachlorobutadiene	9.6E-08	NA	NA	9.6E-08	Hexachlorobutadiene	Kidney	2.4E-02	NA	NA	0.024
			DDD	6.6E-08	NA	NA	6.6E-08	DDT	Liver	4.3E-04	NA	NA	0.00043
			DDE	2.2E-07	NA	NA	2.2E-07						
		Crawfish Heads (2)	Hexachlorobenzene	1.5E-06	NA	NA	1.5E-06	Hexachlorobenzene	Liver	4.6E-03	NA	NA	0.0046
			Hexachlorobutadiene	1.1E-06	NA	NA	1.1E-06	Hexachlorobutadiene	Kidney	2.7E-01	NA	NA	0.27
			DDE	2.2E-07	NA	NA	2.2E-07	Pentachlorobenzene	Liver	3.2E-03	NA	NA	0.0032
		Crawfish Tails (3)	Hexachlorobutadiene	2.9E-08	NA	NA	2.9E-08	Hexachlorobutadiene	Liver	7.2E-03	NA	NA	0.0072

(1) Total Risk with Whole Body Crawfish	1.6E-06
(2) Total Risk with Crawfish Heads	3.8E-06
(3) Total Risk with Crawfish Tails	1.0E-06

(1) Total Risk with Whole Body Crawfish	0.08
(2) Total Risk with Crawfish Heads	0.3
(3) Total Risk with Crawfish Tails	0.07

(1) Total Liver HI =	0.004
(1) Total Immune System HI =	0.02
(1) Total Kidney HI =	0.06

TABLE 9B.3.3 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

NORTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	1.1E-06	NA	NA	1.1E-06	Hexachlorobenzene	Liver	1.9E-03	NA	NA	0.0019
			Hexachlorobutadiene	2.1E-07	NA	NA	2.1E-07	Hexachlorobutadiene	Kidney	3.1E-02	NA	NA	0.031
								1,2,4,5, - Tetra CB	Liver	9.2E-04	NA	NA	0.00092
								Pentachlorobenzene	Liver	7.6E-04	NA	NA	0.00076
			Total PCBs	4.1E-07	NA	NA	4.1E-07	Total PCBs	Immune Sys	2.4E-02	NA	NA	0.024
		Crawfish Whole (1)	Hexachlorobenzene	3.6E-07	NA	NA	3.6E-07	Hexachlorobenzene	Liver	6.6E-04	NA	NA	0.00066
			Hexachlorobutadiene	1.6E-07	NA	NA	1.6E-07	Hexachlorobutadiene	Kidney	2.4E-02	NA	NA	0.024
			DDD	1.1E-07	NA	NA	1.1E-07	DDT	Liver	4.4E-04	NA	NA	0.00044
			DDE	3.7E-07	NA	NA	3.7E-07	Pentachlorobenzene	Liver	1.1E-03	NA	NA	0.0011
		Crawfish Heads (2)	Hexachlorobenzene	2.6E-06	NA	NA	2.6E-06	Hexachlorobenzene	Liver	4.7E-03	NA	NA	0.0047
			Hexachlorobutadiene	1.9E-06	NA	NA	1.9E-06	Hexachlorobutadiene	Kidney	2.8E-01	NA	NA	0.28
			DDE	3.7E-07	NA	NA	3.7E-07	Pentachlorobenzene	Liver	3.3E-03	NA	NA	0.0033
		Crawfish Tails (3)	Hexachlorobutadiene	4.9E-08	NA	NA	4.9E-08	Hexachlorobutadiene	Liver	7.3E-03	NA	NA	0.0073
								Pentachlorobenzene	Liver	3.60E-04	NA	NA	0.00036

(1) Total Risk with Whole Body Crawfish	2.7E-06
(2) Total Risk with Crawfish Heads	6.6E-06
(3) Total Risk with Crawfish Tails	1.8E-06

(1) Total Risk with Whole Body Crawfish	0.08
(2) Total Risk with Crawfish Heads	0.3
(3) Total Risk with Crawfish Tails	0.07

(1) Total Liver HI =	0.3
(1) Total Immune System HI =	0.02
(1) Total Kidney HI =	0.06

TABLE 9B.4.1 CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Sediment	Benzo(a)anthracene	5.1E-09	NA	4.1E-08	4.6E-08						
			Benzo(b)pyrene	3.3E-08	NA	2.70E-07	3.0E-07						
			Total PCBs	2.8E-08	NA	2.50E-07	2.8E-07	Total PCBs	Immune Sys	4.1E-03	NA	3.6E-02	0.04
	Tissue	Catfish	Hexachlorobenzene	6.5E-07	NA	NA	6.5E-07	Hexachlorobenzene	Liver	3.0E-03	NA	NA	0.003
			Hexachlorobutadiene	1.9E-07	NA	NA	1.9E-07	Hexachlorobutadiene	Kidney	7.1E-02	NA	NA	0.071
			DDE	1.3E-07	NA	NA	1.3E-07	1,2,4,5 -Tetra CB	Kidney	1.6E-03	NA	NA	0.0016
			Total PCBs	7.3E-06	NA	NA	7.3E-06	Total PCBs	Immune Sys	1.1E+00	NA	NA	1.1
		Largemouth Bass	Hexachlorobenzene	2.1E-07	NA	NA	2.1E-07	Hexachlorobenzene	Liver	9.5E-04	NA	NA	0.00095
			Hexachlorobutadiene	5.3E-08	NA	NA	5.3E-08	Hexachlorobutadiene	Kidney	2.0E-02	NA	NA	0.02
			Total PCBs	1.4E-06	NA	NA	1.4E-06	Total PCBs	Immune Sys	2.0E-01	NA	NA	0.2
								Pentachlorobenzene	Kidney	6.1E-04	NA	NA	0.00061
								1,2,4,5 -Tetra CB	Kidney	1.0E-03	NA	NA	0.001
		Crawfish Whole (1)	Hexachlorobenzene	1.2E-07	NA	NA	1.2E-07	Hexachlorobenzene	Liver	5.4E-04	NA	NA	0.00054
			Hexachlorobutadiene	3.5E-08	NA	NA	3.5E-08	Hexachlorobutadiene	Kidney	1.3E-02	NA	NA	0.13
			DDD	9.4E-08	NA	NA	9.4E-09	Pentachlorobenzene	Kidney	1.6E-03	NA	NA	0.0016
			DDE	4.9E-08	NA	NA	4.9E-08						
			Total PCBs	1.4E-06	NA	NA	1.4E-06	Total PCBs	Immune Sys	2.0E-01	NA	NA	0.2
		Crawfish Heads (2)	Hexachlorobenzene	8.3E-07	NA	NA	8.3E-07	Hexachlorobenzene	Liver	3.8E-03	NA	NA	0.0038
			Hexachlorobutadiene	4.0E-07	NA	NA	4.0E-07	Hexachlorobutadiene	Kidney	1.5E-01	NA	NA	0.15
								Pentachlorobenzene	Kidney	5.0E-03	NA	NA	0.005
								1,2,4,5 -Tetra CB	Kidney	1.0E-02	NA	NA	0.01
			Total PCBs	7.7E-05	NA	NA	7.7E-05	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	2.8E-06	NA	NA	2.8E-06	Total PCBs	Immune Sys	4.0E-01	NA	NA	0.4

(1) Total Risk with Whole Body Crawfish	1.2E-05
(2) Total Risk with Crawfish Heads	8.9E-05
(3) Total Risk with Crawfish Tails	1.3E-05

(1) Total Risk with Whole Body Crawfish	1.8
(2) Total Risk with Crawfish Heads	12.6
(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0.004
(1) Total Immune System HI =	1.5
(1) Total Kidney HI =	0.2

TABLE 9B.4.2 CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
DEVIL'S LAKE ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Ingestion	Benzo(a)anthracene	2.8E-09	NA	3.30E-09	6.1E-09						
			Benzo(b)pyrene	1.8E-08	NA	2.10E-08	3.9E-08						
			Total PCBs	1.5E-08	NA	1.90E-08	3.4E-08	Total PCBs	Immune Sys	1.5E-03	NA	1.9E-03	0.0034
	Tissue	Catfish	Hexachlorobenzene	9.9E-07	NA	NA	9.9E-07	Hexachlorobenzene	Liver	3.0E-03	NA	NA	0.003
			Hexachlorobutadiene	2.9E-07	NA	NA	2.9E-07	Hexachlorobutadiene	Kidney	7.2E-02	NA	NA	0.072
			DDE	2.0E-07	NA	NA	2.0E-07	1,2,4,5 -Tetra CB	Kidney	1.6E-03	NA	NA	0.0016
			Total PCBs	1.1E-05	NA	NA	1.1E-05	Total PCBs	Immune Sys	1.1E+00	NA	NA	1.1
		Largemouth Bass	Hexachlorobenzene	3.2E-07	NA	NA	3.2E-07	Hexachlorobenzene	Liver	9.6E-04	NA	NA	0.00096
			Hexachlorobutadiene	8.1E-08	NA	NA	8.1E-08	Hexachlorobutadiene	Kidney	2.0E-02	NA	NA	0.02
								Pentachlorobenzene	Kidney	6.2E-04	NA	NA	0.00062
								1,2,4,5 -Tetra CB	Kidney	1.0E-03	NA	NA	0.001
			Total PCBs	2.1E-06	NA	NA	2.1E-06	Total PCBs	Immune Sys	2.1E-01	NA	NA	0.21
		Crawfish Whole (1)	Hexachlorobenzene	1.8E-07	NA	NA	1.8E-07	Hexachlorobenzene	Liver	5.5E-04	NA	NA	0.00055
			Hexachlorobutadiene	5.4E-08	NA	NA	5.4E-08	Hexachlorobutadiene	Kidney	1.3E-02	NA	NA	0.013
			DDD	1.5E-08	NA	NA	1.5E-08	Pentachlorobenzene	Kidney	1.7E-03	NA	NA	0.0017
			DDE	7.5E-08	NA	NA	7.5E-08	DDT	Liver	2.3E-04	NA	NA	0.00023
			Total PCBs	2.2E-06	NA	NA	2.2E-06	Total PCBs	Immune Sys	2.0E-01	NA	NA	0.2
		Crawfish Heads (2)	Hexachlorobenzene	1.3E-06	NA	NA	1.3E-06	Hexachlorobenzene	Liver	3.9E-03	NA	NA	0.0039
			Hexachlorobutadiene	6.1E-07	NA	NA	6.1E-07	Hexachlorobutadiene	Kidney	1.5E-01	NA	NA	0.15
								Pentachlorobenzene	Kidney	5.1E-03	NA	NA	0.0051
								1,2,4,5 -Tetra CB	Kidney	1.0E-02	NA	NA	0.01
			Total PCBs	1.2E-04	NA	NA	1.2E-04	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	4.3E-06	NA	NA	4.3E-06	Total PCBs	Immune Sys	4.1E-01	NA	NA	0.41

(1) Total Risk with Whole Body Crawfish	1.8E-05
(2) Total Risk with Crawfish Heads	1.4E-04
(3) Total Risk with Crawfish Tails	1.9E-05

(1) Total Risk with Whole Body Crawfish	1.6
(2) Total Risk with Crawfish Heads	12.6
(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0.005
(1) Total Immune System HI =	1.5
(1) Total Kidney HI =	0.1

TABLE 9B.4.3 CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Ingestion	Benzo(a)anthracene	7.9E-09	NA	4.30E-08	5.1E-08						
			Benzo(b)pyrene	5.1E-08	NA	2.80E-07	3.3E-07						
			Total PCBs	4.4E-08	NA	2.60E-07	3.0E-07	Total PCBs	Immune Sys	2.5E-03	NA	1.50E-02	0.018
	Tissue	Catfish	Hexachlorobenzene	1.6E-06	NA	NA	1.6E-06	Hexachlorobenzene	Liver	3.0E-03	NA	NA	0.003
			Hexachlorobutadiene	4.8E-07	NA	NA	4.8E-07	Hexachlorobutadiene	Kidney	7.2E-02	NA	NA	0.072
			DDE	3.3E-07	NA	NA	3.3E-07	1,2,4,5 -Tetra CB	Kidney	1.6E-03	NA	NA	0.0016
			Total PCBs	1.8E-05	NA	NA	1.8E-05	Total PCBs	Immune Sys	1.1E+00	NA	NA	1.1
		Largemouth Bass	Hexachlorobenzene	5.2E-07	NA	NA	5.2E-07	Hexachlorobenzene	Liver	9.6E-04	NA	NA	0.00096
			Hexachlorobutadiene	1.3E-07	NA	NA	1.3E-07	Hexachlorobutadiene	Kidney	2.0E-02	NA	NA	0.02
								1,2,4,5 -Tetra CB	Kidney	1.0E-03	NA	NA	0.001
			Total PCBs	3.5E-06	NA	NA	3.5E-06	Total PCBs	Immune Sys	2.0E-01	NA	NA	0.2
		Crawfish Whole (1)	Hexachlorobenzene	3.0E-07	NA	NA	3.0E-07	Hexachlorobenzene	Liver	5.5E-04	NA	NA	0.00055
			Hexachlorobutadiene	8.9E-08	NA	NA	8.9E-08	Hexachlorobutadiene	Kidney	1.3E-02	NA	NA	0.013
			DDD	2.4E-08	NA	NA	2.4E-08	Pentachlorobenzene	Kidney	1.7E-03	NA	NA	0.0017
			DDE	1.2E-07	NA	NA	1.2E-07	DDT	Liver	2.3E-04	NA	NA	0.00023
			Total PCBs	3.6E-06	NA	NA	3.6E-06	Total PCBs	Immune Sys	2.1E-01	NA	NA	0.21
		Crawfish Heads (2)	Hexachlorobenzene	2.1E-06	NA	NA	2.1E-06	Hexachlorobenzene	Liver	3.9E-03	NA	NA	0.0039
			Hexachlorobutadiene	1.0E-06	NA	NA	1.0E-06	Hexachlorobutadiene	Kidney	1.5E-01	NA	NA	0.15
								Pentachlorobenzene	Kidney	5.0E-03	NA	NA	0.005
								1,2,4,5 -Tetra CB	Kidney	1.0E-02	NA	NA	0.01
			Total PCBs	1.9E-04	NA	NA	1.9E-04	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	7.0E-06	NA	NA	7.0E-06	Total PCBs	Immune Sys	4.1E-01	NA	NA	0.41

(1) Total Risk with Whole Body Crawfish	2.9E-05
(2) Total Risk with Crawfish Heads	2.2E-04
(3) Total Risk with Crawfish Tails	3.2E-05

(1) Total Risk with Whole Body Crawfish	1.6
(2) Total Risk with Crawfish Heads	12.6
(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0.005
(1) Total Immune System HI =	1.5
(1) Total Kidney HI =	0.1

TABLE 9B.5.1 CT
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS
CENTRAL TENDENCY
SOUTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	3.4E-07	NA	NA	3.4E-07	Hexachlorobenzene	Liver	1.5E-03	NA	NA	0.0015
			Hexachlorobutadiene	1.3E-07	NA	NA	1.3E-07	Hexachlorobutadiene	Kidney	4.9E-02	NA	NA	0.049
			Aldrin	9.8E-07	NA	NA	9.8E-07	Aldrin	Liver	1.1E-02	NA	NA	0.011
			Dieldrin	9.3E-07	NA	NA	9.3E-07	Dieldrin	Liver	6.8E-03	NA	NA	0.0068
			Total PCBs	1.5E-06	NA	NA	1.5E-06	Total PCBs	Immune Sys	2.2E-01	NA	NA	0.22
		Largemouth Bass	Hexachlorobenzene	5.0E-08	NA	NA	5.0E-08	Hexachlorobenzene	Liver	2.3E-04	NA	NA	0.00023
			Total PCBs	4.7E-06	NA	NA	4.7E-06	Total PCBs	Kidney	6.8E-01	NA	NA	0.68
		Crawfish Whole (1)	Hexachlorobenzene	5.7E-08	NA	NA	5.7E-08	Hexachlorobenzene	Liver	2.6E-04	NA	NA	0.00026
			Hexachlorobutadiene	1.5E-08	NA	NA	1.5E-08	Hexachlorobutadiene	Kidney	5.6E-03	NA	NA	0.0056
			DDE	3.3E-08	NA	NA	3.3E-08	DDT	Liver	2.7E-04	NA	NA	0.00027
		Crawfish Heads (2)	Hexachlorobenzene	5.4E-08	NA	NA	5.4E-08	Hexachlorobenzene	Liver	2.5E-04	NA	NA	0.00025
			Hexachlorobutadiene	8.1E-09	NA	NA	8.1E-09	Hexachlorobutadiene	Kidney	3.0E-03	NA	NA	0.003
								1,2,4,5-Tetra CB	Kidney	1.1E-03	NA	NA	0.0011
			Total PCBs	4.0E-07	NA	NA	4.0E-07	Total PCBs	Kidney	5.9E-02	NA	NA	0.059

(1) Total Risk with Whole Body Crawfish: 8.7E-06
(2) Total Risk with Crawfish Heads: 9.1E-06

(1) Total Hazard with Whole Body Crawfish: 1.0
(2) Total Hazard with Crawfish Heads: 1.0

(1) Total Liver HI = 0.01
(1) Total Immune System HI = 0.2
(1) Total Kidney HI = 0.7

TABLE 9B.5.2 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

SOUTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	5.1E-07	NA	NA	5.1E-07	Hexachlorobenzene	Liver	1.6E-03	NA	NA	0.0016
			Hexachlorobutadiene	2.0E-07	NA	NA	2.0E-07	Hexachlorobutadiene	Kidney	5.0E-02	NA	NA	0.05
			Aldrin	1.5E-06	NA	NA	1.5E-06	Aldrin	Liver	1.1E-02	NA	NA	0.011
			Dieldrin	1.4E-06	NA	NA	1.4E-06	Dieldrin	Liver	6.9E-03	NA	NA	0.0069
			Total PCBs	2.3E-06	NA	NA	2.3E-06	Total PCBs	Immune Sys	2.2E-01	NA	NA	0.22
		Largemouth Bass	Hexachlorobenzene	7.6E-08	NA	NA	7.6E-08	Hexachlorobenzene	Liver	2.3E-04	NA	NA	0.00023
			Total PCBs	7.2E-06	NA	NA	7.2E-06	Total PCBs	Immune Sys	7.0E-01	NA	NA	0.7
		Crawfish Whole (1)	Hexachlorobenzene	8.7E-08	NA	NA	8.7E-08	Hexachlorobenzene	Liver	2.6E-04	NA	NA	0.00026
			Hexachlorobutadiene	2.3E-08	NA	NA	2.3E-08	Hexachlorobutadiene	Kidney	5.7E-03	NA	NA	0.0057
			DDE	5.0E-08	NA	NA	5.0E-08	DDT	Liver	2.8E-04	NA	NA	0.00028
		Crawfish Heads (2)	Hexachlorobenzene	8.3E-08	NA	NA	8.3E-08	Hexachlorobenzene	Liver	2.5E-04	NA	NA	0.00025
			Hexachlorobutadiene	1.2E-08	NA	NA	1.2E-08	Hexachlorobutadiene	Kidney	3.1E-03	NA	NA	0.0031
								1,2,4,5-Tetra CB	Kidney	1.1E-03	NA	NA	0.0011
			Total PCBs	6.2E-07	NA	NA	6.2E-07	Total PCBs	Kidney	6.0E-02	NA	NA	0.06
						(1) Total Risk with Whole Body Crawfish	1.3E-05					(1) Total Hazard with Whole Body Crawfish	1.0
						(2) Total Risk with Crawfish Heads	1.4E-05					(2) Total Hazard with Crawfish Heads	1.1

(1) Total Liver HI =	0.02
(1) Total Immune System HI =	0.9
(1) Total Kidney HI =	0.05

TABLE 9B.5.3 CT

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCS

CENTRAL TENDENCY

SOUTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	8.5E-07	NA	NA	8.5E-07	Hexachlorobenzene	Liver	1.5E-03	NA	NA	0.0015
			Hexachlorobutadiene	3.3E-07	NA	NA	3.3E-07	Hexachlorobutadiene	Kidney	5.0E-02	NA	NA	0.05
			Aldrin	2.5E-06	NA	NA	2.5E-06	Aldrin	Liver	1.1E-02	NA	NA	0.011
			Dieldrin	2.4E-06	NA	NA	2.4E-06	Dieldrin	Liver	6.9E-03	NA	NA	0.0069
			Total PCBs	3.8E-06	NA	NA	3.8E-06	Total PCBs	Immune Sys	2.2E-01	NA	NA	0.22
		Largemouth Bass	Hexachlorobenzene	1.3E-07	NA	NA	1.3E-07	Hexachlorobenzene	Liver	2.3E-04	NA	NA	0.00023
			Total PCBs	1.2E-05	NA	NA	1.2E-05	Total PCBs	Immune Sys	6.9E-01	NA	NA	0.69
		Crawfish Whole (1)	Hexachlorobenzene	1.4E-07	NA	NA	1.4E-07	Hexachlorobenzene	Liver	2.6E-04	NA	NA	0.00026
			Hexachlorobutadiene	3.8E-08	NA	NA	3.8E-08	Hexachlorobutadiene	Kidney	5.7E-03	NA	NA	0.0057
			DDE	8.3E-08	NA	NA	8.3E-08	DDT	Liver	2.8E-04	NA	NA	0.00028
		Crawfish Heads (2)	Hexachlorobenzene	1.4E-07	NA	NA	1.4E-07	Hexachlorobenzene	Liver	2.5E-04	NA	NA	0.00025
			Hexachlorobutadiene	2.0E-08	NA	NA	2.0E-08	Hexachlorobutadiene	Kidney	3.1E-03	NA	NA	0.0031
								1,2,4,5-Tetra CB	Kidney	1.1E-03	NA	NA	0.0011
			Total PCBs	1.0E-06	NA	NA	1.0E-06	Total PCBs	Kidney	6.0E-02	NA	NA	0.06

(1) Total Risk with Whole Body Crawfish	2.2E-05
(2) Total Risk with Crawfish Heads	2.3E-05

(1) Total Hazard with Whole Body Crawfish	1.0
(2) Total Hazard with Crawfish Heads	1.0

(1) Total Liver HI =	0.02
(1) Total Immune System HI =	0.9
(1) Total Kidney HI =	0.05

TABLE 10A.1 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
NORTH BAYOU ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment Tissue	Sediment	Hexachlorobenzene	NA	NA	1.0E-06	1.0E-06						
		Catfish	Hexachlorobenzene	8.5E-06	NA	NA	8.5E-06						
			Hexachlorobutadiene	1.8E-06	NA	NA	1.8E-06						
			Total PCBs	9.8E-06	NA	NA	9.8E-06	Total PCBs	Immune Sys	1.4E+00	NA	NA	1.4
		Largemouth Bass	Hexachlorobenzene	2.2E-06	NA	NA	2.2E-06						
			Total Risk Across All Media and All Exposure Routes				2.3E-05	Total Hazard Index Across All Media and All Exposure Routes					1.4

Total Liver HI =	0
Total Immune System HI =	1.4
Total Kidney HI =	0

TABLE 10A.2.1 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
CHANNELS ADULT RECREATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	2.1E-04	NA	NA	2.1E-04						
			Hexachlorobutadiene	6.5E-05	NA	NA	6.5E-05	Hexachlorobutadiene	Kidney	9.8E+00	NA	NA	9.8
			Total PCBs	1.4E-05	NA	NA	1.4E-05						
		Largemouth Bass	Hexachlorobenzene	3.0E-05	NA	NA	3.0E-05						
			Hexachlorobutadiene	6.2E-06	NA	NA	6.2E-06						
		Crawfish Whole (1)	Hexachlorobenzene	3.8E-05	NA	NA	3.8E-05						
			Hexachlorobutadiene	8.6E-06	NA	NA	8.6E-06	Hexachlorobutadiene	Kidney	1.3E+00	NA	NA	1.3
			Dieldrin	5.8E-06	NA	NA	5.8E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.3E-04	NA	NA	2.3E-04						
			Hexachlorobutadiene	6.0E-05	NA	NA	6.0E-05	Hexachlorobutadiene	Kidney	9.0E+00	NA	NA	9
		Crawfish Tails (3)	Hexachlorobutadiene	1.2E-06	NA	NA	1.2E-06						

(1) Total Risk with Whole Body Crawfish	3.8E-04
(2) Total Risk with Crawfish Heads	6.2E-04
(3) Total Risk with Crawfish Tails	3.3E-04

(1) Total Hazard with Whole Body Crawfish	11.1
(2) Total Hazard with Crawfish Heads	18.8
(3) Total Hazard with Crawfish Tails	9.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	11.1

TABLE 10A.3.1 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	8.2E-06	NA	NA	8.2E-06						
			Hexachlorobutadiene	4.8E-06	NA	NA	4.8E-06	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			Total PCBs	3.7E-06	NA	NA	3.7E-06						
		Crawfish Whole (1)	Hexachlorobenzene	1.2E-06	NA	NA	1.2E-06	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
		Crawfish Heads (2)	Hexachlorobenzene	7.2E-06	NA	NA	7.2E-06						
			Hexachlorobutadiene	3.9E-06	NA	NA	3.9E-06	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
		Crawfish Tails (3)											

(1) Total Risk with Whole Body Crawfish	1.8E-05
(2) Total Risk with Crawfish Heads	2.8E-05
(3) Total Risk with Crawfish Tails	0.0E+00

(1) Total Hazards with Whole Body Crawfish	2.0
(2) Total Hazards with Crawfish Heads	3.5
(3) Total Hazards with Crawfish Tails	1.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	1.8

TABLE 10A.3.2 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	2.1E-05	NA	NA	2.1E-05						
			Hexachlorobutadiene	1.2E-05	NA	NA	1.2E-05	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			Total PCBs	9.4E-06	NA	NA	9.4E-06						
		Crawfish Whole (1)	Hexachlorobenzene	3.0E-06	NA	NA	3.0E-06						
			Hexachlorobutadiene	1.4E-06	NA	NA	1.4E-06	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
			DDE	1.9E-06	NA	NA	1.9E-06						
		Crawfish Heads (2)	Hexachlorobenzene	1.8E-05	NA	NA	1.8E-05						
			Hexachlorobutadiene	9.9E-06	NA	NA	9.9E-06	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
			DDE	1.9E-06	NA	NA	1.9E-06						
		Crawfish Tails (3)											

(1) Total Risk with Whole Body Crawfish	4.9E-05
(2) Total Risk with Crawfish Heads	7.2E-05
(3) Total Risk with Crawfish Tails	4.2E-05

(1) Total Hazard with Whole Body Crawfish	2.0
(2) Total Hazard with Crawfish Heads	3.5
(3) Total Hazard with Crawfish Tails	1.8

(1)Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	2.0

TABLE 10A.3.3 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
NORTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	2.9E-05	NA	NA	2.9E-05						
			Hexachlorobutadiene	1.7E-05	NA	NA	1.7E-05	Hexachlorobutadiene	Kidney	1.8E+00	NA	NA	1.8
			Total PCBs	1.3E-05	NA	NA	1.3E-05						
		Crawfish Whole (1)	Hexachlorobenzene	4.2E-06	NA	NA	4.2E-06						
			Hexachlorobutadiene	2.0E-06	NA	NA	2.0E-06	Hexachlorobutadiene	Kidney	2.1E-01	NA	NA	0.21
			DDE	2.7E-06	NA	NA	2.7E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.6E-05	NA	NA	2.6E-05						
			Hexachlorobutadiene	1.4E-05	NA	NA	1.4E-05	Hexachlorobutadiene	Kidney	1.5E+00	NA	NA	1.5
			DDE	2.7E-06	NA	NA	2.7E-06						
		Crawfish Tails (3)											

(1) Total Risk with Whole Body Crawfish	6.8E-05	(1) Total Hazard with Whole Body Crawfish	2.0
(2) Total Risk with Crawfish Heads	1.0E-04	(2) Total Hazard with Crawfish Heads	3.5
(3) Total Risk with Crawfish Tails	5.90E-05	(3) Total Hazard with Crawfish Tails	1.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	2.0

TABLE 10A.4.1 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Sediment	Total PCBs	1.1E-07	NA	9.9E-07	1.1E-06						
Sediment	Tissue	Catfish	Hexachlorobenzene	7.8E-06	NA	NA	7.8E-06						
			Hexachlorobutadiene	1.9E-06	NA	NA	1.9E-06	Hexachlorobutadiene	Kidney	6.9E-01	NA	NA	0.69
			Total PCBs	5.3E-05	NA	NA	4.4E-05	Total PCBs	Immune Sys	6.4E+00	NA	NA	6.4
		Largemouth Bass	Hexachlorobenzene	2.8E-06	NA	NA	2.8E-06						
			Hexachlorobutadiene	1.7E-06	NA	NA	1.7E-06	Hexachlorobutadiene	Kidney	6.3E-01	NA	NA	0.63
			Total PCBs	2.9E-05	NA	NA	2.9E-05	Total PCBs	Immune Sys	4.2E+00	NA	NA	4.2
		Crawfish Whole (1)	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06						
			DDE	2.3E-06	NA	NA	2.3E-06	Hexachlorobutadiene	Kidney	3.2E-01	NA	NA	0.32
			Total PCBs	9.8E-05	NA	NA	9.8E-05	Total PCBs	Immune Sys	1.4E+01	NA	NA	14
		Crawfish Heads (2)	Hexachlorobenzene	6.1E-06	NA	NA	6.1E-06						
			Hexachlorobutadiene	2.5E-06	NA	NA	2.5E-06						
			Total PCBs	8.9E-04	NA	NA	8.9E-04	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	2.4E-05	NA	NA	2.4E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	1.9E-04	(1) Total Risk with Whole Body Crawfish	26.2
(2) Total Risk with Crawfish Heads	9.9E-04	(2) Total Risk with Crawfish Heads	141.9
(3) Total Risk with Crawfish Tails	1.1E-04	(3) Total Risk with Crawfish Tails	15.4

(1) Total Liver HI =	0
(1) Total Immune System HI =	24.6
(1) Total Kidney HI =	1.6

TABLE 10A.4.2 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	2.0E-05	NA	NA	2.0E-05						
			Hexachlorobutadiene	4.7E-06	NA	NA	4.7E-06	Hexachlorobutadiene	Kidney	7.1E-01	NA	NA	0.71
			Total PCBs	1.3E-04	NA	NA	1.1E-04	Total PCBs	Immune Sys	6.6E+00	NA	NA	6.6
		Largemouth Bass	Hexachlorobenzene	7.1E-06	NA	NA	7.1E-06						
			Hexachlorobutadiene	4.3E-06	NA	NA	4.3E-06	Hexachlorobutadiene	Kidney	6.4E-01	NA	NA	0.64
			Total PCBs	7.4E-05	NA	NA	7.4E-05	Total PCBs	Immune Sys	4.3E+00	NA	NA	4.3
		Crawfish Whole (1)	Hexachlorobenzene	2.6E-06	NA	NA	2.6E-06						
			Hexachlorobutadiene	2.2E-06	NA	NA	2.2E-06	Hexachlorobutadiene	Kidney	3.2E-01	NA	NA	0.32
			DDD	1.5E-06	NA	NA	1.5E-06						
			DDE	5.7E-06	NA	NA	5.7E-06						
			Total PCBs	2.5E-04	NA	NA	2.5E-04	Total PCBs	Immune Sys	1.5E+01	NA	NA	15
		Crawfish Heads (2)	Hexachlorobenzene	1.6E-05	NA	NA	1.6E-05						
			Hexachlorobutadiene	6.5E-06	NA	NA	6.5E-06						
			Total PCBs	2.3E-03	NA	NA	2.3E-03	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	6.1E-05	NA	NA	6.1E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	4.8E-04
(2) Total Risk with Crawfish Heads	2.5E-03
(3) Total Risk with Crawfish Tails	2.8E-04

(1) Total Risk with Whole Body Crawfish	27.6
(2) Total Risk with Crawfish Heads	141.5
(3) Total Risk with Crawfish Tails	15.0

(1) Total Liver HI =	0
(1) Total Immune System HI =	25.9
(1) Total Kidney HI =	1.7

TABLE 10A.4.3 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
DEVIL'S LAKE INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediments	Sediments	Sediment	Total PCBs	NA	NA	1.0E-06	1.0E-06						
	Tissue	Catfish	Hexachlorobenzene	2.8E-05	NA	NA	2.8E-05						
			Hexachlorobutadiene	6.6E-06	NA	NA	6.6E-06						
			DDE	1.3E-06	NA	NA	1.3E-06						
			Total PCBs	1.9E-04	NA	NA	1.6E-04	Total PCBs	Immune Sys	6.5E+00	NA	NA	6.5
		Largemouth Bass	Hexachlorobenzene	9.8E-06	NA	NA	9.8E-06						
			Hexachlorobutadiene	6.0E-06	NA	NA	6.0E-06						
			Total PCBs	1.0E-04	NA	NA	1.0E-04	Total PCBs	Immune Sys	4.3E+00	NA	NA	4.3
		Crawfish Whole (1)	Hexachlorobenzene	3.6E-06	NA	NA	3.6E-06						
			Hexachlorobutadiene	3.0E-06	NA	NA	3.0E-06						
			DDD	2.1E-06	NA	NA	2.1E-06						
			DDE	8.0E-06	NA	NA	8.0E-06						
			Total PCBs	3.5E-04	NA	NA	3.5E-04	Total PCBs	Immune Sys	1.5E+01	NA	NA	15
		Crawfish Heads (2)	Hexachlorobenzene	2.2E-05	NA	NA	2.2E-05						
			Hexachlorobutadiene	9.0E-06	NA	NA	9.0E-06						
			Total PCBs	3.2E-03	NA	NA	3.2E-03	Total PCBs	Immune Sys	1.3E+02	NA	NA	130
		Crawfish Tails (3)	Total PCBs	8.5E-05	NA	NA	8.5E-05	Total PCBs	Immune Sys	3.5E+00	NA	NA	3.5

(1) Total Risk with Whole Body Crawfish	6.8E-04
(2) Total Risk with Crawfish Heads	3.5E-03
(3) Total Risk with Crawfish Tails	4.0E-04

(1) Total Risk with Whole Body Crawfish	25.8
(2) Total Risk with Crawfish Heads	140.8
(3) Total Risk with Crawfish Tails	14.3

(1) Total Liver HI =	0
(1) Total Immune System HI =	25.8
(1) Total Kidney HI =	0

TABLE 10A.5.1 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobutadiene	1.0E-06	NA	NA	1.0E-06						
			Aldrin	2.0E-06	NA	NA	2.0E-06						
			Dieldrin	1.9E-06	NA	NA	1.9E-06						
			Total PCBs	1.6E-05	NA	NA	1.6E-05	Total PCBs	Immune Sys	2.3E+00	NA	NA	2.3
		Largemouth Bass	Total PCBs	3.8E-05	NA	NA	3.8E-05	Total PCBs	Immune Sys	5.6E+00	NA	NA	5.6
		Crawfish Whole (1)	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06						
		Crawfish Heads (2)	Total PCBs	4.1E-06	NA	NA	4.1E-06						

(1) Total Risk with Whole Body Crawfish	6.0E-05
(2) Total Risk with Crawfish Heads	6.3E-05

(1) Total Risk with Whole Body Crawfish	7.9
(2) Total Risk with Crawfish Heads	7.9

(1) Total Liver HI =	0
(1) Total Immune System HI =	7.9
(1) Total Kidney HI =	0

TABLE 10A.5.2 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	2.4E-06	NA	NA	2.4E-06						
			Hexachlorobutadiene	2.6E-06	NA	NA	2.6E-06						
			Aldrin	5.1E-06	NA	NA	5.1E-06						
			Dieldrin	4.9E-06	NA	NA	4.9E-06						
			Total PCBs	4.1E-05	NA	NA	4.1E-05	Total PCBs	Immune Sys	2.4E+00	NA	NA	2.4
		Largemouth Bass	Hexachlorobenzene	1.0E-06	NA	NA	1.0E-06						
			Total PCBs	9.7E-05	NA	NA	9.7E-05	Total PCBs	Immune Sys	5.7E+00	NA	NA	5.7
		Crawfish Whole (1)	Hexachlorobenzene	2.5E-06	NA	NA	2.5E-06						
		Crawfish Heads (2)	Hexachlorobenzene	1.5E-06	NA	NA	1.5E-06						
			Hexachlorobutadiene	6.6E-07	NA	NA	6.6E-07						
			Total PCBs	1.0E-05	NA	NA	1.0E-05						

(1) Total Risk with Whole Body Crawfish	1.6E-04	(1) Total Risk with Whole Body Crawfish	8.1
(2) Total Risk with Crawfish Heads	1.7E-04	(2) Total Risk with Crawfish Heads	8.1

(1) Total Liver HI =	0
(1) Total Immune System HI =	8.1
(1) Total Kidney HI =	0

TABLE 10A.5.3 RME
RISK ASSESSMENT SUMMARY
REASONABLE MAXIMUM EXPOSURE
SOUTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	3.3E-06	NA	NA	3.3E-06						
			Hexachlorobutadiene	3.7E-06	NA	NA	3.7E-06						
			Aldrin	7.2E-06	NA	NA	7.2E-06						
			Dieldrin	6.8E-06	NA	NA	6.8E-06						
			Total PCBs	5.7E-05	NA	NA	5.7E-05	Total PCBs	Immune Sys	2.4E+00	NA	NA	2.4
		Largemouth Bass	Hexachlorobenzene	1.4E-06	NA	NA	1.4E-06						
			Total PCBs	1.4E-04	NA	NA	1.4E-04	Total PCBs	Immune Sys	5.6E+00	NA	NA	5.6
		Crawfish Whole (1)	Hexachlorobenzene	3.5E-06	NA	NA	3.5E-06						
			Hexachlorobutadiene	1.1E-06	NA	NA	1.1E-06						
			DDE	1.0E-06	NA	NA	1.0E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.1E-06	NA	NA	2.1E-05						
			Total PCBs	1.5E-05	NA	NA	1.5E-05						

(1) Total Risk with Whole Body Crawfish	2.2E-04
(2) Total Risk with Crawfish Heads	2.6E-04

(1) Total Risk with Whole Body Crawfish	8
(2) Total Risk with Crawfish Heads	8

(1) Total Liver HI =	0
(1) Total Immune System HI =	8
(1) Total Kidney HI =	0

TABLE 10B.1 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

NORTH BAYOU ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

(1) Total Risk with Whole Body Crawfish	0.0E+00
(2) Total Risk with Crawfish Heads	0.0E+00
(3) Total Risk with Crawfish Tails	0.0E+00

(1) Total Risk with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	0
(3) Total Risk with Crawfish Tails	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.2.1 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

CHANNELS ADULT RECREATIONAL

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	8.3E-06	NA	NA	8.3E-06						
			Total PCBs	3.5E-06	NA	NA	3.5E-06						
		Largemouth Bass	Hexachlorobenzene	1.8E-06	NA	NA	1.8E-06						
		Crawfish Whole (1)	Hexachlorobenzene	2.2E-06	NA	NA	2.2E-06						
		Crawfish Heads (2)	Hexachlorobenzene	1.5E-05	NA	NA	1.5E-05						
			Hexachlorobutadiene	4.4E-06	NA	NA	4.4E-06	Hexachlorobutadiene	Kidney	1.1E+00	NA	NA	1.1

(1) Total Risk with Whole Body Crawfish	1.6E-05
(2) Total Risk with Crawfish Heads	3.3E-05
(3) Total Risk with Crawfish Tails	1.4E-05

(1) Total Risk with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	1.1
(3) Total Risk with Crawfish Tails	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.3.1 CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
NORTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Crawfish Heads (2)	Hexachlorobenzene	1.1E-06	NA	NA	1.1E-06						

(1) Total Risk with Whole Body Crawfish	0.0E+00	(1) Total Risk with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	1.1E-06	(2) Total Risk with Crawfish Heads	0
(3) Total Risk with Crawfish Tails	0.0E+00	(3) Total Risk with Crawfish Tails	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.3.2 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

NORTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Crawfish Heads (2)	Hexachlorobenzene	1.5E-06	NA	NA	1.5E-06						
			Hexachlorobutadiene	1.1E-06	NA	NA	1.1E-06						

(1) Total Risk with Whole Body Crawfish	0.0E+00	(1) Total Risk with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	2.6E-06	(2) Total Risk with Crawfish Heads	0
(3) Total Risk with Crawfish Tails	0.0E+00	(3) Total Risk with Crawfish Tails	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.3.3 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

NORTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Largemouth Bass	Hexachlorobenzene	1.1E-06	NA	NA	1.1E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.6E-06	NA	NA	2.6E-06						
			Hexachlorobutadiene	1.9E-06	NA	NA	1.9E-06						

(1) Total Risk with Whole Body Crawfish	1.1E-06	(1) Total Risk with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	5.6E-06	(2) Total Risk with Crawfish Heads	0
(3) Total Risk with Crawfish Tails	1.1E-06	(3) Total Risk with Crawfish Tails	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.4.1 CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
DEVIL'S LAKE ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Total PCBs	1.2E-05	NA	NA	1.2E-05	Total PCBs	Immune Sys	1.8E+00	NA	NA	1.8
		Largemouth Bass	Total PCBs	1.4E-06	NA	NA	1.4E-06						
		Crawfish Whole (1)	Total PCBs	1.4E-06	NA	NA	1.4E-06						
		Crawfish Heads (2)	Total PCBs	7.7E-05	NA	NA	7.7E-05	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	2.8E-06	NA	NA	2.8E-06						

(1) Total Risk with Whole Body Crawfish	1.5E-05
(2) Total Risk with Crawfish Heads	9.0E-05
(3) Total Risk with Crawfish Tails	1.6E-05

(1) Total Risk with Whole Body Crawfish	1.8
(2) Total Risk with Crawfish Heads	12.8
(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	1.8
(1) Total Kidney HI =	0

TABLE 10B.4.2 CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
DEVIL'S LAKE ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Total PCBs	1.8E-05	NA	NA	1.8E-05	Total PCBs	Immune Sys	1.8E+00	NA	NA	1.8
		Largemouth Bass	Total PCBs	2.1E-06	NA	NA	2.1E-06						
		Crawfish Whole (1)	Total PCBs	2.2E-06	NA	NA	2.2E-06						
			Hexachlorobenzene	1.3E-06	NA	NA	1.3E-06						
		Crawfish Heads (2)	Total PCBs	1.2E-04	NA	NA	1.2E-04	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	4.3E-06	NA	NA	4.3E-06						

(1) Total Risk with Whole Body Crawfish	2.2E-05
(2) Total Risk with Crawfish Heads	1.4E-04
(3) Total Risk with Crawfish Tails	2.4E-05

(1) Total Risk with Whole Body Crawfish	1.8
(2) Total Risk with Crawfish Heads	12.8
(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	1.8
(1) Total Kidney HI =	0

TABLE 10B.4.3 CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
DEVIL'S LAKE INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Hexachlorobenzene	1.6E-06	NA	NA	1.6E-06						
			Total PCBs	3.1E-05	NA	NA	3.1E-05	Total PCBs	Immune Sys	1.8E+00	NA	NA	1.8
		Largemouth Bass	Total PCBs	3.5E-06	NA	NA	3.5E-06						
		Crawfish Whole (1)	Total PCBs	3.6E-06	NA	NA	3.6E-06						
		Crawfish Heads (2)	Hexachlorobenzene	2.1E-06	NA	NA	2.1E-06						
			Hexachlorobutadiene	1.0E-06	NA	NA	1.0E-06						
			Total PCBs	1.9E-04	NA	NA	1.9E-04	Total PCBs	Immune Sys	1.1E+01	NA	NA	11
		Crawfish Tails (3)	Total PCBs	7.0E-06	NA	NA	7.0E-06						

(1) Total Risk with Whole Body Crawfish	4.0E-05	(1) Total Risk with Whole Body Crawfish	1.8
(2) Total Risk with Crawfish Heads	2.3E-04	(2) Total Risk with Crawfish Heads	12.8
(3) Total Risk with Crawfish Tails	4.3E-05	(3) Total Risk with Crawfish Tails	1.8

(1) Total Liver HI =	0
(1) Total Immune System HI =	1.8
(1) Total Kidney HI =	0

TABLE 10B.5.1 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

SOUTH SWAMP ADOLESCENT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Total PCBs	1.5E-06	NA	NA	1.5E-06						
		Largemouth Bass	Total PCBs	4.7E-06	NA	NA	4.7E-06						

(1) Total Risk with Whole Body Crawfish	6.2E-06	(1) Total Hazard with Whole Body Crawfish	0
(2) Total Risk with Crawfish Heads	6.2E-06	(2) Total Hazard with Crawfish Heads	0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.5.2 CT
RISK ASSESSMENT SUMMARY
CENTRAL TENDENCY
SOUTH SWAMP ADULT

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Dieldrin	1.4E-06	NA	NA	1.4E-06						
			Total PCBs	2.3E-06	NA	NA	2.3E-06						
		Largemouth Bass	Total PCBs	7.2E-06	NA	NA	7.2E-06						
				(1) Total Risk with Whole Body Crawfish			1.1E-05		(1) Total Hazard with Whole Body Crawfish				0
				(2) Total Risk with Crawfish Heads			1.1E-05		(2) Total Hazard with Crawfish Heads				0

(1) Total Liver HI =	0
(1) Total Immune System HI =	0
(1) Total Kidney HI =	0

TABLE 10B.5.3 CT

RISK ASSESSMENT SUMMARY

CENTRAL TENDENCY

SOUTH SWAMP INTEGRATED

Scenario Timeframe: Current/Future
Receptor Population: Recreational Fisher
Receptor Age: Adult/Adolescent

Medium	Exposure Medium	Exposure Point	Chemical	Carcinogenic Risk				Chemical	Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total		Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Tissue	Catfish	Dieldrin	2.4E-06	NA	NA	2.4E-06						
			Total PCBs	3.8E-06	NA	NA	3.8E-06						
		Largemouth Bass	Total PCBs	1.2E-05	NA	NA	1.2E-05						
		Crawfish Heads (2)	Total PCBs	1.0E-06	NA	NA	1.0E-06						
				(1) Total Risk with Whole Body Crawfish			1.8E-05		(1) Total Hazard with Whole Body Crawfish				0
				(2) Total Risk with Crawfish Heads			1.9E-05		(2) Total Hazard with Crawfish Heads				0

(1) Total Liver HI = 0

(1) Total Immune System HI = 0

(1) Total Kidney HI = 0