#000699

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

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Governor
~~Kathy Prosser~~ *Michael O'Connor*
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July 8, 1996

Dottie Alke
Westinghouse Electric Corporation
Bloomington Project
Gateway Center - MS 640
11 Stanwix Street
Pittsburgh, PA 15222-1384

Dear Ms. Alke:

RE: IDEM Fish Data

Enclosed you will find the Indiana Department of Environmental Management (IDEM) Office of Water Management biological studies fish tissue contamination results. The enclosures includes:

- Portions of 305(b) Reports: 1976-1977, 1982-1983, 1984-1985, 1986-1987 and 1988-1989.
- Topographical maps showing some of the sampling locations for Clear Creek at Harrodsburg, Fluckmill Road and Country Club Road.
- 1976 fish data collected from Clear Creek, Salt Creek, East Fork of White River.
- 1977 fish data collected from Sinking Creek, Clear Creek, Salt Creek and East Fork White River.
- 1977 water and sediment data from stations in Monroe and Lawrence counties.
- 1980 PCB levels in water, sediment and fish from Clear Creek, Pleasant Run Creek and East Fork of White River (February 23, 1981 State Board of Health Office Memorandum).
- 1981 fish data collected from Richland Creek in Owen and Green counties (February 19, 1982 letter from State Board of Health to Robert E. Rose, M.D.).
- 1983 fish data collected from Stouts Creek, Beanblossom Creek and Monroe Reservoir.
- 1983 sediment data from Clear Creek Fluckmill Road and upstream Bloomington, IN.

- 1984 sediment data from Stout Creek, Richland Creek, Clear Creek and Salt Creek.
- 1987 sediment data from Clear Creek Country Club Road, Fluckmill Road and Harrodsburg, IN.
- 1991 sediment data from Quarry Spring, Illinois Central Spring, Slaughterhouse Spring, Packinghouse Spring, Robertson Spring, Detmer Spring, ABB Plant, Oard's Spring and Stoney East Spring.
- IDEM OWM-Biological Studies Fish Contamination Results:
  - 1987 West Fork White River (D/S Spencer and Worthington, IN)
  - 1992 Eel River (S.R. 67)
  - 1987 and 1993 Clear Creek (Fluckmill Road, Country Club Road and Harrodsburg, IN)
  - 1983 Clear Creek U/S Bloomington, IN
  - 1985 Monroe Reservoir (Crooked Creek, Dam, Moore Creek, North Fork Salt Creek, and Ramp Creek)
  - 1986 Lake Lemon
  - 1985 North Twin Lake
  - 1987 Stouts Creek
  - 1987 Richland Creek Confl. Conard's Branch
  - 1993 Richland Creek D/S Confluence Conard's Branch
  - 1987 Richland Creek Whitehall, IN
  - 1983 East Fork White River [U/S Bedford, IN (HWY 50), U/S Bedford, IN (U/S Slat Cr), and D/S Williams Dam]
  - 1985 East Fork White River D/S Williams Dam
  - 1987 East Fork White River (D/S Williams Dam and Shoals, IN)
  - 1989 East Fork White River D/S Williams Dam
  - 1992 East Fork White River D/S Williams Dam
  - 1987 Salt Creek D/S HWY 450
  - 1993 Salt Creek (S.R. 450 and D/S Confluence of Clear Creek)

- 1983 Pleasant Run Creek (D/S Central Foundry, Bedford and D/S GMC, Peerless Rd)

- 1987 Pleasant Run Creek (D/S GMC, Peerless Rd. and Mt. Pleasant Rd. Bedford, IN)

- 1993 Pleasant Run Creek (D/S GMC, Peerless Rd. and U/S GMC, Mt. Pleasant Rd.)

- 1992 Salt Creek IDNR fish samples

For questions regarding 305(b) reports, contact Mr. Arthur Carter at 317/233-2474. For questions regarding fish sample, water and sediment data, contact Mr. C. Lee Bridges at 317/308-3183. If you have any other questions, please contact me at 317/308-3118.

Sincerely,

Resa L Ramsey

Resa L. Ramsey
Superfund Section
Office of Environmental Response

RLR:rlr

cc: John Langley, City of Bloomington
Steve Creech, Monroe County
Dan Hopkins, U.S. Environmental Protection Agency
Dan Sparks, U.S. Fish & Wildlife Service
Wayne Faatz, Indiana Department of Natural Resources

Monroe and Lawrence Counties

Numerous surveys were conducted in Monroe and Lawrence Counties during 1976 to pin-point the sources of PCB contamination. The scope of the surveys included water samples, fish, sediment, landfill leachates, samples from water supply intakes, sludge, soil and crops grown on contaminated soil.

In early 1976 the investigations centered on Clear Creek, south of Bloomington, Salt Creek below Monroe Reservoir, and the East Fork of the White River near Bedford (Figure 47).

Laboratory results revealed high levels of PCB's in fish collected in Clear Creek below Bloomington (cc 1-3), in Salt Creek below Monroe Reservoir (SC 2-6), and in the East Fork of the White River near Bedford. The highest levels of PCB's in fish were found in samples of Notropis sp. in Salt Creek (117-343 ppm Aroclor 1016, on a whole fish basis) and Minnows in Clear Creek (37-224 ppm as Aroclor 1016 on a whole fish basis).

Data from water samples collected in Clear Creek (Table 8), showed elevated levels at Stations CC1-6. A twenty-four hour composite water sample collected on March 11-12, 1976 at Station CC-2 had the highest concentration of PCBs as Aroclor 1016 (41.2 ppm).

PCB's were also detected in water supply intake samples from the Salt Creek and White River Stations at Bedford (Table 5).

A sediment survey was conducted near Bloomington involving Clear and Salt Creeks and the Williams Dam on the East Fork of the White River. In Clear Creek samples ranged from 1.13 ug/g as Aroclor 1016 upstream of Winston Thomas WWTP outfall to 111 ug/g as Aroclor 1016 below the outfall. A sample from Pleasant Run Creek had 232 ug/g PCB's as Aroclor 1016. Other samples revealed fairly low concentrations of PCB's in sediments. Further surveys are planned for Pleasant Run Creek to assess the extent of PCB contamination.

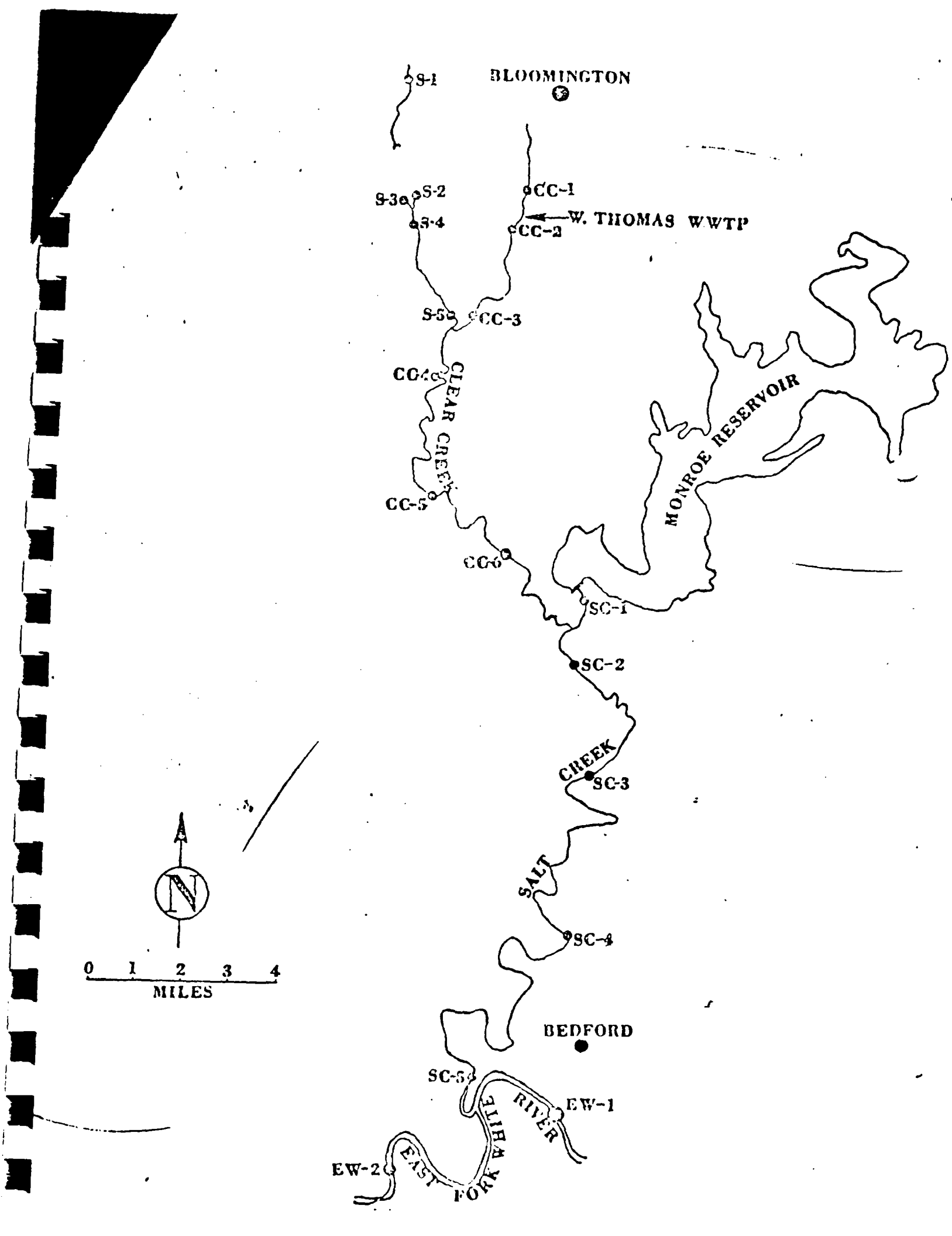

S-1
BLOOMINGTON
S-3
S-2
CC-1
S-4
W. THOMAS WWTP
CC-2
S-5
CC-3
CC-4
CLEAR CREEK
MONROE RESERVOIR
CC-5
CC-6
SC-1
SC-2
CREEK
SC-3
SALT
SC-4
BEDFORD
SC-5
RIVER
EW-1
WHITE
EAST FORK
EW-2
N
0 1 2 3 4
MILES

Table R Laboratory results from Salt Creek and East Fork White River in Monroe and Lawrence Counties, Indiana.

Station	Location	Date	Type of Sample *	PCB's
SC-1	Salt Creek just below Monroe Reservoir	3/11/76	G	<0.10 as Aroclor 1248
SC-2	Salt Creek at Guthrie	3/11/76	G	<0.10 as Aroclor 1248
SC-3	Salt Creek at Logan	3/11/76	G	<0.10 as Aroclor 1248
SC-4	Salt Creek at Oolitic	3/11/76	G	0.09 as Aroclor 1248
SC-5	Salt Creek at S.R. 450	3/11/76	G	<0.10 as Aroclor 1248
EW-1	East Fork White River at S.R. 37	3/11/76	G	<0.10 as Aroclor 1016
EW-2	East Fork White River at Stumphole Bridge	3/11/76	G	<0.10 as Aroclor 1016
	Bedford White River Filtration Plant - Raw water	3/11/76	G	0.085 as Aroclor 1016
	Bedford Salt Creek Filtration Plant - Raw water	3/3/76	G	0.102 as Aroclor 1248

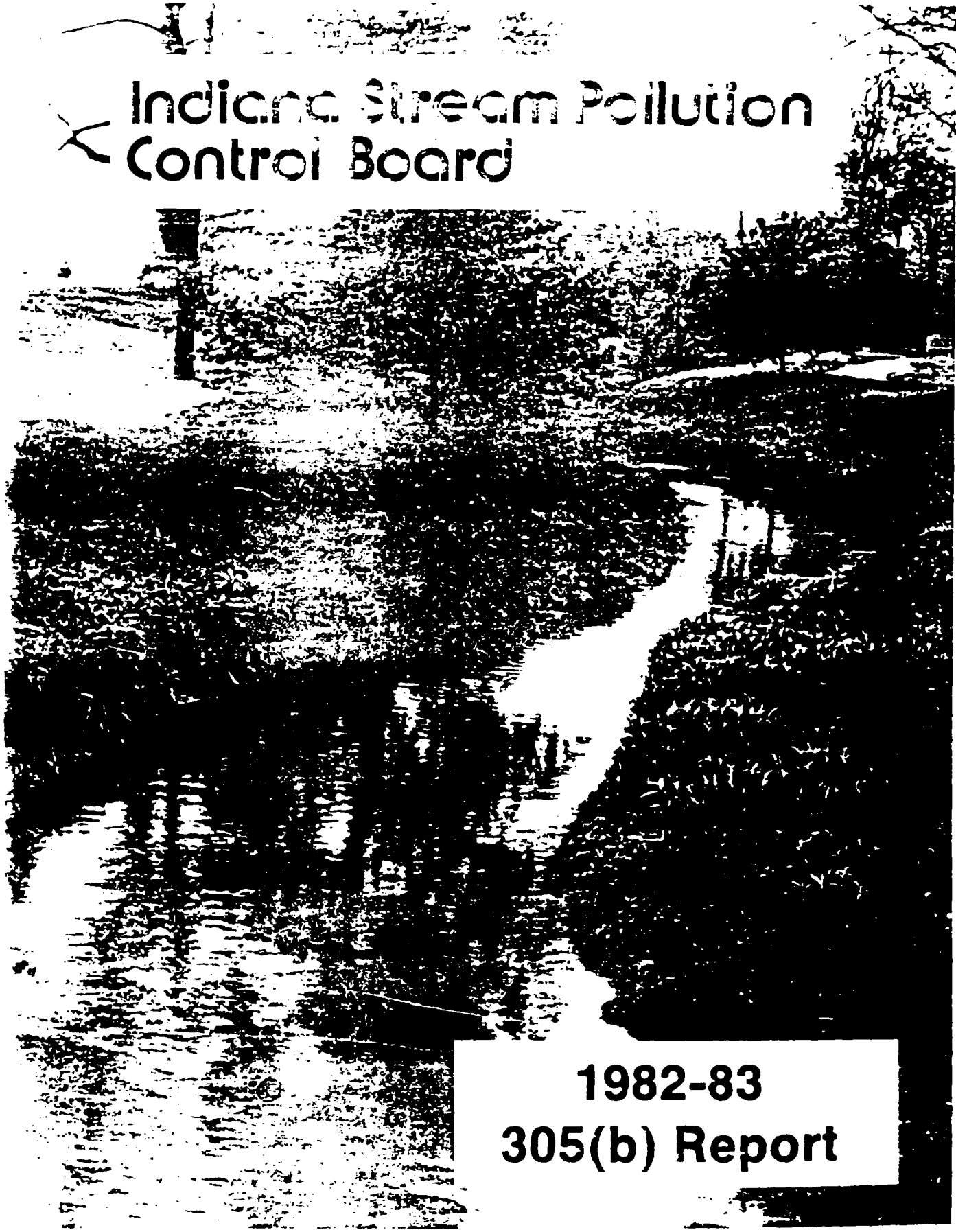
* G = grab sample

Table S Laboratory results from arges and stream stations in the Clear Creek drainage ba in Monroe County, Indiana.

on	Location	Date	Type of Sample *	Discharge MGD	PCB's (0671)	Pounds/day
1	Clear Creek at Country Club Road (upstream)	3/11-12/76	C		0.811 as Aroclor 1016	
	Westinghouse Main Sewer	3/11-12/76	C	0.125-0.135	2630.0 as Aroclor 1016	2.74-2.96
	Winston Thomas MWTP	3/11-12/76	C	7.6		
	Influent				124. as Aroclor 1016	7.86
	Effluent				33.9 as Aroclor 1016	2.15
-2	Clear Creek at Rhorer Road (Gordon Pike) (downstream)	3/11-12/76	C		41.2 as Aroclor 1016	
-3	Clear Creek at Dillman Road	3/11/76	G		3.2 as Aroclor 1016	
-4	Clear Creek at Fluck Mill Road	3/11/76	G		2.1 as Aroclor 1016	
-5	Clear Creek at Ketcham Road	3/11/76	G		0.86 as Aroclor 1016	
-6	Clear Creek at Old S.R. 37	3/11/76	G		0.86 as Aroclor 1016	
1	Sinking Creek at S.R. 48	12/15/75	G		<0.10 as Aroclor 1254	
		1/22/76	G		0.333 as Aroclor 1248	
		3/11/76	G		0.114 as Aroclor 1248	
-2	Shirley Springs	12/15/75	G		<0.10 as Aroclor 1254	
		3/11/76	G		<0.10 as Aroclor 1248	
-3	Leonard Springs	3/11/76	G		<0.10 as Aroclor 1248	
-4	Leonard Springs Branch at old dam site	12/15/75	G		<0.10 as Aroclor 1254	
-5	Leonard Springs Branch at Victor Pike	3/11/76	G		<0.10 as Aroclor 1248	

* G = grab sample; C = 24-hour composite of 12 equal-volume aliquots.

Indiana Stream Pollution Control Board



1982-83 305(b) Report

If the chlordane and dieldrin levels are due to past agricultural use, there is not much that can be done to alleviate or control these problems at the present time. It is probable that the concentration of chlordane and dieldrin in fish from these rivers will decrease as the amount of these pesticides remaining in the soil is reduced.

"If the chlordane and dieldrin levels are due to past agricultural use, there is not much that can be done to alleviate or control these problems at the present time."

Sampling of fish, water, and sediment for PCB contamination in Clear Creek, Salt Creek, Pleasant Run, and the East Fork of White River in Monroe and Lawrence counties in 1980 revealed rather high levels of PCBs at some localities. In the mid-1970s, effluent from the Bloomington sewage treatment facility discharging to Clear Creek and the General Motors Central Foundry plant discharging to Pleasant Run near Bedford were found to contain higher than acceptable levels of PCBs. The discharges have contaminated Clear Creek and Salt Creek downstream from Monroe Reservoir and are a major source of the PCB levels in the fish collected at the "CORE" monitoring station on the East Fork of White River at Williams. The locations sampled in 1980 are shown in Figure 5. These are essentially the same locations sampled in a similar study done in 1977. The results of the 1980 survey of fish, water, and sediment in these streams are shown in Table 9.

Clear Creek received PCB contaminated effluent from the old Bloomington Winston Thomas Sewage Treatment Plant which received wastewater from Westinghouse Corporation in Bloomington. Higher than desirable PCB levels were found in fish, water, and sediment from the two Clear Creek stations (CC-1 and CC-3). Eight fish samples were collected at these two stations, and 5 (62%) exceeded FDA action levels for PCBs. In June of 1982, the Winston Thomas facility was closed with the completion of the new facility at Dillman Road.

Fish and sediment samples collected in Salt Creek below the confluence of Clear Creek (SC-3 and SC-5) also had8 elevated PCB levels. Three of the 7 fish samples (43%) from the two stations exceeded FDA action levels. One of the fish samples collected at the upstream Salt Creek station (SC-2) also exceeded FDA action levels, but this may be due to upstream movement of contaminated fish. The PCB concentrations in the water at all Salt Creek stations were at or below detection levels.

Pleasant Run receives effluent from the General Motors Central Foundry Plant near Bedford. PCB concentrations were found in both water and sediment samples from the Pleasant Run station (PR-1). Although these 1980 numbers are still high, they are 40% lower for water and 75% lower for sediment than values found in 1977.

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PCB concentrations in sediment and water samples from the East Fork of White River were below detection levels at all stations but EW-4, immediately downstream from Salt Creek. No fish samples which exceeded FDA action levels were collected upstream of Salt Creek (EW-3). Of the 14 fish samples collected from the three East Fork of White River stations downstream of Salt Creek (EW-4, EW-5, and EW-6), only three (21%) exceeded FDA action levels. Two of these three samples were collected at EW-4 immediately downstream of Salt Creek.

Considerable monies have been spent over the last few years by the City of Bloomington, the State of Indiana, U.S. EPA, Westinghouse Corporation, and General Motors to eliminate the direct discharge of PCBs into these streams. A report prepared for General Motors by a consultant (1) indicates that the main sources of PCBs appear to be the sediments and soil along the banks of the streams into which General Motors discharged. Contaminated soils and sludges at these facilities, and leaching from the various landfills and dumps where PCB containing wastes have been deposited, also may contribute to the PCB concentration. Studies are now underway to determine how to best handle these aspects of the problem.

Several other small streams in this area have been sampled in the last 2 to 3 years due to possible PCB contamination from several landfills in which PCB containing wastes have been deposited. At some of these sites, PCBs had been suspected to be entering the streams by leaching or runoff. The location of these landfills are shown in Figure 6.

Figure 5. Map of Clear Creek, Salt Creek, Pleasant Run and East Fork White River in Monroe and Lawrence Counties, showing sampling locations.

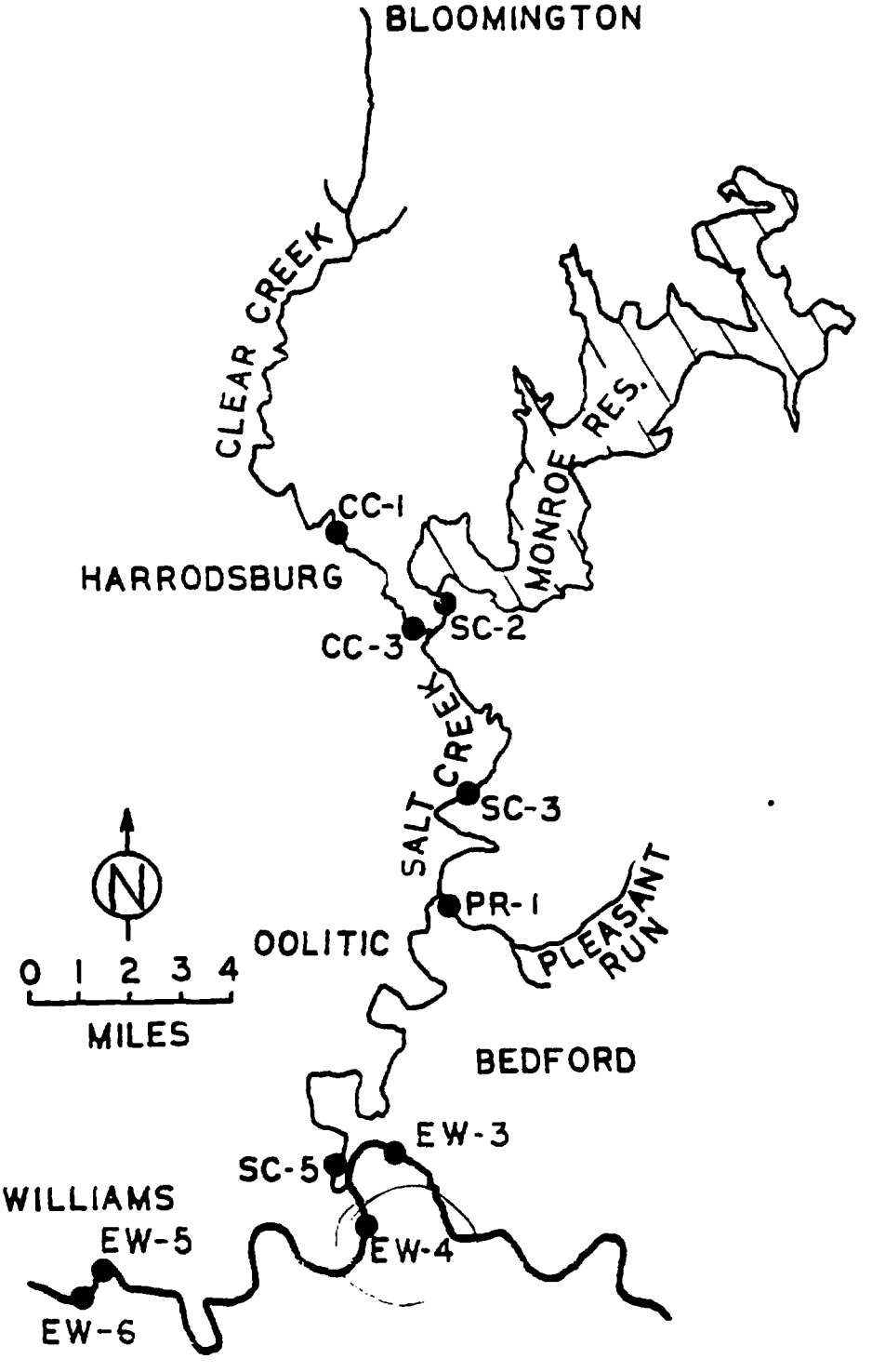
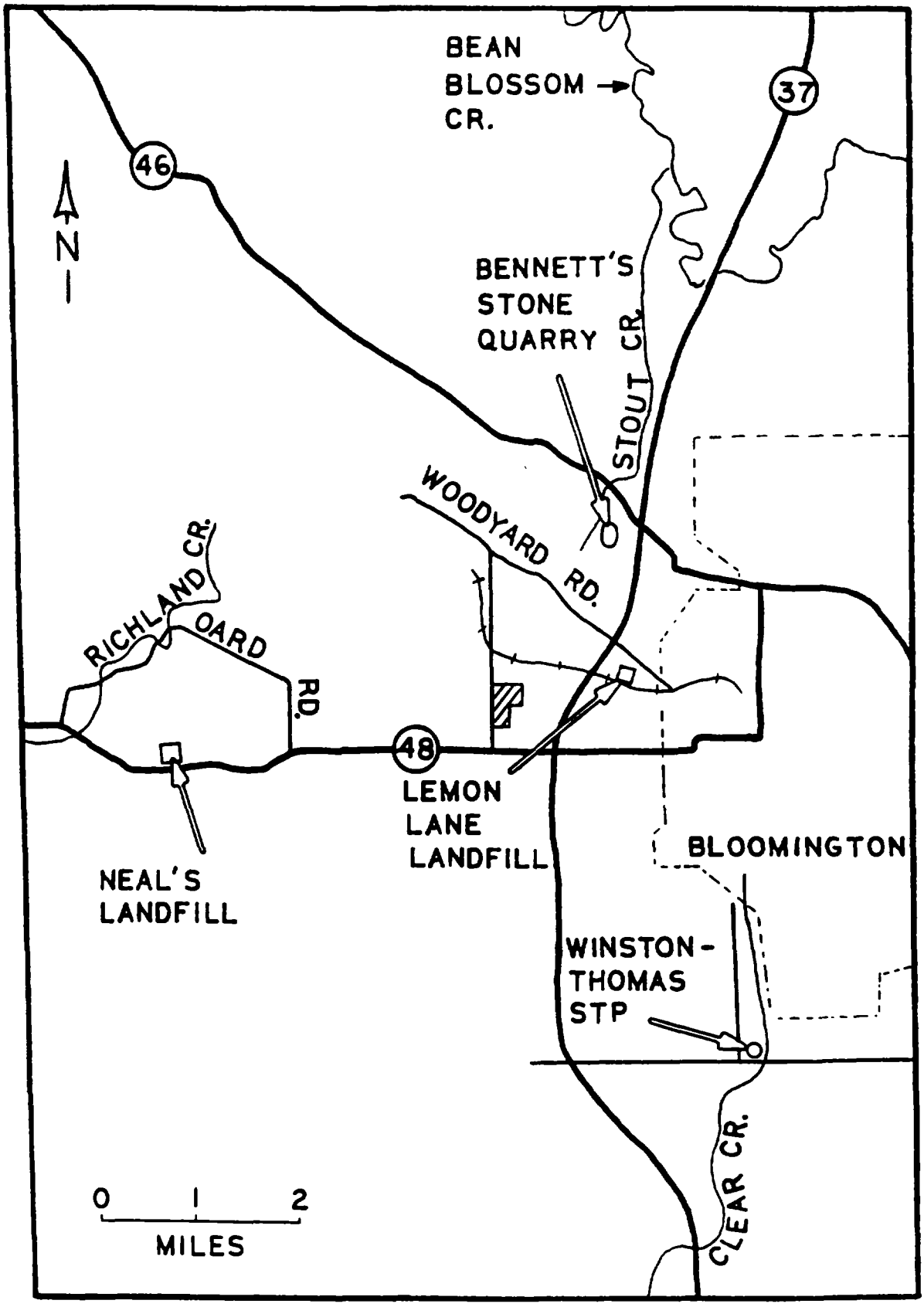


Table 9. PCB concentrations in fish, water, and sediment from Clear Creek, Salt Creek, Pleasant Run, and East Fork White River in Monroe and Lawrence counties in 1980.

			PCB Concentrations					
			Whole Fish	Fillet	Sediment (mg/kg)		Water (mg/l)	
Station	Species	% Fat	Basis (mg/kg)	Basis (mg/kg)	As 1242	As 1254	As 1242	As 1254
Clear Creek -1	Creek Chub	4.75	19.8*					
(CC-1)	Bluegill Sunfish	1.47	1.2		2.2	0.2	0.22	0.1
	Longear Sunfish	6.89	25.3*					
	Largemouth Bass	1.04	5.1					
Clear Creek-3	Northern Pike	0.19		2.0				
(CC-3)	Largemouth Bass	1.02		1.5				
	Bluegill Sunfish	6.98	19.8*		0.54		0.26	
	Longear Sunfish	5.22	16.0*					
Salt Creek-2	Striped Bass	2.93	0.1					
(SC-2)	Bluegill Sunfish	4.32	3.9		0.15	0.1		
	Longear Sunfish	4.67	8.2					
Salt Creek-3	Largemouth Bass	1.09		1.1				
(SC-3)	Largemouth Bass	4.20	7.3*					
	Longear Sunfish	5.65	11.2*	2.2		0.1		
	Longear Sunfish	4.18	8.8*					
Pleasant Run-1					315.0	0.2	8.5	0.1
Salt Creek-5	Largemouth Bass	0.44		4.0				
(SC-5)	Largemouth Bass	0.32		3.0	2.0		0.12	
	Longear Sunfish	0.65		2.6				
East Fork White	Spotted Bass	0.33		0.07				
River-3 (EW-3)	Channel Catfish	0.93		0.16				
	Flathead Catfish	1.46		0.52	0.25	0.2	0.1	0.1
	Sunfish	1.85		3.4				
East Fork White	White Croppie	0.57		1.5				
River (EW-4)	Longear Sunfish	8.08	19.2*					
	Channel Catfish	8.55		4.6	1.1	0.41	0.16	0.1
	Channel Catfish	8.24		9.0*				
	Channel Catfish	5.65		3.4				
East Fork White	Largemouth Bass	0.68		0.51				
River-5 (EW-5)	Longear Sunfish	0.29		0.66	0.25	0.2	0.1	0.1
	Longear Sunfish	0.52		1.1				
	Channel Catfish	3.19		5.9*				
East Fork White	Longear Sunfish	1.44		2.4				
River-6 (EW-6)	Bluegill Sunfish	1.18		1.5				
	Longear Sunfish	0.04		0.03	0.25	0.2	0.1	0.1
	Bluegill Sunfish	4.24		3.5				
	Largemouth Bass	0.09		0.29				

*Exceeds FDA Action Level

Figure 6. Location of Bennett's Stone Quarry, Neal's Landfill and Lemon Lane Landfill in Monroe County near Bloomington, IN.



In 1981, Richland Creek downstream of Neal's Landfill was sampled for PCB contamination in fish. Whole fish samples were taken at the State Road 43 bridge in Owen County near Whitehall and the State Road 54 bridge near Bloomfield in Green County. Three of the four samples collected at the State Road 43 bridge (site closest to the landfill) contained levels of PCBs which exceeded the FDA action level. Fish species which exceeded the action level were yellow bullhead (6.312 mg/kg), northern hogsucker and white sucker (7.446 mg/kg), and longear and green sunfish (5.619 mg/kg). A striped shiner sample collected at this site and a northern hogsucker sample collected at the State Road 54 site did not exceed the FDA action level (2.306 mg/kg and 0.142 mg/kg, respectively).

In October of 1983, fish and sediment samples were collected from Stout Creek and Beanblossom Creek in Monroe County near Bloomington (Figure 6). These streams receive drainage from Bennett's landfill and runoff from the Westinghouse Corporation property. Both areas are suspected to be contributing PCBs to the streams. One sample containing eleven creek chubs was collected in Stout Creek downstream of Bennett's Landfill and Westinghouse Corporation property. This sample exceeded FDA action levels for PCBs (6.5 mg/kg). A sediment sample collected at this locality contained 350 ug/kg PCBs.

Fish samples collected at sites on Beanblossom Creek both upstream and downstream of the confluence of Stout Creek did not exceed FDA action levels for PCBs (all were under 1 mg/kg), and sediment samples from these two localities in Beanblossom Creek had levels of PCBs below detection limits (< 100 ug/kg). Negotiations are now underway involving the State of Indiana, U.S. EPA, the City of Bloomington, and Westinghouse Corporation to determine the extent of cleanup necessary at these landfills (and other sites) to alleviate the potential health hazards from PCBs, and to determine the responsibilities of the various parties involved for the cleanup activities and expenses.

"Fish samples collected at sites on Beanblossom Creek both upstream and downstream of the confluence of Stout Creek did not exceed FDA action levels for PCBs (all were under 1 mg/kg), and sediment samples from these two localities in Beanblossom Creek had levels of PCBs below detection limits (< 100 ug/kg)."

In March 1981, water and sediment samples we collected from Finley Creek in Boone County ne Zionsville, northwest of Indianapolis. Finley Creek flo alongside a landfill and hazardous waste recyclir facility and then into Eagle Creek (Figure 7). Eag Creek in turn flows into Eagle Creek Reservoir which is water supply source for Indianapolis. Samples we collected at several locations upstream and downstrea of the landfill and recycling facility on Finley Creek a at several locations within the landfill boundar (Figure 7) to determine if hazardous wastes we escaping from the area into Finley Creek. Water ar sediment samples were analyzed for 77 differe parameters including conventional pollutants, meta PCBs, and chlorinated hydrocarbon compounds.

Only five substances (all chlorinated organ compounds) were found in Finley Creek in high quantities in the water samples collected downstrea of the landfill facility than upstream (Table 1C Concentrations of these substances in the downstrea water samples do not approach levels which are toxic aquatic life.

Substances found in higher quantities in Finl Creek sediment samples collected downstream of th facility than in upstream samples are shown in Tab 10. Five of the eight are metals, but only lead, chromiur and possibly copper are present in concentratio downstream which are approximately ce th upstream value.

It appears from the analytical results that the coolir water pond at the recycling facility (station 15) polluted with a variety of compounds including coppe free cyanide, lead, mercury, nickel, zinc, potassiur strontium, toluene, xylene, ethyl benzene, methyler chloride, 1,1- dichloroethane, tetrachloroethylen methylethylketone, 1,1,2,2- tetrachloroethan chloroform, carbon tetrachloride, t-1,3 dichloroproper and c-1,3- dichloropropene. At least six of thes compounds were also found at downstream statio (stations 5 and 3) in the unnamed tributary to Finl Creek at greater levels than upstream station sample This seems to indicate that materials were escapir from the cooling pond into the tributary.

Stout Creek, a tributary of Beanblossom Creek in Monroe County, has been contaminated by PCBs draining from the Bennett Quarry Landfill area west of Bloomington. Fish samples collected from Stout Creek in 1983 disclosed that some fish contained levels of PCBs exceeding the FDA action level (5.0 mg/kg). Fish and sediment samples from Beanblossom Creek showed no high PCB values. Plans are now being finalized to clean up the Bennett's Quarry Landfill area and eliminate this problem.

Richland Creek in Monroe, Owen, and Greene counties has also been contaminated by PCBs, and fish samples collected from this stream contained PCB concentrations above 5.0 mg/kg (FDA action level). The source of these PCBs appears to be material leaching from Neal's Landfill which borders the stream in Monroe County. A fish consumption advisory has been issued for this stream, and plans are being developed to control or eliminate the release of PCBs from this landfill.

The Eel River enters the West Fork of White River near Worthington. The Eel River drains the agricultural and strip mined land of Clay and Greene counties. The river often carries a heavy silt load and receives some acid mine drainage from the many abandoned and working strip mines in its drainage basin. However, water quality in the Eel River is generally good, and it does not contribute any significant pollution to the West Fork of White River.

"However, water quality in the Eel River is generally good, and it does not contribute any significant pollution to the West Fork of White River."

Data from the Fixed Water Quality Monitoring Station at Edwardsport in Knox County (WR-80) show only occasional violations of fecal coliform standards, and the magnitude of these violations has decreased in recent years. Although some un-ionized ammonia values greater than 0.05 mg/l were found at this station in the past, none have been found since 1981. An electrical generating station located at Edwardsport is used only as a "peaking" plant and does not appear to affect the river to any extent.

The West Fork of White River is joined by the East Fork of White River just upstream of Petersburg in Pike County. At this point both streams exhibit good water quality.

There are two generating stations located on the White River near Petersburg—the Ratts Generating Station owned by Hoosier Energy and the Petersburg Generating Station owned by Indianapolis Power and Light Company. Under conditions of high ambient temperatures, low flow, and high electrical power demand, these plants can raise the temperature of the river significantly downstream of their cooling water dischages. At these times, fish populations may leave certain parts of the river.

Petersburg's sewage treatment facility discharges to Pride's Creek which flows into White River. This discharge degrades Pride's Creek somewhat, but does not significantly affect the White River. Data from the Fixed Water Quality Monitoring Station located at Petersburg (WR-48) indicate that only occasional fecal coliform violations are found.

WR-48 is also a "CORE" monitoring station. Fish collected at this station includes spotted bass, black crappie, bluegill, buffalo, carpsuckers, catfish, drum, gar, and others. From ISBH collections and reports published in connection with thermal studies done at the two electrical generating stations, it would appear that a rather diverse fish community exists in this part of the river. Some fish tissue samples collected at this station show chlordane values above FDA action levels. Macroinvertebrate samples indicate good water quality and are typical of medium to large, nutrient-enriched Indiana rivers.

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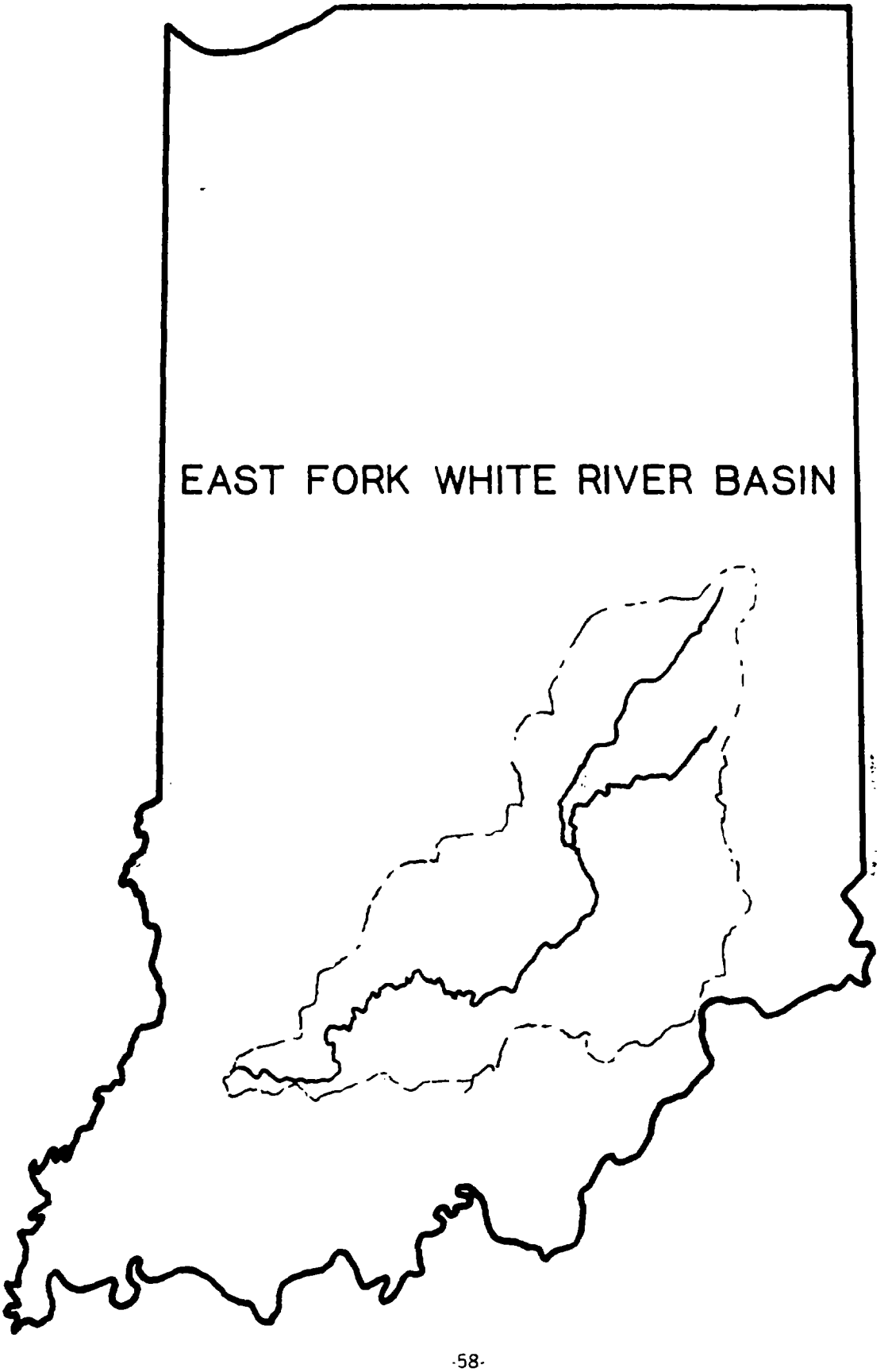
From Petersburg, the White River flows west to join the Wabash. The stream is of generally good water quality when it reaches the Wabash, although some of the White River's tributaries in the counties of Pike, Gibson, and Knox receive periodic runoff from oil operations and active and abandoned strip mines. These points of pollution are hard to locate and equally hard to control.

East Fork of White River Basin

The East Fork of White River drains about 5,600 square miles of southern Indiana (Figure 16). Roughly 15,000 miles of streams are included in the basin. Sugar Creek and Big Blue River join to form the

Figure 16. East Fork White River Drainage Basin.



Driftwood River which becomes the East Fork of White River after the confluence of the Flatrock River. The Muscatatuck River and Salt Creek in the lower portion are the river's major tributaries. The largest cities in the watershed are Columbus, Seymour, and Bloomington.

The topography of this basin ranges from flat to rugged as it crosses seven of southern Indiana's eight physiographic regions. The basin includes unique underground streams in the Karst region of caves and sinkholes in Orange and Lawrence counties. Agriculture is important in the flatter regions, but much of the watershed is forested. The groundwater contribution to stream flow in the basin is low, so flow depends largely on rainfall, and variations can be great. Compared to other basins, stream channelization projects in the East Fork Basin have been minimal.

The East Fork of White River has always been an important sport fishery. State records for flathead catfish, freshwater drum, rock bass, and smallmouth bass have all come from this river or its tributaries. The river is also used widely for canoeing. The cities of Bedford, Mitchell, and Seymour have drinking water supply intakes on the river. Therefore, the use designations for the basin include aquatic life, partial body contact, and potable water supply at the three municipal intakes.

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There are eight Fixed Water Quality Monitoring Stations in the basin. Water quality is suitable for aquatic life at all the stations. Frequent violations of fecal coliform bacteria criteria for partial body contact recreation occur only at the two Big Blue River stations. Water quality is generally satisfactory for potable water supply at the three drinking water intakes on the East Fork.

Localized water quality problems still exist in the basin. Sewage treatment and/or collection facilities at Nashville, Greensburg, and North Vernon are responsible for periodic sewage bypasses or inadequately treated discharges. Low dissolved oxygen and/or high ammonia concentrations frequently occur downstream from these towns. Aquatic life is probably adversely affected to some extent downstream from all sewage treatment facilities by chlorination of the effluents. Industrial discharges in New Castle have caused the accumulation of metals in stream sediments which can degrade water quality. PCB contamination of sediments and fish in the Salt Creek watershed remains a problem, but point source discharges of PCBs have been greatly reduced or eliminated in recent years. Nonpoint discharges from agricultural and urban areas probably contribute to water quality degradation, but the extent of their effects in this watershed have not been measured. An advisory against eating fish from Clear Creek and Salt Creek in Monroe County and from Salt Creek, Pleasant Run, and the East Fork of White River from Salt Creek to Williams Dam in Lawrence County remains in effect due to high PCB concentrations in the flesh.

Five bioassays of industrial effluents discharging to streams in the basin have been conducted. Only discharges to the upper Big Blue River near New Castle and to Pleasant Run near Bedford have been identified as potentially serious hazards to aquatic organisms in the streams. Much new information on the presence of toxic substances in the watershed is being generated by the agency. Sediments, fish flesh, and mussel shells were collected for toxics analysis from stations throughout the basin in 1983, and results should be available soon.

A former hazardous waste disposal site, Seymour Recycling Corporation at Seymour, lies in this basin. U.S. Environmental Protection Agency Superfund money has been used to remove hundreds of barrels of chemicals accumulated at the site over many years. In 1980, before the cleanup began, a study of sediments and fish tissue in the area was made by the U.S. Fish and Wildlife Service. An intermittent tributary drains the site and flows about a mile to the East Fork of White River. Sediments in the tributary contained higher than normal concentrations of certain metals, primarily zinc, copper, and chromium. Low levels of volatile organic substances were also detected.

Sediments in the East Fork of White River were relatively uncontaminated, and no substances originating from Seymour Recycling were found in the flesh of fish collected from the river which would make them unsafe to eat. Contamination of surface water appears to have been limited to the immediate area, and the source of contamination has recently been removed.

"Sediments in the East Fork of White River were relatively uncontaminated, and no substances originating from Seymour Recycling were found in the flesh of fish collected from the river which would make them unsafe to eat."

Water quality in the basin has noticeably improved since 1980. Violations of the state's dissolved oxygen standard occurred at five of the eight monitoring stations between 1975 and 1980. Since then, only one violation has been recorded. The number of fecal coliform violations has decreased slightly at most stations. Concentrations of certain metals were previously high enough to have a potential adverse effect on aquatic organisms at several stations. Since 1980, all metal concentrations have been at safe levels. Average total ammonia concentrations were greater than 0.2 mg/l at half the stations between 1975 and 1980. Now none of the stations have average concentrations that high. Following the phosphate detergent ban and implementation of the phosphorus removal requirements for sewage treatment plants at Columbus, Seymour, Brownstown, and Beford in the 1970's, the numerous algal complaints at and upstream from the Williams Dam reservoir have subsided.

"Following the phosphate detergent ban and implementation of the phosphorus removal requirements for sewage treatment plants at Columbus, Seymour, Brownstown, and Beford in the 1970's, the numerous algal complaints at and upstream from the Williams Dam reservoir have subsided."

Many of the improvements in water quality in this watershed are due to upgraded municipal sewage treatment facilities in the area. Advanced waste treatment plants have been built at Greenfield, Columbus, Seymour, Bedford, New Castle, and Bloomington since 1978. All of these plants have shown improved effluent quality, including lower biological oxygen demand, suspended solids, and ammonia. Sewer bypasses have also been reduced. The Greenfield facility was awarded the EPA, Region V, Best Plant Award in 1983.

Water quality in the Muscatatuck River has improved considerably since Morgan Packing Company at Austin upgraded its treatment in 1979. Before the improvements, the mean annual dissolved oxygen concentration of the river downstream from the company was usually below the state standard for aquatic life. Sludge deposits were widespread, and only a few kinds of pollution-tolerant organisms were present for at least 25 miles below the outfall. Now the average dissolved oxygen concentration is well above the state standard, and only one standard violation has been recorded since 1980. Fish kills, sometimes extending from Austin to the East Fork of the White River, were once common. No fish kills have been reported in this portion of the river since the treatment has been upgraded. Fish, mussels, and other aquatic organisms have moved back into the river. In a recent bioassay, the test organisms (Daphnia magna) not only survived, they thrived on the phytoplankton-rich effluent from Morgan Packing Company's treatment lagoon.

The Ohio River Basin

The Ohio River forms the southern boundary of Indiana. Until recently, the waters and bed of the river were not considered part of Indiana, and Kentucky claimed all of the river to the high water mark on the Indiana shore. Indiana claimed that the boundary should be the low water mark as it existed on the north shore of the Ohio River in 1792, the year Kentucky became a state. A recent (1981) United States Supreme Court ruling was in favor of the Indiana position and procedures are now underway to determine the exact location of the 1792 low water line along the northern shore.

The Ohio River and its Indiana tributaries drain approximately 5,800 square miles in Indiana (Figure 17). The major Indiana tributaries in the basin are: the Whitewater River (via the Great Miami River in Ohio), the Blue River, the Little Blue River, the Anderson River, Laughery Creek, Big Indian Creek, and Pigeon Creek. The major land use in the basin is agriculture, but much of the land is hilly and rolling, and much is still heavily forested. Strip mining operations are important in certain portions of the basin.

Water quality monitoring of the Ohio River itself is done by the Ohio River Valley Water Sanitation Commission (ORSANCO), a consortium composed of eight states, six of which border the Ohio River mainstem. ORSANCO maintains Fixed Water Quality Monitoring Stations on the portion of the Ohio River which borders Indiana. The State of Indiana maintains Fixed Water Quality Monitoring Stations on some of the tributaries, and Indiana State Board of Health (ISBH) personnel conduct compliance surveys and other water quality monitoring activities on Indiana facilities and water bodies that discharge to the Ohio River.

The U.S. Army Corps of Engineers operates a series of 20 locks and dams on the Ohio River to allow year round navigation. Four of these are located along Indiana's southern boundary, and these dams create slowly moving lakes or pools in the Ohio River.

Animal wastes from confined feeding operations have been controlled by regulation since 1971 and are treated as point sources. These wastes are confined and subsequently land applied. Problems from animal wastes usually arise from accidental (or deliberate) release of the confined wastes from holding areas and from the inappropriate application of these wastes to farmland. The severity of these incidents range from minor to severe depending on how much waste entered the stream, the stream flow at the time, etc.

Silviculture is a limited activity in the state and is not believed to cause any significant water quality problems. No state control programs exist.

Nonpoint source problems from active coal mines are controlled by state and federal regulations, and problems caused by these mines are minor. There are a few instances in the state where acid mine drainage from older, abandoned mines is causing severe water quality problems, but control of these problems is very difficult and often prohibitively expensive. The Indiana Department of Natural Resources (IDNR) has plans for and is implementing restorative measures for some of these abandoned mines.

Mineral mining (rock, sand, and gravel) requires a state permit for discharges. Sedimentation basins are required, and suspended solids limits are placed in the discharge permit.

Sediment from construction projects is only partially controlled but, in general, appears to pose no discernible, long-term water quality problems due to the limited amount of land under construction and the relatively short time the surface is bare. Road and bridge construction projects funded by the Indiana Department of Highways have erosion and sediment control measures incorporated into the bidding specifications. Also, the Indiana State Board of Health (ISBH) must review and certify (under Section 401 of the Clean Water Act) construction permits which require federal approval for dredging or filling in waterways and wetlands. Ascertaining possible adverse effects on water quality is part of this review.

Hydraulic modifications (dams and channelization) are subject to approval by the IDNR. To the extent that drainage purposes can be met, they require practices that minimize the impact on aquatic life. If dredging or filling of waterways or wetlands is involved, ISBH also reviews and certifies these projects (see above paragraph).

Residual wastes and landfills are subject to state regulations designed to prohibit adverse water quality impact. When designed, built, and operated properly, these nonpoint sources seldom affect surface water quality. In a few instances, leaching of hazardous materials from landfills has caused some water quality problems, but these problems are usually quickly addressed. While there is more to do in both these areas, programs do exist to further control water quality problems from these sources.

Monitoring Programs

Fixed Water Quality Monitoring Station Network

In April 1957, the Indiana State Board of Health established 49 sites for the biweekly collection of samples for physical, chemical, and bacteriological analysis. Ten of the stations were sampled for radiological analysis. Since 1957, various changes and improvements have been made, and at the present time, 92 stations are included in the program. Of the 92 stations, 81 are sampled once each month, and 11 are sampled quarterly. These stations and their descriptions are listed in Table 24 and shown in Figures 18 and 19.

Physical, chemical, and bacteriological analyses are made on samples collected from all 92 of the stations, plankton analysis from 18 and radiological analyses from 23. A list of the parameters for which analyses are made is given in Table 25. Not all of these parameters are sampled at each station.

In many instances, stations are located upstream and downstream of suspected sources of pollution. Stations were established at bridges whenever possible and practical for convenience and to permit sampling in the stream channel. Approximately 2,055 stream miles are regularly monitored by this program.

The Fixed Water Quality Monitoring Station Network was established to provide basic information which would reveal pollution trends and provide water quality data for the many existing and potential users of surface water in Indiana. The monitoring program has these specific objectives:

1. To determine chemical, physical, bacteriological, and biological characteristics of Indiana's waters under changing conditions.

2. To indicate, when possible, the sources of pollution entering a stream.

3. To compile data for future pollution abatement activities.

4. To determine background data on certain types of wastes, such as sewage, chlorides, and radioactive materials, and to detect critical changes.

5. To obtain data useful for municipal, industrial, agricultural, and recreational users.

6. To procure data useful and necessary for securing public action toward the preservation of streams for all beneficial uses.

STATION DESCRIPTIONS

Table 24. Indiana's Fixed Water Quality Monitoring Stations (1983).

STATION	NAME	LOCATION
BD0	Burns Ditch at Portage	Midwest Steel Catwalk
BD1	Burns Ditch at Portage	Midwest Steel Truck Bridge, Portage
BD2E	Burns Ditch at Portage	State Highway 249 Bridge (Chrisman Road)
BD3W	Burns Ditch at Portage	Portage Boat Yard Dock, Portage
BL.1	Big Blue River at Edinburg	U.S. Highway 31 Bridge, Edinburg
BL61	Big Blue River near Spiceland	County Road ~~450~~ 400S Bridge
BLW 53	Blue River, West Fork-Fredericksburg	U.S. Highway 150, Fredericksburg
EC1	Eagle Creek at Indianapolis	Raymond Street, East of State Hwy. 67
EC21	Eagle Creek at Zionsville	State Highway 100, South of Zionsville
ELL7	Eel River Near Logansport	C.R. 125N Bridge, NE of Logansport
ER.3	Elkhart River at Elkhart	East Jackson Street Bridge, Elkhart
EW1	East Fork, White River - Petersburg	S.R. 57 Bridge NE of Petersburg
EW77	East Fork, White River - Williams	County Road South of State Highway 450
EW94	East Fork, White River - Bedford	U.S. Highway 50 Bridge, South of Bedford
EW 157	East Fork, White River - Seymour	Seymour Waterworks Intake
FC7	Fall Creek - Indianapolis	Keystone Avenue Near Water Intake
GCR 34	Grand Calumet River - Hammond	Hohman Avenue Bridge at Hammond
GCR 37	Grand Calumet River - East Chicago	Bridge on Kennedy Avenue, East Chicago
GCR 41	Grand Calumet River - Gary	Bridge on U.S. Highway 12, Gary
IHC0	Indiana Harbor Canal at East Chicago	At Mouth of Ship Canal
IHC1	Indiana Harbor Canal at East Chicago	Bridge on Dickey Road, East Chicago
IHC 35	Indiana Harbor Canal at East Chicago	Bridge on Columbus Drive., East Chicago
IHC 3W	Indiana Harbor Canal at East Chicago	Bridge on Indianapolis Blvd., East Chicago
IWC6.6	Indianapolis Waterway Canal at Indianapolis	Confluence of Canal and White River
KR65	Kankakee River at Shelby	S.R. 55 Bridge, 1 Mile South of Shelby
KR 125	Kankakee River - Kingsbury Wildlife	U.S. 6 Bridge, South of Kingsbury Wildlife
LCR 13	Little Calumet River at Hammond	Hohman Avenue Bridge, Hammond

Table 24. (Cont.)

STATION	NAME	LOCATION
LCR 39	Little Calumet River - Porter	S.R. 149, South of U.S. Hwy. 12, NW of Porter
LMEC	Lake Michigan at East Chicago	Raw Water, East Chicago Waterworks
LMG	Lake Michigan at Gary	Raw Water, Gary Waterworks
LMH	Lake Michigan at Hammond	Raw Water, Hammond Waterworks
LMM	Lake Michigan at Michigan City	Raw Water, Michigan City Waterworks
LMW	Lake Michigan at Whiting	Raw Water, Whiting Waterworks
M95	Maumee River at Woodburn	S.R. 101 Bridge, 3 Miles North of Woodburn
M110	Maumee River at New Haven	Landin Road, .5 Mile North of New Haven
M116	Maumee River at Fort Wayne	Anthony Blvd. Bridge, Fort Wayne
MC17	Mill Creek at Devore	U.S. Highway 231 Bridge, Near Devore
MC35	Mill Creek at Stilesville	U.S. Highway 40 Bridge at Stilesville
MS1	Mississinewa River at Peru	State Highway 124, East of Peru
MS28	Mississinewa River at Jalapa	Izaak Walton Lodge
MS35	Mississinewa River at Marion	Highland Avenue Bridge, Marion
MS 100	Mississinewa River at Ridgeville	County Road 134E, 2 Miles East of City
MU25	Muscatatuck River near Austin	S.R. 39 Bridge West of Austin
P33	Patoka River near Oakland City	Miller Rd. Bridge, 2 Miles W. of S.R. 57 Bridge
P76	Patoka River at Jasper	County Road West of State Highway 45
S0	Salamonie River - Largo	Division Road, Near Lagro
S75	Salamonie River at Portland	S.R. 67 Bridge 2 Miles SW of Portland
SC30	Sugar Creek at Shades State Park	S.R. 234 Bridge, Above Shades State Park
SJR 46	St. Joseph River at South Bend	Auten Road Bridge, South Bend
SJR 76	St. Joseph River at Bristol	County Road Through Bristol
SLC 12	Salt Creek near Valparaiso	S.R. 130 Bridge, Below Sewage Treatment Plant
SLT 11	Salt Creek near Oolitic	State Highway 37 Bridge
STJ0	St. Joseph River at Fort Wayne	Tennessee Street Bridge
STM 12	St. Mary's River at Fort Wayne	Anthony Blvd. Bridge, South of Hwy. 27-33
STM 33	St. Mary's River at Pleasant Mills	S.R. 101 Bridge, North of Pleasant Mill
TC.3	Trail Creek at Michigan City	Franklin Street Bridge, Michigan City
TC1	Trail Creek at Michigan City	U.S. Hwy. 12 Bridge, Michigan City
TR6	Tippecanoe River near Delphi	S.R. 18 Bridge, 5 Miles West of Delphi
V.8	Vermillion River at Cayuga	State Highway 63 Bridge, Cayuga

Table 24. (Cont.)

STATION	NAME	LOCATION
WB 128	Wabash River at Vincennes	U.S. Hwy. 50 Bridge, NW Edge of Vincennes
WB I75	Wabash River, West of Fairbanks	I&M Breed Generating Station
WB 207	Wabash River near Terre Haute	Ft. Harrison Boat Club
WB 219	Wabash River at Clinton	S.R. 163 Bridge at Clinton
WB 228	Wabash River at Montezuma	U.S. Hwy. 36 Bridge, West Edge of Montezuma
WB 245	Wabash River at Cayuga	State Highway 234 Bridge, Cayuga
WB 292	Wabash River near Lafayette	Granville Bridge, SW of Lafayette on Rd. 700W
WB 301	Wabash River at Lafayette	U.S. Hwy. 26 Bridge, W. Edge of Lafayette
WB 336	Wabash River at Georgetown	C.R. 675, West of Georgetown
WB 360	Wabash River at Peru	Business U.S. Highway 31 Bridge, Peru
WB 390	Wabash River at Andrews	S.R. 105 Bridge, North of Andrews
WB 399	Wabash River at Huntington	Huntington Waterworks
WB 409	Wabash River at Markle	State Highway 3 Bridge
WB 452	Wabash River at Geneva	U.S. 27 Bridge, 1.5 Miles N. of Geneva
WC1	Wildcat Creek at Lafayette	S.R. 25 Bridge, NE of Lafayette
WC63	Wildcat Creek at Kokomo	County Road 300W, 1 Mile W. of Kokomo
WC69	Wildcat Creek at Kokomo	U.S. Highway 31 Bypass Bridge
WCS 35	Wildcat Creek, South Fork - Frankfort	State Highway 75 Bridge, Frankfort
WHE 27	East Fork, Whitewater River - Abington	Abington Pike Rd. Bridge, E. Edge of Abington
WHW 24	West Fork, Whitewater River - Brookville	Blue Creek Rd. Bridge, South of Brookville
WLSL	Wolf Lake at Hammond	Culvert, S. Edge of Dike W. of Calumet Avenue
WR48	White River at Petersburg	State Highway 61 Bridge, Petersburg
WR80	White River at Edwardsport	S.R. 358 Bridge, 1 Mile Below PWR Gen. Station
WR 166	White River at Spencer	S.R. 43 & 46 Bridge, South Edge of Spencer
WR 185	White River at Paragon	C.R. 700 West, 2 Miles South of Paragon
WR 197	White River at Centerton	IPALCO Generating Station
WR 205	White River at Centerton	Henderson Ford Bridge, West of S.R. 37
WR 249	White River at Nora	State Highway 100 Bridge, East of Nora
WR 280	White River at Perkinsville	State Highway 13 Bridge
WR 295	White River at Anderson	10th Street at Waterworks
WR 310	White River at Yorktown	County Road Bridge, North of Yorktown H.S.
WR 319	White River at Muncie	Memorial Drive, East Edge of Muncie
WR 350	White River near Winchester	At U.S. 24 Bridge, East of Winchester

Figure 18. Location of Indiana's Fixed Water Quality Monitoring Stations.

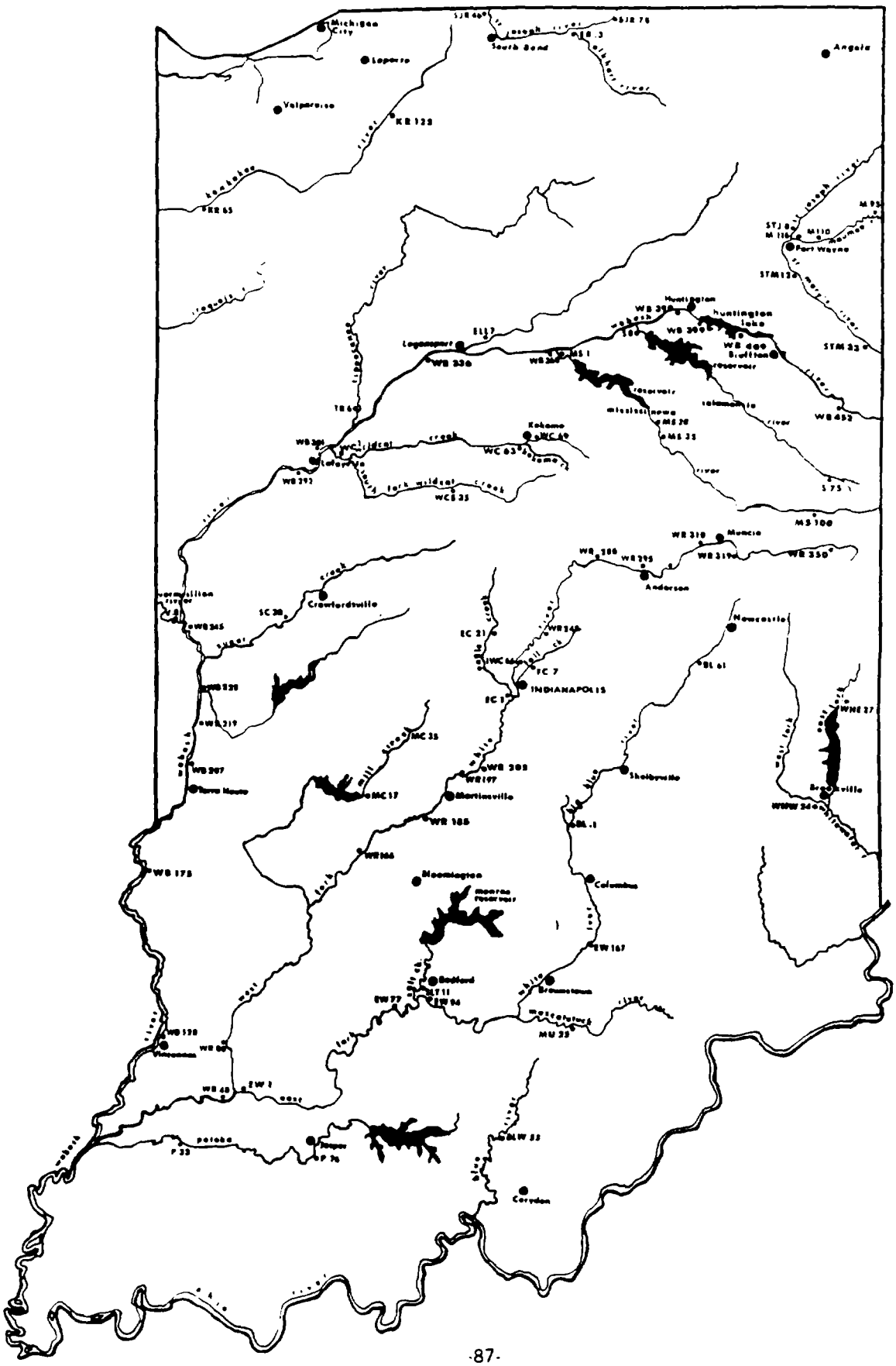


Figure 10 Location of Indiana's Fixed Water Quality Monitoring Stations Lake Michigan Region

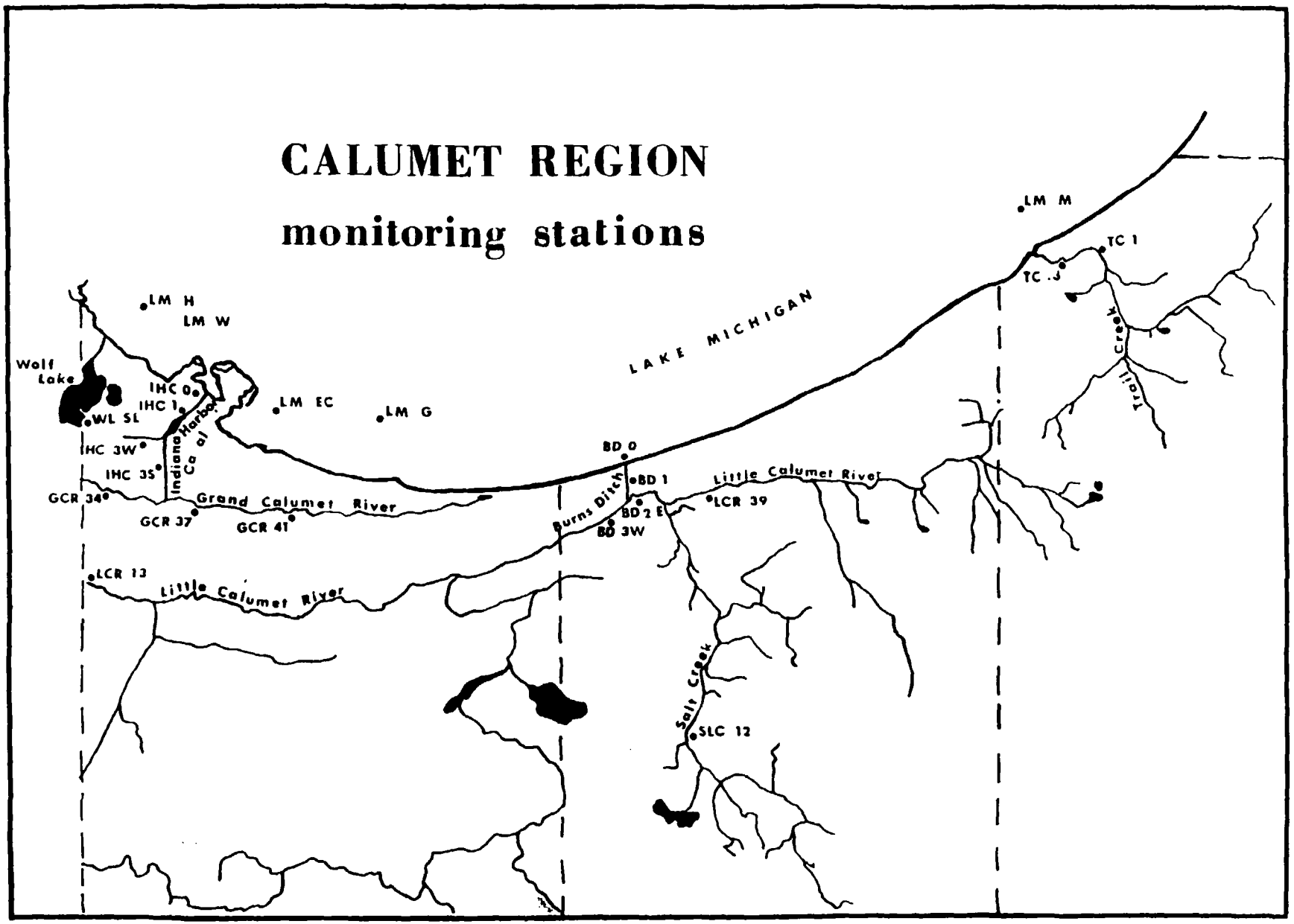


Table 25. Analyses conducted at Indiana s Fixed Water Quality Monitoring Stations. (Not all parameters are sampled and analyzed at each station.)

Alkalinity (total)	Nickel as Ni (total recoverable)
Ammonia as NH_3-N	Nitrate + Nitrite as N
Arsenic as As (total)	Nitrogen, TKN (total)
Biochemical Oxygen Demand (BOD)	Threshold Odor (number)
Calcium as $CaCO_3$	Oil and Grease
Chemical Oxygen Demand (COD)	Polychlorinated biphenyls (PCBs)
Cadmium as Cd	pH
Chloride as Cl	Phenol
Chromium as Cr_{+6} (hexavalent)	Phosphorus as P (total)
Chromium as Cr (total)	Phthalates
Coliform fecal (per 100 ml)	Potassium as K
Coliform total (per 100 ml)	Silica as SiO_2
Copper as Cu (total recoverable)	Sodium as Na
Cyanide (total) as Cn	Suspended Residue (nonfilterable reside)
Dissolved Oxygen (DO)	Volatile Suspended Matter
Fecal Streptococcus Group	Total Residue
Fluoride as F	Dissolved Residue (filterable residue)
Hardness as $CaCO_3$	Specific Conductance as micromnos/cm
Iron as Fe (total)	Sulfate as SO_4
Lead as Pb (total recoverable)	Total Organic Carbon (TOC)
Magnesium as $MgCO_3$	Turbidity as NTU
Manganese as Mn (total)	Zinc as Zn (total recoverable)
Mercury as Hg	

Toxics Monitoring Program

Regular monitoring of toxic substances is conducted by the Division of Water Pollution Control through sample analysis of fish tissue samples collected at the 21 "CORE" sampling stations (Figure 2). Division of Water Pollution Control personnel sample 19 of these tations and the Department of Natural Resources samples the Lake Michigan stations located at Michigan City and East Chicago. In 1979 and 1980, the first two years of the monitoring program, all stations were sampled. However, due to the amount of time required to collect the samples and the amount of laboratory time required to process this number of fish tissue samples, the "CORE" stations were divided into two groups in 1981. One group is sampled one year and the other group the next.

Three sets of fish samples (5 fish each, if possible) are collected at each station. Whole fish samples are submitted to the laboratory for analysis to satisfy the requirement of the Basic Water Monitoring Program. In addition, fillet samples have been collected at some stations so comparisons can be made between "edible portion" and "whole fish" samples. A list of the parameters for which the fish samples are analyzed is shown in Table 2.

Monitoring for aquatic invertebrates also is done at these "CORE" stations. Approximately 4-6 weeks before the fish sampling occurs, three Hester-Dendy samplers are set at the "CORE" station localities to be sampled that year. At the time of the fish sampling, these samplers are retrieved, and the organisms collected, preserved, and identified to the lowest possible or practical taxon and counted. Differences in kinds and/or numbers of organisms between samples set upstream and downstream of major discharge areas may indicate water quality problems originating in these areas.

Water is routinely monitored for a limited number of toxic parameters (mostly metals) at the Fixed Water Quality Monitoring Stations (Figure 18). Also, effluents from discharges known or suspected to contain toxic materials are analyzed for these materials when compliance sampling is conducted or other samples are collected at these localities. In addition, 48-hour static bioassays using Daphnia magna are done on

effluents from all major dischargers. In the last three years, 23 static bioassays have been done. Of these, 78% showed no toxic effects or were only slightly toxic. One onsite flow-through bioassay has been done. This was a 96-hour test using fathead minnows (Pimephales promelas) with effluent from a metal plating firm. No toxicity was found. Also, one static 96-hour bioassay using fathead minnows (Pimephales promelas) has been done on a metal plating firm. The LC_{50} for this bioassay was 42% effluent.

"In the last three years, 23 static bioassays have been done. Of these, 78% showed no toxic effects or were only slightly toxic."

In addition to the more regular monitoring for toxic substances in fish tissue and water, special studies of fish, sediment and, in some cases, water contaminated by toxic substances are done. Fish and/or sediment surveys of both the East and West Forks of White River have recently been completed, and a similar study of the middle portion of the Wabash River is planned for 1984. Samples of fish tissue and/or sediment have been collected from several smaller streams and a few lakes in the last few years for toxic analysis, mostly in response to known or suspected problems in a particular stream or lake.

Biological Monitoring Program

Biological monitoring involves sampling for fish, aquatic invertebrates, plankton, bacteria, special biological studies, and bioassay work. Many of these programs were discussed in the Toxic Monitoring Programs section and will not be discussed further here. This section will discuss biological studies not directly related to toxic materials.

In addition to those fish collected and analzed for toxic substances, data as to numbers and kinds of all fish observed are taken. This information provides qualitative data as to the composition of the fish community at these stations. These data can then be compared to data obtained from previous years or from other studies to give some indications as to what is occurring at that locality in the part of the fish community amenable to our sampling apparatus (D.C. electrofishing). Similar data on the aquatic invertebrate community is obtained by the identification and enumeration of organisms collected on the Hester-Dendy samplers.

Routine monitoring of coliform bacteria is done at all 92 Fixed Water Quality Monitoring Stations. Water designated for whole-body contact recreation must meet more stringent coliform bacteria requirements than water designated for other uses. Very high numbers of these organisms usually indicate inadequate sewage treatment or areas where combined sewer overflows may be causing problems. Also, bacteriological samples are collected as part of surveys or inspections at wastewater treatment facilities.

Plankton samples are collected routinely at 18 of the 92 Fixed Water Quality Monitoring Stations. These samples are preserved in the field and later identified and counted. These data provide information on plankton population trends.

Primary productivity studies are also part of the biological monitoring program. Although not done on a routine basis, several of these studies have been done over the past 2-3 years, mostly to provide information for wasteload allocation models. Primary productivity studies were conducted in 1981, 1982, and 1983 on the Wabash River between Lafayette and Merom; in 1983 on Trail Creek near Michigan City; and in 1983 on the East Fork of the White River between Columbus and Azalia. These studies provide information on the rates of algal photosynthesis and respiration in the river, lake or stream. These rates are then utilized as part of wasteload allocation models.

Considerable biological monitoring has been done in the past 2-3 years on small streams in conjunction with the construction grants program. Some headwater streams are incapable of supporting diverse communities of fish and other aquatic life during much of the year simply because there is not enough water, food or suitable habitat present to support them, no matter how high the water quality. Therefore, the state has established a "limited use" designation for certain headwater streams. Water quality standards for such streams are not quite as high as those for streams designated for maintenance of well balanced fish communities and aquatic life ("general use").

Each year, habitat evaluation studies are conducted to determine the existing and/or potential uses that various stream reaches will support. In scheduling and conducting these surveys, priority is given to those stream reaches where it appears that a discharger to a headwater stream will be required to provide advanced wastewater treatment in order to meet general use criteria.

During the study, a checklist which includes detailed information regarding the physical, chemical, and biological nature of the stream, as well as a description of riparian land use, is completed. This information is used to prepare a habitat evaluation report which is presented to the agency's AT (Advanced Treatment) Committee for review and approval.

If the habitat evaluation study indicates that the use designation for a particular stream or stream reach should be changed, the habitat evaluation report is presented to the Indiana Stream Pollution Control Board to support the recommended change. The report will also be made part of the official record of the public hearing that is held to consider changing the stream use designation in the water quality standards.

Since 1979, habitat evaluations were conducted on 164 headwater streams. Of these, 91 had at least a small stretch that could be recommended for limited use designation. Of the total number of evaluations, 133 were on streams receiving municipal discharges, and 31 were on streams receiving industrial discharges.

A revised regulation (330 IAC 1-1) containing 18 stream reaches designated for limited use was fully promulgated at the beginning of 1984. It is expected that additional stream reaches will be designated for limited use during the next two years.

Intensive Survey Program

An intensive survey consists of 24-hour sampling of all significant dischargers, receiving streams, and flowing tributaries within the stream reach or segment being studied. In addition to chemical and bacteriological testing, flow, stream slope, reaeration capacity, and other physical factors are measured during these surveys. In many instances, measurements of sediment oxygen demand, phytosynthesis/respiration rates, chlorophyll a, depth of light penetration, and plankton counts are also included.

Intensive Water Quality Studies for stream modeling are conducted according to a priority established by the state water monitoring committee. Data obtained from these studies are used in support of various activities including the preparation of stream models and wasteload allocations, basin plans, nonpoint source evaluation, and for compliance monitoring. Data are also provided for NPDES permit reissuance, for determining extent of compliance with existing water quality standards, to demonstrate cause and effect relationships, and for evaluating potential sites for future wastewater treatment facilities. These surveys also surface violations of NPDES permit limits or conditions and help determine the ability of a stream to support the designated uses.

Data from at least two intensive surveys are normally required for model calibration and verification. However, for those isolated municipalities on low flow streams or ditches a simplified modeling approach was developed which utilizes an application of the modified Streeter-Phelps equation to predict dissolved oxygen concentrations. Minimum instream water quality data are required, but the physical data required are the same as for the more complex models. Tables 26, 27, 28 and 29 list the intensive surveys that were conducted during FY 1982 and FY 1983.

Intensive segment surveys are conducted in much the same manner as the modeling surveys. However, all streams and dischargers in a designated stream segment are included. No true segment surveys were conducted during the last two fiscal years, but several are planned for this and next (Tables 30 and 31).

Intensive Survey Abstracts

1. Mid-Wabash Comprehensive Survey

During the summers of 1981 and 1982, a comprehensive survey was conducted on a 147-mile reach of the Wabash River between Lafayette (MP 312) and Merom (MP 164.8). This survey was conducted in cooperation with the USGS, Purdue University, DePauw University, representatives of the Mid-Wabash Industrial Consortium, andDr. Donald J. O'Conner and John St. John of HydroQual, Inc. These data were required for mathematical modeling needed to equitably allocate wasteloads to the various municipal and industrial dischargers along the reach of the river in question.

Parameters measured included sediment oxygen demand, biochemical oxygen demand, temperature, diurnal dissolved oxygen fluctuations, chlorophyll a, primary productivity, light extinction coefficients, time of travel, reaeration capacity, cross-sectional area, river flow, and various chemical consituents both in the river and tributaries. Significant discharges to the river were also sampled during the survey.

In September 1983, the Indiana State Board of Health (ISBH) found particularly low dissolved oxygen conditions occurring in the lower end of the Covington reach of the Wabash River in the vicinity of Sugar Creek. These observations were initially made during a period

In Anderson, flow in White River was nearly 3 times the $Q_{7,10}$. Field observations indicated that an algae bloom was occurring during the survey. High water temperature, varying pH values, and wide diurnal dissolved oxygen fluctuations indicated a significant degree of photosynthetic activity, particularly downstream of the facility discharge. Dissolved oxygen values ranged from 17.5 to 3.7 mg/l over the 24-hour period. With the exception of ammonia-N (13.0 mg/l), the Anderson plant was producing excellent effluent. Laboratory analysis indicate that the ammonia discharge contributes significantly to downstream BOD_5 values. The total BOD_5 at downstream stations was generally two times the CBOD values.

In the Indianapolis area, high fecal coliform counts were found in Fall Creek near the White River confluence (52,000/100 mg/l), at Harding Street above the Belmont sewage treatment facility (100,000/100 ml) and at Southport Road upstream from the mixing zone with the Southport sewage treatment facility effluent (180,000/100 ml) on September 7, 1983. The effluents from the two facilities had no detectable fecal coliform concentrations. It is obvious that these high concentrations were due to combined sewer overflows following an area rain on September 6. Dissolved oxygen concentration at the I-465 South bridge below Indianapolis was 2.5 mg/l at 11:00 a.m. The Belmont plant effluent D.O. was 5.9 mg/l, and the Southport plant D.O. was 11.0 mg/l. Ammonia from the facilities has been reduced significantly because of the improvement of these plants (Belmont NH_3-N =.1, Southport NH_3-N = 3 mg/l). Overall water quality for this portion of the White River has vastly improved and should improve more when sewage treatment facility renovations have been completed and the city has gained better control of their CSO problems.

4. East Fork White River

On July 12-13 and August 9-10, 1983, an intensive survey was conducted on the reach of the East Fork of White River between Columbus and the Azalia bridge (12 river miles). The purpose of the survey was to gather data to develop a model and wasteload allocation for the Columbus sewage treatment facility. The sewage treatment facility normally receives a significant waste loading from Stadler Meat Packing Plant in Columbus, but the plant was not operating at the time of the survey. Thus, data collected reflect the loadings to the river without the meat packing plant loadings.

Twenty-four hour composite samples were collected at 13 sites on the East Fork of White River, at the Columbus sewage treatment facility and from three tributaries (Haw Creek, Clifty Creek, and Little Sand Creek). Sediment oxygen demand (SOD) was measured at six river sites. Primary productivity, chlorophyll a, and algae counts were measured at three sites. These were upstream of Columbus, below Haw Creek, and at the Azalia bridge. Flows during the August 9-10 survey were less than twice the $Q_{7,10}$ flow.

These data, along with the predicted additional loading from Stadler Meat Packing to the sewage treatment facility, are incorporated in a wasteload allocation for this reach of the East Fork of White River. Data collected on these surveys should also allow for the determination of NPDES permit limits for Stadler Meat Packing which would protect the water quality in the East Fork of White River should they propose to discharge directly to the river rather than to the Columbus sewage treatment facility. This possibility has been raised in correspondence from representatives of Stadler Meat Packing.

5. Walnut Creek and Tippecanoe River (Warsaw sewage treatment facility).

Walnut Creek, the receiving stream for the Warsaw sewage treatment facility, is a tributary of the Tippecanoe River. Walnut Creek was sampled in August 1979 and September 1981 in order to prepare a model and wasteload allocation for the stream. In September 1983, flows in Walnut Creek fell to the $Q_{7,10}$ level. This provided an opportunity to obtain data from the sewage treatment facility and the receiving stream to test the model and, if necessary, correct the coefficients in the wasteload allocation. These data are presently being reviewed.

At present, the sewage treatment facility is achieving 92-97% removal of BOD and suspended solids, but ammonia loadings are moderately high. The effluent, which usually has a low dissolved oxygen concentration, is discharged into Walnut Creek, a slow moving stream which is heavily shaded. There are problems of virtually no physical reaeration and large accumulations of solids and debris which produce a large sediment oxygen demand. These factors contribute to substandard dissolved oxygen concentrations in Walnut Creek.

Walnut Creek flows into the Tippecanoe River, a high quality stream being considered by the Indiana Department of Natural Resources for inclusion in its Natural, Scenic, and Recreational River System. Data from this low flow survey should provide the necessary information to verify (or modify) the existing model and wasteload allocation. After this is completed, we will know if the existing water quality standards for Walnut Creek are attainable.

Table 26. Simplified steady state modeling surveys (Priority Water Bodies List-1982).

Municipality	Receiving Stream
Albany STP	Mississinewa River
Bloomington North STP	Stout Creek
Brazil STP	Birch Creek
Brookston STP	Moots Creek
Bruceville	Smalls Creek
Columbia City STP	Blue River
Dale STP	Ballard Creek
Ft. Branch STP	West Fork Pigeon Creek
Goodland	Hunter Ditch
Haubstadt STP	West Fork Pigeon Creek
Holton	Otter Creek
Hymera STP	Sulphur Creek
Jasper-Mill Creek	Mill Creek
Markleville	Lick Creek
Mooreland STP	Flatrock River
New Palestine	Sugar Creek
Orleans STP	Sinkhole to Lost River
Otterbein STP	Otterbein Ditch
Oxford STP	Lagoon Ditch
Remington STP	Carpenter Creek
Sanborn	Hill Ditch
Sellersburg STP	Silver Creek
Shakamak State Park STP	Branch Creek
Sullivan STP	Buck Creek
Versailles STP	Laughery Creek

Table 27. Intensive stream reach surveys - 1982.

Segment	
30	Walnut Creek and Tippecanoe River at Warsaw
4	Trail Creek at Michigan City
57	Eagle Creek at Indianapolis
43,44 45. 49,51	Wabash River and Tributaries from Lafayette to Merom

Table 28. Simplified steady state modeling surveys (Priority Water Bodies List-1983).

Municipality	Receiving Stream
Albion STP	Croft Ditch
Albany STP	Mississinewa River
Auburn STP	Cedar Creek
Avilla STP	King Lake Ditch
Bloomington North STP	Beanblossom Creek
Brazil STP	Birch Creek
Bunker Hill STP	Pipe Creek
Chandler STP	Strollberg Ditch
Cloverdale STP	Rabbit Run
Dunkirk STP	Dunkirk Drain
Ellettsville STP	Jack's Defeat Creek
Elnora STP	Tributary Vertees Ditch
Fountain City	Noland's Fork Whitewater River
Gas City STP	Mississinewa River
Grabill STP	Haifley Ditch
Grissom AFB STP	Pipe Creek
Hymera STP	Sulphur Creek
Jasper STP	Patoka River
Jonesboro STP	Back Creek
Lebanon STP	Prairie Creek
Liberty STP	Silver Creek
Loogootee STP	Tributary to Friend's Creek
Lynn STP	Mud Creek
Marion STP	Mississinewa River
Michigan City STP	Trail Creek
Milan STP	Branch, South Hogan Creek
Mitchell STP	Rock Lick Branch
North Vernon STP	Vernon Fork, Muscatatuck River
Osgood STP	Tributary, Laughery Creek
Ossian STP	Eight-Mile Creek
Portland STP	Salamonie River
Shelburn STP	Kettle Creek
Shirley STP	Six-Mile Ditch
Wakarusa STP	Baugo Creek
Westville STP	Forbes Ditch

Table 29. Intensive stream reach surveys - 1983.

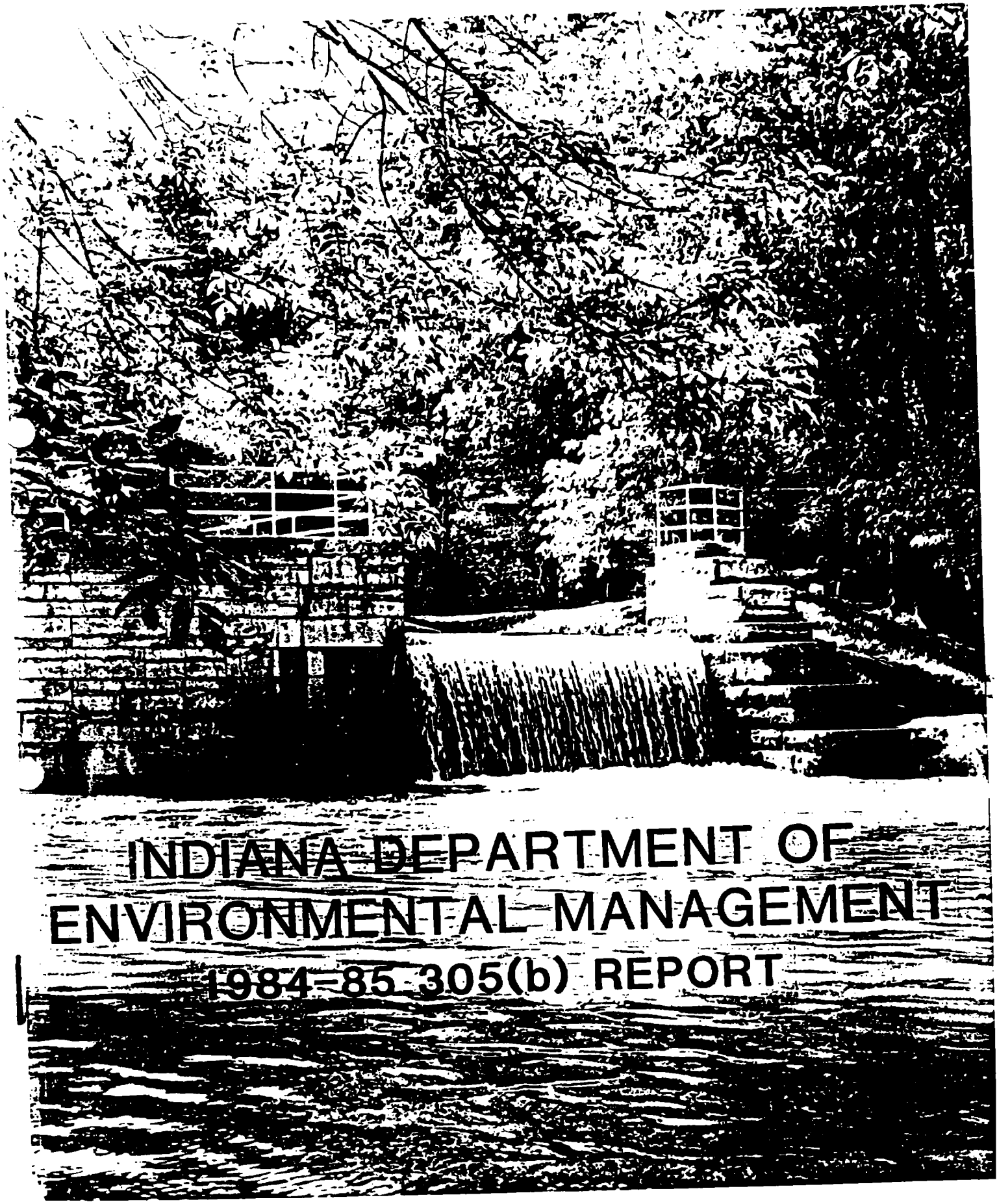
Segment No.	
4	Trail Creek at Michigan City
43, 44, 45	Wabash River and Tributaries from
49, 51	Lafayette to Merom
38, 39	Salamonie River, Upper and Lower

Table 30. Proposed stream reach or modeling surveys from Priority Water Bodies list.

Municipality	Receiving Stream
Waveland-Russellville	Little Raccoon Creek
Georgetown	Georgetown Creek
LaGrange	Fly Creek
Ferdinand	Holey Run
Morgantown	Indian Creek
Medora	Hinderlander Ditch
Churubusco	Churubusco Branch
Dupont	Bear Creek
Van Buren	Big Black Creek
Oldenburg	Harvey Branch
Ft. Branch	West Fork Pidgeon Creek
Royal Center	Fredericks Ditch
Bluffton	Wabash River
LaFontaine	Grant Creek
Montgomery	South Fork Prairie Creek
Milltown	Trib. to Blue River
New Pekin	South Fork Blue River
Argos	Myer Ditch
Bloomington North STP	Bean Blossom Creek
North Judson	Pine Creek
Connersville	West Fork Whitewater River
Hartford City	Lick Creek
Lowell	Cedar Creek
Moores Hill	Whitaker Creek
Rensselear	Iroquois River
Roachdale	Clines Creek
Roanoke	Little Wabash River
New Market	Rattlesnake Creek
Hagerstown	West Fort Whitewater
Princeton	Richland Creek
Walton	Phillips Ditch
Clayton	Mud Creek
Waldron CD	Conns Creek
Linton	Beehunter Ditch
Windfall City	Round Prairie Creek
Pittsboro	West Branch White Lick Creek

Table 31. Intensive segment surveys FY 84 & FY 85.

Segment No.	Segment Name
71	Upper Blue River
72	Flat Rock River
73	Youngs Creek
74	East Fork White River-Clifty Creek
75	Upper Salt Creek
76	East Fork-Vernon Fork Muscatatuck River
77	Lost River
78	Sugar Creek
79	Blue River
80	Upper Flat Rock River
81	Flat Rock-Driftwood Rivers
82	Sand Creek
83	Muscatatuck River
84	East Fork White River (Jonesville to Williams Dam)
85	East Fork White River (Below Williams Dam)



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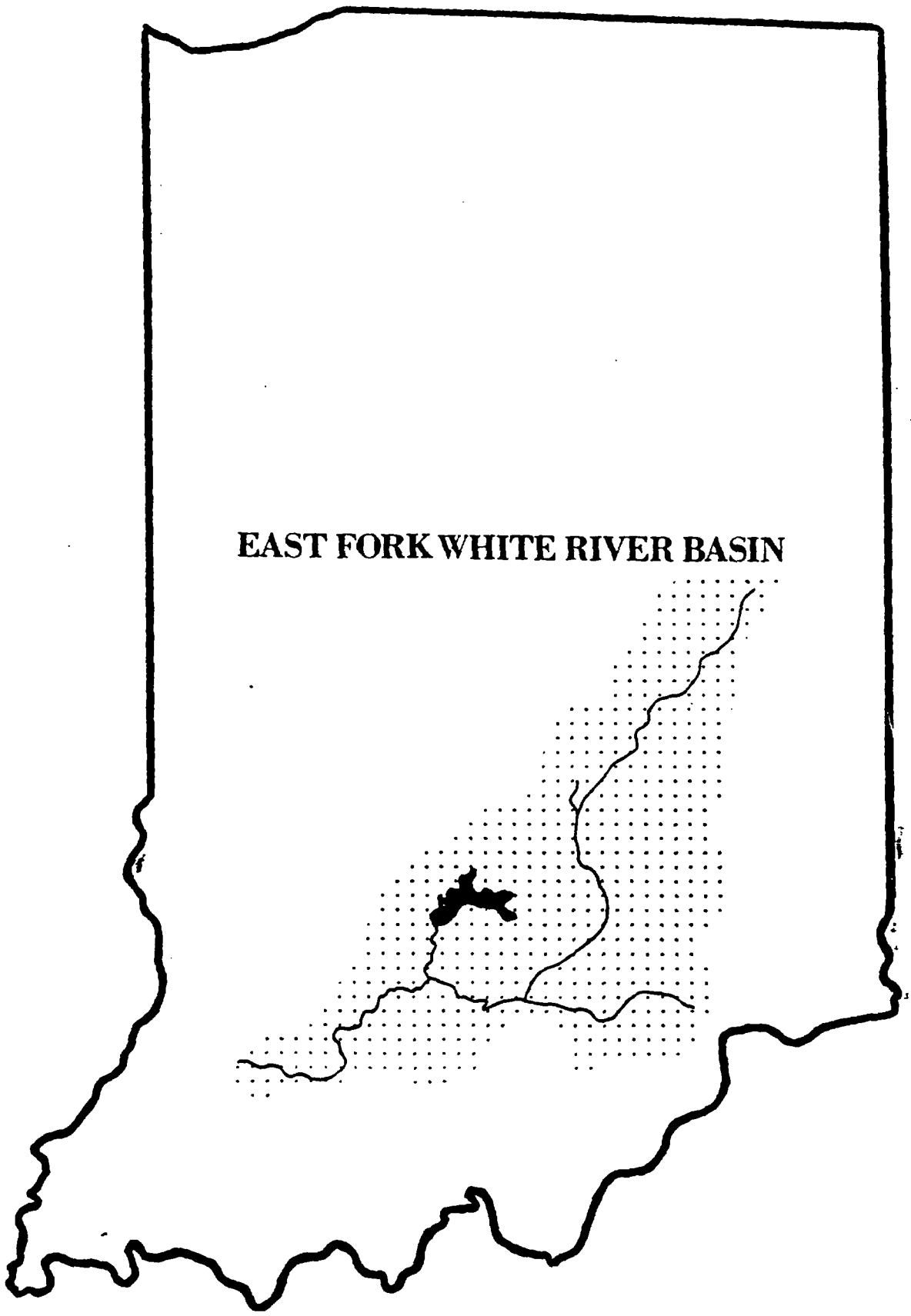

Figure 24. East Fork White River Drainage Basin.

The West Fork of White River is joined by the East Fork of White River just upstream of Petersburg in Pike County. There are two generating stations located on the White River near Petersburg--the Ratts Generating Station owned by Hoosier Energy and the Petersburg Generating Station owned by Indianapolis Power and Light Company. Under conditions of high ambient temperatures, low flow, and high electrical power demand, these plants can raise the temperature of the river significantly downstream of their cooling water discharges. At these times, fish populations may leave certain parts of the river. These occasional high temperatures are being addressed in the new proposed NPDES permits for these plants.

The Petersburg sewage treatment facility discharges to Pride's Creek which flows into White River. This discharge degrades Pride's Creek somewhat, but does not significantly affect the White River. Data from the fixed water quality monitoring station located at Petersburg (WR-48) indicate that only occasional fecal coliform violations are found.

WR-48 is also a CORE monitoring station. Fish collected at this station include spotted bass, black crappie, bluegill, buffalo, carpsuckers, catfish, drum, gar, and others. From ISBH collections and reports published in connection with thermal studies done at the two electrical generating stations, it would appear that a rather diverse fish community normally exists in this part of the river. Some fish tissue samples collected at this station show chlordane values above FDA action levels. Macroinvertebrate samples indicate generally good water quality and are typical of medium to large Indiana rivers.

From Petersburg, the White River flows west to join the Wabash. The stream is of generally good water quality when it reaches the Wabash, although some of the White River's tributaries in the counties of Pike, Gibson, and Knox receive periodic runoff from oil well operations and active and abandoned strip mines.

East Fork of White River Basin

The East Fork of White River drains about 5,600 square miles of southern Indiana (Figure 24). Roughly 15,000 miles of streams are included in the basin. Sugar Creek, Big Blue River, Driftwood River, Flatrock River, the Muscatatuck River, and Salt Creek are the river's major tributaries. The largest cities in the watershed (populations greater than 15,000) are Columbus, Seymour, Bloomington, New Castle, Shelbyville, and Bedford.

The topography of this basin ranges from flat to rugged as it crosses seven of southern Indiana's eight physiographic regions. The basin also includes unique underground streams in the karst region of caves and sinkholes in Orange and Lawrence counties. Agriculture is important in the flatter regions, but much of the watershed is forested. The groundwater contribution to stream flow in the basin is low, so flow depends largely on rainfall, and variations can be great. Compared to other basins, stream channelization projects in the East Fork of White River Basin have been minimal.

The East Fork of White River has always been an important sport fishery. State records for flathead catfish, freshwater drum, rock bass, flier, sucker, and smallmouth bass have all come from this river or one of its tributaries. The reputation of the river to support large fish continues to be justified, as the state records for sucker and smallmouth bass were set in 1984 and 1985. An important fresh water mussel fishery also exists in the lower portion of the river. The shells of certain mussels are used in the cultured pearl industry and are commercially valuable.

There are drinking water supply intakes on the East Fork of White River at Bedford, Mitchell, and Seymour. Surface water supplies for drinking are also found at Paoli, West Baden, Bloomington, Westport, North Vernon, and Scottsburg on various tributaries of the river. Therefore, the water in this basin must meet the raw water standards for potable water supply at the municipal intakes.

The river and several of its tributaries are popular canoeing streams. The 1983 Indiana Canoeing Guide prepared by the Department of Natural Resources lists the Driftwood, Flatrock, and Muscatatuck rivers as especially good for this sport. At least one commercial canoe livery operates within the basin. Like most other Indiana Streams, the river is designated for partial-body contact recreation and must meet bacterial standards for this use as well.

The Lost River and many of its tributaries in Orange and Martin counties have recently been designated for exceptional use. This designation should help preserve the exceptional water quality in the watershed and help protect several unusual aquatic animals, including blind cavefish, which inhabit the river. Several streams in the basin have recently been designated for limited use, based on their lack of habitat to support a diverse fishery. These include Plasterers Creek at Loogootee, portions of Brewer's Ditch at Whiteland, and portions of Ackerman Branch and Mill Creek at Jasper.

There are eight fixed water quality monitoring stations in the basin. Water quality is suitable for aquatic life at seven of the stations but is partially impaired by chromium violations at the Big Blue River station downstream from New Castle (BL-64). Use of the water for partial-body contact recreation is also impaired at this site (43% of the 1984-85 samples exceed the standard), as well as at station BL-0.1 on the Big Blue River near Edinburgh (14% of the 1984-85 samples exceed the standard). Water quality is generally satisfactory as a raw water source for potable water supply at all of the drinking water intakes on the East Fork of White River and its tributaries.

Besides the normal chemical monitoring of water quality, several biomonitoring studies were recently conducted in the basin. In 1983, the state collected fish, mussels, and sediments from 32 locations in the East Fork and some of its tributaries to measure levels of metals, pesticides, PCBs, and other toxicants. Apparently healthy aquatic communities were observed at most locations and levels of toxicants in sediment were near normal or "background" concentrations. Exceptions occurred at three locations: Clear Creek near Bloomington,

Pleasant Run near Bedford, and Big Blue River near New Castle. The first two sites had fairly good fish communities but sediments were still somewhat contaminated with PCBs from industrial sources identified in the 1970s. The site near New Castle had noticeably depressed fish populations and the sediments showed elevated levels of certain metals. Bioassays indicate that the steel mills in New Castle are the probable sources of this impairment. Thus, biological monitoring confirmed the impairment predicted by the fixed water quality monitoring station samples at BL-64, as previously discussed.

Fish and macroinvertebrates were also collected from the CORE site on the East Fork of White River immediately below Williams Dam in 1985. Regular biomonitoring has occurred at this site since 1979. The macroinvertebrate sample was extremely diverse and many pollution intolerant species were present, indicating excellent water quality. The fish population also appeared to be healthy. Analysis of fish for metals, PCBs, and pesticides has not yet been completed for this most recent sample, but samples taken in 1983 indicated that consumption of fish from this area should be limited because of chlordane and PCB contamination (see Table 7).

Five fish kills were investigated in the East Fork of White River basin in 1984 and 1985. Over 6,700 fish were involved in one of the kills. Agricultural practices, including manure, herbicide, and fertilizer handling were responsible for all of the fish kills. No point source wastewater discharges were involved.

Several recent improvements in water quality have been noted in this basin. During 1984 and 1985, three of the eight monitoring stations had no violations of the fecal coliform bacteria standards for recreational uses. Previously, all of the stations had at least occasional violations. Also, there were no violations of dissolved oxygen, oil and grease, or cyanide criteria in the last two years. All of these criteria were violated occasionally at one or more sites between 1981-83. Therefore, although water quality was already fairly good in the basin, improvements continue to be made at locations where new or upgraded sewage treatment facilities have been put into operation. A new treatment plant at New Palestine in Hancock County began operation in 1985 and reportedly produces an excellent effluent. This facility should correct one water quality problem that existed in the upper Sugar Creek area. Upgrading of the sewage treatment plant at Morristown in Shelby County was completed in 1984. This facility seldom met its NPDES discharge limits prior to the completion of the new project. Now, the average BOD concentration of the effluent has been reduced by half and the plant regularly meets its limits. Consequent improvements in water quality of the Big Blue River is expected because of better sewage treatment at Morristown.

Water quality problems continue to exist in streams with inadequately treated wastewater discharges. Municipal sewage treatment plant effluents at Loogootee, Brownstown, Orleans, and Paoli are among the worst of these discharges, providing little more than primary treatment and continuously violating their discharge permits. Municipal facilities at Greensburg, Mitchell, North Vernon, and Nashville often

meet permit limits but chronic combined sewer overflows, leaking sewers, or failing lift stations frequently allow untreated sewage to reach streams and cause water quality violations.

Malfunctions at a lift station at Greensburg have often caused fish kills in nearby Greensburg Reservoir, a 23 acre state-owned lake west of the city. Frequent discharges of untreated sewage have also contributed to rapid nutrient enrichment and caused the lake to be among the most eutrophic in the state. Sediments collected from the lake bottom in 1985 showed the lake to have slightly elevated concentrations of copper, nickel, and PCBs. Fish were also collected to monitor the concentrations of these substances in the flesh, but analysis is not yet complete.

Bioassays of industrial effluents have shown that at least one discharge in the basin may have a potentially toxic effect on aquatic communities. Allegheny Ludlum Steel in New Castle has a wastewater discharge to the Big Blue River. This company has frequent violations of its discharge permit for various metals, and several recent bioassays of their effluent confirm that these violations can have a toxic effect on aquatic life. At least partial responsibility for use impairment at the fixed water quality monitoring station on the Big Blue River (BL-64) can be traced to this effluent. The company is working with the state to eliminate frequent upsets which cause the wastewater treatment system to fail, resulting in water quality standards violations.

Another concern in the East Fork of White River basin is the continued fish consumption advisory issued for 75 miles of streams in Monroe, Lawrence, and Greene counties. PCB contamination in these areas was discovered in the 1970s and originated from several industrial sources. Richland Creek, Clear Creek, Salt Creek below the Monroe Reservoir dam, and the East Fork of White River from Bedford to Williams Dam all have fish with PCB concentrations in excess of FDA action levels. The state recommends that preschool children and women of child bearing age should avoid eating fish from these areas. All other persons should eat no more than one meal per week of these fish. Catfish from the area immediately below Williams Dam should not be eaten by anyone.

Several recent measures have been taken to reduce or eliminate PCBs in area streams. Westinghouse Corporation in Bloomington completed construction of an activated carbon filter system to eliminate PCBs leaching from Neal's Landfill into Richland Creek. Westinghouse has also agreed to hydrovacuum stream sediments at 5 sites identified by the state in 1984 as having PCB concentrations greater than 0.5 parts per million. Monitoring of stream sediments in late 1984 showed that PCB concentrations are 2 to 4 times less than they were at the same sites in 1983 and 9 to 17 times less than they were in 1980. This is not surprising since the source(s) of contamination seems to have been largely eliminated.

In 1985 the state also collected fish and sediments from five sites in Monroe Reservoir and one site in North Twin Lake to check for possible PCB contamination. Although fish flesh analysis is not yet

complete, no detectable amounts [illegible] were measured in any of the lake sediments. Apparently, no appre[illegible] contamination exists in these two waterbodies.

Funding for increased [illegible] treatment became available to several communities in the basin [illegible] and 1985. EPA construction grants of 1.1 to 1.3 million dollars were recently been awarded to Paoli, Westport, and Crothersville to upgrade their sewage treatment systems. In addition, Nashville and Brownstown received grants and loans totalling 1.3 and 2.5 million dollars, respectively, from the Indiana Department of Commerce [illegible] to improve their sewage treatment plants. Plans for the Nashville facilities were received and approved in 1985 and construction is scheduled to begin in the spring of 1986. Construction at Brownstown is scheduled to be completed in 1987. All of these facilities have regularly violated their discharge permits, and the upgraded facilities should result in improved downstream water quality.

The Ohio River Basin

The long standing boundary dispute between Indiana and Kentucky concluded in early November 1985 when the Supreme Court ratified the boundary agreement. Indiana now owns a minimum of 100 feet into the river and up to half the river width in some locations. All islands were retained by Kentucky. Indiana's special sport fishing regulations for the Ohio River are now in effect. On November 27, 1985, an interim agreement regarding license reciprocity was signed with Kentucky. Indiana's next step will be to promulgate special commercial fishing regulations for the Ohio River. Legislation has previously been passed which creates an Ohio River commercial fishing license based on Kentucky's fees. The same legislation also stipulates that Indiana's commercial fishing regulations must "conform" with Kentucky's.

The Ohio River and its Indiana tributaries drain approximately 5,800 square miles in Indiana (Figure 25). The major Indiana tributaries in the basin are: the Whitewater River (via the Great Miami River in Ohio), the Blue River, the Little Blue River, the Anderson River, Laughery Creek, Big Indian Creek, and Pigeon Creek. The major land use in the basin is agriculture, but a large portion of the land is hilly and rolling, and much is still heavily forested. Strip mining operations are important in certain portions of the basin.

Water quality monitoring of the Ohio River itself, which forms the southern boundary of Indiana from about mile points 491.5 to 848.0, is done by the Ohio River Valley Water Sanitation Commission (ORSANCO), a consortium composed of eight states, six of which border the Ohio River mainstream. ORSANCO maintains fixed water quality monitoring stations on the portion of the Ohio River which borders Indiana. The State of Indiana maintains fixed water quality monitoring stations on some of the tributaries, and Department of Environmental Management (DEM) personnel conduct compliance surveys and other water quality monitoring activities on Indiana facilities and water bodies that discharge to the Ohio River.

Stahl

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Bean Blossom Creek in Monroe County is threatened due to low levels of PCBs which have been found in the tissue of fish collected from this stream. The source of these PCBs appear to be drainage from Bennetts Landfill which goes to Stouts Creek, a tributary of Bean Blossom Creek. Bennetts Landfill was a disposal site for PCB containing wastes.

Eel River in Putnam and Green counties is another stream which currently supports its designated uses but is threatened. The major threat to this stream is the high volume of nonpoint runoff from the heavily farmed lands in the drainage basin.

Several other assessed streams in the basin do not fully support their designated uses due to problems from various sources. The East Fork of White Lick Creek in Marion County has received periodic bypassing from a lift station, metals contamination from Quemetco Corporation and industrial effluent from the Avon Railroad yards. Urban, industrial, and agricultural nonpoint runoff also periodically affect this stream. The lower four miles of Eagle Creek in Marion County are affected by bypassing and poor effluent quality from the Speedway POTW and several industrial discharges containing high metals concentrations. Flow fluctuations caused by water release and retention schedules at the Eagle Creek Reservoir dam also effect the ability of the stream to maintain a diverse aquatic life community. Several actions taken recently on these streams such as repairs to the defective lift station, enforcement action against the Speedway POTW, and improved treatment at several of the industries should result in improved water quality in these streams.

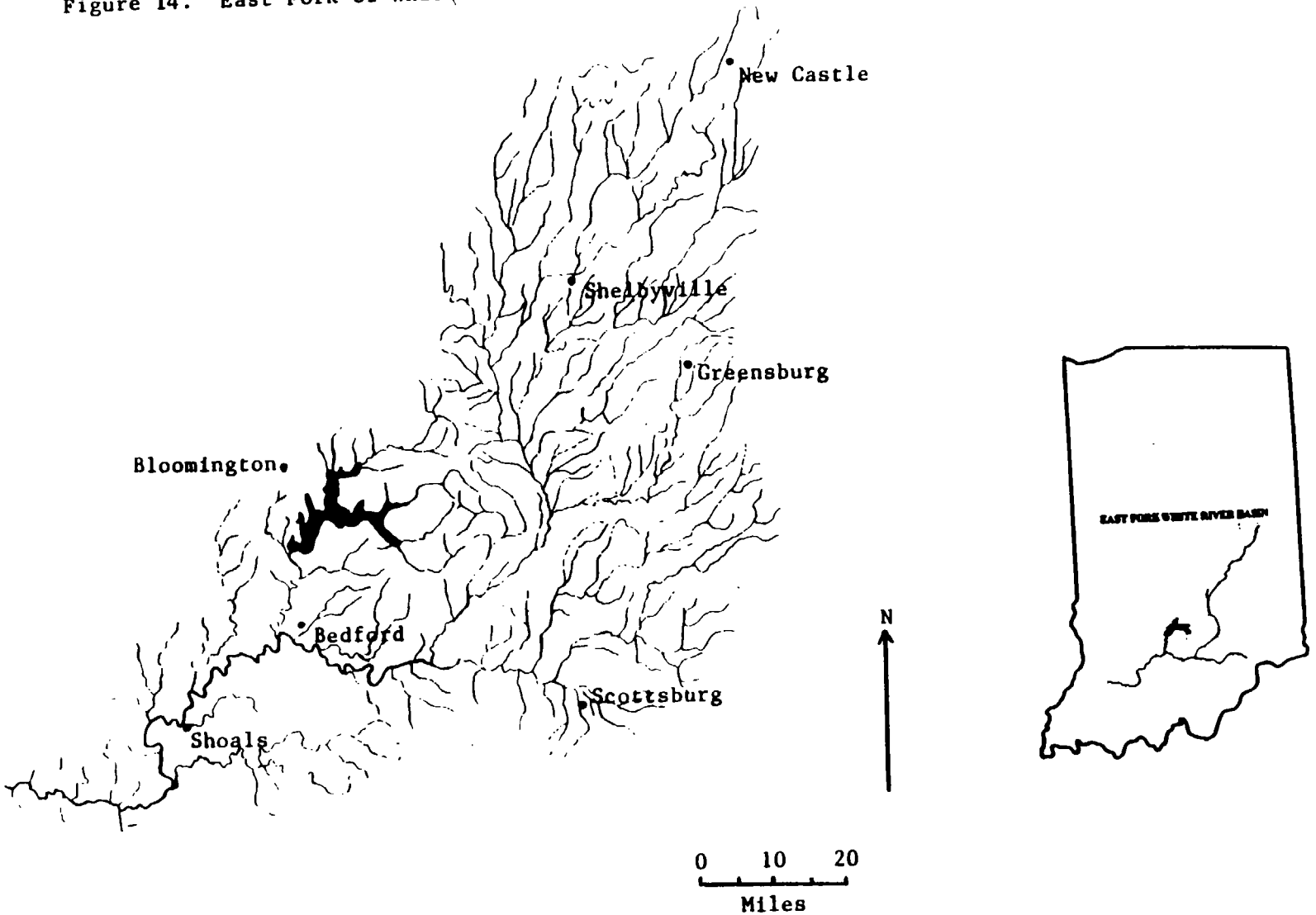
Indian Creek near Bicknell in Knox County does not support aquatic life for about four miles due to acid drainage from abandoned mine land. This stream is already impacted by acid mine drainage before it receives the discharge from the Bicknell POTW. Lilly Creek near Orestes in Madison County receives seasonal discharges from the Red Gold Cannery and several fish kills have occurred there in the past due to excessive discharges of organic oxygen demanding wastes. These discharges do not allow full support of uses for at least one mile downstream of the discharge.

In summary, 794 stream miles were assessed in the WF White River basin. Of these assessed miles 58% fully support their designated uses (10% in this category are considered threatened). Another 30% partially support designated uses, and 12% do not support designated uses. Of the 278 assessed miles that do not fully support aquatic life uses in the basin, approximately 60% are due only to fish consumption advisories. Diverse aquatic life communities exist in all but 41 miles (5%) of the streams assessed in this basin.

East Fork of White River Basin

The East Fork of White River drains about 5,600 square miles of southern Indiana (Figure 14). Roughly 15,000 miles of streams and ditches are included in the basin. Sugar Creek, Big Blue River, Driftwood River, Flatrock River,

Figure 14. East Fork of White River Basin.



the Muscatatuck River, and Salt Creek are the river's major tributaries. The largest cities in the watershed (populations greater than 15,000) are Columbus, Seymour, Bloomington, New Castle, Shelbyville and Bedford.

The topography of this basin ranges from flat to rugged as it crosses seven of southern Indiana's eight physiographic regions. The basin also includes unique underground streams in the karst region of caves and sinkholes in Orange and Lawrence counties. Agriculture is important in the flatter regions, but much of the watershed is forested. The groundwater contribution to stream flow in the basin is low, so flow depends largely on rainfall, and variations can be considerable. Compared to other basins, stream channelization projects in the East Fork of White River Basin have been minimal.

The East Fork of White River system has always supported an important sport fishery. State records for flathead catfish, freshwater drum, rock bass, flier, sucker, and smallmouth bass have all come from this river or one of its tributaries. The reputation of the river to support large fish continues to be justified, as the state records for sucker and smallmouth bass were set in 1984 and 1985. The lower reaches of the river are used as a commercial fishery. An important freshwater mussel fishery also exists in the lower portion of the river. The shells of certain mussels are used in the cultured pearl industry and are commercially valuable.

There are drinking water supply intakes on the East Fork of the White River at Bedford, Mitchell, and Seymour. Surface water supplies for drinking are also found at Paoli, West Baden, Bloomington, Westport, North Vernon, and Scottsburg on various tributaries of the river. Therefore, the water in this basin must meet the raw water standards for potable water supply at the municipal intakes.

The river and several of its tributaries are popular canoeing streams. The 1983 Indiana Canoeing Guide prepared by the Department of Natural Resources lists the Driftwood, Flatrock, and Muscatatuck rivers as especially good for this sport. At least one commercial canoe livery operates within the basin. Like most other Indiana streams, the river is designated for partial-body contact recreation and must meet bacterial standards for this use as well.

The Lost River and many of its tributaries in Orange and Martin counties have recently been designated for exceptional use. This designation should help preserve the exceptional water quality in the watershed and help protect several unusual aquatic animals, including blind cavefish, which inhabit the river. Several streams in the basin have recently been designated for limited use, based on their lack of sufficient habitat to support a diverse fishery. These include Plasterers Creek at Loogootee, portions of Brewer's Ditch at Whiteland, and portions of Ackerman Branch and Mill Creek at Jasper.

Water quality monitoring in the basin during 1986 and 1987 included:

1. Monthly or quarterly chemical and bacteriological sampling at ten fixed stations (EW-1, EW-79, EW-94, EW-168, EW-239, BL-0.7, BL-64, SLT-12, MU-20, and SGR-1).

2. Biological sampling and fish tissue and sediment analysis at one CORE station (EW-79).

3. Biological sampling and fish tissue and sediment analysis at 25 additional sites in the basin (Flatrock River, Big Blue River, Clear Creek, Salt Creek, Pleasant Run, Sugar Creek, Muddy Fork Creek, Sand Creek, and the East Fork of White River).

4. Effluent toxicity testing at POTW's in Greensburg, Bedford, and Bloomington South and at Eli Lilly (Greenfield) and Crane Naval Weapons Support Center (Crane).

5. A fisheries study funded by IDNR at 20 sites on streams draining the Crane Naval Weapons Support Center.

6. Habitat and use attainability studies at Loogootee, Spiceland, Freetown, Lexington, Seymour, Oolitic, and North Vernon.

Those waters assessed, the status of designated use support, the method of assessment, probable causes of non-support, and miles affected are shown in Table 39. Additional comments on certain reaches are also given in this table.

Tissue analysis of fish collected in 1983 from Big Blue River, Sand Creek, Muddy Fork Creek, Clear Creek, Salt Creek, Pleasant Run, and the East Fork of White River indicated a potentially serious PCB and pesticide contamination problem in the streams. Fish consumption advisories were issued for certain reaches in 1987 (Table 19). An advisory recommending a complete ban on fish consumption prevents about 70 miles of streams in the basin from meeting uses for aquatic life. A general advisory allowing limited consumption of fish affects an additional 240 stream miles. These reaches are only partially supporting uses for aquatic life.

The sources of PCBs in Clear Creek, Salt Creek, and Pleasant Run were associated with industrial inputs identified in the 1970's and eliminated through point source controls. Westinghouse Corporation in Bloomington began court-ordered hydrovacuuming of contaminated sediments in Clear Creek and Salt Creek during 1987. This clean-up is expected to help reduce continued PCB contamination of fish in these streams and in the East Fork of White River below Bedford.

Chlordane and/or dieldrin concentrations in fish tissue are the primary cause of fish consumption advisories in the remaining streams. The source of these pesticides (which are no longer used in the U.S. but are highly persistent in the environment) is unknown at present. No point source dischargers of these pesticides have been identified, and nonpoint runoff from previously contaminated upland sites is probably responsible for their

TABLE 39. *WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN.*

	WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT[1]	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
1)	Plasterers Creek/ Friends Creek	Loogootee	NS (Aquatic Life)	Evaluated	D O, Ammonia Minimum conditions	4	Loogootee placed on State's Project Priority List for probable future funding of POTW expansion
2)	Big Blue River	New Castle	NS (Aquatic Life)	Monitored (b)(c)	Chlordane Metals	10	a) Allegeny-Ludlum Steel (New Castle) received a new permit with lower metals limits b) Avesta, Inc. (New Castle) will cease discharge and connect to POTW.
3)	Clear Creek/Salt Creek/East Fork White River from Bedford to Williams	Bloomington Bedford Williams	NS (Aquatic Life)	Monitored (b)(c)	PCBs Chlordane D O	40	a) Westinghouse began implementing Consent Decree to hydrovaccum PCB contaminated sediments from Clear Creek and Salt Creek b) Permit limits placed on Bloomington POTW and GM Central Foundry for PCBs
4)	Pleasant Run	Bedford	NS (Aquatic Life)	Monitored (b)(c)	Chlordane PCBs Heptachlor	4	a) General Motors Corp Central Foundry near Bedford, signed a Consent Decree for a design plan to lower metals concentrations in effluent, paid $7500 fine for past phenol violations.
5)	Gas Creek/Sand Creek/Muddy Fork	Greensburg	NS (Aquatic Life)	Monitored (b)(c)	Chlordane Dieldrin D.O , Ammonia Metals	15	Greensburg adopted a municipal compliance plan to eliminate bypasses and install ammonia removal by 1990
6)	Muscatatuck River	Austin Scottsburg	PS (Aquatic Life)	Monitored (c)	D.O Ammonia	25	Scottsburg received a $1 8 million grant for expansion of their POTW and ammonia removal Construction is due for completion in 1988.

TABLE 39. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN (cont'd)

	WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
7)	Lick Creek	Paoli	PS (Aquatic Life)	Evaluated	D O Ammonia	5	Paoli received a $2 2 million grant for advanced waste treatment and ammonia removal Construction to be completed in 1988
8)	Underground Lost River	Orleans	PS (Aquatic Life)	Evaluated	D.O. Ammonia	5	Orleans was placed on State's Project Priority List for probable future funding of POTW expansion.
9)	Rock Lick Branch	Mitchell	PS (Aquatic Life)	Evaluated	D.O Ammonia	4	Mitchell received a $2 3 million grant for POTW expansion, advanced treatment, and ammonia and phosphorus removal. Construction to be completed in 1990
10)	E. F White River (Williams to Lawrence County Line)	Williams	PS (Aquatic Life)	Monitored (b)(c)	PCBs Chlordane D O.	5	
11)	E F White River (Columbus to Bedford)	Columbus Seymour Browntown Medora	PS (Aquatic Life)	Monitored (b) (c)	PCBs Chlordane D.O.	145	a)An enforcement action was taken to eliminate an illegal discharge at the Keiffer Paper Company in Brownstown. b) Brownstown completed a $2 5 million expansion of their POTW in 1987 c)United Plastics in Medora paid a $50,000 fine and signed a Consent Decree to build a new treatment facility d) Medora was placed on the State's Project Priority List for probable future funding of POTW expansion
12)	Big Blue River	Carthage Shelbyville Edinburg Knightstown	PS (Aquatic Life) (Recreational)	Monitored (b)(c)	Chlordane Fecal coliforms	60	a) Shelbyville signed a Consent Decree to seek funding for expansion of POTW. b) Knightstown is required to complete sewer hook-up to unsewered area presently discharging to Big Blue River

TABLE 39. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN. (Cont'd)

	WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
13)	Sand Creek	Below Greensburg	PS (Aquatic Life)	Monitored (b)(c)	Chlordane Dieldrin	15	
14)	Leary Ditch/Little Sugar Creek	Greenfield	PS (Aquatic Life)	Monitored(b) (c)	Ammonia	4	
15)	Underground Carters Creek	Campbellsburg	PS (Aquatic Life)	Evaluated	Ammonia D O	3	Campbellsburg placed on State's Project Priority List for probable future funding of POTW expansion
16)	Millstone Creek	Westport	PS (Aquatic Life)	Evaluated	Ammonia D.O	3	A $1 1 million expansion of the Westport POTW is due for completion in 1988
17)	Pee Dee Ditch	Wilkinson	PS (Aquatic Life)	Evaluated	Ammonia D O	2	Wilkinson has signed a letter of intent to connect a sewage collection facility to the Shirley POTW
18)	Brock Bezor Ditch	Spiceland	PS (Aquatic Life)	Monitored (b)	Ammonia D O	2	
19)	Hominy Ditch	Crothersville	PS (Aquatic Life)	Evaluated	Ammonia D O	1	A $2 2 million expansion of POTW, including advanced treatment and ammonia removal due for completion in 1988
20)	Brewer Ditch	Whiteland	PS (Aquatic Life)	Evaluated	Ammonia	3	Whiteland issued an Order of Complaince to set new interim limits and construction schedule for expansion of POTW
21)	North Fork of Salt Creek	Nashville	PS (Aquatic Life)	Evaluated	Ammonia D O	3	A $1.3 million expansion of POTW is due for completion in 1988
22)	Heddy Run	Seymour	PS (Aquatic Life)	Evaluated	Metals Pesticides Phenols Cyanide	1	Remedial Plan for Seymour Recycling site has been finalized to clean up soil and groundwater
23)	Sugar Creek	Edinburg	PS (Recreational)	Monitored (b)	Fecal coliforms	5	
24)	Slate Creek	Alfordsville	PS (Aquatic Life)	Evaluated	Abandoned Mine Drainage (pH, Metals)	7	A $138,000 reclamation project was completed in 1986 under IDNR's Abandoned Mine Lands Program

TABLE 39. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN (con't)

	WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
25)	Little Blue River	Mays, Shelbyville	FS - Threatened	Monitored (b) (c)		25	Metals
26)	Brandywine Creek	Greenfield	FS - Threatened	Monitored (b) (c)		25	Metals, Cyanide
27)	Clifty Creek	Hartsville	FS - Threatened	Evaluated		10	Pesticides
28)	Boggs Creek	Martin County	FS - Threatened	Monitored (b)		15	Metals, Cyanide, non-Prority Pollutants The Crane Naval Weapons Storage Depot is on a compliance schedule to meet, ammonia, cyanide, copper, and pH Limits
29)	Lost River	Orange and Martin Counties	FS	Monitored (b)		40	
30)	Montgomery Creek	Kennard	FS	Monitored (b)		8	
31)	Little Sugar Creek	Greenfield	FS	Monitored (b) (c)		10	
32)	Six Mile Creek	Shirley	FS	Evaluated		10	
33)	Sulphur Creek	Martin County	FS	Monitored (b)		10	
34)	South Fork Salt Creek	Freetown	FS	Monitored (b)		15	
35)	Town Creek	Lexington	FS			5	
36)	Luther McDonald Ditch	Seymour	FS	Monitored (b)		3	
37)	Goose Creek	Oolitic	FS	Monitored (b)		2	
38)	Six Mile Creek	Jennings County	FS	Monitored (b)		6	
39)	Youngs Creek	Franklin	FS - Threatened	Monitored (b)		10	Pesticides and low D O levels In 1987, Franklin completed a $1 5 million expansion of its POTW
40)	Cooks Creek/Little Sand Creek	Elizabethtown	FS	Evaluated		5	
41)	Flatrock River	Columbus, Rushville	FS - Threatened	Monitored (b) (c)		40	Pesticides
42)	Grassy Creek	New Whiteland	FS	Evaluated		3	
43)	Conns Creek	Waldron	FS	Monitored (b)		3	
44)	Little Flatrock River	Milroy	FS	Evaluated		7	

TABLE 39. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN (con't)

	WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
45)	South Fork Otter Creek	Holton	FS	Evaluated		10	
46)	Haw Creek	Hope	FS - Threatened	Evaluated		10	Pesticides
47)	Sugar Creek	New Palestine to Edinburgh	FS - Threatened	Monitored (b)		25	Pesticides
48)	Driftwood River	Edinburg Columbus	PS (Aquatic Life)	Evaluated	Chlordane	15	
49)	E F White River (Lawrence County Line to mouth)	Shoals Petersburg	FS	Evaluated		75	
50)	Sand Creek	Brewersburg	FS	Evaluated		10	

1 PS = Partial Support; NS = Non Support, FS = Full Support. All uses not supported are listed. If only one use is listed as not being supported, all other uses are supported.

2 b = biological; c = chemical.

presence in streams. Additional fish and sediment sampling was done in 1987 to help determine if the problem still persists and help locate sources of contaminants. Results of this testing are not yet available.

Approximately 10 miles of the upper Big Blue River near New Castle are not supporting uses for aquatic life due partly to contamination of water and sediments by metals. These metals are believed to originate primarily from two steel mills in New Castle. Previous effluent toxicity tests at Allegheny Ludlum Steel and Avesta, Inc. confirmed the potentially toxic effect of these discharges on aquatic life.

In addition to the stream uses impaired by contaminated fish and sediments, inadequately treated sewage partially impairs an additional 50 miles of streams in the basin. Low dissolved oxygen and high ammonia concentrations adversely affect aquatic communities at Mitchell, Orleans, Greensburg, Campbellsburg, Spiceland, Wilkinson, Crothersville, Whiteland, Westport, and Nashville. Low dissolved oxygen concentrations (some of which may be natural) also, partially impair uses in the lower Muscatatuck River. Sewage related pollution at the Loogootee POTW is even more severe and completely impairs four miles of stream uses in Plasterers Creek and Friends Creek. Seven miles of Slate Creek in Daviess County were partially impaired by drainage from 20 acres of unreclaimed, barren mine spoil.

There were four confirmed fish kills and reports of six others in the basin during 1986 and 1987. All of the confirmed kills were caused by agricultural practices (spills of swine waste and fertilizer). The largest kill occurred in Clifty Creek and involved 10,200 fish in 1.5 miles of stream. No stream uses were considered to be impaired by any of these fish kills because most were relatively minor, isolated incidents.

Bacteriological sampling at ten fixed stations in the basin provides an estimate of how safe the waters are for swimming (recreational use). All streams in the basin are designated for partial body contact. The East Fork of White River mainstem, Salt Creek, and Muscatatuck River fully support this use. These sites account for roughly 80% of all miles monitored in the basin. The remaining 20% of the streams monitored in the basin only partially support recreational uses. Sites on lower Sugar Creek and Big Blue River violated partial body contact standards 10 to 25 percent of the time. It is impossible to determine with the limited data available whether violations were caused by point sources, CSO's or runoff from animal feedlots.

In general, water quality in the East Fork of White River Basin was worse in 1986 and 1987 than it was in 1984 and 1985. During the most recent monitoring period, four of the ten fixed stations in the basin had dissolved oxygen violations. There were no violations at these sites in 1984 and 1985. The recent violations were frequent enough to partially impair uses for aquatic life at one site (the lower Muscatatuck River). No impairment caused by low dissolved oxygen was noted at any of the sites in 1984 and 1985. The suitability of streams in the East Fork of White River basin for partial body contact recreation and as raw water sources for potable water supplies remained essentially unchanged from previous years.

Improvements in water quality should soon be forthcoming because of improved wastewater treatment at several sites. Expanded sewage treatment facilities at Paoli, Westport, Greensburg, Crothersville, Mitchell, Nashville, Franklin, Brownstown and Scottsburg are due for completion during late 1987 through 1990. Also, agreements by Allegheny Ludlum Steel and Avesta, Inc. at New Castle to improve metals treatments or cease direct discharges should help improve water quality in the Big Blue River. Twenty acres of abandoned mine lands in Daviess County were reclaimed in 1986 under IDNR's Abandoned Mine Lands Program and should improve conditions in Slate Creek in Daviess County.

In summary, 761 miles of streams were assessed in the East Fork of White River Basin in 1986 and 1987. About 51 percent of those assessed fully supported designated uses, 39 percent were partially supporting, and 10 percent did not support designated uses. Accumulations of high levels of PCB's and pesticides in fish accounted for most (about 80 percent) of the stream miles not meeting or only partially meeting the designated uses.

The Ohio River Basin

The Ohio River and its Indiana tributaries (excluding the Wabash River) drain approximately 5,800 square miles in Indiana (Figure 15). The major Indiana tributaries in the basin are: the Whitewater River (via the Great Miami River in Ohio), the Blue River, the Little Blue River, the Anderson River, Laughery Creek, Big Indian Creek, and Pigeon Creek. The major land use in the basin is agriculture, but a large portion of the land is hilly and rolling, and much is still heavily forested. Strip mining operations are important in certain portions of the basin.

Water quality monitoring of the Ohio River itself, which forms the southern boundary of 13 Indiana counties from about mile points 492 to 848 (356 miles), is done by the Ohio River Valley Water Sanitation Commission (ORSANCO), a consortium composed of eight states, six of which border the Ohio River mainstem. ORSANCO maintains fixed water quality monitoring stations on the portion of the Ohio River which borders Indiana. The State of Indiana maintains fixed water quality monitoring stations on some of the tributaries, and Department of Environmental Management (DEM) personnel conduct compliance surveys and other water quality monitoring activities on Indiana facilities and water bodies that discharge to the Ohio River.

The U.S. Army Corps of Engineers operates a series of 20 locks and dams on the Ohio River to allow year round navigation. Four of these are located along Indiana's southern boundary, and these dams create slowly moving lakes or pools in the Ohio River.

Indiana Regulation 327 IAC 2-1 disgnates the Ohio River for general uses and whole body contact recreation. The Ohio River has also been designated by the Ohio River Valley Water Sanitation Compact as "available for safe and satisfactory use of public and industrial water supplies after reasonable treatment, suitable for recreational usage, capable of maintaining fish and other aquatic life and adaptable to such other uses as may be legitimate". Such other uses would include navigation and power generation.

In summary, 815 miles of streams were assessed in the West Fork of White River Basin for support of designated aquatic life uses. Of this total, 456 (56%) of the miles fully supported this use, 176 (22%) of the miles partially supported this use, and 183 (22%) of the miles did not support this use. Only 430 miles were assessed as to support of the whole body contact recreational use. Of these miles 48 (11%) fully supported this use, 2 (less than 1%) partially support this use, and 382 (89%) did not support this use.

Chlordane and PCBs in fish tissue and occasional to frequent high levels of cyanide, ammonia, and E. coli seemed to be the major problems. The exact sources of these pollutants are hard to determine, but they are probably spread across point, nonpoint and CSO problems.

East Fork of White River Basin

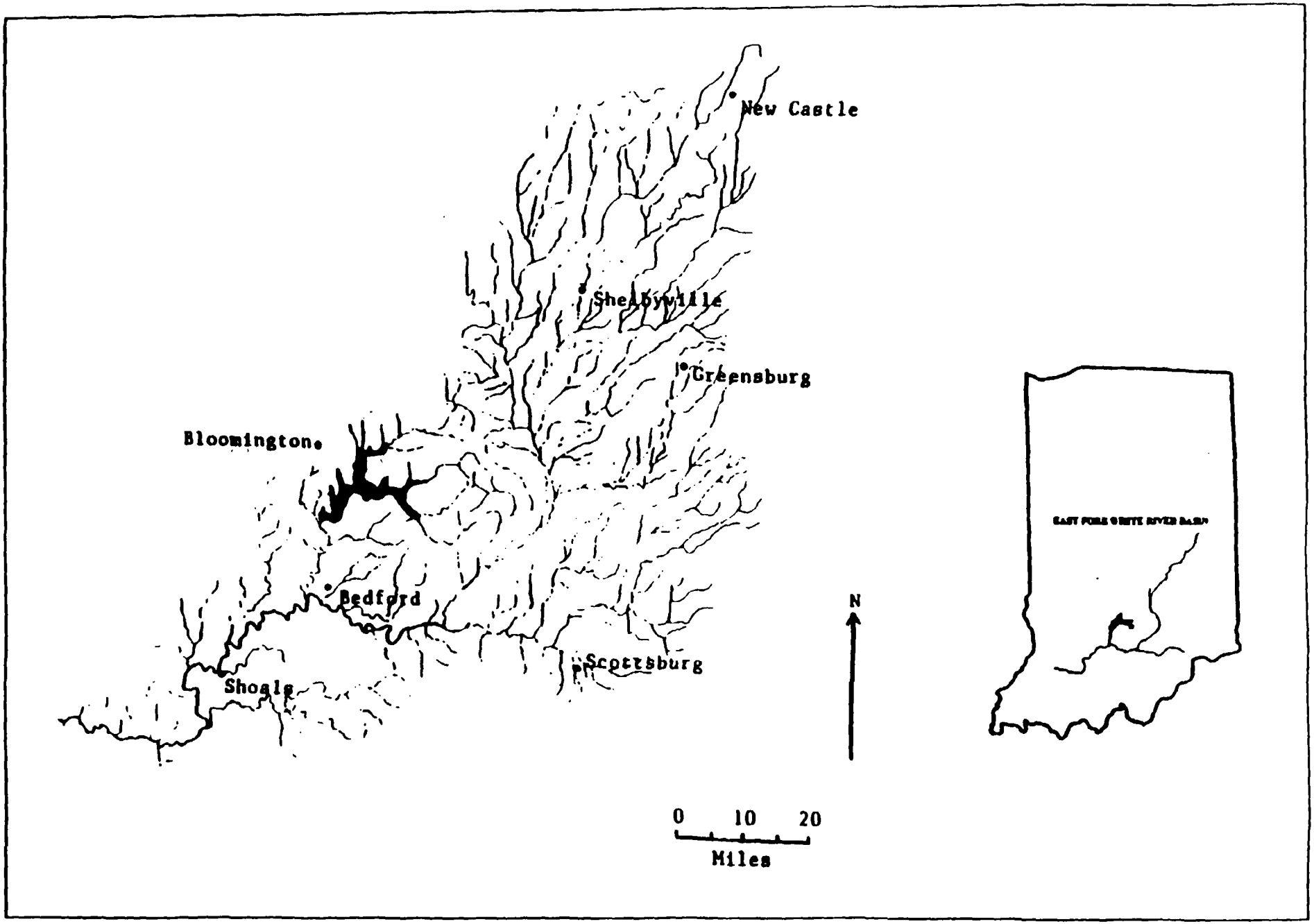
The East Fork of White River drains about 5,600 square miles of southern Indiana (Figure 13). Roughly 15,000 miles of streams and ditches are included in the basin. Sugar Creek, Big Blue River, Driftwood River, Flatrock River, the Muscatatuck River, and Salt Creek are the river's major tributaries. The largest cities in the watershed (populations greater than 15,000) are Columbus, Seymour, Bloomington, New Castle, Shelbyville and Bedford.

The topography of this basin ranges from flat to rugged as it crosses seven of southern Indiana's eight physiographic regions. The basin also includes unique underground streams in the karst region of caves and sinkholes in Orange and Lawrence counties. Agriculture is important in the flatter regions, but much of the watershed is forested. The groundwater contribution to stream flow in the basin as a whole is low, so flow depends largely on rainfall, and variations can be considerable. Compared to other basins, stream channelization projects in the East Fork of White River Basin have been minimal.

The East Fork of White River system has always supported an important sport fishery. State records for flathead catfish, freshwater drum, rock bass, flier, sucker, and smallmouth bass have all come from this river or one of its tributaries. The reputation of the river as one which supports large fish continues to be justified, as the state records for sucker and smallmouth bass were set in 1984 and 1985. The lower reaches of the river are used as a commercial fishery. An important freshwater mussel fishery also exists in the lower portion of the river. The shells of certain mussels are used in the cultured pearl industry and are commercially valuable.

There are municipal drinking water supply intakes on the East Fork of the White River at Bedford, Mitchell, and Seymour. Surface water supplies for drinking are also found at Greensburg, Paoli, West Baden, Bloomington, Westport, North Vernon, and Scottsburg on various tributaries of the river. Therefore, the water in this basin must meet the raw water standards for potable water supply at the municipal intakes.

FIGURE 13. *EAST FORK OF WHITE RIVER BASIN*



The river and several of its tributaries are popular canoeing streams. The 1983 Indiana Canoeing Guide prepared by the Department of Natural Resources lists the Driftwood, Flatrock, and Muscatatuck rivers as especially good for this sport. At least one commercial canoe livery operates within the basin. The river is designated for whole body contact recreation and must meet bacterial standards for this use as well.

The Lost River and many of its tributaries in Orange and Martin counties have been designated for exceptional use. This designation should help preserve the water quality in the watershed and help protect several unusual aquatic animals, including blind cavefish, which inhabit the underground portion of the river. Several streams in the basin have been designated for limited use, based on their lack of sufficient habitat to support a well balanced aquatic community. These include Plasterers Creek at Loogootee, a portion of Brewer's Ditch at Whiteland, and a portion of Ackerman Branch and Mill Creek at Jasper.

Water quality monitoring in the basin during 1988 and 1989 included:

1. Monthly or quarterly chemical and bacteriological sampling at ten fixed stations (EW-1, EW-79, EW- 94, EW-168, EW-239, BL-0.7, BL-64, SLT-12, MU-20, and SGR-1).

2. Biological sampling and fish tissue and sediment analysis at one CORE station (EW-79).

3. Compliance Sampling Inspections (CSI's) at discharges to Leary Ditch, Big Blue River, Youngs Creek, Hutton Creek, Pleasant Run Creek, Salt Creek and the Muscatatuck River.

4. Intensive stream surveys at Bailey's Branch, Salt Creek, Pleasant Run Creek and tributaries to the East Fork of White River downstream of the General Motors Corporation foundary to determine whether PCBs were in sediments.

Those waters assessed, the status of designated use support, the method of assessment, probable causes of non-support, and miles affected are shown in Table 40. Additional comments on certain reaches are also given in this table.

Tissue analysis of fish collected in 1983 from Big Blue River, Driftwood River, Sand Creek, Muddy Fork Sand Creek, Clear Creek, Richland Creek, Salt Creek, Pleasant Run, and the East Fork of White River indicated a potentially serious PCB and pesticide contamination problem in the streams. As a result, fish consumption advisories were issued for certain reaches of these streams.

More recent sampling of these and other streams in the basin disclosed that tissue concentrations of contaminants were much reduced and that the consumption advisories could be removed entirely or substantially reduced for many miles of stream.

TABLE 40. *WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN*

WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
Plasterers Creek/ Friends Creek	Loogootee	NS	Evaluated	D O, Ammonia Minimum conditions	4	a) Some hydraulic overloading and bypassing; equipment problems b) Limited use stream
Big Blue River	New Castle	PS (Recreational) NS (Aquatic Life)	Monitored (b)(c)	E coli Cyanide Metals	10	a) Allegeny-Ludlum Steel (New Castle) received a new permit with lower metals limits New treatment sytems b) Avesta, Inc, (New Castle) has ceased discharge and is connected to the POTW.
Big Blue River	Carthage Shelbyville Edinburg Knightstown	PS (Aquatic Life) NS (Recreational)	Monitored (b)(c)	Chlordane E. coli BOD	60	a) New construction is underway to improve ammonia removal b) Knightstown is required to complete sewer hook-up to unsewered area presently discharging to Big Blue River
Clear Creek/Salt Creek/East Fork White River from Bedford to Williams	Bloomington Bedford Williams	NS (Aquatic Life) PS (Recreational)	Monitored (b)(c)	PCBs Chlordane D O E coli	40	a) Westinghouse began implementing Consent Decree to hydrovaccum PCB contaminated sediments from Clear Creek and Salt Creek b) Permit limits placed on Bloomington POTW and GM Central Foundry for PCBs. c) Fish Consumption Advisory
Pleasant Run	Bedford	NS (Aquatic Life)	Monitored (b)(c)	Chlordane PCBs Heptachlor Metals	4	a) Drainage from adjacent railroad property, causing degradation b) Fish Consumption Advisory. c) Central Foundry PCBs
Gas Creek/Sand Creek/Muddy Fork	Greensburg	NS (Aquatic Life)	Monitored (b)(c)	Chlordane Dieldrin D.O., Ammonia Metals	15	a) Construction finished and sanitary sewer installed. b) Fish Consumption Advisory.
Sand Creek	Below Greensburg	PS (Aquatic Life)	Monitored (b)(c)	Chlordane Dieldrin	15	Fish Consumption Advisory

TABLE 4B WATERBODIES WITH STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN

WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
Muscatatuck River	Austin Scottsburg	NS (Recreational) FS (Aquatic Life)	Monitored (c)	E coli	25	Construction at Scottsburg started June 88 includes sanitary sewer service to eliminate infiltration inflow problems Expansion will also reduce hydraulic overloadings. Construction is due for completion in 1990 They are now meeting limits
Lick Creek	Paoli	PS (Aquatic Life)	Evaluated	TSS D O Ammonia	5	City rehabilitating storms sewers POTW expansions completed
Underground Lost River	Orleans	PS (Aquatic Life)	Evaluated	D O Ammonia	5	
Rock Lick Branch	Mitchell	PS (Aquatic Life)	Evaluated	TSS D.O Ammonia	4	Plant and lab expansion is not yet complete
E F White River (Lawrence County Line to mouth)	Shoals Petersburg	FS (Aquatic Life) NS (Recreational)	Monitored (b) (c)	E coli	75	
E F White River (Williams to Lawrence County Line)	Williams	PS (Aquatic Life) NS (Recreational)	Monitored (b)(c)	PCBs E coli Chlordane	5	Fish Consumption Advisory for carp
E F White River	Seymour Brownstown Medora	NS (Aquatic Life) FS (Recreational)	Monitored (b) (c)	PCBs D.O	74	a) New million gallon sludge lagoon to be installed at Brownstown b) Brownstown meeting permit limits but occasional metals violation occur c) Medora under construction d) Fish Consumption Advisory
E F White River	Columbus	NS (Recreational) (Aquatic Life)	Monitored (b) (c)	E coli Cyanide	71	
Leary Ditch/Little Sugar Creek	Greenfield	PS (Aquatic Life)	Monitored(b) (c)	Ammonia	4	
Underground Carters Creek	Campbellsburg	PS (Aquatic Life)	Evaluated	Ammonia D.O.	3	Construction of new Campbellsburg POTW pending, two new lagoons added.
Millstone Creek	Westport	PS (Aquatic Life)	Evaluated	Ammonia D.O.	3	Westport has new, expanded plant.

TABLE 40. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN (con't)

WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
Pee Dee Ditch	Wilkinson	PS (Aquatic Life)	Evaluated	Ammonia D O	2	Now connected to Shirley POTW
Brock Bezor Ditch	Spiceland	PS (Aquatic Life)	Evaluated	Ammonia D O	2	
Hominy Ditch	Crothersville	PS (Aquatic Life)	Evaluated	TSS D O Fertilizer Runoff	1	New facilities completed
Brewer Ditch	Whiteland	PS	Evaluated	Ammonia	3	a) Expansion completed b) Limited use stream
North Fork of Salt Creek	Nashville	PS (Aquatic Life)	Evaluated	Ammonia D O	3	Expansion completed
Heddy Run	Seymour	PS (Aquatic Life)	Evaluated	Metals Pesticides Phenols Cyanide	1	All discharges go into Seymour POTW
Sugar Creek	Edinburg	NS (Recreational)	Monitored (b)	E coli	5	
Slate Creek	Alfordsville	PS (Aquatic Life)	Evaluated	Abandoned Mine Drainage (pH, Metals)	7	
Little Blue River	Mays, Shelbyville	FS (Aquatic Life) (Threatened)	Evaluated		25	Metals
Brandywine Creek	Greenfield	FS (Aquatic Life) (Threatened)	Evaluated		25	
Clifty Creek	Hartsville	FS (Aquatic Life) (Threatened)	Evaluated	BOD TSS NH_3-N	10	
Boggs Creek	Martin County	FS (Aquatic Life) (Threatened)	Evaluated		15	Metals, Cyanide, Non-Prority Pollutants The Crane Naval Weapons Storage Depot is on a compliance schedule to meet ammonia, cyanide, copper, and pH Limits
Lost River	Orange and Martin Counties	FS (Aquatic Life)	Evaluated		40	
Montgomery Creek	Kennard	FS (Aquatic Life)	Evaluated		8	
Little Sugar Creek	Greenfield	FS (Aquatic Life)	Evaluated		10	
Six Mile Creek	Shirley	FS (Aquatic Life)	Evaluated		10	Additional lagoon installed.

TABLE 40. WATERS ASSESSED, STATUS OF DESIGNATED USE SUPPORT, PROBABLE CAUSES OF IMPAIRMENT, AND MILES AFFECTED IN THE EAST FORK OF WHITE RIVER BASIN (con't)

WATERBODY	NEAREST TOWN(S)	STATUS OF DESIGNATED USE SUPPORT1	METHOD OF ASSESSMENT2	PROBABLE CAUSE OF IMPAIRMENT	MILES AFFECTED	COMMENTS
Sulphur Creek	Martin County	FS (Aquatic Life)	Evaluated		10	
South Fork Salt Creek	Freetown	FS (Aquatic Life)	Evaluated	NH_3-N	15	
Town Creek	Lexington	FS (Aquatic Life)			5	
Luther McDonald Ditch	Seymour	FS (Aquatic Life)			3	
Goose Creek	Oolitic	FS (Aquatic Life)	Evaluated		2	
Six Mile Creek	Jennings County	FS (Aquatic Life)	Evaluated		6	
Youngs Creek	Franklin	FS (Aquatic Life) (Threatened)	Evaluated		10	Pesticides and low D O levels. In 1987, Franklin completed a $1.5 million *expansion of its* POTW. *Still* ongoing equipment problems.
Cooks Creek/Little Sand Creek	Elizabethtown	FS (Aquatic Life)	Evaluated		5	
Flatrock River	Columbus, Rushville	FS (Aquatic Life) (Threatened)	Monitored (b) (c)		40	Pesticides
Grassy Creek	New Whiteland	FS (Aquatic Life)	Evaluated		3	
Conns Creek	Waldron	FS (Aquatic Life)	Evaluated		3	
Little Flatrock River	Milroy	FS (Aquatic Life)	Evaluated		7	NP
South Fork Otter Creek	Holton	FS (Aquatic Life)	Evaluated		10	
Haw Creek	Hope	FS (Aquatic Life) (Threatened)	Evaluated		10	Pesticides
Sugar Creek	New Palestine to Edinburgh	FS (Aquatic Life) (Threatened)	Evaluated		25	Pesticides
Driftwood River	Edinburg Columbus	PS (Aquatic Life)	Evaluated	Chlordane	15	
Sand Creek	Brewersburg	FS (Aquatic Life)	Evaluated		10	

1 *PS = Partial Support; NS = Non Support, FS = Fully Support. If a use is not listed, it was not monitored or evaluated.*

2 *b = biological; c = chemical.*

The current (1990) fish consumption advisory (Table 16) still includes Clear Creek in Monroe County, Pleasant Run Creek near Bedford and Salt Creek, downstream of Monroe Reservoir Dam in Monroe and Lawrence counties. The East Fork of White River from Bedford downstream to the Lawrence County line is also included. The pollutant of concern in these segments are PCBs.

Sand Creek, the Muddy Fork of Sand Creek and the small Decatur County Park Reservoir all near Greensburg are under an advisory for all fish. The pollutants of concern in these waters are chlordane and dieldrin.

The PCBs in Clear Creek, Salt Creek, Pleasant Run Creek and portions of the East Fork of White River were associated with identified industrial inputs. Westinghouse Corporation in Bloomington began court-ordered hydrovacuuming of contaminated sediments in Clear Creek and Salt Creek during 1987. This clean-up has helped to reduce the PCB contamination of fish in these streams and in the East Fork of White River Below Bedford. However, fish tissue in these streams still exceed FDA Action Levels for PCB's.

The pesticides chlordane and dieldrin are no longer used in the U.S. but are highly persistent in the environment. No point source dischargers of these pesticides have been identified, and nonpoint runoff from previously contaminated upland sites is probably responsible for their presence in streams.

Approximately 10 miles of the Big Blue River near New Castle did not support aquatic life uses due partly to contamination of water and sediments by metals. These metals are believed to have originated primarily from two steel mills in New Castle. Previous effluent toxicity tests at Allegheny Ludlum Steel and Avesta, Inc. confirmed the potentially toxic effect of these discharges on aquatic life. During the last two years Allegheny Ludlum Steel installed a new treatment system and has obtained a new NPDES permit with lower metals limits which should improve water quality in the Big Blue River. Avesta, Inc., did contribute metals to the Big Blue River but no longer discharges. They are now connected to the New Castle sewer system.

High Total Suspended Solids and Low Dissolved Oxygen levels have occasionally impaired the Muscatatuck River. Some improvements such as rebuilt sand filters at the North Vernon STP and the completion of a new POTW at Crothersville have helped to reduce those violations. The Scottsburg STP also along the Muscatatuck, now regularly meets its permit limits, and plant improvements are to be completed in 1990.

Improvements in water quality should be evident soon due to improved wastewater treatment at several other sites. Construction at the Campbellsburg POTW is still pending, but they have added two new lagoons. The treatment plant at Wilkinson has connected to the Shirley POTW and Greensburg and Paoli have recently completed expansion of their sewage treatment facilities. At Greensburg additional sanitary sewers are also being installed.

The expansion of the wastewater treatment plant at Nashville is complete but sludge handling is still a problem there. Construction of a new plant has also been completed at Westport. Improvements at Mitchell, Franklin, Brownstown and Scottsburg are due for completion during late 1990. Mitchell has done some lagoon expansion during its construction period and the improvements have assisted in the facility meeting its permit limits more consistently than in 1987 when it was plagued with low dissolved oxygen and high ammonia concentrations. Sewage related problems at the Loogootee POTW are less severe than in the past due to updates in procedures and equipment at the facility, but there is still some hydraulic overloading.

There are also seven miles of Slate Creek in Daviess County which were partially impaired by drainage from 2.0 acres of unreclaimed barren mine spoil. However, twenty acres of abandoned mine lands in this county were reclaimed in 1986 under IDNR's Abandoned Mine Lands program and this should improve the future condition of Slate Creek.

Bacteriological sampling at the ten fixed stations in the basin provides an estimate of how safe the waters are for swimming (recreational use). All streams in this basin are now designated for whole body contact. The Big Blue River near New Castle partially supports this use. Downstream, the Big Blue River near Carthage, Shelbyville, Edinburg and Knightstown does not support this recreational use due to frequent high levels of E. coli bacteria.

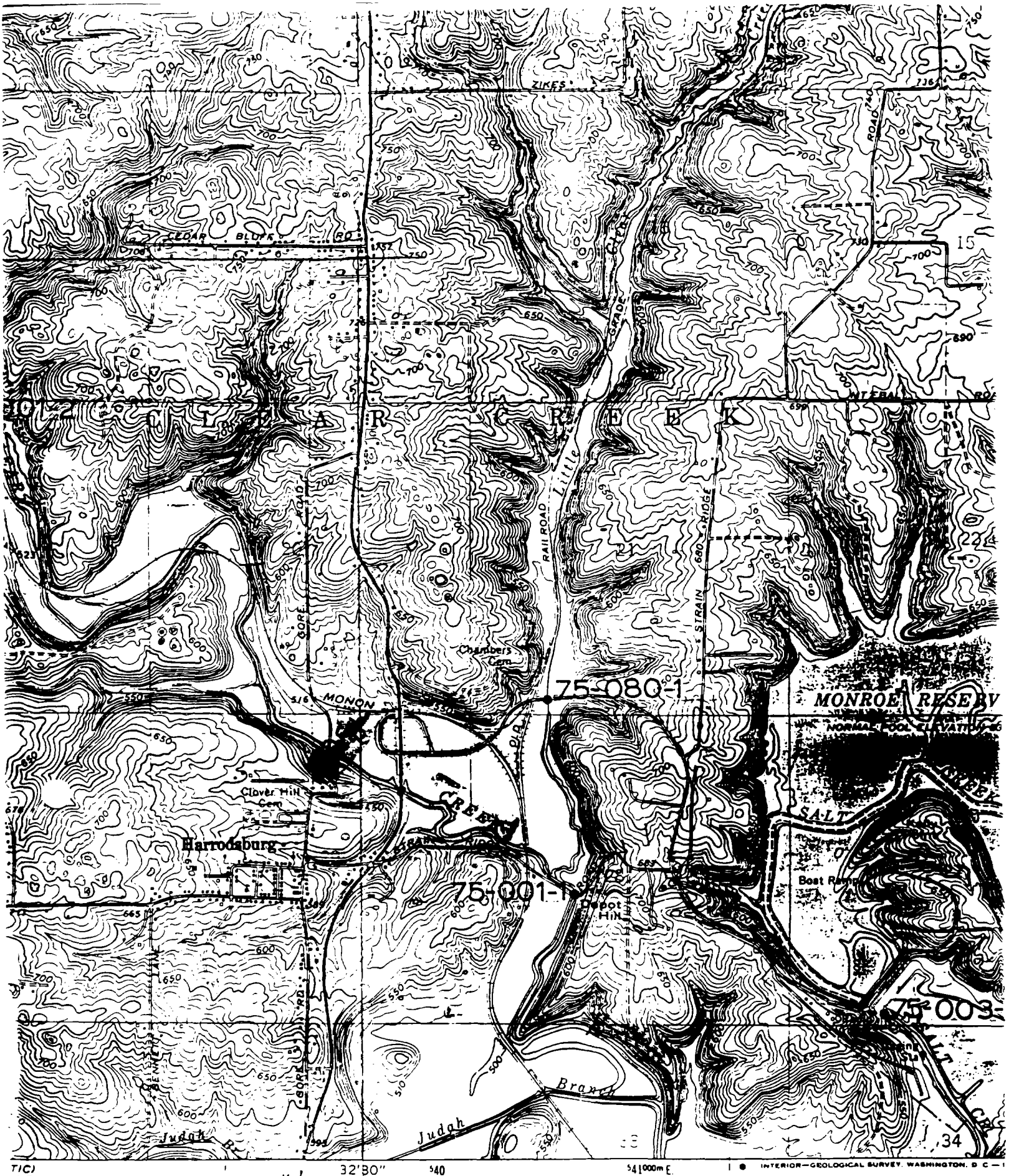
The Muscatatuck River is also non-supportive of recreational uses. The East Fork of the White River near Columbus does not support this use, but the river near Seymour, Brownstown, and Medora is fully supportive. The river is partially supportive near Bedford down to Williams. From Williams downstream it becomes non-supportive for recreation.

There was one fish kill in this basin during 1988-1989 and it was located in Daviess County. During 1986-87 there were four confirmed fish kills and six others reported.

In summary, 763 miles of streams were assessed as to meeting aquatic life uses in the East Fork of White River Basin in 1988 and 1989. Of these, 407 miles (53%) fully supported designated uses, 133 miles (17%) were partially supporting, and 223 miles (29%) did not support designated uses. Accumulation of high levels of PCBs and pesticides in fish accounted for most (87%) of the stream miles not meeting or only partially meeting the designated uses. In terms of recreational uses, 365 miles were assessed. Only 74 miles (20%) of those assessed fully supported, 50 miles (14%) partially supported this designated use, and 241 (66%) did not support it.

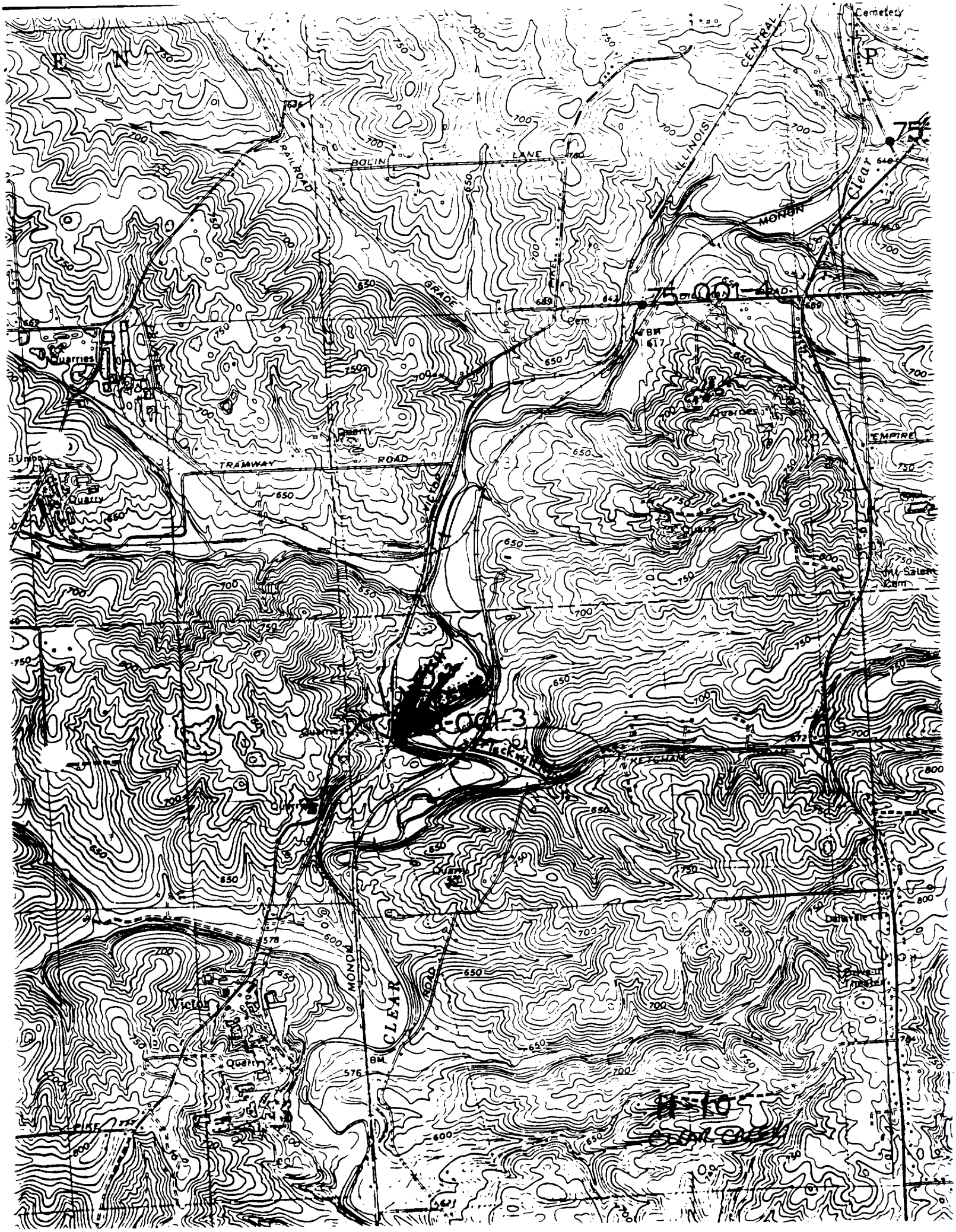
The Ohio River Basin

The Ohio River and its Indiana tributaries (excluding the Wabash River) drain approximately 5,800 square miles in Indiana (Figure 14). The major Indiana tributaries in the basin are: the Whitewater River (via the Great Miami River in Ohio), the Blue River, the Little Blue River, the Anderson River, Laughery Creek, Big Indian Creek, and Pigeon Creek. The major land use



H-10

CLEAR CREEK, IND


Cemetery
ILLINOIS CENTRAL
RAILROAD
BOLIN LANE
MONOR
Clear
75-001-4 AD.
BM 617
Quarries
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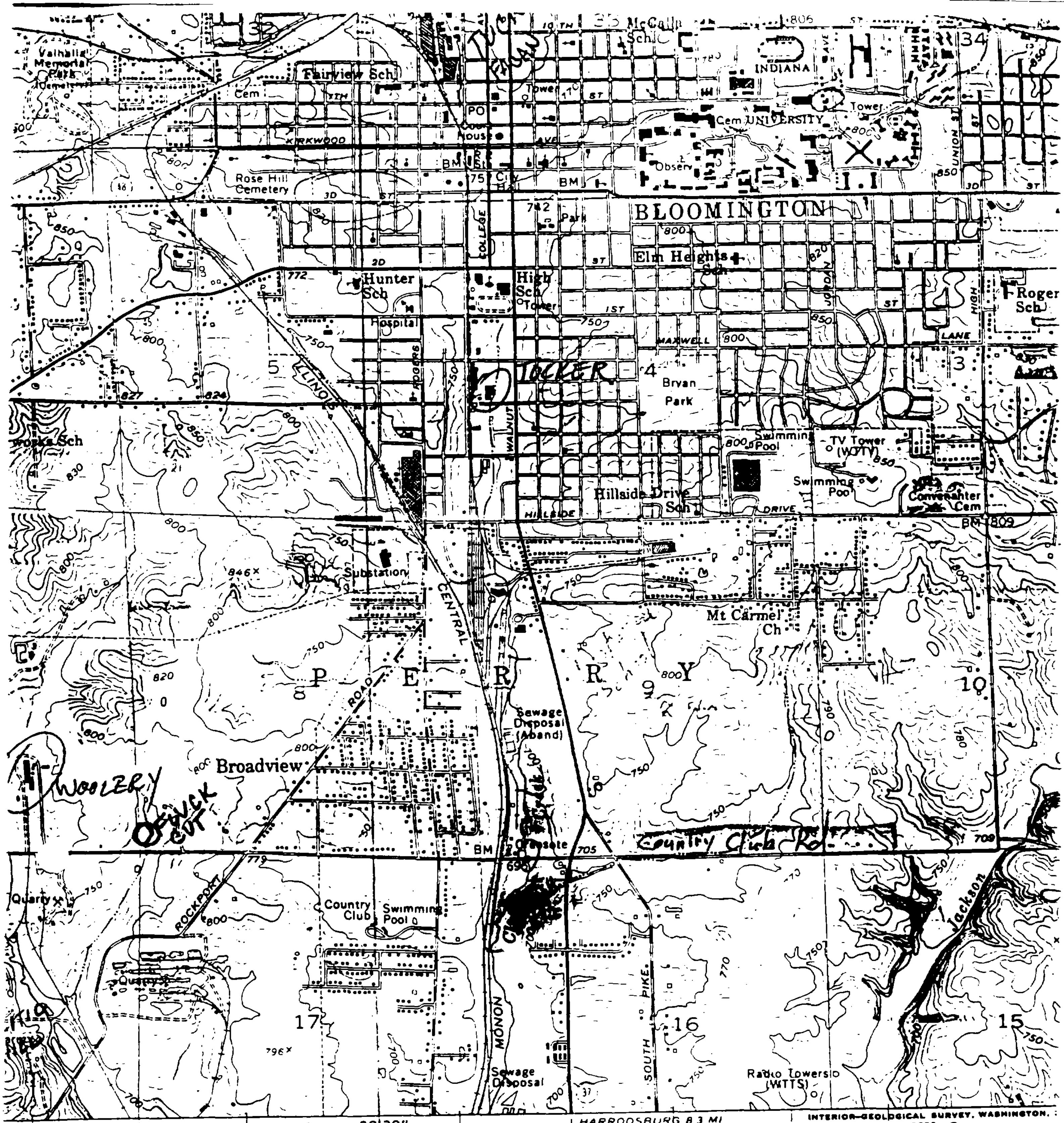
TRAMWAY ROAD
EMPIRE
75-001-3
Victor
CLEAR
MONOR
BM 576
75-10
CLEAR CREEK



24000

1 MILE

4000 5000 6000 7000 FEET

1 KILOMETER

…VAL 10 FEET
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ROAD CLASSIFICATION

Heavy-duty — Light-duty
Medium-duty — Unimproved d…
State Route

G-56

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NE/4 BLOOMINGTON 15'
N3907.5—W86…
1956

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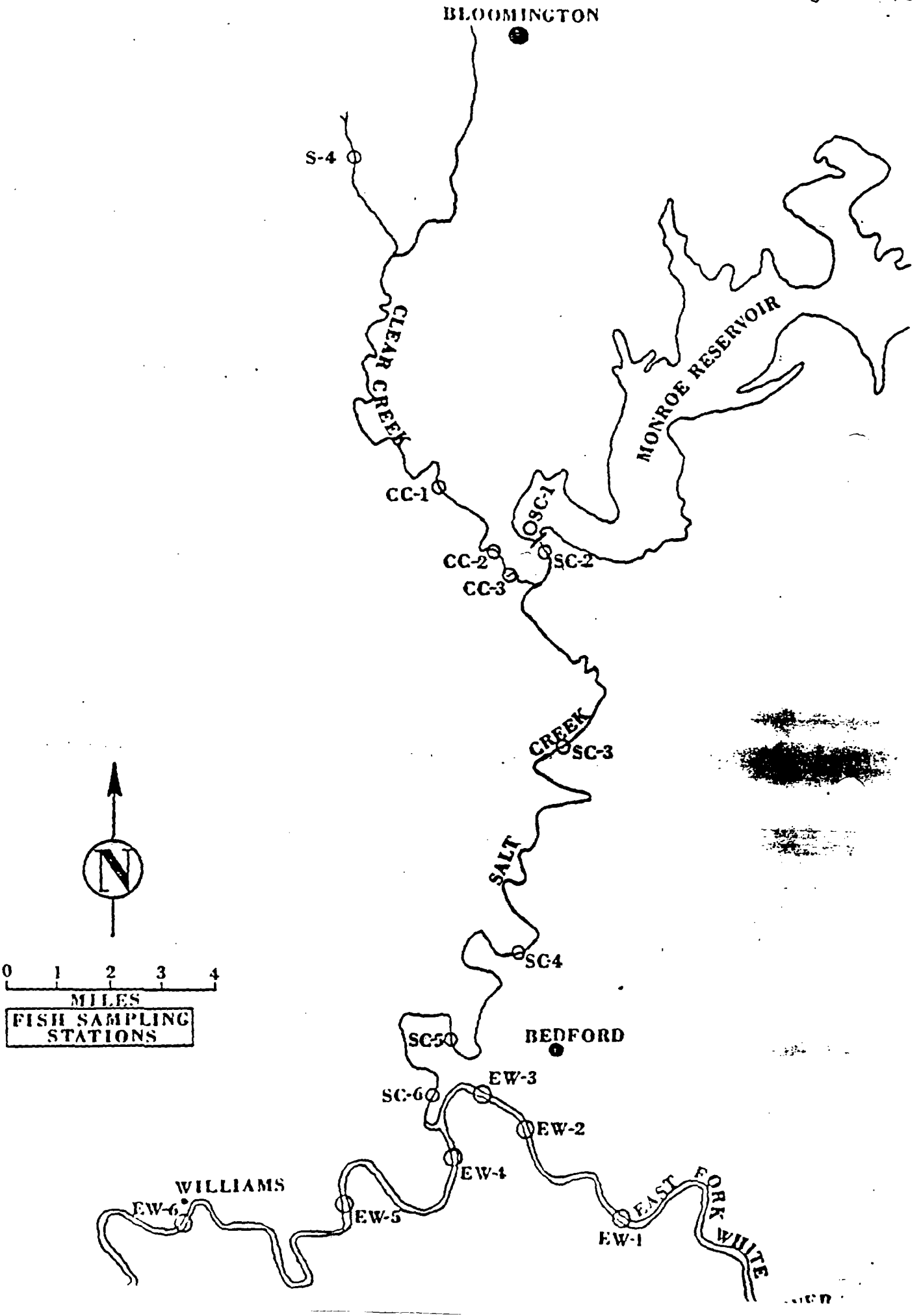

BLOOMINGTON
S-4
CLEAR CREEK
CC-1
CC-2
CC-3
SC-1
SC-2
MONROE RESERVOIR
CREEK
SC-3
SALT
SC-4
SC-5
BEDFORD
SC-6
EW-3
EW-2
EW-4
WILLIAMS
EW-6
EW-5
EW-1
EAST FORK WHITE
N
0 1 2 3 4
MILES
FISH SAMPLING STATIONS

Laboratory Analysis of fish, etc., samples near Bloomington

Sample Number	Date	Station	Type of Fish	Wt. in pounds	PCB's in ppm as 1016
3A	9-9-76	2398*	7 Creek Chubs	24.0	1094 (fat basis) 17.6 (whole fish basis)
3B	"	"	4 Common Shiners	0.6	39.8 "
3C	"	"	8 Bluegills	.08	10.0 "
3D	"	"	6 Bluntnose Minnows	.06	46.7 "
3E	"	"	1 Crayfish	-	11.5 "
3F	"	"	2 White Suckers	.05	20.8 "
3G	"	"	2 Longear Sunfish	.02	13.5 "
3H	"	"	2 Greenside Darters	.02	37.5 "
3J	"	"	1 Silverjaw Minnow	.01	25.8 "
1A	9-10-76	2400**	1 Earthworm	-	Trace
1B	"	"	19 Crayfish	-	0.32 "

* Station Clear Creek between New & Old bridge on Hwy. 37 at Harrodsburg

** Station Clear Creek above Bloomington STP

Laboratory Results from fish collected from East Fork of the White River (cont'd)

Sample Number	Date (Rec'd)	Station	Type of Fish	Wt. in pounds	PCB's in ppm (edible portion)
R636	"	"	White Sucker	1.22	0.10
R637	"	"	Carp	5.04	2.00
R638	"	EWR-3 (3)	Quillback Carpsucker	0.83	1.10
R639	"	"	Spotted Bass	1.35	0.60
R640	"	"	Channel Catfish	1.17	3.08
R641	"	"	Flathead Catfish	1.32	0.46
R642*	"	"	River Carpsucker	4.03	-
R643	"	"	Bluegill	0.16	0.93
R644	"	"	Longear Sunfish	1.78	1.88
R645	"	"	River Carpsucker	4.30	0.63
R646	"	"	Carp	9.30	1.03

* Sample not received in laboratory

(1) Station EWR-1 Hindostan Falls (T. 2N., R. 4W., Sect. 10; from falls, ½ mile downstream)

(2) Station EWR-2 Shoals (T. 3N., R. 4W., Sect. 25; from ½ to 1 mile below Hwy. 150 bridge)

(3) Station EWR-3 Portersville (T. 1N., R. 6W., Sect. 21; ½ mile either side of public fishing area ¼ mile above bridge)

Laboratory Results from fish collected from East Fork of the White River

Sample Number	Date (Rec'd)	Station	Type of Fish	Wt. in pounds	PCB's in ppm (edible portion)
R623	6-17-76	EWR-1 (1)	Carp	9.30	2.81
R624	"	"	Channel Catfish	1.60	9.03
R625	"	"	Flathead Catfish	0.53	1.18
R626	"	"	Spotted Bass	0.27	5.74
R627	"	"	Longear Sunfish	0.55	1.15
R628	"	"	Bluegill	0.30	0.47
R629	"	"	Quillback Carpsucker	1.04	2.20
R630	"	"	River Carpsucker	3.17	1.54
R631	"	EWR-2 (2)	Largemouth Bass	1.28	1.13
R632	"	"	Longear Sunfish	-	1.68
R633	"	"	Channel Catfish	2.78	7.16
R634	"	"	Flathead Catfish	1.14	0.90
R635	"	"	Carpsucker	2.27	2.32

Table 5. Laboratory Results from fish collected from the East Fork of the White River (cont'd)

Sample Number	Date (Rec'd)	Station	Type of Fish	Number of Fish in Sample	Length in inches Mean (Range)	Weight in Pounds Mean (Range)	PCB's in ppm as Aroclor 1016 on a whole fish basis
R352	4-12-76	EW-4	Spotted Bass	1	9.1(-)	0.43(-)	9.0
R347	"	"	Lamprey	1	-(-)	-(-)	6.8 *
R347	"	"	Spotted Sucker	1	14.1(-)	1.44(-)	6.0 *
R352	"	"	Flathead Catfish	1	19.4(-)	3.0(-)	3.2
R352	"	"	Carpsucker	1	21.8(-)	4.42(-)	19.4
R352	"	"	Minnows	-	-2.6-3.9)	-(-)	10.1
R348	"	EW-5	Spotted Bass	4	9.2(4.8-11.6)	0.56(-)	2.3 *
R348	"	"	Bluegill	1	7.7(-)	0.40(-)	2.4 *
R348	"	"	Longear Sunfish	3	-(4.1-5.6)	0.13(-)	13.1 *
R348	"	"	Lamprey	2	-(-)	-(-)	6.9 *
R351	"	"	Carp	1	12(-)	0.94(-)	1.3 *
R351	"	"	Carpsucker	1	16.6(-)	2.16(-)	18.0 *
R351	"	"	Spotted Sucker	2	14.2(13.1-15.4)	1.3(-)	4.3 *
R351	"	"	Steel Colored Shiners	1	3.6(-)	0.01(-)	13.5 *
R362	"	EW-6	Largemouth Bass	3	-(6.6-19.8)	1.9(-)	3.3 *
R361	"	"	Spotted Bass	1	8.0(-)	0.26(-)	19.5 *
R364	"	"	Longear Sunfish	1	3.4(-)	0.02(-)	8.4 *
R363	"	"	Redear Sunfish	1	7.9(-)	0.37(-)	Trace *
R360	"	"	Crappie	3	-(7.7-10.1)	0.38(-)	1.4 *
R358	"	"	Channel Catfish	1	14(-)	0.7(-)	7.9 *
R359	"	"	Carpsucker	3	-(12.1-14.1)	1.07(-)	3.2 *
R357	"	"	Carp	1	18.7(-)	3.9(-)	Trace
R355	"	"	Northern Redhorse	1	14.7(-)	1.25(-)	19.3 *
R365	"	"	Notropis spp.	20	-(1.7-3.7)	0.01(-)	11.4 *

* May also contain some Aroclor 1242

Table 5. Laboratory Results from fish collected from the East Fork of the White River

Sample Number	Date (Rec'd)	Station	Type of Fish	Number of Fish in Sample	Length in inches Mean (Range)	Weight in pounds Mean (Range)	PCB's in ppm as Aroclor 1016 on a whole fish basis
R331	4-7-76	EW-1	Channel Catfish	1	15.5(-)	1.476(-)	Trace
"	"	"	Carpsucker	1	13.4(-)	1.23(-)	Trace
"	"	"	Gizzard Shad	5	-(4.4-11.0)	-(-)	15.
"	"	"	Spotted Sucker	1	12.3(-)	0.87(-)	Trace
R345	4-12-76	EW-2	Largemouth Bass	1	5.4(-)	0.03(-)	6.6 *
"	"	"	Spotted Bass	2	9.45(9.4-9.5)	0.47(-)	4.1 *
"	"	"	Channel Catfish	2	15.4(15.4-15.4)	1.18(-)	2.8 *
"	"	"	Freshwater Drum	1	14(-)	0.8(-)	2.3 *
"	"	"	Carp	2	15.0(12.3-17.6)	1.93(-)	5.4 *
"	"	"	Minnows	8	-(1.6-4.0)	0.01(-)	1.1 *
R346	4-12-76	EW-3	Largemouth Bass	2	7.2(6.0-8.4)	0.89(-)	16.4 *
"	"	"	Spotted Bass	2	6.5(5.8-7.2)	0.15(-)	12.3 *
"	"	"	Longear Sunfish	8	6.1(5.6-6.6)	0.22(-)	12.7 *
"	"	"	Bluegill	1	7.7(-)	0.38(-)	10.4 *
"	"	"	Channel Catfish	2	16.7(16.7-16.7)	1.35(-)	4.8 *
R347	4-12-76	EW-4	Bluegill-Sunfish	1	5.0(-)	0.09(-)	46.6 *
"	"	"	Longear Sunfish	2	5.4(5.1-5.7)	0.16(-)	9.7 *

Table 4. Laboratory Results from fish collected from Salt Creek (cont'd)

Sample Number	Date (Rec'd)	Station	Type of Fish	Number of Fish in Sample	Length in inches Mean (Range)	Weight in pounds Mean (Range)	PCB's in ppm as Aroclor 1016 on a whole fish basis
R243	3-11-76	SC-5	Largemouth Bass	3	-(-)	0.47(-)	38.
"	"	"	Yellow Bass	2	-(-)	0.35(-)	18.
"	"	"	Bluegill Sunfish	4	-(-)	0.166(-)	29.
"	"	"	White Crappie	1	-(-)	0.92(-)	8.
"	"	"	Carpsucker	1	-(-)	1.40(-)	12.
"	"	"	Spotted Sucker	2	-(-)	1.25(-)	36.
"	"	"	Shiners	9	-(-)	0.002(-)	21.
"	"	"	Brook Silverside	2	-(-)	0.005(-)	18.
"	"	"	Gizzard Shad	5	-(-)	0.64(-)	36.
R244	3-11-76	SC-6	Largemouth Bass	1	-(-)	0.21(-)	29
"	"	"	River Carpsucker	1	-(-)	3.72(-)	54
"	"	"	Spotted Sucker	2	-(-)	0.25(-)	60
"	"	"	Bluntnose minnow	10	-(-)	-(-)	29
"	"	"	Golden Shiner	1	-(-)	0.01(-)	3.5
"	"	"	Notropis spp.	81	-(-)	0.004(-)	117.
"	"	"	Brook Silverside	3	-(-)	0.006(-)	15.
"	"	"	Gizzard Shad	6	-(-)	0.60(-)	23.

SC-5 in 1980

Table 4. Laboratory Results from fish collected from Salt Creek

Sample Number	Date (Rec'd)	Station	Type of Fish	Number of Fish in Sample	Length in inches Mean (Range)	Weight in pounds Mean (Range)	PCB's in ppm as Aroclor 1016 on a whole fish basis
R239	3-12-76	SC-1	Largemouth Bass	2	12.5(12.4-12.6)	0.87(-)	0
R289	3-30-76	SC-2	Bluegill Sunfish	3	5.4(4.3-6.0)	0.11(-)	9.
R291	"	"	Longear Sunfish	2	4.6(3.8-5.3)	0.06(-)	1.
R292	"	"	Brook Silverside	11	-(-)	-(3.0-4.0)	Trace
R290	"	"	Gizzard Shad	1	13.8(-)	0.96(-)	19.
R241	3-11-76	SC-3	Largemouth Bass	3	-(-)	0.087(-)	7
"	"	"	Bluegill Sunfish	10	-(-)	0.05(-)	10
"	"	"	Longear Sunfish	12	-(-)	0.54(-)	5
"	"	"	Green X Redear Sunfish	1	-(-)	0.13(-)	5
"	"	"	Grass Pickerel	1	-(-)	0.09	27
"	"	"	Spotted Sucker	2	-(-)	0.85(-)	27
"	"	"	Bluntnose Minnow	1	-(-)	-(-)	76
"	"	"	Common Shiners	4	-(-)	0.04	22
"	"	"	Steel Colored Shiners	2	-(-)	0.01(-)	169
"	"	"	Notropis spp.	5	-(-)	0.001(-)	343
"	"	"	Brook Silverside	12	-(-)	0.006(-)	4
R242	3-11-76	SC-4	Largemouth Bass	2	-(-)	1.66(-)	11
"	"	"	Spotted Sucker	1	-(-)	1.45(-)	3
"	"	"	Longear Sunfish	1	-(-)	0.10(-)	40
"	"	"	Carpsucker	1	-(-)	3.45(-)	87
"	"	"	Notropis spp.	1	-(-)	0.02(-)	203
"	"	"	Minnows	38	-(-)	0.002(-)	40
"	"	"	Brook Silverside	23	-(-)	0.006(-)	11
"	"	"	Lamprey	1	-(-)	0.04(-)	96.

Table 3. Laboratory Results from fish collected from Clear Creek

Sample Number	Date (Rec'd)	Station	Type of Fish	Number of Fish in Sample	Length in inches Mean (Range)	Weight in pounds Mean (Range)	PCB's in ppm as as Aroclor 1016 on a whole fish basis
R121	1-20-76	CC-1	* Creek Chub ✓	10	-(2.7-5.0)	-(-)	66
R122	"	"	* Bluegill Sunfish ✓	7			
"	"	"	Rock Bass ✓	1			
"	"	"	Green Sunfish ✓	1			
"	"	"	Total sample	9	-(1.3-1.8)	-(-)	52
R123	"	"	Minnows	99	-(-)	-(-)	87
R240	3-12-76	CC-2	* Longear Sunfish	2	-	0.15(-)	91
"	"	"	White Sucker	5	-	1.66(-)	47
"	"	"	Redhorse	2	-	0.7(-)	21
"	"	"	Spotted Sucker	9	-	1.04(-)	71
"	"	"	Carpsucker	6	-	1.58(-)	34
"	"	"	Brook Silverside	19	-	0.067(-)	5
"	"	"	Minnows				224
1241	2-25-76	CC-3	Yellow Bass ✓	2	8.9(8.8-9.0)	0.325(0.32-0.33)	20
1242	"	"	* Largemouth Bass	2	12.2(11.-13.3)	0.825(0.59-1.06)	53
1243	"	"	White Sucker	1	8.5(-)	0.270(-)	49
1244	"	"	Spotted Sucker	2	13.0(11.4-14.6)	1.04(0.62-1.45)	44
1245	"	"	* Bluegill Sunfish ✓	4	6.9(5.8-8.9)	0.24(0.11-0.5)	12
1246	"	"	White Crappie	2	7.0(7.0-7.1)	0.14(0.13-0.14)	15
1247	"	"	Rock Bass	1	8.9(-)	0.53(-)	23
1248	"	"	* Longear Sunfish ✓	2	6.0(5.6-6.4)	0.2(0.16-0.24)	85
1249	"	"	Green Sunfish	1	4.4(-)	0.07(-)	18
1250	"	"	Yellow Bullhead	1	8.0(-)	0.2[illegible](-)	38
1251	"	"	Brook Silverside	10	-(3.0-3.7)	0.0[illegible](-)	21
1252	"	"	Minnows	2	2.4(-)	-(-)	149

Table 1 Laboratory Results from Fish Collected from Sinking, Clear and Salt Creeks, Monroe County, Indiana

SAMPLE NUMBER	DATE RECEIVED	STATION	TYPE OF FISH	NUMBER OF FISH IN SAMPLE	LENGTH IN INCHES MEAN RANGE	WEIGHT IN POUNDS MEAN RANGE	PERCENT FAT	TOTAL PCB's IN PPM IN FAT	TOTAL PCB's IN PPM IN FILLET
2090	9-29-77	CC-3	Notropis spp.		3.0(2.6-3.6)	0.1(-)	--	45	--
2088	9-29-77	CC-3	Largemouth Bass	4	8.8(3.0-12.2)	0.58(0.02-1.16)	1.42	817	11.6
2089	9-29-77	CC-3	Longear Sunfish	5	3.4(2.7-3.9)	0.03(0.01-0.05)	--	169	--
2093	9-29-77	SC-3 (M-3-6)	Spotted Sucker	5	8.4(8.0-8.9)	0.20(0.16-0.25)	2.08	319	6.6
2091	9-29-77	SC-3 (M-3-6)	Notropis spp.	8	2.7(2.1-3.2)	(-)	--	367	--
2094	9-29-77	SC-3 (M-3-6)	Spotted Bass	5	4.4(2.5-11.1)	0.2(Trace-0.70)	1.02	537	5.5
2092	9-29-77	SC-3 (M-3-6)	Longear Sunfish	9	0.46(0.27-0.58)	0.08(0.01-0.15)	1.15	265	3.0
2084	9-29-77	SC-5 (M-3-6)	Longear Sunfish	7	4.8(3.6-6.1)	0.09(0.03-0.18)	--	2002	--
2083	9-29-77	SC-5 (M-3-6)	Spotted Sucker	4	7.0(5.5-9.4)	0.11(0.05-0.17)	--	1371	--
2082	9-29-77	SC-5 (M-3-6)	Spotted Bass	7	3.2(2.8-4.0)	- (-)	--	2378	--
2081	9-29-77	SC-5 (M-3-6)	Largemouth Bass	1	10.0	0.49	3.29	2481	81.6
2085	9-29-77	S-4	Common Shiner	7	4.0(1.4-5.2)	0.03(-)	--	270	--
2087	9-29-77	S-4	Rock Bass	1	8.3	0.41	--	24	--

Table 2 Laboratory Results from Fish Collected from the East Fork White River, Lawrence County, Indiana

SAMPLE NUMBER	DATE RECEIVED	STATION	TYPE OF FISH	NUMBER OF FISH IN SAMPLE	LENGTH IN INCHES MEAN RANGE	WEIGHT IN POUNDS MEAN RANGE	PERCENT FAT	TOTAL PCB's IN PPM IN FAT	TOTAL PCB's IN PPM IN FILLET
2095	9-29-77	EW-6	Spotted Bass	4	7.2(2.9-10.8)	0.31(0.01-0.66)	0.95	189	1.8
2096	9-29-77	EW-6	Smallmouth Bass	8	7.8(3.2-10.5)	0.30(0.01-0.56)	0.91	174	1.6
2097	9-29-77	EW-6	Largemouth Bass	3	11.8(10.9-12.7)	0.85(0.68-1.08)	0.77	226	1.7
2098	9-29-77	EW-6	Channel Catfish	7	12.5(2.8-17.7)	0.67(0.16-1.58)	5.09	244	12.4
2101	9-29-77	EW-6	White Grappie	2	9.2(8.6-9.8)	0.38(0.28-0.47)	0.90	352	3.2
2100	9-29-77	EW-6	Bluegill Sunfish	3	5.8(5.3-6.3)	0.16(0.11-0.20)	1.18	125	1.5
2099	9-29-77	EW-6	Longear Sunfish	12	4.4(3.0-5.7)	0.08(0.02-0.15)	1.44	165	2.4
2108	9-29-77	EW-4	Spotted Sucker	8	12.0(6.8-16.8)	0.93(0.12-2.17)	1.70	444	7.6
2107	9-29-77	EW-4	White Crappie	4	8.7(7.7-9.5)	0.31(0.21-0.42)	1.15	436	5.0
2104	9-29-77	EW-4	Largemouth Bass	6	10.7(9.3-13.7)	0.67(0.41-1.35)	1.53	925	14.2
2103	9-29-77	EW-4	Bluegill Sunfish	12	5.5(4.1-6.6)	0.14(0.04-0.23)	1.36	969	13.2
2102	9-29-77	EW-4	Spotted Bass	8	8.2(4.3-10.9)	0.33(0.03-0.67)	1.50	1750	26.3

Table 1 Laboratory Results of Analyses of Water Samples from Stations in Monroe and Lawrence Counties, Indiana

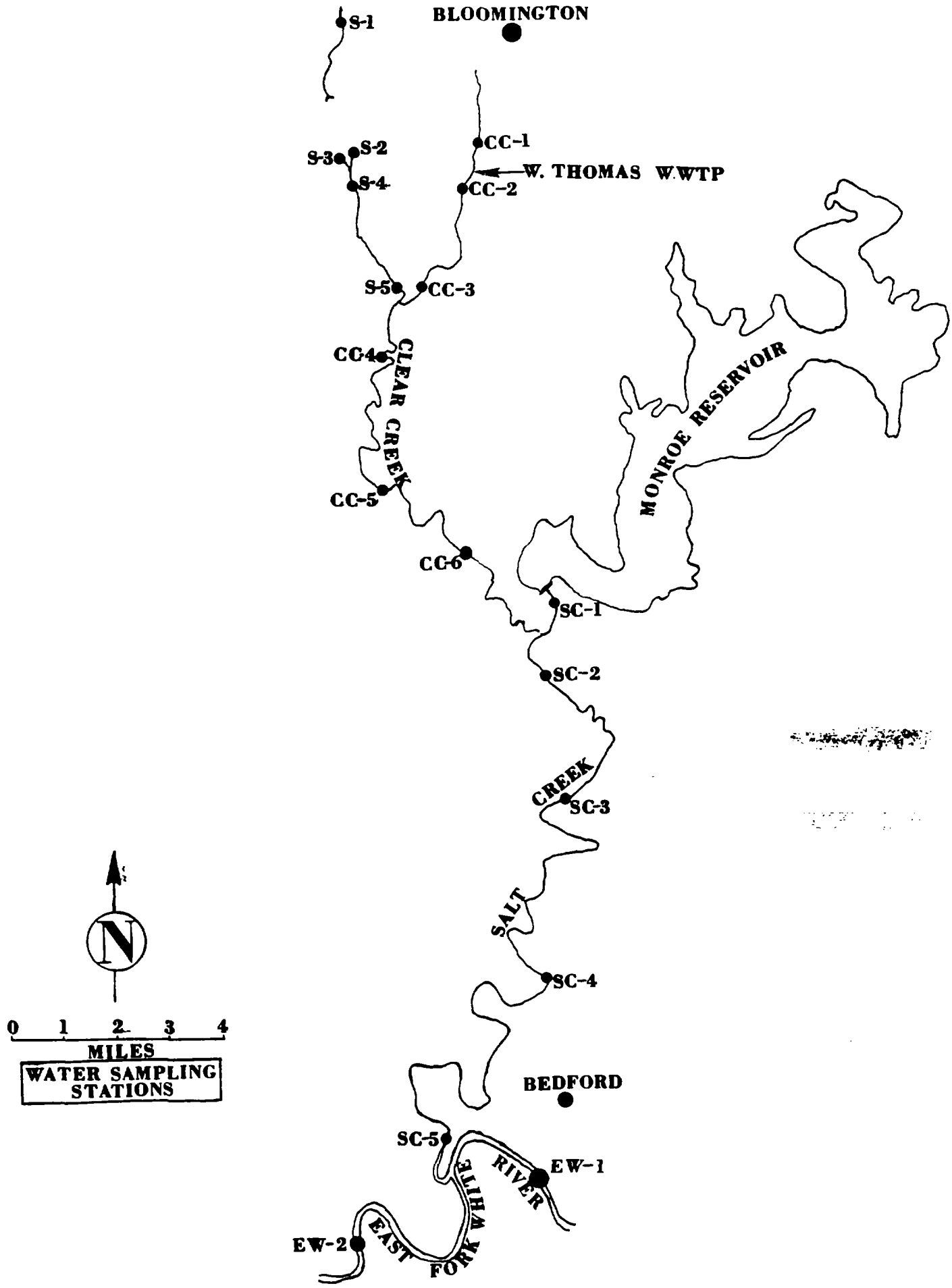
STATION	LOCATION	DATE	TYPE OF SAMPLE*	TOTAL PCB's (ug/l)
S-1	Sinking Creek at S.R. 48	09-27-77	G	<0.1 as Aroclor 1242 if present
S-2	Shirley Springs	09-27-77	G	<0.1 as Aroclor 1242 if present
S-3	Leonard Springs	09-27-77	G	<0.1 as Aroclor 1242 if present
S-4	Leonard Springs Branch at Rockport Road	09-27-77 09-29-77	G	<0.1 as Aroclor 1242 if present <0.10 as Aroclor 1242 if present
	Bedford White River Filtration Plant-Raw water	09-27-77	G	<0.1 as Aroclor 1242 if present
	Bedford Salt Creek Filtration Plant-Raw water	09-27-77	G	1.0 as Aroclor 1016
PR-1	Pleasant Run at Peerless Road Bridge	09-27-77	G	12.0 as Aroclor 1242 0.42 as Aroclor 1254
CC-7	Clear Creek 100 yards upstream of the confluence with Salt Creek	09-27-77	G	0.18 as Aroclor 1242
SC-3	Salt Creek at Logan (M-3-6)	09-27-77	G	0.15 as Aroclor 1242
SC-6	Salt Creek at Section 20-Bedford West Quad (M-3-8)	09-28-77	G	0.56 as Aroclor 1242
EW-3	East Fork White River below the confluence with Salt Creek	09-28-77	G	<0.10 as Aroclor 1242 if present
EW-4	East Fork White River below Williams Dam	09-28-77	G	<0.10 as Aroclor 1242 if present

*G = Grab sample

Table 2 Laboratory Results of Analyses of Sediment Samples from Stations in Monroe and Lawrence Counties, Indiana

STATION	LOCATION	DATE	TYPE OF SAMPLE*	TOTAL SOLIDS WET/WEIGHT (PERCENT)	TOTAL PCB's (ug/g)
S-1	Sinking creek at S.R. 48	09-27-77	G	67.1%	0.30 as Aroclor 1242 - "as is" basis
S-4	Leonard Springs Branch at Rockport Road	09-27-77	G	52.2%	1.6 as Aroclor 1242 - "as is" basis
		09-29-77	G	61.7%	<0.1 as Aroclor 1242 - "as is" basis 0.10 as Aroclor 1254 - "as is" basis
PR-1	Pleasant Run at Peerless Road Bridge	09-27-77	G	30.0%	1300. as Aroclor 1242 - "as is" basis
CC-7	Clear Creek 100 yards upstream of the confluence with Salt Creek	09-27-77	G	74.8%	<0.10 as Aroclor 1242 - "as is" basis <0.10 as Aroclor 1254 - "as is" basis
SC-3	Salt Creek at Logan (M-3-6)	09-27-77	G	76.9%	1.6 as Aroclor 1242 - "as is" basis <0.10 as Aroclor 1254 - "as is" basis
SC-6	Salt Creek at Section 20-Bedford West Quad (M-3-8)	09-28-77	G	63.7%	1.5 as Aroclor 1242 - "as is" basis <0.10 as Aroclor 1254 - "as is" basis
EW-3	East Fork White River below the confluence with Salt Creek	09-28-77	G	69.8%	0.15 as Aroclor 1242 - "as is" basis 0.61 as Aroclor 1254 - "as is" basis
EW-4	East Fork White River below Williams Dam	09-28-77	G	70.2%	<0.10 as Aroclor 1242 - "as is" basis 0.12 as Aroclor 1254 - "as is" basis

*G = grab sample


S-1
BLOOMINGTON
CC-1
S-3
S-2
W. THOMAS W.W.T.P
S-4
CC-2
S-5
CC-3
CC-4
CLEAR CREEK
MONROE RESERVOIR
CC-5
CC-6
SC-1
SC-2
CREEK
SC-3
SALT
SC-4
BEDFORD
SC-5
WHITE
RIVER
EW-1
EW-2
EAST FORK
N
0 1 2 3 4
MILES
WATER SAMPLING STATIONS

WATER SAMPLE IDENTIFICATION SHEET

Sample site Sinking Creek at SR 48

Station No. S-1

Sample Date: 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 0930 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato / Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) ____ (A.M./P.M.)

by Frato

NPDES NO: _____ (1 - 7)

OUTFALL _____ (8 - 10)

3 (17)
1. NPDES
2. SPC 15
3. WQ Study
4. Pollution complaint
5. Fish kill investigation

7 (18) Category of Discharge
1. Industry
2. Semi-Public
3. Municipal
4. Federal
5. Public Water Supply
6. State operation
7. Other

1 (19) Sample Type
1. Grab
2. 24-hour comp.
3. 8-hour comp.
4. 24-hour flow comp.
5. 8-hour flow comp.

____ (20) Sample Interval

____ (21)
0 - at outfall
1 - above outfall
2 - below outfall

____ (22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3748 by JAL

Rec'd 9-28-77 (MO DAY YR) 8:30 (A.M./P.M.) by JAL

CONTAINER TYPE & SIZE

glass 500 ml 1 liter total no. 3

plastic 2 liter other YCB - 2IL

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. ____ o ____ o ____ o

Reported out

REPORTED

NOV 1 '77

WATER LABORATORY
IND. STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total as $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l	√	67.1%
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal coliform	100ml		
	PCB (WATER)		√	< 5.1 ug/l
	PCB (SEDIMENT)		√	.50 ug/g

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides			
PCB		Iced or Refrig.	Special solvent rinsed glass
Phthalate			
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Shirley Springs at the Spring

Station No. S-2

Sample Date 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1015 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato / Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) ____ (A.M./P.M.)

by Frato

NPDES NO: ____ (1 - 7) OUTFALL ____ (8 - 10)

3 (17) 1. NPDES 2. SPC 15 3. WQ Study 4. Pollution complaint 5. Fish kill investigation

7 (18) Category of Discharge
1. Industry
2. Semi-Public
3. Municipal
4. Federal
5. Public Water Supply
6. State operation
7. Other

1 (19) Sample Type
1. Grab
2. 24-hour comp.
3. 8-hour comp.
4. 24-hour flow comp.
5. 8-hour flow comp.

____ (20) Sample Interval

____ (21) 0 - at outfall 1 - above outfall 2 - below outfall

____ (22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3749 by JH

Rec'd 9-28-77 (MO DAY YR) 8:30 (A.M.) by JH

CONTAINER TYPE & SIZE

(glass) plastic 500 ml 2 liter 1 liter other PCB total no. 1

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. ____ o ____ o ____ o

Reported out: REPORTED

OV 77

WATER LABORATORY
MD. STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l		
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal coliform	100ml		
	PCB (WATER)		✓	< 0.1 µg/l
	[illegible]			IF PRESENT

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Tgmp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides			
PCB		Iced or Refrig.	Special solvent rinsed glass
Phthalate			
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Leonard Springs at the spring

Station No. S-3

Sample Date 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1030 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato/Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) ____ (A.M./P.M.)

by Frato

NPDES NO: _____ (1 - 7) OUTFALL _____ (8 - 10)

3 (17) 1. NPDES 2. SPC 15 3. WQ Study 4. Pollution complaint 5. Fish kill investigation

7 (18) Category of Discharge: 1. Industry 2. Semi-Public 3. Municipal 4. Federal 5. Public Water Supply 6. State operation 7. Other

1 (19) Sample Type: 1. Grab 2. 24-hour comp. 3. 8-hour comp. 4. 24-hour flow comp. 5. 8-hour flow comp.

____ (20) Sample Interval

____ (21) 0 - at outfall 1 - above outfall 2 - below outfall

____ (22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3750 by [illegible]

Rec'd 9-28-77 (MO DAY YR) 8:30 (A.M. P.M.) by [illegible]

CONTAINER TYPE & SIZE

(glass) plastic 500 ml 2 liter 1 liter other PCB total no. 1

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. [illegible]

Reported out:

[illegible]

WA[illegible] LABORATORY
[illegible] STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l		
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal coliform	100ml		
	PCB (WATER)		√	<0.1 ug.
	HC [illegible]			PRESENT

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides			
PCB		Iced or Refrig.	Special solvent rinsed glass
Phthalate			
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Sinking Creek at Rockport Rd.

Station No. S-4

Sample Date 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1130 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato / Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) ____ (A.M./P.M.)

by Frato

NPDES NO: _____ (1 - 7)

OUTFALL _____ (8 - 10)

3 (17)
1. NPDES
2. SPC 15
3. WQ Study
4. Pollution complaint
5. Fish kill investigation

7 (18) Category of Discharge
1. Industry
2. Semi-Public
3. Municipal
4. Federal
5. Public Water Supply
6. State operation
7. Other

1 (19) Sample Type
1. Grab
2. 24-hour comp.
3. 8-hour comp.
4. 24-hour flow comp.
5. 8-hour flow comp.

____ (20) Sample Interval

____ (21)
0 - at outfall
1 - above outfall
2 - below outfall

____ (22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3751 by JAK

Rec'd 7-28-77 (MO DAY YR) 8:30 A.M. P.M.

by ____

CONTAINER TYPE & SIZE

(glass) plastic — 500 ml — 1 liter — 2 liter — total no. 2 — other XB - OIL

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. ____ o ____ o ____ o

Reported out REPORTED

AUG 3 1977

WATER LABORATORY
MD. STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l	√	52.2% W/W
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		ICP DAE
74055	Fecal-coliform	100ml		
	PCB (WATER)		√	<0.1 ug/L
	PCB (SEDIMENT)		√	1.6 ug/g
				√ 0

BMS

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						

Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides			
PCB		Iced or Refrig.	Special solvent rinsed glass
Phthalate			
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Bedford White River Filtration Plant - Raw Water

Station No. _____

Sample Date: 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1230 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato/Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) _____ (A.M./P.M.)

by Frato

NPDES NO: _____ (1 - 7)

OUTFALL _____ (8 - 10)

3 (17)
1. NPDES
2. SPC 16
3. WQ Study
4. Pollution complaint
5. Fish kill investigation

7 (18) Category of Discharge
1. Industry
2. Semi-Public
3. Municipal
4. Federal
5. Public Water Supply
6. State operation
7. Other

1 (19) Sample Type
1. Grab
2. 24-hour comp.
3. 8-hour comp.
4. 24-hour flow comp.
5. 8-hour flow comp.

_____ (20) Sample Interval

_____ (21)
0 - at outfall
1 - above outfall
2 - below outfall

_____ (22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3752 by _____

Rec'd 7-28-77 (MO DAY YR) 8:30 (A.M./P.M.)

by _____

CONTAINER TYPE & SIZE

glass 500 ml 1 liter total no. 1

plastic 2 liter other _____

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. _____ o _____ o _____ o

Reported out: REPORTED

NOV

WATER LABORATORY
[illegible] STATE BD OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l		
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal coliform	100ml		
	PCB (WATER)		√	<0.1 ug/l
	H- [illegible]	42		2-IF PRESE

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides PCB Phthalate		Iced or Refrig.	Special solvent rinsed glass
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Bedford Salt Creek
Filtration Plant - Raw water
Station No.

Sample Date 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1300 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato / Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) (A.M./P.M.)

by Frato

NPDES NO: (1 - 7) OUTFALL (8 - 10)

3 (17) 1. NPDES 2. SPC 15 3. WQ Study 4. Pollution complaint 5. Fish kill investigation

7 (18) Category of Discharge: 1. Industry 2. Semi-Public 3. Municipal 4. Federal 5. Public Water Supply 6. State operation 7. Other

1 (19) Sample Type: 1. Grab 2. 24-hour comp. 3. 8-hour comp. 4. 24-hour flow comp. 5. 8-hour flow comp.

(20) Sample Interval

(21) 0 - at outfall 1 - above outfall 2 - below outfall

(22-26) Stream miles from outfall

LAB INFORMATION

Lab No. D-3753 by [illegible]

Rec'd 9-28-77 (MO DAY YR) 8:30 (A.M.) by [illegible]

CONTAINER TYPE & SIZE

(glass) plastic 500 ml 2 liter 1 liter other PC 3 total no. 1

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP. ° ° °

Reported out: [illegible]

[illegible]

WATER LABORATORY
N.D. STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total)	mg/l		
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal coliform	100ml		
	PCB (WATER)		√	1.0 ug/l
	[illegible]			10 15

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp, C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides			
PCB		Iced or Refrig.	Special solvent rinsed glass
Phthalate			
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

WATER SAMPLE IDENTIFICATION SHEET

Sample site Pleasant Run at Peerless Rd bridge (north of Bedford)

Station No.

Sample Date 09 (MO. 11-12) 27 (DAY 13-14) 77 (YR. 15-16) 1345 (A.M./P.M.)

Supervisor Bridges

Collector(s) Frato / Bast

Delivered to lab 09 (MO.) 28 (DAY) 77 (YR.) (A.M./P.M.)

by Frato

NPDES NO: (1 - 7) OUTFALL (8 - 10)

17 — 1. NPDES, 2. SPC 15, 3. WQ Study, 4. Pollution complaint, 5. Fish kill investigation

18 — Category of Discharge: 1. Industry, 2. Semi-Public, 3. Municipal, 4. Federal, 5. Public Water Supply, 6. State operation, 7. Other — 7

19 — Sample Type: 1. Grab, 2. 24-hour comp., 3. 8-hour comp., 4. 24-hour flow comp., 5. 8-hour flow comp. — 1

20 — Sample Interval

21 — 0 - at outfall, 1 - above outfall, 2 - below outfall

22-26 — Stream miles from outfall

LAB INFORMATION

Lab No. D-3754 by JHK

Rec'd 9-28-77 (MO DAY YR) 8:30 (A.M./P.M.) by CYK

CONTAINER TYPE & SIZE

(glass) plastic — 500 ml — 1 liter — 2 liter — other — total no. 2

Standard method followed? all some none

TEMPERATURE & PRESERVATION

Samples refrig. or iced? all some none

Chlorinated samples? all some none

Standard method followed? all some none

Teflon capped Foil capped Solvent rinsed

TEMP.

Reported out:

NOV 8

WATER LABORATORY
IND. STATE BD. OF HEALTH

CODE	PARAMETER	UNIT		LAB DATA
28-32 00410	Alkalinity Total $CaCO_3$	mg/l		34-41
00610	Ammonia-N	mg/l		
01000	Arsenic	mg/l		
00310	BOD_5	mg/l		
01027	Cadmium	mg/l		
00940	Chlorides	mg/l		
01032	Chromium-Hex	mg/l		
01034	Chromium-Tot	mg/l		
00340	COD	mg/l		
01042	Copper	mg/l		
00720	Cyanide-CN	mg/l		
00951	Fluoride	mg/l		
01045	Iron-Total	mg/l		
01051	Lead	mg/l		
01055	Manganese	mg/l		
71900	Mercury-Total	PPB		
01065	Nickel	mg/l		
00630	NO_2+NO_3 - N	mg/l		
00550	Oil & Grease	mg/l		
00403	pH (lab)			
32730	Phenol	mg/l		
00670	Phosphorus-P	mg/l		
00547	Solids - Susp	mg/l		
70401	Solids (total) SEDIMENT	mg/l		30.0% W/W
00945	Sulfate	mg/l		
00625	TKN	mg/l		
00680	TOC	mg/l		
01092	Zinc	mg/l		
74055	Fecal Coliform WATER	/100 ml		2.42 AS APPROVED
3754.4	PCB (WATER)		√	1.30 AS APPROVED
3754.8	PCB (SEDIMENT)		√	1300 ug/g
	AS APPROVED			12.42 " AS IS
	PACIS			

Card No. 27	1	1	1	1	1	1
Para. No. 28-32	00001	00010	00300	00400	50050	50060
	Time, hr	Temp. C	DO	pH	Flow, MGD	Res. Chl. mg/l
34-41						
42-49						
50-57						
58-65						
Card No. 27	2	2	2	2	2	2
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

Card No. 27	3	3	3	3	3	3
Para. No. 28-32	00001	00010	00300	00400	50050	50060
34-41						
42-49						
50-57						
58-65						

PRESERVATION OF SAMPLES

Determination		Preservative	Size & Type of Container
General Chemistry:			
Acidity	MBAS		
Alkalinity	Nitrite-N		
BOD	Phosphorus, Ortho		
Calcium	pH		
Chloride	Residues	Iced or Refrigerated	2 liter plastic
Chlorine Residual			
Chromium, Hex.	Specific Cond.		
Color	Sulfate		
Fluoride	Tannin, Lignin		
Hardness	Turbidity		
Odor		Iced or Refrig.	500 ml glass
Pesticides PCB Phthalate		Iced or Refrig.	Special solvent rinsed glass
Metals:			
Aluminum	Manganese		
Arsenic	Nickel		
Cadmium	Potassium		
Chromium, Total	Sodium	5 ml HNO_3/liter	1 liter plastic
Copper	Silver		
Iron	Zinc		
Lead			
Nutrients:			
Nitrogen	COD		
Ammonia	TOC		
Nitrate	Phosphorus, Total	2 ml 50% H_2SO_4/liter	1 liter plastic
Organic			
Total			
Cyanide		1 ml 50% NaOH/liter	1 liter plastic
Mercury		20 ml (2.5% $K_2Cr_2O_7$ in 25% HNO_3)/liter	1 liter plastic
Sulfide		2 ml $Zn(C_2H_3O_2)_2$ (2N) per liter.	1 liter plastic
Oil & Grease		2 ml 50% H_2SO_4/500 ml	500 ml glass
Phenol		2 ml 50% H_2SO_4/liter	1 liter plastic

The preservatives used conform with EPA recommended procedures.

Storage at low temperature is perhaps the best way to preserve samples until the next day. Chemical preservatives are to be used only when they are shown not to interfere with the examination to be made. When used, they should be added to the sample bottle and in the exact amount per volume of sample recommended.

Pleasant Run ... samples

S... Simmons Creek @ SR 48

	PCB's		
1975	1254	<0.1	erratic
1976	1242	<0.373 / 0.14	
1977	1242	<0.1	

Bedford Salt Creek Filtration Plant - Raw water

	PCB		
7/3/1976	1248	0.1 as 1248	"appears" to be an increase
9/27/1977	1016 (1241)	1.0 as 1016	

Pleasant Run ... high in 1977
? about 1976

5/.../76	45.7 as 1016	@ ...
2/17/77	49.9 as 1242	appears to be a reduction in water
9/27/77	12. as 242	
	...42 as 254	

Salt Creek just before EFWR.

1976	<0.10
1977	0.56

SEDIMENT

Pleasant Run @ ... Rd.

7/14/76 23... µg/g as 1016 (24.5 as 1254)

2/17/77 985 as 1242

9/27/77 300 as 1242

B... ... ...

STATE BOARD OF HEALTH

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: February 23, 1981

TO: Oral H. Hert

THRU: John Winters
Earl Bohner

FROM: C. Lee Bridges

SUBJECT: PCB Levels in Water Sediment and Fish From Clear Creek, Salt Creek, Pleasant Run, and the East Fork of White River (Monroe and Lawrence Counties, Indiana) in 1980

Clear Creek, Pleasant Run, and the East Fork of the White River were sampled during June 17-19, 1980, by the Biological Studies and Standards Section. High flow in Salt Creek at this time (the Corps of Engineers was trying to lower Monroe Reservoir to the recreational pool) forced sampling to be postponed there until July 1-2, 1980. During this time, 24 water samples, 24 sediment samples, and 33 fish samples were collected from ten different locations. These data are listed on the two attached tables, along with similar data collected at these locations in the past. A map is also attached showing the locations of the stations.

Clear Creek still has higher than desirable PCB levels in the water and sediment, and according to the Indiana State Board of Health's Food and Drugs Bureau, 62% (5 out of 8) of the fish samples violated the U.S. FDA Action Level. The Longear sunfish sample from Station CL-1 represented the highest PCB level (25.3 mg/kg) encountered on either a whole fish or fillet basis during the 1980 Survey.

Of the ten samples collected from Salt Creek, 40% violated the FDA Action Level which is a little better than during 1976-77 when 75% of the samples exceeded this level. In addition, the three 1980 Salt Creek samples that were large enough for analysis on a fillet basis, contained PCB levels below the U.S. FDA Action Level. The 1980 water samples for Salt Creek were generally below detection, while sediment levels showed little, if any, change from 1976-77.

PCB levels in Pleasant Run in 1980 showed an approximate 40% decrease in the water and a 75% decrease in the sediment over the 1977 levels, but still existed in higher than desirable amounts. The PCB level in the water (8.5 ug/l) represents a concentration that is slightly over 600 times the level currently recommended by U.S. EPA for chronic (24-hour average) exposure of freshwater aquatic life (0.014 ug/l). It was not possible to collect fish from Pleasant Run, but only a few small minnows were observed.

Station EW-3 was on the East Fork of the White River above its confluence with Salt Creek. The four fish samples all were below the U.S. FDA Action Level for PCBs on a fillet basis. The water and sediment samples were at or below the laboratory detection levels.

Station EW-4 was just below the confluence of Salt Creek and the East Fork White River. PCB levels in the water and sediment samples were detectable, and two out of the five fish samples violated the U.S. FDA Action Levels. The 1980 results are not very different from previous sampling.

Station EW-5 was upstream of the Williams Dam. The water and sediment samples contained undetectable amounts of PCBs. Only one of the four fish samples exceeded the U.S. FDA Action Level for PCBs.

Station EW-6 was located directly below Williams Dam on the East Fork of the White River. The water and sediment samples contained undetectable amounts of PCBs. All three of the fish samples were below the U.S. FDA Action Level for PCBs.

Attachment
cc: John Winters
Earl Bohner
Joe Stallsmith
Herb Vaux

dlw M/34 2/16/81

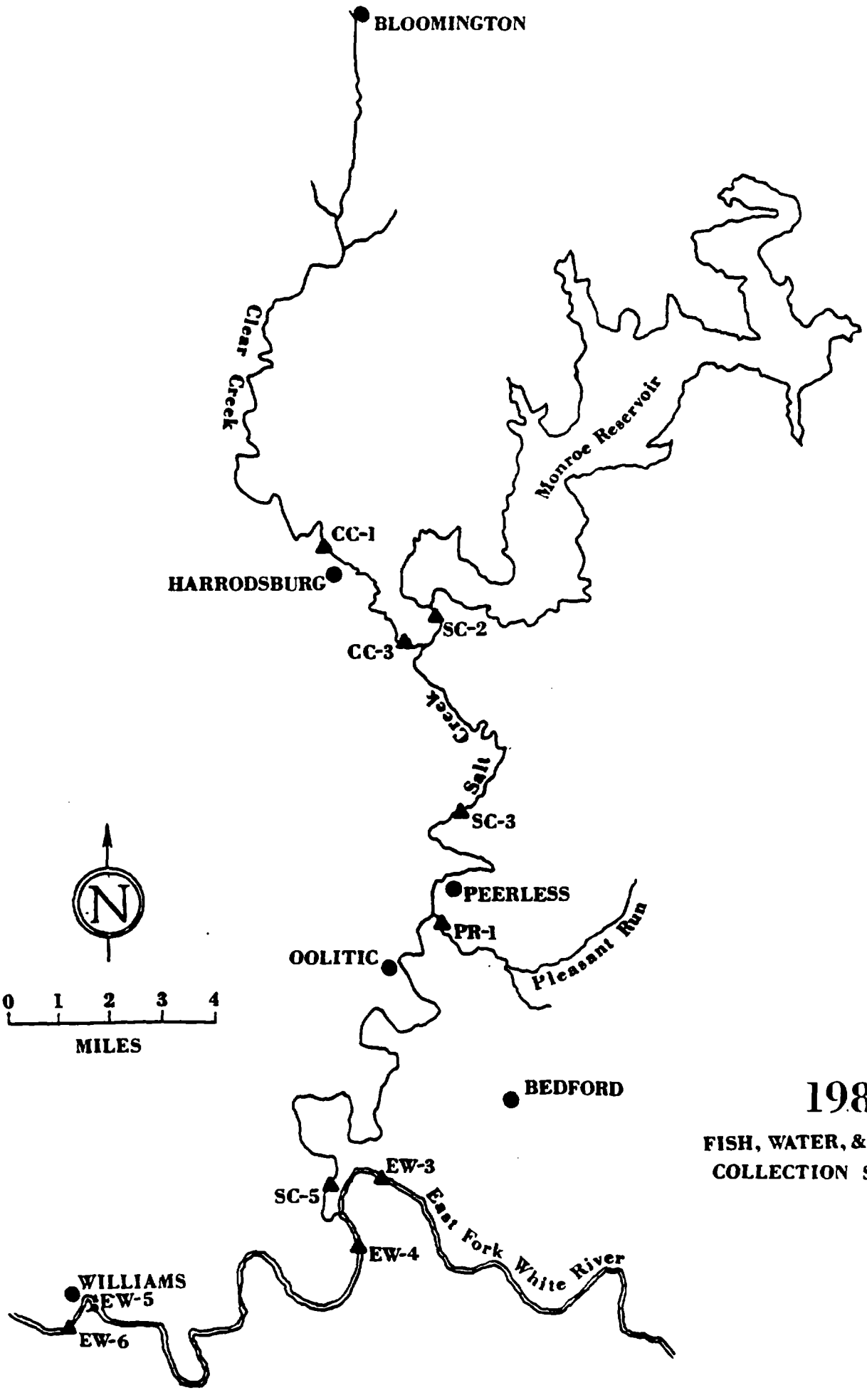

BLOOMINGTON
Clear Creek
Monroe Reservoir
CC-1
HARRODSBURG
SC-2
CC-3
Salt Creek
SC-3
PEERLESS
PR-1
Pleasant Run
OOLITIC
N
0 1 2 3 4
MILES
BEDFORD
1980
FISH, WATER, & SEDIMENT
COLLECTION STATIONS
EW-3
SC-5
East Fork White River
EW-4
WILLIAMS
EW-5
EW-6

Table 1 Results for PCB analysis of water and sediment samples from Monroe and Lawrence County, Indiana, collected between June 16, and July 2, 1980. PCB analyses conducted by the Water and Sewage Laboratory of the Indiana State Board of Health.

Station	Location		WATER as 1242 ug/l	WATER as 1254 ug/l	SEDIMENT (dry weight) as 1242 ug/g	SEDIMENT (dry weight) as 1254 ug/g	% Solids weight/weight
CC-1	Clear Cr. north of Harrodsburg	3/11/76	0.86*	--	--	--	--
	Clear Cr. north of Harrodsburg	6/19/80	0.22	< 0.1	2.2	< 0.2	73.8
CC-3	Clear Cr. 1 mi. up from mouth	9/27/77	0.18	--	< 0.1	< 0.1	74.8 wet weigh
	Clear Cr. 100 yds up from mouth	7/1/80	0.26	--	0.54	--	61.4
SC-2	Salt Cr. just below Monroe Dam	3/11/76	< 0.1**	--	--	--	--
		7/1/80	< 0.1	--	0.15	--	58.4
SC-3	Salt Cr. below Clear Creek near Logan	3/11/76	0.1**	--	--	--	--
		9/27/77	0.15	--	1.6	0.1	76.9 wet weigh
		7/1/80	< 0.1	--	2.2	--	60.6
PR-1	Pleasant Run at Peerless Rd.	9/27/77	12.0	0.42	1300.0	--	30.0
		6/19/80	8.5	0.1	315.0	< 0.2	34.5
SC-5	Salt Cr., 0.25 mi. above mouth	9/28/77	0.56	--	1.5	< 0.1	63.7
		7/2/80	0.12	--	1.9	--	53.1
		7/2/80	< 0.1	--	2.1	--	52.6
EW-3	E. F. White River just above Salt Creek	6/17/80	< 0.1	0.1	< 0.25	< 0.2	79.5
EW-4	E. F. White River just below Salt Creek	9/28/77	< 0.1	--	0.15	0.61	69.8
		6/18/80	0.16	< 0.1	1.1	0.41	45.4
		6/18/80	0.16	< 0.1	1.0	0.41	45.9
EW-5	E. F. White River above Williams Dam	6/18/80	< 0.1	< 0.1	< 0.25	< 0.2	71.9

Station	Location		WATER as 1242 ug/l	WATER as 1254 ug/l	SEDIMENT (dry weight) as 1242 ug/g	SEDIMENT (dry weight) as 1254 ug/g	% Solids weight/weight
EW-6	E. F. White River below Williams Dam	9/28/77	<0.1	--	< 0.1	0.12	70.2
		6/18/80	< 0.1	< 0.1	< 0.25	< 0.2	80.2

* As Aroclor 1016
** As Aroclor 1248

Table 2 Results for PCB analysis of fish samples from Monroe and Lawrence[illegible]ty, Indiana, collected between June 16, and July 2, 1980. PCB analyses conducted by the Food, D[illegible] and Dairy Laboratory of the Indiana State Board of Health.

Station	Date	Type of Fish	Number of Fish in Sample	Ave. Length Cms. (Range)	Ave. Weight Grams (Range)	% Fat	Total PCB's - mg/kg Fat Basis	Whole Fish Basis	Fillet Basis
CC-1	1976	Creek Chub	10	--	--	--	--	66	--
	1980	Creek Chub	8	12.7(11.3-14.5)	22.9(12-35)	4.75	41.8	19.8	--
	1980	Bluegill Sunfish	1	10	20	1.47	84.1	1.2	--
	1980	Longear Sunfish	2	14.1(13.7-14.5)	82 (64-100)	6.89	367.0	25.3	--
	1980	Largemouth Bass	1	12	20	1.04	494.0	5.1	--
CC-3	1976	Yellow Bass	2	--	--	--	--	20	--
		Bluegill Sunfish	4	--	--	--	--	12	--
		Longear Sunfish	2	--	--	--	--	85	--
	1977	Longear Sunfish	5	8.6(6.9-9.9)	14 (5-23)	--	169.0	--	--
		Largemouth Bass	4	22.4(7.6-31.0)	263 (9-527)	1.42	817.0	--	11.6
	1980	Northern Pike	1	79.5	>2320	0.19	1,063.0	--	2.0
		Largemouth Bass	2	28.0(28.0-28.0)	315 (285-345)	1.02	146.0	--	1.5
		Bluegill Sunfish	3	15 (13.7-16.5)	72.7(50-103)	6.98	284.0	19.8	--
		Longear Sunfish	4	12.2(11.4-13.9)	41 (32-52)	5.22	302	15.98	--
SC-2	1976	Bluegill Sunfish	3	13.7(10.9-15.2)	50 (-)	--	--	9.0	--
		Longear Sunfish	2	11.7(9.7-13.5)	27 (-)	--	--	1.0	--
	1980	"Striped" Bass (Morone sp.)	2	17.8(16.3-19.2)	66.0(50-82)	2.93	3.640	0.107	--
		Bluegill Sunfish	3	14.6(12.1-17.0)	63.3(30-107)	4.32	91.3	3.9	--
		Longear Sunfish	2	14.8(13.9-15.8)	88.5(77-100)	4.67	176.0	8.2	--
SC-3	1976	Largemouth Bass	3	- (-)	39 (-)	--	--	7.0	--
		Longear Sunfish	12	- (-)	23 (-)	--	--	10.0	--
	1977	Longear Sunfish	9	13.9(8.1-17.4)	36 (5-68)	1.15	265.0	--	3.0
		Spotted Bass	5	11.2(6.4-28.2)	91 (trace-318)	1.02	537	--	5.5
	1980	Largemouth Bass	1	30.5	465	1.09	101	--	1.1
		Largemouth Bass	1	27.7	78	4.2	173	7.3	--
		Longear Sunfish	2	16.0(16.0-16.1)	106 (105-107)	5.65	198	11.2	--
		Longear Sunfish	2	16.0(15.9-16.2)	100 (100-100)	4.18	210	8.8	--
SC-5	1976	Largemouth Bass	1	- (-)	95 (-)	--	--	28.0	--
	1977	Largemouth Bass*	1	25.4	222	3.29	2,481.	--	81.6
		Longear Sunfish*	7	12.2(9.1-15.5)	41 (14-82)	--	2,002.	--	--
	1980	Largemouth Bass	2	25.2(25.0-25.5)	211 (210-212)	0.44	911	--	4.0
		Largemouth Bass	2	24.4(23.3-25.4)	199 (160-238)	0.32	928	--	3.0
		[illegible]	[illegible]	[illegible]	[illegible]	0.65	406	--	2.6

Station	Location		WATER as 1242 ug/l	WATER as 1254 ug/l	SEDIMENT (dry weight) as 1242 ug/g	SEDIMENT (dry weight) as 1254 ug/g	% Solids weight/weight
EW-6	E. F. White River below Williams Dam	9/28/77	<0.1	--	< 0.1	0.12	70.2
		6/18/80	< 0.1	< 0.1	< 0.25	< 0.2	80.2

* As Aroclor 1016
** As Aroclor 1248

Station	Date	Type of Fish	Number of Fish in Sample	Ave. Length Cms. (Range)	Ave. Weight Grams (Range)	% Fat	Total PCB's - mg/kg Fat Basis	Whole Fish Basis	Fillet Basis
EW-3	1976	Spotted Bass	2	16.5(14.7-18.3)	68 (-)	--	--	12.3	--
		Channel Catfish	2	42.4(42.4-42.4)	618 (-)	--	--	4.8	--
		Bluegill Sunfish	1	19.6	173	--	--	10.4	--
		Longear Sunfish	8	15.5(14.2-16.8)	100 (-)	--	--	12.7	--
	1980	Spotted Bass	1	23.6	164	0.33	21.930	--	0.072
		Channel Catfish	1	23.3	92	0.93	17.594	--	0.164
		Flathead Catfish	1	38.9	625	1.46	35.539	--	0.519
		Sunfishes (Lepomis spp.)	4	15.3(13.2-20.0)	75 (64-100)	1.85	184	--	3.4
EW-4	1976	Longear Sunfish	2	13.7(13.0-14.5)	73 (-)	--	--	9.7	--
		Flathead Catfish	1	49.3	1362	--	--	3.2	--
	1977	Bluegill Sunfish	12	14.0(10.4-16.8)	64 (18-104)	1.36	969.	--	13.2
		White Crappie	4	22.1(19.6-24.1)	141 (95-191)	1.15	436.	--	5.0
	1980	White Crappie	2	17.8(15.1-20.4)	74 (38-110)	0.57	258.	--	1.5
		Longear Sunfish	2	13.0(10.0-16.0)	76 (25-126)	8.08	237.	19.2	--
		Channel Catfish	1	47.0	1035	8.55	53.4	--	4.6
		Channel Catfish	1	40.4	692	8.24	109.0	--	9.0
		Channel Catfish	2	33.1(29.2-37.0)	350 (192-507)	5.65	60.6	--	3.4
EW-5	1976	Spotted Bass	4	23.4(12.2-29.5)	254	--	--	2.3	--
		Bluegill Sunfish	1	19.6	182	--	--	2.4	--
		Longear Sunfish	3	- (10.4-14.2)	59	--	--	13.1	--
	9/20/79	Longear Sunfish	5	15.6(15.5-16.0)	97.4(90-104)	2.4	86.4	--	2.07
	1980	Largemouth Bass	2	28.3(27.7-28.9)	316 (290-342)	0.68	74.7	--	0.51
		Longear Sunfish	5	15.3(13.5-16.5)	89.2(50-121)	0.29	229.0	--	0.66
		Longear Sunfish	5	16.3(15.7-16.8)	119 (110-132)	0.52	209.0	--	1.1
		Channel Catfish	1	35.4	368	3.19	184.0	--	5.9
EW-6	1976	Largemouth Bass	3	(16.8-50.3)	863	--	--	3.3	--
		Longear Sunfish	1	8.6	10	--	--	8.4	--
	9/29/77	Largemouth Bass	3	30.0(27.7-32.3)	386 (309-490)	0.77	226.0	--	1.7
		Longear Sunfish	12	11.2(7.6-14.5)	36 (9-68)	1.44	165.0	--	2.4
		Bluegill Sunfish	3	14.7(13.5-16.0)	73 (50-91)	1.18	125.0	--	1.5
	6/18/80	Longear Sunfish	3	15.9(15.4-16.4)	109 (96-118)	0.04	77.0	--	0.03
		Bluegill Sunfish	1	19.2	160	4.24	83	--	3.5
		Largemouth Bass	2	29.8(28.4-31.2)	315.5(262-369)	0.09	317.	--	0.29

Dr. Mount, Greene Co. ?

STATE OF INDIANA

INDIANAPOLIS

STATE BOARD OF HEALTH

AN EQUAL OPPORTUNITY EMPLOYER

Address Reply to:
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, IN 46206

February 19, 1982

Robert E. Rose, M.D.
Health Officer
Owen County Health Department
Courthouse
Spencer, IN 47460

Dear Doctor Rose:

One of the objectives of the State Board of Health is to keep local health officers apprised of information available to us which either does or could impact upon the health of the citizens in their respective jurisdictions. Accordingly, the purpose of this letter is to advise you of the results of laboratory analysis of fish caught in Richland Creek, a portion of which is located in your county.

On September 30, 1981, a number of samples of fish were taken from Richland Creek for testing for a variety of potential contaminants, including polychlorinated biphenyls (PCBs). Because of the low water level on the collection date, no samples were taken in Monroe County; however, they were collected near the State Road 43 bridge in Owen County and near the State Road 54 bridge east of Bloomfield in Green County. While the laboratory analyses show all other potential contaminants for which tests were conducted to be at normal low levels and therefore no cause for concern at this time, they do reveal high levels of PCBs. Of the five batches of samples collected, three, or 60 percent, exceeded the U.S. Food and Drug Administration actionable level of 5.0 ppm. The levels found present cause for concern and, to minimize exposure to PCBs, warrant discouraging the regular consumption of more than one (1) meal per week of fish from Richland Creek. Women of child-bearing age and preschool children should be discouraged from eating any of these fish.

It is hoped that the preceding information will be helpful to you in managing the environmental health program of your department and in protecting the health of the citizens of your county.

Sincerely,

H. H. Vaux, Director
Bureau of Food and Drugs

cc: Ronald G. Blankenbaker, M.D.
Harry D. Offutt, Jr., M.D.

January 20, 1982

David Lamm, Director
Division of Land Pollution Control

John L. Winters
Earl A. Bohner

C. Lee Bridges, Chief
Biological Standards Section

Richland Creek Survey

Biological Studies and Standards Section personnel Dennis Clark, Jim Ray, and the author observed Richland Creek in Monroe, Owen, and Greene Counties pursuant to a request from your Division. The stream in the immediate vicinity of Neal's Landfill is quite small, and with the low flow conditions at the time of the survey, it was not possible to collect fish tissue samples in Monroe County. Samples were collected about three miles downstream of the site at the S.R. 43 Bridge in Owen County and also near the S.R. 54 Bridge east of Bloomfield in Greene County. The results in the attached table show abnormally high PCB levels, especially at the upper station (S.R. 43 Bridge). This is very unusual for these types of fish in Indiana streams, such as Richland Creek. The levels encountered are significantly less than those in Clear Creek in Monroe County, but still are often in excess of the U.S. FDA's Action Level of 5 mg/kg for the edible portion of fish. These levels indicate a fairly recent and possibly frequent discharge of PCBs somewhere, in this watershed.

The other twenty parameters tested for are those routinely done on our samples of Indiana fish. These other parameters are at normal low levels and do not represent a cause for concern at this time. A summary table of the PCB results is attached, as well as a complete set of lab results.

We noticed at least one beef production operation where the cattle had access to Richland Creek. The Food, Drug, and Dairy Division should be made aware of the water concentrations (of PCBs) that your staff has found in order to evaluate the hazard, if any, of using the stream for a livestock water supply at the present time. A copy of this memo will be sent to the Food, Drug, and Dairy Division, as they are historically the Division responsible for preparing any press releases and advisory notices with recommended consumption rates that may be required when fish samples that exceed U.S. FDA Action Levels are found.

cc: H. Vaux
L. Kane

lb 1/19/82 MISC-17-C

Station	Location	Species	Number	Length-cm Mean(Min-Max)	Weight Mean(Min-Max)	% Fat	PCB's mg/kg
RC-2	Richland Cr. at SR 43	Yellow Bullhead (I. natalis)	4	18.5(15.2-25.7)	98.5(44-236)	2.24	6.312
"	" " " " "	Northern Hogsucker and White Sucker (H. nigricans and C. commersoni)	4	23.0(19.8-26.2)	135(80-222)	1.05	7.446
"	" " " " "	Longear and Green Sunfish (L. megalotis and L. cyanellus)	10	12.4(11.3-13.8)	39.2(28-56)	2.31	5.619
"	" " " " "	Striped Shiner (N. chrysocephalus)	11	11.7(8.0-16.5)	22.5(6-58)	0.99	2.306
RC-1	" " " SR 54	Northern Hogsucker (H. nigricans)	6	19.8(17.6-22.9)	94.7(68-130)	0.76	0.142

lb 1/19/82 MISC-17-D

NOTE: PLEASE USE BLACK INK, NO. 2 PENCIL OR TYPEWRITER.

Division of Food and Drugs
COLLECTION REPORT

BUREAU OF LABORATORIES
Sample Record

Date Collected 30 SEP 81 Station No 1
Identification 6 MINUS NORTHERN HOGSUCKER
COLLECTED FROM RICHLAND CREEK AT S.R. 54 BRIDGE - WRAPPED IN FOIL

Embargo: Yes ____ No ____

Type of Sample: 1. Obj. ____ 2. Inves. ____ 3. Offic. ____

Lab. No. 521
Date Rec'd 10/5/81
Cond. of Cont. Intact
State Seal None Present
Identification As Indicated

Sign. of Lab. Identifier Seal
Date Seal Broken ____
Sign. of Seal Breaker ____
Ana. Started ____
Ana. Finished ____
Samp. Resealed ____
Sign. of Resealer ____

Sample Storage
1—Pre-Analysis Freezer
2—Post Analysis ____
3—Date Discarded ____

Analysis Requested Pesticides, PCBs

Collected by L. BRIDGES, D. CLARK, J. RAY

Sample No. ____
Lab. No. ____
Product ____

Report of Laboratory Analysis

Date Reported ____

Length	Weight
22.9 cm	130 gm
22.0	124
17.6	68
19.7	90
17.9	76
18.8	80
$\bar{X}$ = 19.8	94.6

SEE ATTACHED ADDENDUM FOR: %FAT, PEST., AND PCB RESULTS
KEN HILL K.H. 12/23/81

Analyst ____ Date ____

LABORATORY CONCLUSION	FOOD AND DRUG DIVISION CONCLUSION
Sign. [signature] Date 12-7-81	Sign. ____ Date ____

ADDENDUM TO SAMPLE NO. 531 DECEMBER 23, 1981

% FAT .76

SUBSTANCE	FAT BASIS	WHOLE FISH BASIS
PCB	18.678 PPM	0.142 PPM
BHC, ALPHA	0.055 PPM	LESS THAN .001 PPM
BHC, BETA	NONE DETECTED	
BHC, DELTA	NONE DETECTED	
BHC, GAMMA	NONE DETECTED	
HEXACHLOROBENZENE	NONE DETECTED	
PENTACHLOROANISOLE	0.059 PPM	LESS THAN .001 PPM
PENTACHLOROPHENOL		
HEPTACHLOR	0.107 PPM	0.001 PPM
HEPTACHLOR EPOXIDE	0.093 PPM	0.001 PPM
TRANS-NONACHLOR	0.679 PPM	0.005 PPM
CIS-NONACHLOR	0.518 PPM	0.004 PPM
TRANS-CHLORDANE	0.231 PPM	0.002 PPM
CIS-CHLORDANE	0.708 PPM	0.005 PPM
OXYCHLORDANE	0.148 PPM	0.001 PPM NQ
ALDRIN	NONE DETECTED	
DDE,P,P'-	0.516 PPM	0.004 PPM
DDE,O,P'-	NONE DETECTED	
DDD,P,P'-	0.550 PPM	0.004 PPM
DDD,O,P'-	NONE DETECTED	
DDT,P,P'-	NONE DETECTED	
DDT,O,P'-	NONE DETECTED	
METHOXYCHLOR,P,P'-	NONE DETECTED	
METHOXYCHLOR,O,P'-	NONE DETECTED	
DIELDRIN	NONE DETECTED	
ENDRIN	NONE DETECTED	
TRIFLURALIN		
BENFLURALIN		

NOTE: PLEASE USE BLACK INK, No. 2 PENCIL OR TYPEWRITER.

Division of Food and Drugs
COLLECTION REPORT

BUREAU OF LABORATORIES
Sample Record

Date Collected 30 SEP 81 Station No 2
Identification 4 WHOLE YELLOW BULLHEAD CAT-FISH COLLECTED FROM RIGHLAND CREEK MT S.R. 43 - WRAPPED IN FOIL - NUMBER 1-4

Embargo
Yes
No

Type of Sample
1. Obj.
2. Inves.
3. Offic.

Lab. No.
Date Rec'd 10/15/81
Cond. of Cont. Intact

State Seal None Present
Identification As Indicated

Sign. of Lab. Identifier Seal
Date Seal Broken
Sign. of Seal Breaker
Ana. Started
Ana. Finished
Samp. Resealed
Sign. of Resealer

Sample Storage
1—Pre-Analysis Freeze
2—Post Analysis
3—Date Discarded

Analysis Requested Pesticides, PCBs

Collected by L. BRIDGES, D. CLARK, J. RAY

Sample No.
Lab. No.
Product

Report of Laboratory Analysis

Date Reported

Length	Weight
25.7 cm	236 gm
15.7	50
17.3	64
15.2	44
$\bar{X}$ = 18.475	98.5

SEE ATTACHED ADDENDUM FOR: %FAT, PEST., AND PCB RESULTS

Analyst KEN HILL K.H. Date 12/23/81

LABORATORY CONCLUSION	FOOD AND DRUG DIVISION CONCLUSION
Sign. [illegible] Date 12/23/81	Sign. Date

% FAT 2.24

SUBSTANCE	FAT BASIS	WHOLE FISH BASIS
PCB	281.782 PPM	6.312 PPM
BHC, ALPHA	0.015 PPM	LESS THAN .001 PPM
BHC, BETA	NONE DETECTED	
BHC, DELTA	NONE DETECTED	
BHC, GAMMA	0.101 PPM	0.002 PPM
HEXACHLOROBENZENE	NONE DETECTED	
PENTACHLOROANISOLE	0.406 PPM	0.009 PPM
PENTACHLOROPHENOL		
HEPTACHLOR	0.542 PPM	0.012 PPM
HEPTACHLOR EPOXIDE	0.131 PPM	0.003 PPM
TRANS-NONACHLOR	1.202 PPM	0.027 PPM
CIS-NONACHLOR	0.432 PPM	0.010 PPM
TRANS-CHLORDANE	0.409 PPM	0.009 PPM
CIS-CHLORDANE	0.642 PPM	0.014 PPM
OXYCHLORDANE	0.119 PPM	0.003 PPM
ALDRIN	NONE DETECTED	
DDE,P,P'-	1.672 PPM	0.037 PPM
DDE,O,P'-	NONE DETECTED	
DDD,P,P'-	0.184 PPM	0.004 PPM
DDD,O,P'-	NONE DETECTED	
DDT,P,P'-	0.251 PPM	0.006 PPM
DDT,O,P'-	NONE DETECTED	
METHOXYCHLOR,P,P'-	NONE DETECTED	
METHOXYCHLOR,O,P'-	NONE DETECTED	
DIELDRIN	3.060 PPM	0.069 PPM
ENDRIN	NONE DETECTED	
TRIFLURALIN		
BENFLURALIN		

0.0263

0.0.7 PPM or

XXL

Please Type or Print in Ink. No. 2 Pencil or Typewriter

Division of Food and Drugs
COLLECTION REPORT

BUREAU OF LABORATORIES
Sample Record

Date Collected 30 SEP 81 Station No. 2

Identification 2 NORTHERN HOGSUCKER ♀ 2
COMMON WHITE SUCKER COLLECTED FROM RICHLAND CR. AT S.R. 43 - WRAPPED IN FOIL - SAMPLE N° 3

Embargo: Yes ____ No ____

Type of Sample: 1. Obj. ____ 2. Inves. ____ 3. Offic. ____

Lab. No. ____
Date Rec'd 10-15-81
Cond. of Cont. Intact
State Seal None Present
Identification As Indicated
Sign. of Lab. Identifier JCW
Date Seal Broken ____
Sign. of Seal Breaker ____
Ana. Started ____
Ana. Finished ____
Samp. Resealed ____
Sign. of Resealer ____

Sample Storage
1—Pre-Analysis Freeze
2—Post Analysis ____
3—Date Discarded ____

Analysis Requested Pesticides, PCBs

Collected by L. BRIDGES, D CLARK, J. RAY

Sample No. ____
Lab. No. ____
Product ____

Report of Laboratory Analysis

Date Reported ____

NH 5	26.2	222
"	29.6	120
CWS	19.7	80
"	23.4	115
$\bar{x}$	22.95	135

SEE ATTACHED ADDENDUM FOR: %FAT, PEST., AND PCB RESULTS
KEN HILL KH 12/23/81

Analyst ____ Date ____

LABORATORY CONCLUSION	FOOD AND DRUG DIVISION CONCLUSION
Sign. J. C. V. D'Avis Date 12/23/81	Sign. ____ Date ____

ADDENDUM TO SAMPLE NO. 533 DECEMBER 23, 1981

% FAT 1.05

SUBSTANCE	FAT BASIS	WHOLE FISH BASIS
PCB	709.182 PPM	7.446 PPM
BHC, ALPHA	0.026 PPM	LESS THAN .001 PPM
BHC, BETA	NONE DETECTED	
BHC, DELTA	NONE DETECTED	
BHC, GAMMA	NONE DETECTED	
HEXACHLOROBENZENE	NONE DETECTED	
PENTACHLOROANISOLE	0.755 PPM	0.008 PPM
PENTACHLOROPHENOL		
HEPTACHLOR	3.009 PPM	0.032 PPM
HEPTACHLOR EPOXIDE	0.120 PPM	0.001 PPM
TRANS-NONACHLOR	* Masked by high PCB level	
CIS-NONACHLOR	0.879 PPM	0.009 PPM
TRANS-CHLORDANE	0.530 PPM	0.006 PPM
CIS-CHLORDANE	1.320 PPM	0.014 PPM
OXYCHLORDANE	0.182 PPM	0.002 PPM NR = 0.031
ALDRIN	NONE DETECTED	
DDE,P,P'-	9.844 PPM	0.103 PPM
DDE,O,P'-	NONE DETECTED	
DDD,P,P'-	0.302 PPM	0.003 PPM
DDD,O,P'-	NONE DETECTED	
DDT,P,P'-	NONE DETECTED	
DDT,O,P'-	NONE DETECTED	
METHOXYCHLOR,P,P'-	NONE DETECTED	
METHOXYCHLOR,O,P'-	NONE DETECTED	
DIELDRIN	2.092 PPM	0.022 PPM
ENDRIN	NONE DETECTED	
TRIFLURALIN		
BENFLURALIN		

PLEASE USE BLACK INK, No. 2 PENCIL OR TYPEWRITER.

COLLECTION REPORT

Date Collected 30 SEP 81 Station No. 2

Identification 5 WHOLE LONGEAR SUNFISH COLLECTED FROM RICHLAND CR. AT S.R. 43- WRAPED IN FOIL - SAMPLE No 4 (ALSO INCLUDES 5 WHOLE GREEN SUNFISH)

Embargo: Yes ____ No ____

Type of Sample: 1. Obj ____ 2. Inves. ____ 3. Offic. ____

Lab. No. ____

Date Rec'd 10/15/81

Cond. of Cont. Intact

State Seal None Present

Identification No Indicated

Sign. of Lab. Identifier Sew

Date Seal Broken ____

Sign. of Seal Breaker ____

Ana. Started ____

Ana. Finished ____

Samp. Resealed ____

Sign. of Resealer ____

Sample Storage

1—Pre-Analysis Freezer

2—Post Analysis ____

3—Date Discarded ____

Analysis Requested Pesticides, PCBs

Collected by L. BRIDGES, D CLARK, J. DAY

Sample No. ____

Lab. No. ____

Product ____

Report of Laboratory Analysis

Date Reported ____

	Ln	Wt
LES	13.0	56
"	11.9	36
"	12.7	40
"	12.5	44
"	10.4	22
GrS	12.0	32
"	13.2	44
"	13.8	44
"	13.7	46
"	11.3	28
	$\bar{X} = 12.45$	39.2

~46 yrs

SEE ATTACHED ADDENDUM FOR: %FAT, PEST., AND PCB RESULTS

KEN HILL

Analyst ____ Date 12/23/81

LABORATORY CONCLUSION

Sign. [signature] Date 12-23-81

FOOD AND DRUG DIVISION CONCLUSION

Sign. ____ Date ____

% FAT 2.31

SUBSTANCE	FAT BASIS	WHOLE FISH BASIS
PCB	243.226 PPM	5.619 PPM
BHC, ALPHA	0.038 PPM	0.001 PPM
BHC, BETA	NONE DETECTED	
BHC, DELTA	NONE DETECTED	
BHC, GAMMA	NONE DETECTED	
HEXACHLOROBENZENE	NONE DETECTED	
PENTACHLOROANISOLE	0.195 PPM	0.005 PPM
PENTACHLOROPHENOL		
HEPTACHLOR	0.915 PPM	0.021 PPM
HEPTACHLOR EPOXIDE	0.216 PPM	0.005 PPM
TRANS-NONACHLOR	1.007 PPM	0.023 PPM
CIS-NONACHLOR	0.539 PPM	0.012 PPM
TRANS-CHLORDANE	NONE DETECTED	
CIS-CHLORDANE	0.370 PPM	0.009 PPM
OXYCHLORDANE	0.216 PPM	0.005 PPM .023 or 0.049
ALDRIN	NONE DETECTED	
DDE,P,P'-	1.667 PPM	0.039 PPM
DDE,O,P'-	NONE DETECTED	
DDD,P,P'-	0.181 PPM	0.004 PPM
DDD,O,P'-	NONE DETECTED	
DDT,P,P'-	2.213 PPM	0.051 PPM
DDT,O,P'-	NONE DETECTED	
METHOXYCHLOR,P,P'-	NONE DETECTED	
METHOXYCHLOR,O,P'-	NONE DETECTED	
DIELDRIN	2.313 PPM	0.053 PPM
ENDRIN	NONE DETECTED	
TRIFLURALIN		
BENFLURALIN		

PLEASE USE BLACK INK, NO. 2 PENCIL OR TYPEWRITER.

Division of Food and Drugs
COLLECTION REPORT

Sample Record

Date Collected 30 SEP 81 Station No. 2
Identification 12 WHOLE COMMON SHINER COLLECTED FROM RICHLAND CR. AT S.R. 43 - WRAPPED IN FOIL - SAMPLE #2

Embargo
Yes
No

Type of Sample
1. Obj.
2. Inves.
3. Offic.

Lab. No.
Date Rec'd 10/15/81
Cond. of Cont. Intact

State Seal None Present
Identification N/A Indicated

Sign. of Lab. Identifier SCW
Date Seal Broken
Sign. of Seal Breaker
Ana. Started
Ana. Finished
Samp. Resealed
Sign. of Resealer

Sample Storage
1—Pre-Analysis Freeze
2—Post Analysis
3—Date Discarded

Analysis Requested Pesticides, PCBs

Collected by L. BRAKES, D. CLARK, J. RAY

Sample No.
Lab. No.
Product

Report of Laboratory Analysis

Date Reported

SEE ATTACHED ADDENDUM FOR: %FAT, PEST., AND PCB RESULTS

Analyst KEN HILL KH Date 12/23/81

LABORATORY CONCLUSION

Sign. [signature] Date 12/23/81

FOOD AND DRUG DIVISION CONCLUSION

Sign. Date

% FAT .99

SUBSTANCE	FAT BASIS	WHOLE FISH BASIS
PCB	232.896 PPM	2.306 PPM
BHC, ALPHA	0.026 PPM	LESS THAN .001 PPM
BHC, BETA	NONE DETECTED	
BHC, DELTA	NONE DETECTED	
BHC, GAMMA	NONE DETECTED	
HEXACHLOROBENZENE	NONE DETECTED	
PENTACHLOROANISOLE	0.623 PPM	0.006 PPM
PENTACHLOROPHENOL		
HEPTACHLOR	0.651 PPM	0.006 PPM
HEPTACHLOR EPOXIDE	0.082 PPM	0.001 PPM
TRANS-NONACHLOR	*Masked by high PCB level	
CIS-NONACHLOR	0.439 PPM	0.004 PPM
TRANS-CHLORDANE	0.296 PPM	0.003 PPM
CIS-CHLORDANE	0.826 PPM	0.008 PPM
OXYCHLORDANE	0.145 PPM	0.001 PPM
ALDRIN	NONE DETECTED	
DDE,P,P'-	2.430 PPM	0.024 PPM
DDE,O,P'-	NONE DETECTED	
DDD,P,P'-	0.170 PPM	0.002 PPM
DDD,O,P'-	NONE DETECTED	
DDT,P,P'-	NONE DETECTED	
DDT,O,P'-	NONE DETECTED	
METHOXYCHLOR,P,P'-	NONE DETECTED	
METHOXYCHLOR,O,P'-	NONE DETECTED	
DIELDRIN	0.590 PPM	0.006 PPM
ENDRIN	NONE DETECTED	
TRIFLURALIN		
BENFLURALIN		

NR or 0.016

PCBs in fish collected October 4-5, 1983, in Monroe County, Indiana

Location	Species	Number of Fish	Length (min-max)	Weight	% Fat	PCBs mg/kg
1) Stouts Creek at Acuff Road.	Creek Chub (whole fish)	11	5-7 inches	--	1.94	6.5
2) Beanblossom Cr at Mel Curry Rd above Stouts Cr	Carp (whole fish)	1	18 inches	--	4.15	0.46
"	Crappie, Bluegill, Longear Sunfish (whole fish)	9	4-8 inches	--	2.50	0.11
3) Beanblossom Cr at Moon Rd below Stouts Cr.	Channel Catfish	1	14 inches	--	4.68	0.89
	Pumpkinseed, Longear and Green Sunfish, Smallmouth Bass (whole fish)	13	3-6.5 in	--	4.16	0.43
4) Monroe Reservoir near Ramp Cr Inlet	Largemouth bass (skin-off fillets)	1	55 cm	4 lb, 14 oz	2.7	0.12
"	Largemouth bass (skin-off fillets)	1	33.4 and 41.2 cm	1 lb, 2 oz 2 lb, 1 oz	1.21	0.075
"	Carp (skin-off fillets)	1	49 and 60.5 com	3 lb 8 oz 6 lb 8 oz	3.61	0.065
"	Redear Sunfish (whole fish)	4	13.2 - 20.6 cm	40-134 gm	2.93	0.038

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
SEDIMENT CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 004-87

LAB NUMBER: 70602995 SITE: **CLEAR CREEK** COUNTY: **MONROE** | SEDIMENT
COLLECTION DATE: 26-May-1987 LOCATION: @ COUNTRY CLUB RD. LAB: HES | PREPARATION: COMPOSITE OF 3 GRABS

GENERAL PARAMETERS

% TOTAL SOLIDS	67.40
%MOISTURE	32.60
% VOLATILE SOLIDS	NA
NH3-N (mg/kg)	NA
A.V.S. (mg/kg)	NA
T.O.C. (%)	NA
CYANIDE	NA
	(MG/KG wet wt.)

METALS (dry wt.)		(MG/KG)
ALUMINUM		6660.000
ANTIMONY	<	3.000
ARSENIC		8.200
BARIUM		59.600
BERYLLIUM	<	0.800
CADMIUM		1.500
CALCIUM		116000.00
CHROMIUM		28.300
COBALT	<	8.000
COPPER		46.900
IRON		16000.000
LEAD		120.000
MAGNESIUM		7260.000
MANGANESE		325.000
MERCURY		0.349
NICKEL		13.600
POTASSIUM		964.000
SELENIUM	<	1.500
SILVER		1.000
SODIUM	<	800.000
THALLIUM	<	3.000
VANADIUM		15.000
ZINC		182.000

PESTICIDES (dry wt.)		(MG/KG)
ALDRIN	<	0.0148
alpha-BHC	<	0.0074
beta-BHC	<	0.0074
delta-BHC	<	0.0074
gamma-BHC	<	0.0015
alpha-CHLORDANE	<	0.0015
gamma-CHLORDANE	<	0.0015
cis-NONACHLOR	<	0.0015
trans-NONACHLOR		0.0193
OXYCHLORDANE	<	0.0015
TOTAL CHLORDANE	<	0.1780
p,p'-DDD	<	0.0030
o,p'-DDD		0.0042
p,p'-DDE	<	0.0030
o,p'-DDE	<	0.0030
p,p'-DDT	<	0.0030
o,p'-DDT	<	0.0030
DIELDRIN	<	0.0015
ENDOSULFAN I	<	0.0148
ENDOSULFAN II	<	0.0148
ENDOSULFAN SULFATE	<	0.0148
ENDRIN	<	0.0148
ENDRIN ALDEHYDE	<	0.0074
ENDRIN KETONE	<	0.0074
HEPTACHLOR	<	0.0074
HEPTACHLOR EPOXIDE	<	0.0074
HEXACHLOROBENZENE	<	0.0074
METHOXYCHLOR	<	0.0148
PENTACHLOROANISOLE	<	0.0297
TOXAPHENE	<	0.3561

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	J	0.140
ACENAPHTHENE		1.400
ANILINE		NA
4-CHLOROANILINE	<	0.490
2-NITROANILINE	<	2.400
3-NITROANILINE	<	2.400
4-NITROANILINE	<	2.400
ANTHRACENE		0.600
BENZO(a)ANTHRACENE		1.800
DIBENZO(a,h)ANTHRACENE	<	0.490
3,3'-DICHLOROBENZIDINE	<	1.000
1,2-DICHLOROBENZENE	<	0.490
1,3-DICHLOROBENZENE	<	0.490
1,4-DICHLOROBENZENE	<	0.490
1,2,4-TRICHLORBENZENE	<	0.490
HEXACHLOROBENZENE	<	0.490
NITROBENZENE	<	0.490
BENZYL ALCOHOL	<	0.490
CARBAZOLE		NA
CHRYSENE		2.200
n-NITROSODIPHENYLAMINE	<	0.490
n-NITROSO-di-n-PROPYLAMINE	<	0.490
HEXACHLOROETHANE	<	0.490
BIS(2-CHLOROETHYL)ETHER	<	0.490
BIS(2-CHLOROISOPROPYL)ETHER	<	0.490
4-BROMOPHENYL-PHENYLETHER	<	0.490
4-CHLOROPHENYL-PHENYLETHER	<	0.490
FLUORANTHENE		4.300
FLUORENE		1.500
BENZO(beta)FLUORANTHENE	T	0.820
BENZO(kappa)FLUORANTHENE	T	0.820
DIBENZOFURAN	J	0.480
BIS(2-CHLOROETHOXY)METHANE	<	0.490
ISOPHORONE	<	0.490
NAPHTHALENE		3.800
2-CHLORONAPHTHALENE	<	0.490
2-METHYLNAPHTHALENE		1.200
HEXACHLOROCYCLOPENTADIENE	<	0.490
BENZO(ghi)PERYLENE	<	0.490
PHENANTHRENE		5.400
di-n-BUTYLPHTHALATE	B	1.000
DIETHYLPHTHALATE	<	0.490
DIMETHYLPHTHALATE	<	0.490
di-n-OCTYLPHTHALATE	<	0.490
BIS(2-ETHYLHEXYL)PHTHALATE		1.500
BUTYLBENZYLPHTHALATE	<	0.490
PYRENE		3.800
BENZO(alpha)PYRENE		1.500
INDENO(1,2,3-c,d)PYRENE		1.100
2,4-DINITROTOLUENE	<	0.490
2,6-DINITROTOLUENE	<	0.490
HEXACHLOROBUTADIENE	<	0.490
1,2-DIPHENYLHYDRAZINE		NA

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID	<	2.400
PHENOL	<	0.490
2-CHLOROPHENOL	<	0.490
2,4-DICHLOROPHENOL	<	0.490
2,4,5-TRICHLOROPHENOL	<	2.400
2,4,6-TRICHLOROPHENOL	<	0.490
PENTACHLOROPHENOL	<	2.400
2-METHYLPHENOL	<	0.490
4-METHYLPHENOL	<	0.490
2,4-DIMETHYLPHENOL	<	0.490
4-CHLORO-3-METHYLPHENOL	<	0.490
4,6-DINITRO-2-METHYLPHENOL	<	2.400
2-NITROPHENOL	<	0.490
4-NITROPHENOL	<	2.400
2,4-DINITROPHENOL	<	2.400

PCBs (dry wt.)		(MG/KG)
AROCLOR-1016	<	0.0593
AROCLOR-1221	<	0.0593
AROCLOR-1232	<	0.0593
AROCLOR-1242		0.4006
AROCLOR-1248	<	0.0593
AROCLOR-1254	<	0.0593
AROCLOR-1260	<	0.0593
AROCLOR-1262		NA

FUEL OIL		NA
GASOLINE		NA
ACETONE	B	0.150
BENZENE	J	0.003
CHLOROBENZENE	<	0.009
1,4-DICHLOROBENZENE		NA
ETHYLBENZENE	B	0.008
2-BUTANONE (MEK)	B	0.022
CARBON DISULFIDE	<	0.009
CHLOROETHANE	<	0.018
1,1-DICHLOROETHANE	<	0.009
1,2-DICHLOROETHANE	<	0.009
1,1,1-TRICHLOROETHANE	<	0.009
1,1,2-TRICHLOROETHANE	<	0.009
1,1,2,2-TETRACHLORETHANE	<	0.009
2-CHLOROETHYLVINYLETHER	<	0.018

VOLATILE ORGANIC COMPOUNDS (MG/KG)		
1,1-DICHLOROETHYLENE	<	0.009
1,2-DICHLOROETHYLENE	<	0.009
TRICHLOROETHYLENE (TOTAL)	J	0.009
TETRACHLOROETHYLENE	J	0.001
2-HEXANONE	<	0.018
BROMOMETHANE	<	0.018
TRIBROMOMETHANE (BROMOFORM)	<	0.009
BROMODICHLOROMETHANE	<	0.009
DIBROMOCHLOROMETHANE	<	0.009
TRICHLOROFLUOROMETHANE		NA
CHLOROMETHANE	<	0.018
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.010

TRICHLOROMETHANE (CHLOROFORM)	JB	0.00
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.00
4-METHYL-2-PENTANONE	<	0.01
1,2-DICHLOROPROPANE	<	0.00
c-1,3-DICHLOROPROPYLENE	<	0.00
t-1,3-DICHLOROPROPYLENE	<	0.00
STYRENE	<	0.00
TOLUENE	B	0.12
VINYL ACETATE	<	0.01
VINYL CHLORIDE	<	0.01
TOTAL XYLENE	B	0.02

SEMIVOLATILE AND VOLATILE COMPOUNDS ARE REPORTED ON A DRY WT. BASIS. PRINT DATE: 25-Jun-199
NA=NOT ANALYZED ND=NONE DETECTED D=DUPLICATE HES=HAZLETON ENVIRONMENTAL SERVICES, MADISON WISCONSIN
T.O.C.= TOTAL ORGANIC CARBON A.V.S.= ACID VOLATILE SULFIDES
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
SEDIMENT CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 003-87

LAB NUMBER: 70602994 SITE: **CLEAR CREEK** COUNTY: **MONROE** | SEDIMENT
COLLECTION DATE: 27-May-1987 LOCATION: @ FLUCKMILL RD. LAB: HES | PREPARATION: COMPOSITE OF 3 GRABS

GENERAL PARAMETERS

% TOTAL SOLIDS	60.00
%MOISTURE	40.00
% VOLATILE SOLIDS	NA
NH3-N (mg/kg)	NA
A.V.S. (mg/kg)	NA
T.O.C. (%)	NA
CYANIDE	NA
	(MG/KG wet wt.)

METALS (dry wt.)		(MG/KG)
ALUMINUM		10900.000
ANTIMONY	<	3.400
ARSENIC		16.000
BARIUM		79.300
BERYLLIUM		1.200
CADMIUM	<	0.900
CALCIUM		62200.00
CHROMIUM		54.500
COBALT		16.000
COPPER		12.500
IRON		45700.000
LEAD		35.000
MAGNESIUM		2930.000
MANGANESE		1140.000
MERCURY		0.099
NICKEL		28.000
POTASSIUM		1070.000
SELENIUM	<	1.700
SILVER		4.500
SODIUM	<	900.000
THALLIUM	<	3.400
VANADIUM		60.700
ZINC		165.000

PESTICIDES (dry wt.)		(MG/KG)
ALDRIN	<	0.0167
alpha-BHC	<	0.0083
beta-BHC	<	0.0083
delta-BHC	<	0.0083
gamma-BHC	<	0.0017
alpha-CHLORDANE	<	0.0017
gamma-CHLORDANE	<	0.0017
cis-NONACHLOR	<	0.0017
trans-NONACHLOR	<	0.0017
OXYCHLORDANE	<	0.0017
TOTAL CHLORDANE	<	0.2167
p,p'-DDD	<	0.0033
o,p'-DDD	<	0.0033
p,p'-DDE	<	0.0033
o,p'-DDE	<	0.0033
p,p'-DDT	<	0.0033
o,p'-DDT	<	0.0033
DIELDRIN	<	0.0017
ENDOSULFAN I	<	0.0167
ENDOSULFAN II	<	0.0167
ENDOSULFAN SULFATE	<	0.0167
ENDRIN	<	0.0167
ENDRIN ALDEHYDE	<	0.0083
ENDRIN KETONE	<	0.0083
HEPTACHLOR	<	0.0083
HEPTACHLOR EPOXIDE	<	0.0083
HEXACHLOROBENZENE	<	0.0083
METHOXYCHLOR	<	0.0167
PENTACHLOROANISOLE	<	0.0333
TOXAPHENE	<	0.4500

BASE/NEUTRAL EXTRACTABLE COMPOUNDS (MG/KG)		
ACENAPHTHYLENE	<	0.560
ACENAPHTHENE	J	0.160
ANILINE		NA
4-CHLOROANILINE	<	0.560
2-NITROANILINE	<	2.800
3-NITROANILINE	<	2.800
4-NITROANILINE	<	2.800
ANTHRACENE	J	0.190
BENZO(a)ANTHRACENE		0.620
DIBENZO(a,h)ANTHRACENE	<	0.560
3,3'-DICHLOROBENZIDINE	<	1.100
1,2-DICHLOROBENZENE	<	0.560
1,3-DICHLOROBENZENE	<	0.560
1,4-DICHLOROBENZENE	<	0.560
1,2,4-TRICHLORBENZENE	<	0.560
HEXACHLOROBENZENE	<	0.560
NITROBENZENE	<	0.560
BENZYL ALCOHOL	<	0.560
CARBAZOLE		NA
CHRYSENE		1.000
n-NITROSODIPHENYLAMINE	<	0.560
n-NITROSO-di-n-PROPYLAMINE	<	0.560
HEXACHLOROETHANE	<	0.560
BIS(2-CHLOROETHYL)ETHER	<	0.560
BIS(2-CHLOROISOPROPYL)ETHER	<	0.560
4-BROMOPHENYL-PHENYLETHER	<	0.560
4-CHLOROPHENYL-PHENYLETHER	<	0.560
FLUORANTHENE		2.100
FLUORENE	J	0.190
BENZO(beta)FLUORANTHENE	T	1.200
BENZO(kappa)FLUORANTHENE	T	1.200
DIBENZOFURAN	<	0.560
BIS(2-CHLOROETHOXY)METHANE	<	0.560
ISOPHORONE	<	0.560
NAPHTHALENE	<	0.560
2-CHLORONAPHTHALENE	<	0.560
2-METHYLNAPHTHALENE	<	0.560
HEXACHLOROCYCLOPENTADIENE	<	0.560
BENZO(ghi)PERYLENE	J	0.350
PHENANTHRENE		1.300
di-n-BUTYLPHTHALATE	B	0.950
DIETHYLPHTHALATE	<	0.560
DIMETHYLPHTHALATE	<	0.560
di-n-OCTYLPHTHALATE	<	0.560
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.560
BUTYLBENZYLPHTHALATE	<	0.560
PYRENE		1.800
BENZO(alpha)PYRENE	J	0.490
INDENO(1,2,3-c,d)PYRENE	J	0.250
2,4-DINITROTOLUENE	<	0.560
2,6-DINITROTOLUENE	<	0.560
HEXACHLOROBUTADIENE	<	0.560
1,2-DIPHENYLHYDRAZINE		NA

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID	<	2.800
PHENOL	<	0.560
2-CHLOROPHENOL	<	0.560
2,4-DICHLOROPHENOL	<	0.560
2,4,5-TRICHLOROPHENOL	<	2.800
2,4,6-TRICHLOROPHENOL	<	0.560
PENTACHLOROPHENOL	<	2.800
2-METHYLPHENOL	<	0.560
4-METHYLPHENOL	<	0.560
2,4-DIMETHYLPHENOL	<	0.560
4-CHLORO-3-METHYLPHENOL	<	0.560
4,6-DINITRO-2-METHYLPHENOL	<	2.800
2-NITROPHENOL	<	0.560
4-NITROPHENOL	<	2.800
2,4-DINITROPHENOL	<	2.800

PCBs (dry wt.)		(MG/KG)
AROCLOR-1016	<	0.0667
AROCLOR-1221	<	0.0667
AROCLOR-1232	<	0.0667
AROCLOR-1242	<	0.0667
AROCLOR-1248		0.4833
AROCLOR-1254	<	0.0667
AROCLOR-1260	<	0.0667
AROCLOR-1262		NA

FUEL OIL		NA
GASOLINE		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)					
ACETONE	B	0.078	1,1-DICHLOROETHYLENE	<	0.022
BENZENE	<	0.022	1,2-DICHLOROETHYLENE	<	0.022
CHLOROBENZENE	<	0.022	TRICHLOROETHYLENE (TOTAL)	<	0.022
1,4-DICHLOROBENZENE		NA	TETRACHLOROETHYLENE	<	0.022
ETHYLBENZENE	<	0.022	2-HEXANONE	<	0.044
2-BUTANONE (MEK)	JB	0.010	BROMOMETHANE	<	0.044
CARBON DISULFIDE	JB	0.001	TRIBROMOMETHANE (BROMOFORM)	<	0.022
CHLOROETHANE	<	0.044	BROMODICHLOROMETHANE	<	0.022
1,1-DICHLOROETHANE	<	0.022	DIBROMOCHLOROMETHANE	<	0.022
1,2-DICHLOROETHANE	<	0.022	TRICHLOROFLUOROMETHANE		NA
1,1,1-TRICHLOROETHANE	<	0.022	CHLOROMETHANE	<	0.044
1,1,2-TRICHLOROETHANE	<	0.022	DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.033
1,1,2,2-TETRACHLORETHANE	<	0.022			
2-CHLOROETHYLVINYLETHER	<	0.044			

TRICHLOROMETHANE (CHLOROFORM)	B	0.02
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.02
4-METHYL-2-PENTANONE	<	0.04
1,2-DICHLOROPROPANE	<	0.02
c-1,3-DICHLOROPROPYLENE	<	0.02
t-1,3-DICHLOROPROPYLENE	<	0.02
STYRENE	<	0.02
TOLUENE	JB	0.00
VINYL ACETATE	<	0.04
VINYL CHLORIDE	<	0.04
TOTAL XYLENE	<	0.02

SEMIVOLATILE AND VOLATILE COMPOUNDS ARE REPORTED ON A DRY WT. BASIS. PRINT DATE: 25-Jun-199
NA=NOT ANALYZED ND=NONE DETECTED D=DUPLICATE HES=HAZLETON ENVIRONMENTAL SERVICES, MADISON WISCONSIN
T.O.C.= TOTAL ORGANIC CARBON A.V.S.= ACID VOLATILE SULFIDES
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
SEDIMENT CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 002-37

LAB NUMBER: 70602993 SITE: **CLEAR CREEK** COUNTY: **MONROE** | SEDIMENT
COLLECTION DATE: 27-May-1987 LOCATION: @ HARRODSBURG, IN LAB: HES | PREPARATION: COMPOSITE OF 3 GRABS

GENERAL PARAMETERS

% TOTAL SOLIDS	50.30
%MOISTURE	49.70
% VOLATILE SOLIDS	NA
NH3-N (mg/kg)	NA
A.V.S. (mg/kg)	NA
T.O.C.(%)	NA
CYANIDE	NA
	(MG/KG wet wt.)

METALS (dry wt.)		(MG/KG)
ALUMINUM		16900.000
ANTIMONY	<	0.400
ARSENIC		12.000
BARIUM		97.000
BERYLLIUM	<	1.000
CADMIUM	<	1.000
CALCIUM		65400.00
CHROMIUM		36.800
COBALT	<	10.000
COPPER		15.300
IRON		24700.000
LEAD		33.000
MAGNESIUM		3000.000
MANGANESE		853.000
MERCURY		0.085
NICKEL		18.300
POTASSIUM		1790.000
SELENIUM	<	2.000
SILVER		14.000
SODIUM	<	1000.000
THALLIUM	<	4.000
VANADIUM		36.800
ZINC		115.000

PESTICIDES (dry wt.)		(MG/KG)
ALDRIN	<	0.0199
alpha-BHC	<	0.0099
beta-BHC	<	0.0099
delta-BHC	<	0.0099
gamma-BHC	<	0.0020
alpha-CHLORDANE	<	0.0020
gamma-CHLORDANE	<	0.0020
cis-NONACHLOR	<	0.0020
trans-NONACHLOR	<	0.0020
OXYCHLORDANE	<	0.0020
TOTAL CHLORDANE	<	0.3181
p,p'-DDD	<	0.0040
o,p'-DDD	<	0.0040
p,p'-DDE	<	0.0040
o,p'-DDE	<	0.0040
p,p'-DDT	<	0.0040
o,p'-DDT	<	0.0040
DIELDRIN	<	0.0020
ENDOSULFAN I	<	0.0199
ENDOSULFAN II	<	0.0199
ENDOSULFAN SULFATE	<	0.0199
ENDRIN	<	0.0199
ENDRIN ALDEHYDE	<	0.0099
ENDRIN KETONE	<	0.0099
HEPTACHLOR	<	0.0099
HEPTACHLOR EPOXIDE	<	0.0099
HEXACHLOROBENZENE		0.0161
METHOXYCHLOR	<	0.0199
PENTACHLOROANISOLE	<	0.0398
TOXAPHENE	<	0.6362

BASE/NEUTRAL EXTRACTABLE COMPOUNDS (MG/KG)		
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
ANILINE		NA
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.300
3-NITROANILINE	<	3.300
4-NITROANILINE	<	3.300
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	J	0.390
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CARBAZOLE		NA
CHRYSENE		0.800
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE		1.900
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE		0.870
di-n-BUTYLPHTHALATE	JB	0.630
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.320
BUTYLBENZYLPHTHALATE	<	0.66
PYRENE		1.10
BENZO(alpha)PYRENE	J	0.40
INDENO(1,2,3-c,d)PYRENE	J	0.35
2,4-DINITROTOLUENE	<	0.66
2,6-DINITROTOLUENE	<	0.66
HEXACHLOROBUTADIENE	<	0.66
1,2-DIPHENYLHYDRAZINE		NA

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID	<	3.300
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.300
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.300
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	J	0.370
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL	<	3.300
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.300
2,4-DINITROPHENOL	<	3.300

PCBs (dry wt.)		(MG/KG)
AROCLOR-1016	<	0.0795
AROCLOR-1221	<	0.0795
AROCLOR-1232	<	0.0795
AROCLOR-1242	<	0.0795
AROCLOR-1248		0.2584
AROCLOR-1254	<	0.0795
AROCLOR-1260	<	0.0795
AROCLOR-1262		NA

FUEL OIL		NA
GASOLINE		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)					
ACETONE	B	0.110	1,1-DICHLOROETHYLENE	<	0.015
BENZENE	<	0.015	1,2-DICHLOROETHYLENE	<	0.015
CHLOROBENZENE	<	0.015	TRICHLOROETHYLENE (TOTAL)	<	0.015
1,4-DICHLOROBENZENE		NA	TETRACHLOROETHYLENE	<	0.015
ETHYLBENZENE	<	0.015	2-HEXANONE	<	0.029
2-BUTANONE (MEK)	JB	0.016	BROMOMETHANE	<	0.029
CARBON DISULFIDE	JB	0.001	TRIBROMOMETHANE (BROMOFORM)	<	0.015
CHLOROETHANE	<	0.029	BROMODICHLOROMETHANE	<	0.015
1,1-DICHLOROETHANE	<	0.015	DIBROMOCHLOROMETHANE	<	0.015
1,2-DICHLOROETHANE	<	0.015	TRICHLOROFLUOROMETHANE		NA
1,1,1-TRICHLOROETHANE	<	0.015	CHLOROMETHANE	<	0.029
1,1,2-TRICHLOROETHANE	<	0.015	DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.032
1,1,2,2-TETRACHLORETHANE	<	0.015			
2-CHLOROETHYLVINYLETHER	<	0.029			

TRICHLOROMETHANE (CHLOROFORM)	JB	0.00
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.01
4-METHYL-2-PENTANONE	<	0.0
1,2-DICHLOROPROPANE	<	0.0
c-1,3-DICHLOROPROPYLENE	<	0.0
t-1,3-DICHLOROPROPYLENE	<	0.0
STYRENE	<	0.0
TOLUENE	JB	0.0
VINYL ACETATE	<	0.0
VINYL CHLORIDE	<	0.0
TOTAL XYLENE	<	0.0

SEMIVOLATILE AND VOLATILE COMPOUNDS ARE REPORTED ON A DRY WT. BASIS. PRINT DATE: 25-Jun-19
NA=NOT ANALYZED ND=NONE DETECTED D=DUPLICATE HES=HAZLETON ENVIRONMENTAL SERVICES, MADISON WISCONSIN
T.O.C.= TOTAL ORGANIC CARBON A.V.S.= ACID VOLATILE SULFIDES
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
SEDIMENT CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: D3551

LAB NUMBER: D3551-83 SITE: **CLEAR CREEK** COUNTY: **MONROE** | SEDIMENT
COLLECTION DATE: 07-Sep-1983 LOCATION: D/S BLOOMINGTON, (FLUCKMILL RD) LAB: ISDH | PREPARATION: COMPOSITE

GENERAL PARAMETERS

% TOTAL SOLIDS		52.00
% MOISTURE		48.00
% VOLATILE SOLIDS		NA
NH3-N (mg/kg)		NA
A.V.S. (mg/kg)		NA
T.O.C. (%)		NA
CYANIDE	<	0.125
		(MG/KG wet weight)

METALS (dry weight)

		(MG/KG)
ALUMINUM		NA
ANTIMONY		0.390
ARSENIC		5.300
BARIUM		NA
BERYLLIUM	<	2.400
CADMIUM	<	2.400
CALCIUM		NA
CHROMIUM		27.000
COBALT		NA
COPPER		24.000
IRON		NA
LEAD		46.000
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.170
NICKEL		13.000
POTASSIUM		NA
SELENIUM		0.690
SILVER	<	2.500
SODIUM		NA
THALLIUM	<	25.000
VANADIUM		NA
ZINC		140.000

PESTICIDES

		(MG/KG)
ALDRIN	<	0.010
alpha-BHC	<	0.001
beta-BHC	<	0.003
delta-BHC	<	0.002
gamma-BHC	<	0.0001
alpha-CHLORDANE		NA
gamma-CHLORDANE		NA
cis-NONACHLOR		NA
trans-NONACHLOR		NA
OXYCHLORDANE		NA
TOTAL CHLORDANE	<	0.010
p,p'-DDD		0.003
o,p'-DDD		NA
p,p'-DDE		0.005
o,p'-DDE		NA
p,p'-DDT	<	0.002
o,p'-DDT		NA
DIELDRIN	<	0.001
ENDOSULFAN I	<	0.004
ENDOSULFAN II	<	0.010
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.008
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR	<	0.010
HEPTACHLOR EPOXIDE	<	0.002
HEXACHLOROBENZENE		NA
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE		NA
TOXAPHENE	<	0.200

BASE/NEUTRAL EXTRACTABLE COMPOUNDS

		(MG/KG)
ACENAPHTHYLENE	<	2.000
ACENAPHTHENE	<	2.000
ANILINE	<	3.000
4-CHLOROANILINE	<	3.000
2-NITROANILINE	<	3.000
3-NITROANILINE	<	5.000
4-NITROANILINE	<	5.000
ANTHRACENE	<	2.000
BENZO(a)ANTHRACENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	4.000
3,3'-DICHLOROBENZIDINE	<	5.000
1,2-DICHLOROBENZENE	<	1.000
1,3-DICHLOROBENZENE	<	1.000
1,4-DICHLOROBENZENE	<	1.000
1,2,4-TRICHLORBENZENE	<	1.000
HEXACHLOROBENZENE	<	5.000
NITROBENZENE	<	2.000
BENZYL ALCOHOL	<	3.000
CARBAZOLE		NA
CHRYSENE	<	10.000
n-NITROSODIPHENYLAMINE	<	2.000
n-NITROSO-di-n-PROPYLAMINE	<	1.000
HEXACHLOROETHANE	<	5.000
BIS(2-CHLOROETHYL)ETHER	<	1.000
BIS(2-CHLOROISOPROPYL)ETHER	<	10.000
4-BROMOPHENYL-PHENYLETHER	<	2.000
4-CHLOROPHENYL-PHENYLETHER	<	3.000
FLUORANTHENE	<	2.000
FLUORENE	<	2.000
BENZO(beta)FLUORANTHENE	<	3.000
BENZO(kappa)FLUORANTHENE	<	4.000
DIBENZOFURAN	<	3.000
BIS(2-CHLOROETHOXY)METHANE	<	4.000
ISOPHORONE	<	1.000
NAPHTHALENE	<	1.000
2-CHLORONAPHTHALENE	<	2.000
2-METHYLNAPHTHALENE	<	3.000
HEXACHLOROCYCLOPENTADIENE	<	3.000
BENZO(ghi)PERYLENE	<	9.000
PHENANTHRENE	<	2.000
di-n-BUTYLPHTHALATE	<	3.000
DIETHYLPHTHALATE	<	2.000
DIMETHYLPHTHALATE	<	2.000
di-n-OCTYLPHTHALATE	<	20.000
BIS(2-ETHYLHEXYL)PHTHALATE	<	2.400
BUTYLBENZYLPHTHALATE	<	20.000
PYRENE	<	2.000
BENZO(alpha)PYRENE		NA
INDENO(1,2,3-c,d)PYRENE	<	4.000
2,4-DINITROTOLUENE	<	5.000
2,6-DINITROTOLUENE	<	3.000
HEXACHLOROBUTADIENE	<	2.000
1,2-DIPHENYLHYDRAZINE		NA

ACID EXTRACTABLE COMPOUNDS

		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.000
2-CHLOROPHENOL	<	1.000
2,4-DICHLOROPHENOL	<	2.000
2,4,5-TRICHLOROPHENOL		NA
2,4,6-TRICHLOROPHENOL	<	2.500
PENTACHLOROPHENOL	<	5.000
2-METHYLPHENOL	<	3.000
4-METHYLPHENOL	<	3.000
2,4-DIMETHYLPHENOL	<	1.000
4-CHLORO-3-METHYLPHENOL	<	2.000
4,6-DINITRO-2-METHYLPHENOL	<	4.000
2-NITROPHENOL	<	2.500
4-NITROPHENOL	<	4.000
2,4-DINITROPHENOL	<	4.000

PCBs

		(MG/KG)
AROCLOR-1016	<	0.050
AROCLOR-1221	<	0.050
AROCLOR-1232	<	0.050
AROCLOR-1242		0.440
AROCLOR-1248	<	0.050
AROCLOR-1254	<	0.100
AROCLOR-1260	<	0.100
AROCLOR-1262		NA
TOTAL PCB		NA

FUEL OIL		NA
GASOLINE		NA
ACETONE		NA
BENZENE	<	3.000
CHLOROBENZENE	<	1.000
1,4-DICHLOROBENZENE		NA
ETHYLBENZENE	<	3.000
2-BUTANONE (MEK)	<	250.000
CARBON DISULFIDE		NA
CHLOROETHANE		NA
1,1-DICHLOROETHANE	<	1.000
1,2-DICHLOROETHANE	<	1.000
1,1,1-TRICHLOROETHANE	<	1.000
1,1,2-TRICHLOROETHANE	<	1.000
1,1,2,2-TETRACHLORETHANE	<	1.000
2-CHLOROETHYLVINYLETHER		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

1,1-DICHLOROETHYLENE	<	1.000
1,2-DICHLOROETHYLENE	<	1.000
TRICHLOROETHYLENE (TOTAL)	<	1.000
TETRACHLOROETHYLENE	<	1.000
2-HEXANONE		NA
BROMOMETHANE		NA
TRIBROMOMETHANE (BROMOFORM)	<	1.000
BROMODICHLOROMETHANE	<	1.000
DIBROMOCHLOROMETHANE	<	1.000
TRICHLOROFLUOROMETHANE	<	1.000
CHLOROMETHANE		NA
DICHLOROMETHANE (METHYLENE CHLORIDE)	<	5.000
TRICHLOROMETHANE (CHLOROFORM)	<	1.000
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	1.000
4-METHYL-2-PENTANONE	<	30.000
1,2-DICHLOROPROPANE	<	1.000
c-1,3-DICHLOROPROPYLENE		NA
t-1,3-DICHLOROPROPYLENE		NA
STYRENE		NA
TOLUENE	<	3.000
VINYL ACETATE		NA
VINYL CHLORIDE		NA
TOTAL XYLENE	<	60.000

PESTICIDES, PCBs, BASE NEUTRAL, ACID EXTRACTABLE AND VOLATILE ORGANIC COMPOUNDS ARE REPORTED ON A WET WEIGHT BASIS.

PRINT DATE: 25-Jun-1996

NA=NOT ANALYZED ND=NONE DETECTED D=DUPLICATE ISDH= INDIANA STATE DEPARTMENT OF HEALTH
T.O.C.=TOTAL ORGANIC CARBON A.V.S.= ACID VOLATILE SULFIDES
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
SEDIMENT CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:D3550

LAB NUMBER:D3550-83 SITE:**CLEAR CREEK** COUNTY:**MONROE** |SEDIMENT
COLLECTION DATE:07-Sep-1983 LOCATION:U/S BLOOMINGTON, IN LAB:ISDH |PREPARATION:COMPOSITE

GENERAL PARAMETERS

% TOTAL SOLIDS		65.00
% MOISTURE		35.00
% VOLATILE SOLIDS		NA
NH3-N (mg/kg)		NA
A.V.S. (mg/kg)		NA
T.O.C.(%)		NA
CYANIDE	<	0.125

(MG/KG wet weight)

METALS (dry weight)	(MG/KG)
ALUMINUM	NA
ANTIMONY	1.500
ARSENIC	5.200
BARIUM	NA
BERYLLIUM <	2.000
CADMIUM	1.600
CALCIUM	NA
CHROMIUM	39.000
COBALT	NA
COPPER	28.000
IRON	NA
LEAD	220.000
MAGNESIUM	NA
MANGANESE	NA
MERCURY	0.440
NICKEL	8.400
POTASSIUM	NA
SELENIUM	0.720
SILVER <	1.600
SODIUM	NA
THALLIUM <	16.000
VANADIUM	NA
ZINC	180.000

PESTICIDES		(MG/KG)
ALDRIN	<	0.010
alpha-BHC	<	0.001
beta-BHC	<	0.003
delta-BHC	<	0.002
gamma-BHC		0.0003
alpha-CHLORDANE		NA
gamma-CHLORDANE		NA
cis-NONACHLOR		NA
trans-NONACHLOR		NA
OXYCHLORDANE		NA
TOTAL CHLORDANE	<	0.010
p,p'-DDD		0.028
o,p'-DDD		NA
p,p'-DDE		0.009
o,p'-DDE		NA
p,p'-DDT	<	0.002
o,p'-DDT		NA
DIELDRIN		0.006
ENDOSULFAN I	<	0.004
ENDOSULFAN II	<	0.010
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.008
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR	<	0.002
HEPTACHLOR EPOXIDE	<	0.002
HEXACHLOROBENZENE		NA
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE		NA
TOXAPHENE	<	0.200

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	2.000
ACENAPHTHENE	<	2.000
ANILINE	<	3.000
4-CHLOROANILINE	<	3.000
2-NITROANILINE	<	3.000
3-NITROANILINE	<	5.000
4-NITROANILINE	<	5.000
ANTHRACENE	<	2.000
BENZO(a)ANTHRACENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	4.000
3,3'-DICHLOROBENZIDINE	<	5.000
1,2-DICHLOROBENZENE	<	1.000
1,3-DICHLOROBENZENE	<	1.000
1,4-DICHLOROBENZENE	<	1.000
1,2,4-TRICHLORBENZENE	<	1.000
HEXACHLOROBENZENE	<	5.000
NITROBENZENE	<	2.000
BENZYL ALCOHOL	<	3.000
CARBAZOLE		NA
CHRYSENE	<	10.000
n-NITROSODIPHENYLAMINE	<	2.000
n-NITROSO-di-n-PROPYLAMINE	<	1.000
HEXACHLOROETHANE	<	5.000
BIS(2-CHLOROETHYL)ETHER	<	1.000
BIS(2-CHLOROISOPROPYL)ETHER	<	10.000
4-BROMOPHENYL-PHENYLETHER	<	2.000
4-CHLOROPHENYL-PHENYLETHER	<	3.000
FLUORANTHENE	<	2.000
FLUORENE	<	2.000
BENZO(beta)FLUORANTHENE	<	3.000
BENZO(kappa)FLUORANTHENE	<	4.000
DIBENZOFURAN	<	3.000
BIS(2-CHLOROETHOXY)METHANE	<	4.000
ISOPHORONE	<	1.000
NAPHTHALENE	<	1.000
2-CHLORONAPHTHALENE	<	2.000
2-METHYLNAPHTHALENE	<	3.000
HEXACHLOROCYCLOPENTADIENE	<	3.000
BENZO(ghi)PERYLENE	<	9.000
PHENANTHRENE	<	2.000
di-n-BUTYLPHTHALATE	<	3.000
DIETHYLPHTHALATE	<	2.000
DIMETHYLPHTHALATE	<	2.000
di-n-OCTYLPHTHALATE	<	20.000
BIS(2-ETHYLHEXYL)PHTHALATE	<	2.400
BUTYLBENZYLPHTHALATE	<	5.000
PYRENE	<	2.000
BENZO(alpha)PYRENE		NA
INDENO(1,2,3-c,d)PYRENE	<	4.000
2,4-DINITROTOLUENE	<	5.000
2,6-DINITROTOLUENE	<	3.000
HEXACHLOROBUTADIENE	<	2.000
1,2-DIPHENYLHYDRAZINE		NA

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.000
2-CHLOROPHENOL	<	1.000
2,4-DICHLOROPHENOL	<	2.000
2,4,5-TRICHLOROPHENOL		NA
2,4,6-TRICHLOROPHENOL	<	2.500
PENTACHLOROPHENOL	<	5.000
2-METHYLPHENOL	<	3.000
4-METHYLPHENOL	<	3.000
2,4-DIMETHYLPHENOL	<	1.000
4-CHLORO-3-METHYLPHENOL	<	2.000
4,6-DINITRO-2-METHYLPHENOL	<	4.000
2-NITROPHENOL	<	2.500
4-NITROPHENOL	<	4.000
2,4-DINITROPHENOL	<	4.000

PCBs		(MG/KG)
AROCLOR-1016	<	0.050
AROCLOR-1221	<	0.050
AROCLOR-1232	<	0.050
AROCLOR-1242		1.000
AROCLOR-1248	<	0.050
AROCLOR-1254	<	0.100
AROCLOR-1260	<	0.100
AROCLOR-1262		NA
TOTAL PCB		NA

FUEL OIL		NA
GASOLINE		NA
ACETONE		NA
BENZENE	<	3.000
CHLOROBENZENE	<	1.000
1,4-DICHLOROBENZENE		NA
ETHYLBENZENE	<	3.000
2-BUTANONE (MEK)	<	250.000
CARBON DISULFIDE		NA
CHLOROETHANE		NA
1,1-DICHLOROETHANE	<	1.000
1,2-DICHLOROETHANE	<	1.000
1,1,1-TRICHLOROETHANE		1.900
1,1,2-TRICHLOROETHANE	<	1.000
1,1,2,2-TETRACHLORETHANE	<	1.000
2-CHLOROETHYLVINYLETHER		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
1,1-DICHLOROETHYLENE	<	1.000
1,2-DICHLOROETHYLENE	<	1.000
TRICHLOROETHYLENE (TOTAL)	<	1.000
TETRACHLOROETHYLENE	<	1.000
2-HEXANONE		NA
BROMOMETHANE		NA
TRIBROMOMETHANE (BROMOFORM)	<	1.000
BROMODICHLOROMETHANE	<	1.000
DIBROMOCHLOROMETHANE	<	1.000
TRICHLOROFLUOROMETHANE	<	1.000
CHLOROMETHANE		NA
DICHLOROMETHANE (METHYLENE CHLORIDE)	<	5.000

TRICHLOROMETHANE (CHLOROFORM)	<	1.000
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	1.000
4-METHYL-2-PENTANONE	<	30.000
1,2-DICHLOROPROPANE	<	1.000
c-1,3-DICHLOROPROPYLENE		NA
t-1,3-DICHLOROPROPYLENE		NA
STYRENE		NA
TOLUENE	<	3.000
VINYL ACETATE		NA
VINYL CHLORIDE		NA
TOTAL XYLENE	<	60.000

PESTICIDES, PCBs, BASE NEUTRAL, ACID EXTRACTABLE AND VOLATILE ORGANIC COMPOUNDS ARE REPORTED ON A WET WEIGHT BASIS. PRINT DATE: 25-Jun-1996

NA=NOT ANALYZED ND=NONE DETECTED D=DUPLICATE ISDH= INDIANA STATE DEPARTMENT OF HEALTH
T.O.C.=TOTAL ORGANIC CARBON A.V.S.= ACID VOLATILE SULFIDES
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

Sediment data from Bloomington (Indiana) area streams

Sample Location	Collection Date		PCB as 1242 (mg/k
STOUT CREEK		Quad. Bloomington	
Upstream of Bennett's Landfill	12/12/84	"	0.150
First gravel road downstream of Bennett's Landfill	12/12/84	"	2.100
Stout Creek Road	12/12/84	"	0.200
Acuff Road	12/12/84	"	1.100
50 feet upstream from mouth	12/12/84	"	0.150
RICHLAND CREEK			
Vernal Pike upstream of Neal's Landfill drainage	12/11/84	Whitehall	<0.050
At State Road (SR) 48 near Richland Church	12/11/84	"	0.071
At SR 43 south of Whitehall Cemetery (Owen County)	12/11/84	"	0.120
At SR 43 (Greene County)	12/11/84	Stanford	<0.050
At SR 54 east of Bloomfield	12/11/84	Bloomfield	<0.050
CLEAR CREEK			
Winslow Road (continuation of Tapp Road)	12/11/84	Bloomington	0.240
Gordon Pike (continuation of Rhorer Road)	12/11/84	Clear Creek	0.410
Clear Creek Road	12/11/84	"	0.980
Dillman Road	12/11/84	"	0.140
Fluck Mill Road	12/11/84	"	0.640
Ketcham Road	12/11/84	"	0.230
Harrodsburg Road	6/19/80		2.2
" "	12/11/84	"	0.130
Hobart Road	12/11/84	"	0.300
SALT CREEK			
Guthrie	12/12/84	Oolitic	2.220
Logan	9/27/77	"	1.6
"	7/1/80	"	2.2
"	12/12/84	"	0.260

R Bloomington streams

Lemon Lane Landfill Sediment Sampling

Sample #		Location
RK 5386		Quarry Spring - North Seep
RK 5387		Quarry Spring - South Seep
RK 5388		Quarry Spring Weir
RK 5389		Illinois Central Spring - Midstream
RK 5390		Illinois Central Spring - Midstream
RK 5391		Illinois Central Spring - Composite
RK 5392		Illinois Central Swallowhole
RK 5393		Slaughterhouse Spring
RK 5394		Packinghouse Culvert
RK 5395		Packinghouse Spring
RK 5396		Robertson Spring
RK 5397		Detmer (B) Spring
RK 5398		Detmer (A) Spring
RK 5399	*	ABB Plant - South of NPDES #001
RK 5400	*	ABB Plant - Woods North of NPDES #001
RK 5401		Oard's Spring - Background Sample
RK 5402		Stoney Spring East

* These soil samples are not connected with the Lemon Lane Landfill Springs.

sampled June 17, 1991

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT
SURVEILLANCE AND STANDARDS BRANCH
BIOLOGICAL STUDIES SECTION
(rev. 2/12/96)

DATA QUALIFIER DEFINITIONS FOR TOXICS MONITORING DATA

ORGANIC

< - Indicates compound was analyzed for but not detected.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides $\geq$10ng/ul in the final extract are confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, this flag is not used, instead a laboratory-defined flag (below) is used.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination. This flag is used for a TIC as well as for a positively identified target compound.

A - This flag indicates that a TIC is a suspected aldol-concentration product.

X - This flag indicates that other specific flags may be required to properly define the results. If used, they will be fully described. If more than one flag is required, "Y" and "Z" are also used.

- Estimated value, the compound was not recovered from the matrix spikes.

<*- Detection limit raised for PCBs to a level of dilution.

* - Quantitated from a dilution.

@ - Original quantitation from a dilution, but confirms undiluted.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, the sample must be diluted and re-analyzed..

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT
SURVEILLANCE AND STANDARDS BRANCH
BIOLOGICAL STUDIES SECTION
(rev. 2/12/96)

DATA QUALIFIER DEFINITIONS FOR TOXICS MONITORING DATA

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.

1 - This flag indicates that the analyst's professional judgement is that the compound is present.

2 - This flag indicates that total PCBs are below detection limit but an aroclor pattern is present.

3 - This flag indicates that a compound is below the detection limit, but in the analyst's judgement, it is present.

4 - This flag indicates a possible PCB peak coelution.

5 - This flag indicates that separation was less than desired on both confirmation columns used.

6 - This flag indicates that the estimated value is less than the method detection limit.

7 - This flag indicates that due to the small size of the confirmation peak, it is the analyst's opinion that the compound is not present.

8 - This flag indicates that the compound was found in an associated blank and is known to be causally related to a laboratory contaminant episode.

9 - This flag indicates that this value is on half of the total for Benzo (b) Fluoranthene plus Benzo (k) Fluoranthene. A total value only was reported due to coelution problems.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER MANAGEMENT
SURVEILLANCE AND STANDARDS BRANCH
BIOLOGICAL STUDIES SECTION

(rev. 2/12/96)

DATA QUALIFIER DEFINITIONS FOR TOXICS MONITORING DATA

INORGANIC

Concentration Qualifier:

B - The reported value was obtained from a reading that was less than the Contract Required Detection Limit but greater than or equal to the Instrument Detection Limit.

< - Analyte was analyzed for but not detected.

Q Qualifier:

E - The reported value is estimated because of the presence of interference.

M - Duplicate injection precision not met (with 20% RSD).

N - Spiked sample recovery not within control limits.

S - The reported value was determined by the method of Standard Additions (MSA). Correlation coefficient was greater than 0.995.

W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.

* - Duplicate analysis is not within control limits.

+ - Correlation coefficient for the MSA is less than 0.995. MSA was performed twice on the sample. The result with the highest correlation was reported.

Note: Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.

M (Method) Qualifiers:

P for ICP
F for Furnace AA
AV for Automated Cold Vapor AA
C for Manual Spectrophotometric
NR if the analyte is not required to be analyzed
or where no data has been entered.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:225-87

LAB NUMBER:70804269 SITE:WEST FORK WHITE RIVER COUNTY:OWEN SPECIES:2 BIGMOUTH BUFFALO
COLLECTION DATE:11-Aug-1987 LOCATION:D/S SPENCER, IN LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):49.8 RANGE(CM):47.0-52.5 MEAN WEIGHT(GM):2154 RANGE(GM):1583-2724 %LIPID:8.60

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		10500.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		3.600
IRON		48.700
LEAD		1.100
MAGNESIUM		400.000
MANGANESE		5.300
MERCURY		0.134
NICKEL	<	4.000
POTASSIUM		2840.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		970.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		25.300

PESTICIDES		(MG/KG)
ALDRIN	<	0.040
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.034
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.036
trans-NONACHLOR		0.049
OXYCHLORDANE		0.015
p,p'-DDD		0.023
o,p'-DDD	<	0.010
p,p'-DDE	<	0.050
o,p'-DDE		0.045
p,p'-DDT		0.013
o,p'-DDT	<	0.050
DIELDRIN		0.046
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.040
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.040
TOXAPHENE		NA

TOTAL PCB	0.303 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:226-87

LAB NUMBER:70804270 SITE:WEST FORK WHITE RIVER COUNTY:OWEN | SPECIES:3 BIGMOUTH BUFFALO
COLLECTION DATE:11-Aug-1987 LOCATION:D/S SPENCER, IN LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):50.0 RANGE(CM):44.0-60.0 MEAN WEIGHT(GM):2034 RANGE(GM):1249-3292 %LIPID:1.80

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		700.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		19.900
LEAD	<	0.500
MAGNESIUM		300.000
MANGANESE	<	1.500
MERCURY		0.410
NICKEL	<	4.000
POTASSIUM		4030.000
SELENIUM	<	1.000
SILVER		0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		7.400

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.009
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.014
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.016
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.120 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:227-87

LAB NUMBER:70804271 SITE:WEST FORK WHITE RIVER COUNTY:OWEN | SPECIES:3 BIGMOUTH BUFFALO
COLLECTION DATE:11-Aug-1987 LOCATION:D/S SPENCER, IN LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):49.5 RANGE(CM):41.0-57.5 MEAN WEIGHT(GM):2166 RANGE(GM):1163-3292 %LIPID:1.40

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		450.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		12.800
LEAD	<	0.500
MAGNESIUM		280.000
MANGANESE	<	1.500
MERCURY		0.387
NICKEL	<	4.000
POTASSIUM		3740.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		11.500

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.010
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.016
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.012
o,p'-DDE		0.018
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.207 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:228-87

LAB NUMBER:70804272 SITE:WEST FORK WHITE RIVER COUNTY:OWEN | SPECIES:1 WHITE BASS
COLLECTION DATE:11-Aug-1987 LOCATION:D/S SPENCER, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):37.0 RANGE(CM):37.0-37.0 MEAN WEIGHT(GM):600 RANGE(GM):600-600 %LIPID:6.30

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		12600.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		5.800
IRON		34.900
LEAD	<	0.500
MAGNESIUM		400.000
MANGANESE	<	1.500
MERCURY		0.273
NICKEL	<	4.000
POTASSIUM		2880.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1150.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		23.900

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.057
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.033
trans-NONACHLOR		0.100
OXYCHLORDANE		0.012
p,p'-DDD		0.029
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.024
p,p'-DDT	<	0.010
o,p'-DDT	<	0.030
DIELDRIN		0.070
ENDOSULFAN I	<	0.020
ENDOSULFAN II		0.023
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE		0.031
ENDRIN KETONE		0.027
HEPTACHLOR	<	0.024
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR		0.047
PENTACHLOROANISOLE	<	0.024
TOXAPHENE		NA

TOTAL PCB	0.580 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:224-87

LAB NUMBER:70804273 SITE:WEST FORK WHITE RIVER COUNTY:OWEN | SPECIES:3 CARP
COLLECTION DATE:11-Aug-1987 LOCATION:D/S SPENCER, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):55.3 RANGE(CM):53.0-57.0 MEAN WEIGHT(GM):2157 RANGE(GM):1958-2384 %LIPID:7.60

METALS		(MG/KG)
ALUMINUM		31.300
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		11300.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		51.500
LEAD	<	0.500
MAGNESIUM		390.000
MANGANESE		3.000
MERCURY		0.188
NICKEL	<	4.000
POTASSIUM		3070.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		840.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		46.900

PESTICIDES		(MG/KG)
ALDRIN	<	0.080
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.041
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.024
trans-NONACHLOR		0.050
OXYCHLORDANE		0.009
p,p'-DDD		0.032
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.072
p,p'-DDT	<	0.010
o,p'-DDT	<	0.080
DIELDRIN		0.034
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.080
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.590 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:263-87

LAB NUMBER:70807015 SITE:WEST FORK WHITE RIVER COUNTY:GREENE | SPECIES:2 CARP
COLLECTION DATE:20-Aug-1987 LOCATION:@ WORTHINGTON, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):48.8 RANGE(CM):47.5-50.0 MEAN WEIGHT(GM):1447 RANGE(GM):1362-1532 %LIPID:5.40

METALS		(MG/KG)
ALUMINUM		135.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		9280.00
CHROMIUM		2.300
COBALT	<	5.000
COPPER	<	2.500
IRON		130.000
LEAD	<	0.500
MAGNESIUM		410.000
MANGANESE		7.000
MERCURY		0.163
NICKEL		4.200
POTASSIUM		3340.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		990.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		62.100

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.025
gamma-CHLORDANE		0.018
cis-NONACHLOR		0.024
trans-NONACHLOR		0.038
OXYCHLORDANE	<	0.008
p,p'-DDD		0.020
o,p'-DDD	<	0.010
p,p'-DDE		0.025
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.043
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.010
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 0.390 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:264-87

LAB NUMBER:70807016 SITE:WEST FORK WHITE RIVER COUNTY:GREENE | SPECIES:3 CARP
COLLECTION DATE:20-Aug-1987 LOCATION:@ WORTHINGTON, IN LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):48.7 RANGE(CM):44.0-52.5 MEAN WEIGHT(GM):1542 RANGE(GM):1022-2071 %LIPID:3.40

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		420.00
CHROMIUM		1.500
COBALT	<	5.000
COPPER		4.800
IRON		27.400
LEAD		4.900
MAGNESIUM		280.000
MANGANESE	<	1.500
MERCURY		0.292
NICKEL	<	4.000
POTASSIUM		3890.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		13.600

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB	NA	MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:265-87

LAB NUMBER:70807017 SITE:WEST FORK WHITE RIVER COUNTY:GREENE SPECIES:4 RIVER CARPSUCKER
COLLECTION DATE:20-Aug-1987 LOCATION:@ WORTHINGTON, IN LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):32.0 RANGE(CM):28.5-36.0 MEAN WEIGHT(GM):412 RANGE(GM):284-568 %LIPID:1.60

METALS		(MG/KG)
ALUMINUM		815.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM		10.200
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		12400.00
CHROMIUM		4.100
COBALT	<	5.000
COPPER		2.800
IRON		474.000
LEAD		0.500
MAGNESIUM		580.000
MANGANESE		34.700
MERCURY		0.125
NICKEL		7.800
POTASSIUM		2900.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1300.000
THALLIUM	<	2.000
VANADIUM		6.000
ZINC		20.000

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.014
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.010
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.160 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:266-87

LAB NUMBER:70807018 SITE:WEST FORK WHITE RIVER COUNTY:GREENE | SPECIES:2 BIGMOUTH BUFFALO
COLLECTION DATE:20-Aug-1987 LOCATION:@ WORTHINGTON, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):48.2 RANGE(CM):44.5-51.8 MEAN WEIGHT(GM):1816 RANGE(GM):1390-2242 %LIPID:5.20

METALS		(MG/KG)
ALUMINUM		271.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM		8.700
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		10800.00
CHROMIUM		1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		171.000
LEAD	<	0.500
MAGNESIUM		460.000
MANGANESE		16.900
MERCURY		0.128
NICKEL	<	4.000
POTASSIUM		3040.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1110.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		14.700

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.017
gamma-CHLORDANE		0.009
cis-NONACHLOR		0.025
trans-NONACHLOR		0.044
OXYCHLORDANE		0.009
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.028
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.046
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.010
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 0.260 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:263-878

LAB NUMBER:71202152 SITE:WEST FORK WHITE RIVER COUNTY:GREENE | SPECIES:1 CARP
COLLECTION DATE:20-Aug-1987 LOCATION:@ WORTHINGTON, IN LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):58.0 RANGE(CM):58.0-58.0 MEAN WEIGHT(GM):2497 RANGE(GM):2497-2497 %LIPID:6.40

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		700.00
CHROMIUM		1.200
COBALT	<	5.000
COPPER		4.700
IRON		29.500
LEAD	<	0.500
MAGNESIUM		270.000
MANGANESE	<	1.500
MERCURY		0.233
NICKEL	<	4.000
POTASSIUM		3760.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		510.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		27.100

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.022
gamma-CHLORDANE		0.014
cis-NONACHLOR		0.023
trans-NONACHLOR		0.036
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.025
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.048
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.010
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.350 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:148-92

LAB NUMBER:30301079 SITE:EEL RIVER COUNTY:GREENE SPECIES:3 CARP
COLLECTION DATE:31-Aug-1992 LOCATION:S.R. 67 LAB:H PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):54.7 RANGE(CM):52.6-56.8 MEAN WEIGHT(GM):2090 RANGE(GM):2043-2157 %LIPID:2.64

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC	<	0.100
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM	B	0.090
COBALT		NA
COPPER		0.570
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.200
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		10.400

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.016
gamma-CHLORDANE	<	0.016
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.014
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.015
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.013
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.300 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:149-92

LAB NUMBER:30301080 SITE:EEL RIVER COUNTY:GREENE SPECIES:3 BIGMOUTH BUFFALO
COLLECTION DATE:31-Aug-1992 LOCATION:S.R. 67 LAB:H PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):48.6 RANGE(CM):47.0-49.6 MEAN WEIGHT(GM):1712 RANGE(GM):1476-1873 %LIPID:1.47

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.230
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.016
gamma-CHLORDANE	<	0.016
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.016
OXYCHLORDANE	<	0.016
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB < 0.050 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:150-92

LAB NUMBER:30301081 SITE:EEL RIVER COUNTY:GREENE SPECIES:2 CHANNEL CATFISH
COLLECTION DATE:31-Aug-1992 LOCATION:S.R. 67 LAB:H PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):47.7 RANGE(CM):47.3-48.1 MEAN WEIGHT(GM):793 RANGE(GM):756-830 %LIPID:2.58

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD		0.340
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.240
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.010
gamma-CHLORDANE	<	0.016
cis-NONACHLOR		0.012
trans-NONACHLOR		0.032
OXYCHLORDANE	<	0.016
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.025
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.057 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:151-92

LAB NUMBER:30301082 SITE:EEL RIVER COUNTY:GREENE | SPECIES:1 SAUGER
COLLECTION DATE:31-Aug-1992 LOCATION:S.R. 67 LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):47.1 RANGE(CM):47.1-47.1 MEAN WEIGHT(GM):1050 RANGE(GM):1050-1050 %LIPID:3.49

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM	0	0.00
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.070
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.490
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.014
gamma-CHLORDANE	<	0.016
cis-NONACHLOR		0.013
trans-NONACHLOR		0.021
OXYCHLORDANE	<	0.016
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.015
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.041
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.300 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:152-92

LAB NUMBER:30301083 SITE:EEL RIVER COUNTY:GREENE | SPECIES:2 FRESHWATER DRUM
COLLECTION DATE:31-Aug-1992 LOCATION:S.R. 67 LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):37.8 RANGE(CM):35.8-39.7 MEAN WEIGHT(GM):646 RANGE(GM):516-776 %LIPID:2.24

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.300
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.016
gamma-CHLORDANE	<	0.016
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.013
OXYCHLORDANE	<	0.016
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.020
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB < 0.050 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:113-87

LAB NUMBER:70700727 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:5 CREEK CHUB
COLLECTION DATE:27-May-1987 LOCATION:@ FLUCKMILL RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):11.8 RANGE(CM):9.0-16.0 MEAN WEIGHT(GM):26 RANGE(GM):10-50 %LIPID:3.20

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		1.600
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		7710.00
CHROMIUM		2.100
COBALT	<	5.000
COPPER	<	2.500
IRON		13.600
LEAD	<	0.500
MAGNESIUM		370.000
MANGANESE	<	1.500
MERCURY		0.082
NICKEL	<	4.000
POTASSIUM		2930.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		620.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		35.100

PESTICIDES		(MG/KG)
ALDRIN		0.023
alpha-BHC	<	0.018
beta-BHC	<	0.018
delta-BHC	<	0.018
gamma-BHC	<	0.018
alpha-CHLORDANE		0.055
gamma-CHLORDANE		0.060
cis-NONACHLOR	<	0.018
trans-NONACHLOR		0.027
OXYCHLORDANE	<	0.018
p,p'-DDD		0.010
o,p'-DDD	<	0.023
p,p'-DDE		0.018
o,p'-DDE	<	0.023
p,p'-DDT	<	0.023
o,p'-DDT	<	0.023
DIELDRIN		0.068
ENDOSULFAN I	<	0.046
ENDOSULFAN II	<	0.046
ENDOSULFAN SULFATE	<	0.046
ENDRIN	<	0.023
ENDRIN ALDEHYDE	<	0.023
ENDRIN KETONE	<	0.023
HEPTACHLOR	<	0.036
HEPTACHLOR EPOXIDE		0.008
HEXACHLOROBENZENE	<	0.023
METHOXYCHLOR	<	0.046
PENTACHLOROANISOLE		0.011
TOXAPHENE		NA

TOTAL PCB 0.720 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	J	0.450
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	1
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	J	0.310
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	J	0.110
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	J	0.210
di-n-BUTYLPHTHALATE	BJ	0.990
DIETHYLPHTHALATE	<	0
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	BE	8.400	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)		0.018
BENZENE		0.008	1,2-DICHLOROETHYLENE	<	0.005			
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
ETHYLBENZENE	<	0.005	TETRACHLOROETHYLENE	<	0.005			
2-BUTANONE	BE	1.200	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	<	0.010
CARBON DISULFIDE	<	0.005	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	<	0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	<	0.025
1,1-DICHLOROETHANE	<	0.005				t-1,3-DICHLOROPROPYLENE	<	0.025
1,2-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	<	0.005
1,1,1-TRICHLOROETHANE		0.008	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	B	0.015
1,1,2-TRICHLOROETHANE	<	0.005	CHLOROMETHANE	<	0.010	VINYL ACETATE		NA
1,1,2,2-TETRACHLORETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.022	VINYL CHLORIDE	<	0.010
						TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:114-87

LAB NUMBER:70700728 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:5 LONGEAR SUNFISH
COLLECTION DATE:27-May-1987 LOCATION:@ FLUCKMILL RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):11.6 RANGE(CM):10.0-13.5 MEAN WEIGHT(GM):44 RANGE(GM):30-65 %LIPID:6.10

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		2.500
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		9610.00
CHROMIUM		3.100
COBALT	<	5.000
COPPER	<	2.500
IRON		22.600
LEAD	<	0.500
MAGNESIUM		510.000
MANGANESE		1.700
MERCURY		0.047
NICKEL	<	4.000
POTASSIUM		2880.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		640.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		29.700

PESTICIDES		(MG/KG)
ALDRIN	<	0.088
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC		0.008
alpha-CHLORDANE		0.084
gamma-CHLORDANE		0.059
cis-NONACHLOR		0.035
trans-NONACHLOR		0.081
OXYCHLORDANE	<	0.008
p,p'-DDD		0.020
o,p'-DDD	<	0.010
p,p'-DDE		0.030
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.082
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.088
HEPTACHLOR EPOXIDE		0.050
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE		0.013
TOXAPHENE		NA

TOTAL PCB 1.900 MG/KG

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE		0.720
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	J	0.044
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	J	0.420
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	J	0.450
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	J	0.120
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	J	0.140
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	BJ	0.420
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	7.700
BENZENE		0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.082
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.018
TRICHLOROMETHANE (CHLOROFORM)		0.011
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.009
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:115-87

LAB NUMBER:70700729 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:6 LONGEAR SUNFISH
COLLECTION DATE:27-May-1987 LOCATION:@ FLUCKMILL RD. LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):11.9 RANGE(CM):10.5-13.0 MEAN WEIGHT(GM):49 RANGE(GM):30-60 %LIPID:2.40

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		2.200
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		0.600
CALCIUM		8720.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		4.500
IRON	<	10.000
LEAD		1.100
MAGNESIUM		500.000
MANGANESE		1.500
MERCURY		0.105
NICKEL	<	4.000
POTASSIUM		3600.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		510.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		14.700

PESTICIDES		(MG/KG)
ALDRIN		0.011
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.009
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.008
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.014
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.032
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 0.580 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	J	0.035
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	^ 660
CHRYSENE	<	60
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	J	0.091
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	J	0.180
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	J	0.049
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	J	0.320
di-n-BUTYLPHTHALATE	BJ	^ 093
DIETHYLPHTHALATE	<	60
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	BE	4.400	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)	0.005
BENZENE	<	0.005	1,2-DICHLOROETHYLENE	<	0.005		
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	< 0.025
ETHYLBENZENE	<	0.005	TETRACHLOROETHYLENE	<	0.005		
2-BUTANONE	B	0.053	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	< 0.010
CARBON DISULFIDE	<	0.005	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	< 0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	< 0.025
1,1-DICHLOROETHANE	<	0.005				t-1,3-DICHLOROPROPYLENE	< 0.025
1,2-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	< 0.005
1,1,1-TRICHLOROETHANE	<	0.005	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	< 0.005
1,1,2-TRICHLOROETHANE	<	0.005	CHLOROMETHANE	<	0.010	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.013	VINYL CHLORIDE	< 0.010
						TOTAL XYLENE	< 0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:054-93

LAB NUMBER:30900804 SITE:CLEAR CREEK COUNTY:MONROE SPECIES:15 LONGEAR SUNFISH
COLLECTION DATE:31-Aug-1993 LOCATION:@ FLUCKMILL RD. LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):13.2 RANGE(CM):12.2-13.8 MEAN WEIGHT(GM):47 RANGE(GM):40-54 %LIPID:1.67

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.030
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	S	0.100
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.110
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.020
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.014
trans-NONACHLOR		0.076
OXYCHLORDANE		0.011
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.024
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.010
HEPTACHLOR EPOXIDE		0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.600 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:055-93

LAB NUMBER:30900805 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:7 CREEK CHUB
COLLECTION DATE:31-Aug-1993 LOCATION:@ FLUCKMILL RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):18.4 RANGE(CM):14.5-22.7 MEAN WEIGHT(GM):79 RANGE(GM):34-124 %LIPID:3.74

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.030
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.050
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.100
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.030
gamma-CHLORDANE		0.023
cis-NONACHLOR		0.012
trans-NONACHLOR		0.074
OXYCHLORDANE		0.009
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.036
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB 1.800 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 103-87

LAB NUMBER:70700717 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:B CREEK CHUB
COLLECTION DATE:26-May-1987 LOCATION:@ COUNTRY CLUB RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):12.7 RANGE(CM):10.5-21.5 MEAN WEIGHT(GM):29 RANGE(GM):15-90 %LIPID:2.00

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		0.500
CALCIUM		10400.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		4.500
IRON		36.200
LEAD	<	0.500
MAGNESIUM		390.000
MANGANESE		3.400
MERCURY		0.130
NICKEL	<	4.000
POTASSIUM		3060.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1120.000
THALLIUM	<	2.000
VANADIUM		13.100
ZINC		36.100

PESTICIDES		(MG/KG)
ALDRIN		0.048
alpha-BHC	<	0.021
beta-BHC	<	0.021
delta-BHC	<	0.021
gamma-BHC	<	0.021
alpha-CHLORDANE		0.059
gamma-CHLORDANE		0.062
cis-NONACHLOR	<	0.021
trans-NONACHLOR		0.040
OXYCHLORDANE	<	0.021
p,p'-DDD		0.018
o,p'-DDD	<	0.027
p,p'-DDE		0.045
o,p'-DDE	<	0.027
p,p'-DDT	<	0.027
o,p'-DDT	<	0.027
DIELDRIN		0.033
ENDOSULFAN I	<	0.054
ENDOSULFAN II	<	0.054
ENDOSULFAN SULFATE	<	0.054
ENDRIN	<	0.027
ENDRIN ALDEHYDE	<	0.027
ENDRIN KETONE	<	0.027
HEPTACHLOR	<	0.021
HEPTACHLOR EPOXIDE		0.018
HEXACHLOROBENZENE	<	0.027
METHOXYCHLOR	<	0.054
PENTACHLOROANISOLE	<	0.021
TOXAPHENE		NA

TOTAL PCB 0.670 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	1.300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	1.300
di-n-BUTYLPHTHALATE	BJ	0.430
DIETHYLPHTHALATE	<	1.300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	BE	6.500	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)	B 0.016
BENZENE		0.007	1,2-DICHLOROETHYLENE	<	0.005		
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	< 0.025
ETHYLBENZENE	J	0.003	TETRACHLOROETHYLENE		0.009		
2-BUTANONE	E	0.710	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	< 0.010
CARBON DISULFIDE	J	0.002	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	< 0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	< 0.025
1,1-DICHLOROETHANE	J	0.004				t-1,3-DICHLOROPROPYLENE	< 0.025
1,2-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	< 0.005
1,1,1-TRICHLOROETHANE	J	0.003	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	0.012
1,1,2-TRICHLOROETHANE	<	0.005	CHLOROMETHANE	<	0.010	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.032	VINYL CHLORIDE	< 0.010
						TOTAL XYLENE	< 0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 104-87

LAB NUMBER: 70700718 SITE: CLEAR CREEK COUNTY: MONROE | SPECIES: 4 LONGEAR SUNFISH
COLLECTION DATE: 26-May-1987 LOCATION: @ COUNTRY CLUB RD. LAB: H | PREPARATION: WHOLE

MEAN LENGTH(CM): 12.0 RANGE(CM): 11.0-13.5 MEAN WEIGHT(GM): 49 RANGE(GM): 35-60 %LIPID: 5.50

METALS		(MG/KG)
ALUMINUM		118.000
ANTIMONY	<	2.000
ARSENIC	<	1.300
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		18000.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		11.500
IRON		88.300
LEAD		0.500
MAGNESIUM		500.000
MANGANESE		17.900
MERCURY		0.097
NICKEL	<	4.000
POTASSIUM		3130.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1390.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		24.900

PESTICIDES		(MG/KG)
ALDRIN		0.021
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.079
gamma-CHLORDANE		0.061
cis-NONACHLOR		0.032
trans-NONACHLOR		0.070
OXYCHLORDANE		0.008
p,p'-DDD		0.043
o,p'-DDD	<	0.010
p,p'-DDE		0.023
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.110
ENDOSULFAN I	<	0.021
ENDOSULFAN II	<	0.021
ENDOSULFAN SULFATE	<	0.021
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR		0.009
HEPTACHLOR EPOXIDE		0.038
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.021
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 1.100 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS	(MG/KG)
ACENAPHTHYLENE	NA
ACENAPHTHENE	NA
4-CHLOROANILINE	NA
2-NITROANILINE	NA
3-NITROANILINE	NA
4-NITROANILINE	NA
ANTHRACENE	NA
BENZO(a)ANTHRACENE	NA
DIBENZO(a,h)ANTHRACENE	NA
3,3'-DICHLOROBENZIDINE	NA
1,2-DICHLOROBENZENE	NA
1,3-DICHLOROBENZENE	NA
1,4-DICHLOROBENZENE	NA
1,2,4-TRICHLORBENZENE	NA
HEXACHLOROBENZENE	NA
NITROBENZENE	NA
BENZYL ALCOHOL	NA
CHRYSENE	NA
n-NITROSODIPHENYLAMINE	
n-NITROSO-di-n-PROPYLAMINE	NA
HEXACHLOROETHANE	NA
BIS(2-CHLOROETHYL)ETHER	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA
4-BROMOPHENYL-PHENYLETHER	NA
4-CHLOROPHENYL-PHENYLETHER	NA
FLUORANTHENE	NA
FLUORENE	NA
BENZO(beta)FLUORANTHENE	NA
BENZO(kappa)FLUORANTHENE	NA
DIBENZOFURAN	NA
BIS(2-CHLOROETHOXY)METHANE	NA
ISOPHORONE	NA
NAPHTHALENE	NA
2-CHLORONAPHTHALENE	NA
2-METHYLNAPHTHALENE	NA
HEXACHLOROCYCLOPENTADIENE	NA
BENZO(ghi)PERYLENE	NA
PHENANTHRENE	NA
di-n-BUTYLPHTHALATE	NA
DIETHYLPHTHALATE	NA
DIMETHYLPHTHALATE	
di-n-OCTYLPHTHALATE	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA
BUTYLBENZYLPHTHALATE	NA
PYRENE	NA
BENZO(alpha)PYRENE	NA
INDENO(1,2,3-c,d)PYRENE	NA
2,4-DINITROTOLUENE	NA
2,6-DINITROTOLUENE	NA
HEXACHLOROBUTADIENE	NA

ACID EXTRACTABLE COMPOUNDS	(MG/KG)
BENZOIC ACID	NA
PHENOL	NA
2-CHLOROPHENOL	NA
2,4-DICHLOROPHENOL	NA
2,4,5-TRICHLOROPHENOL	NA
2,4,6-TRICHLOROPHENOL	NA
PENTACHLOROPHENOL	NA
2-METHYLPHENOL	NA
4-METHYLPHENOL	NA
2,4-DIMETHYLPHENOL	NA
4-CHLORO-3-METHYLPHENOL	NA
4,6-DINITRO-2-METHYLPHENOL	NA
2-NITROPHENOL	NA
4-NITROPHENOL	NA
2,4-DINITROPHENOL	NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	3.400
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	J	0.001
2-BUTANONE		0.072
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.025
TRICHLOROMETHANE (CHLOROFORM)	B	0.008
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE		0.009
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
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PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:105-87

LAB NUMBER:70700719 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:9 GREEN SUNFISH
COLLECTION DATE:26-May-1987 LOCATION:@ COUNTRY CLUB RD. LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):11.6 RANGE(CM):10.0-14.0 MEAN WEIGHT(GM):43 RANGE(GM):25-66 %LIPID:0.70

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		6850.00
CHROMIUM		2.000
COBALT	<	*5.000*
COPPER	<	2.500
IRON		16.200
LEAD		1.300
MAGNESIUM		370.000
MANGANESE		2.200
MERCURY		0.120
NICKEL	<	4.000
POTASSIUM		3780.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		770.000
THALLIUM	<	2.000
VANADIUM	<	*5.000*
ZINC		20.700

PESTICIDES		(MG/KG)
ALDRIN	<	0.030
alpha-BHC	<	0.015
beta-BHC	<	0.015
delta-BHC	<	0.015
gamma-BHC	<	0.015
alpha-CHLORDANE		0.017
gamma-CHLORDANE		0.020
cis-NONACHLOR	<	0.015
trans-NONACHLOR		0.031
OXYCHLORDANE	<	0.015
p,p'-DDD		0.014
o,p'-DDD	<	0.019
p,p'-DDE	<	0.019
o,p'-DDE	<	0.019
p,p'-DDT	<	0.019
o,p'-DDT	<	0.019
DIELDRIN		0.030
ENDOSULFAN I	<	0.038
ENDOSULFAN II	<	0.038
ENDOSULFAN SULFATE	<	0.038
ENDRIN	<	0.019
ENDRIN ALDEHYDE	<	0.019
ENDRIN KETONE	<	0.019
HEPTACHLOR	<	0.030
HEPTACHLOR EPOXIDE	<	0.015
HEXACHLOROBENZENE	<	0.019
METHOXYCHLOR	<	0.038
PENTACHLOROANISOLE	<	0.015
TOXAPHENE		NA

TOTAL PCB 0.410 MG/KG

ACID EXTRACTABLE COMPOUNDS	(MG/KG)
BENZOIC ACID	NA
PHENOL	NA
2-CHLOROPHENOL	NA
2,4-DICHLOROPHENOL	NA
2,4,5-TRICHLOROPHENOL	NA
2,4,6-TRICHLOROPHENOL	NA
PENTACHLOROPHENOL	NA
2-METHYLPHENOL	NA
4-METHYLPHENOL	NA
2,4-DIMETHYLPHENOL	NA
4-CHLORO-3-METHYLPHENOL	NA
4,6-DINITRO-2-METHYLPHENOL	NA
2-NITROPHENOL	NA
4-NITROPHENOL	NA
2,4-DINITROPHENOL	NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS	(MG/KG)
ACENAPHTHYLENE	NA
ACENAPHTHENE	NA
4-CHLOROANILINE	NA
2-NITROANILINE	NA
3-NITROANILINE	NA
4-NITROANILINE	NA
ANTHRACENE	NA
BENZO(a)ANTHRACENE	NA
DIBENZO(a,h)ANTHRACENE	NA
3,3'-DICHLOROBENZIDINE	NA
1,2-DICHLOROBENZENE	NA
1,3-DICHLOROBENZENE	NA
1,4-DICHLOROBENZENE	NA
1,2,4-TRICHLORBENZENE	NA
HEXACHLOROBENZENE	NA
NITROBENZENE	NA
BENZYL ALCOHOL	NA
CHRYSENE	NA
n-NITROSODIPHENYLAMINE	NA
n-NITROSO-di-n-PROPYLAMINE	NA
HEXACHLOROETHANE	NA
BIS(2-CHLOROETHYL)ETHER	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA
4-BROMOPHENYL-PHENYLETHER	NA
4-CHLOROPHENYL-PHENYLETHER	NA
FLUORANTHENE	NA
FLUORENE	NA
BENZO(beta)FLUORANTHENE	NA
BENZO(kappa)FLUORANTHENE	NA
DIBENZOFURAN	NA
BIS(2-CHLOROETHOXY)METHANE	NA
ISOPHORONE	NA
NAPHTHALENE	NA
2-CHLORONAPHTHALENE	NA
2-METHYLNAPHTHALENE	NA
HEXACHLOROCYCLOPENTADIENE	NA
BENZO(ghi)PERYLENE	NA
PHENANTHRENE	NA
di-n-BUTYLPHTHALATE	NA
DIETHYLPHTHALATE	NA
DIMETHYLPHTHALATE	NA
di-n-OCTYLPHTHALATE	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA
BUTYLBENZYLPHTHALATE	NA
PYRENE	NA
BENZO(alpha)PYRENE	NA
INDENO(1,2,3-c,d)PYRENE	NA
2,4-DINITROTOLUENE	NA
2,6-DINITROTOLUENE	NA
HEXACHLOROBUTADIENE	NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	3.000
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.032
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.028
TRICHLOROMETHANE (CHLOROFORM)	B	0.011
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.001
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE		0.011
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:050-93

LAB NUMBER:30900800 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:11 CREEK CHUB
COLLECTION DATE:31-Aug-1993 LOCATION:@ COUNTRY CLUB RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):19.6 RANGE(CM):16.8-22.5 MEAN WEIGHT(GM):86 RANGE(GM):58-120 %LIPID:3.70

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.050
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	W	0.070
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.080
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.038
gamma-CHLORDANE		0.025
cis-NONACHLOR	<	0.023
trans-NONACHLOR		0.075
OXYCHLORDANE		0.021
p,p'-DDD	<	0.058
o,p'-DDD	<	0.010
p,p'-DDE	<	0.020
o,p'-DDE	<	0.030
p,p'-DDT	<	0.030
o,p'-DDT	<	0.030
DIELDRIN		0.040
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE		0.014
HEXACHLOROBENZENE	<	0.020
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.024
TOXAPHENE	<	0.010

TOTAL PCB	3.200 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:050-93D

LAB NUMBER:30900801 D SITE:CLEAR CREEK COUNTY:MONROE SPECIES:11 CREEK CHUB
COLLECTION DATE:31-Aug-1993 LOCATION:@ COUNTRY CLUB RD. LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):19.6 RANGE(CM):16.8-22.5 MEAN WEIGHT(GM):86 RANGE(GM):58-120 %LIPID:3.62

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.033
gamma-CHLORDANE		0.024
cis-NONACHLOR	<	0.022
trans-NONACHLOR		0.087
OXYCHLORDANE		0.016
p,p'-DDD	<	0.054
o,p'-DDD	<	0.010
p,p'-DDE	<	0.020
o,p'-DDE	<	0.030
p,p'-DDT	<	0.030
o,p'-DDT	<	0.030
DIELDRIN		0.036
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE		0.011
HEXACHLOROBENZENE	<	0.020
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.024
TOXAPHENE	<	0.010

TOTAL PCB	3.400 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:051-93

LAB NUMBER:30900802 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:15 GREEN SUNFISH
COLLECTION DATE:31-Aug-1993 LOCATION:@ COUNTRY CLUB RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):11.4 RANGE(CM):9.8-14.1 MEAN WEIGHT(GM):35 RANGE(GM):20-62 %LIPID:3.69

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.040
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	S	0.220
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.050
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.040
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.027
gamma-CHLORDANE		0.009
cis-NONACHLOR	<	0.028
trans-NONACHLOR		0.114
OXYCHLORDANE		0.027
p,p'-DDD	<	0.070
o,p'-DDD	<	0.010
p,p'-DDE	<	0.050
o,p'-DDE	<	0.060
p,p'-DDT	<	0.060
o,p'-DDT	<	0.060
DIELDRIN		0.063
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.040
HEPTACHLOR EPOXIDE		0.021
HEXACHLOROBENZENE	<	0.050
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.048
TOXAPHENE	<	0.010

TOTAL PCB	4.400 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:052-93

LAB NUMBER:30900803 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:15 LONGEAR SUNFISH
COLLECTION DATE:31-Aug-1993 LOCATION:@ COUNTRY CLUB RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):11.1 RANGE(CM):10.4-11.7 MEAN WEIGHT(GM):32 RANGE(GM):24-40 %LIPID:3.60

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.020
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	+	0.150
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.060
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.040
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.043
gamma-CHLORDANE		0.014
cis-NONACHLOR	<	0.044
trans-NONACHLOR		0.164
OXYCHLORDANE		0.053
p,p'-DDD	<	0.110
o,p'-DDD		0.012
p,p'-DDE	<	0.050
o,p'-DDE	<	0.060
p,p'-DDT	<	0.060
o,p'-DDT	<	0.060
DIELDRIN		0.081
ENDOSULFAN I	<	0.020
ENDOSULFAN II		0.025
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.062
HEPTACHLOR EPOXIDE		0.030
HEXACHLOROBENZENE	<	0.050
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.048
TOXAPHENE	<	0.010

TOTAL PCB	4.500 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:112-87

LAB NUMBER:70700726 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:6 LONGEAR SUNFISH
COLLECTION DATE:27-May-1987 LOCATION:@ HARRODSBURG, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):9.9 RANGE(CM):8.1-12.5 MEAN WEIGHT(GM):24 RANGE(GM):10-54 %LIPID:7.00

METALS		(MG/KG)
ALUMINUM		98.300
ANTIMONY	<	2.000
ARSENIC		2.400
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		15500.00
CHROMIUM		2.600
COBALT	<	5.000
COPPER		4.300
IRON		69.400
LEAD	<	0.500
MAGNESIUM		490.000
MANGANESE		8.500
MERCURY		0.048
NICKEL	<	4.000
POTASSIUM		3240.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1230.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		22.700

PESTICIDES		(MG/KG)
ALDRIN		0.069
alpha-BHC	<	0.011
beta-BHC	<	0.011
delta-BHC	<	0.011
gamma-BHC	<	0.011
alpha-CHLORDANE		0.057
gamma-CHLORDANE		0.085
cis-NONACHLOR		0.034
trans-NONACHLOR		0.058
OXYCHLORDANE	<	0.011
p,p'-DDD		0.020
o,p'-DDD	<	0.014
p,p'-DDE		0.027
o,p'-DDE	<	0.014
p,p'-DDT	<	0.014
o,p'-DDT	<	0.014
DIELDRIN		0.074
ENDOSULFAN I	<	0.027
ENDOSULFAN II	<	0.027
ENDOSULFAN SULFATE	<	0.027
ENDRIN	<	0.014
ENDRIN ALDEHYDE	<	0.011
ENDRIN KETONE	<	0.014
HEPTACHLOR		0.011
HEPTACHLOR EPOXIDE		0.042
HEXACHLOROBENZENE	<	0.014
METHOXYCHLOR	<	0.027
PENTACHLOROANISOLE		0.014
TOXAPHENE		NA

TOTAL PCB 2.300 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	J	0.039
ACENAPHTHENE	J	1.100
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	[illegible]
n-NITROSODIPHENYLAMINE	<	[illegible]
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	J	0.470
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	J	0.690
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	J	0.160
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	J	1.000
di-n-BUTYLPHTHALATE	BJ	0.350
DIETHYLPHTHALATE	<	[illegible]
DIMETHYLPHTHALATE	<	[illegible]
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	18.000
BENZENE		0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	BE	1.500
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	J	0.001
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.015
TRICHLOROMETHANE (CHLOROFORM)		0.013
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.006
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:063-93

LAB NUMBER:30900810 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:15 LONGEAR SUNFISH
COLLECTION DATE:01-Sep-1993 LOCATION:@ HARRODSBURG IN, GORE RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):13.9 RANGE(CM):13.2-15.1 MEAN WEIGHT(GM):58 RANGE(GM):44-76 %LIPID:2.73

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.020
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.060
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.090
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.016
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.018
trans-NONACHLOR		0.076
OXYCHLORDANE		0.018
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.063
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB 3.200 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:078-83

LAB NUMBER:078-83 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:24 CREEK CHUB
COLLECTION DATE:07-Sep-1983 LOCATION:U/S BLOOMINGTON, IN LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):0.0 RANGE(CM):9.4-17.5 MEAN WEIGHT(GM):0 RANGE(GM):0-0 %LIPID:3.54

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.082
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.190
CALCIUM		NA
CHROMIUM		0.290
COBALT		NA
COPPER		0.610
IRON		NA
LEAD		0.390
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.100
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC	<	0.600

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.002
beta-BHC	<	0.001
delta-BHC		NA
gamma-BHC		0.001
alpha-CHLORDANE		0.063
gamma-CHLORDANE		0.029
cis-NONACHLOR		0.019
trans-NONACHLOR		0.098
OXYCHLORDANE		0.025
p,p'-DDD		0.062
o,p'-DDD		NA
p,p'-DDE		0.039
o,p'-DDE		NA
p,p'-DDT		0.001
o,p'-DDT		NA
DIELDRIN		0.002
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.038
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.006
TOXAPHENE		NA

TOTAL PCB 3.301 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:078-83

LAB NUMBER:70602937 SITE:CLEAR CREEK COUNTY:MONROE | SPECIES:24 CREEK CHUB
COLLECTION DATE:07-Sep-1983 LOCATION:U/S BLOOMINGTON, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):0.0 RANGE(CM):9.4-17.5 MEAN WEIGHT(GM):0 RANGE(GM):0-0 %LIPID:3.40

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	J	0.210
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	J	0.032
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	J	0.083
di-n-BUTYLPHTHALATE	<	0.660
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS	(MG/KG)
ACETONE	NA
BENZENE	NA
CHLOROBENZENE	NA
ETHYLBENZENE	NA
2-BUTANONE	NA
CARBON DISULFIDE	NA
CHLOROETHANE	NA
1,1-DICHLOROETHANE	NA
1,2-DICHLOROETHANE	NA
1,1,1-TRICHLOROETHANE	NA
1,1,2-TRICHLOROETHANE	NA
1,1,2,2-TETRACHLORETHANE	NA
1,1-DICHLOROETHYLENE	NA
1,2-DICHLOROETHYLENE	NA
TRICHLOROETHYLENE(TOTAL)	NA
TETRACHLOROETHYLENE	NA
2-HEXANONE	NA
BROMOMETHANE	NA
TRIBROMOMETHANE (BROMOFORM)	NA
BROMODICHLOROMETHANE	NA
DIBROMOCHLOROMETHANE	NA
CHLOROMETHANE	NA
DICHLOROMETHANE (METHYLENE CHLORIDE)	NA
TRICHLOROMETHANE (CHLOROFORM)	NA
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
4-METHYL-2-PENTANONE	NA
1,2-DICHLOROPROPANE	NA
c-1,3-DICHLOROPROPYLENE	NA
t-1,3-DICHLOROPROPYLENE	NA
STYRENE	NA
TOLUENE	NA
VINYL ACETATE	NA
VINYL CHLORIDE	NA
TOTAL XYLENE	NA

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PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:622-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:4 LARGEMOUTH BASS
COLLECTION DATE:16-Aug-1985 LOCATION:CROOKED CREEK LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):32.0 RANGE(CM):30.1-33.4 MEAN WEIGHT(GM):447 RANGE(GM):365-547 %LIPID:0.87

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.053
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.100
CALCIUM		NA
CHROMIUM		0.300
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.390
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		10.700

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE	<	0.001
gamma-CHLORDANE	<	0.001
cis-NONACHLOR	<	0.001
trans-NONACHLOR	<	0.001
OXYCHLORDANE	<	0.001
p,p'-DDD	<	0.001
o,p'-DDD		NA
p,p'-DDE	<	0.001
o,p'-DDE		NA
p,p'-DDT		0.005
o,p'-DDT		NA
DIELDRIN	<	0.001
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE	<	0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	0.020 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603297 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:4 LARGEMOUTH BASS
COLLECTION DATE:16-Aug-1985 LOCATION:CROOKED CREEK LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):32.0 RANGE(CM):30.1-33.4 MEAN WEIGHT(GM):447 RANGE(GM):365-547 %LIPID:1.10

METALS		(MG/KG)
ALUMINUM	<	10.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	*0.500*
CALCIUM		440.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON	<	10.000
LEAD		1.300
MAGNESIUM		330.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		4270.000
SELENIUM	<	1.000
SILVER		2.000
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		4.900

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	*NA*
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	0.660
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	0.520
BENZENE		0.017
CHLOROBENZENE		0.024
ETHYLBENZENE	B	0.018
2-BUTANONE	B	0.200
CARBON DISULFIDE		0.009
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE		0.006
1,1,2-TRICHLOROETHANE		0.052
1,1,2,2-TETRACHLORETHANE		0.008
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	J	0.002
TRICHLOROETHYLENE(TOTAL)		0.024
TETRACHLOROETHYLENE		0.069
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	J	0.019
DIBROMOCHLOROMETHANE		0.035
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	*B*	*0.480*
TRICHLOROMETHANE (CHLOROFORM)		0.840
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	BJ	0.008
1,2-DICHLOROPROPANE	J	0.004
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE		0.013
TOLUENE	B	0.017
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	B	0.065

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603296 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:1 CARP
COLLECTION DATE:23-Jul-1985 LOCATION:DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):63.2 RANGE(CM):63.2-63.2 MEAN WEIGHT(GM):2979 RANGE(GM):2979-2979 %LIPID:3.20

METALS		(MG/KG)
ALUMINUM		10.900
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		430.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		12.300
LEAD		4.000
MAGNESIUM		280.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3880.000
SELENIUM	<	1.000
SILVER		1.000
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		5.600

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	660
CHRYSENE	<	60
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	660
DIETHYLPHTHALATE	<	60
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	0.580
BENZENE		0.089
CHLOROBENZENE		0.029
ETHYLBENZENE	B	0.022
2-BUTANONE	B	0.130
CARBON DISULFIDE		0.041
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	J	0.001
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE		0.009
1,1,2-TRICHLOROETHANE		0.038
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE		0.025
TRICHLOROETHYLENE(TOTAL)		0.061
TETRACHLOROETHYLENE		0.120
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	J	0.016
DIBROMOCHLOROMETHANE	J	0.013
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	2.100
TRICHLOROMETHANE (CHLOROFORM)		1.100
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	B	0.011
1,2-DICHLOROPROPANE		0.009
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE		0.008
TOLUENE	B	0.047
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	B	0.087

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:621-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:1 CARP
COLLECTION DATE:23-Jul-1985 LOCATION:DAM LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):63.2 RANGE(CM):63.2-63.2 MEAN WEIGHT(GM):2979 RANGE(GM):2979-2979 %LIPID:2.54

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.029
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.270
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.220
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		4.350

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE		0.002
gamma-CHLORDANE		0.001
cis-NONACHLOR		0.002
trans-NONACHLOR		0.003
OXYCHLORDANE		0.001
p,p'-DDD		0.001
o,p'-DDD		NA
p,p'-DDE		0.007
o,p'-DDE		NA
p,p'-DDT		0.020
o,p'-DDT		NA
DIELDRIN		0.002
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	0.038 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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NA=NOT ANALYZED ND=NONE DETECTED
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:10621-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:1 CARP
COLLECTION DATE:23-Jul-1985 LOCATION:DAM LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):63.2 RANGE(CM):63.2-63.2 MEAN WEIGHT(GM):2979 RANGE(GM):2979-2979 %LIPID:2.65

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE		0.002
gamma-CHLORDANE		0.001
cis-NONACHLOR		0.002
trans-NONACHLOR		0.003
OXYCHLORDANE		0.001
p,p'-DDD		0.001
o,p'-DDD		NA
p,p'-DDE		0.008
o,p'-DDE		NA
p,p'-DDT		0.005
o,p'-DDT		NA
DIELDRIN		0.002
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	0.050 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603299 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:4 LARGEMOUTH BASS
COLLECTION DATE:24-Jul-1985 LOCATION:MOORE CREEK LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):32.8 RANGE(CM):27.1-38.7 MEAN WEIGHT(GM):461 RANGE(GM):227-709 %LIPID:0.70

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		170.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		16.400
LEAD		0.600
MAGNESIUM		290.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3890.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		4.100

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB	NA	MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:624-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:4 LARGEMOUTH BASS
COLLECTION DATE:24-Jul-1985 LOCATION:MOORE CREEK LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):32.8 RANGE(CM):27.1-38.7 MEAN WEIGHT(GM):461 RANGE(GM):227-709 %LIPID:0.59

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.410
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.360
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.270
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		3.850

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE	<	0.001
gamma-CHLORDANE	<	0.001
cis-NONACHLOR		0.001
trans-NONACHLOR	<	0.001
OXYCHLORDANE	<	0.001
p,p'-DDD	<	0.001
o,p'-DDD		NA
p,p'-DDE	<	0.001
o,p'-DDE		NA
p,p'-DDT		0.002
o,p'-DDT		NA
DIELDRIN	<	0.001
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE	<	0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB 0.021 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:623-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:2 LARGEMOUTH BASS
COLLECTION DATE:23-Jul-1985 LOCATION:N FORK SALT CREEK LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):34.3 RANGE(CM):28.3-40.2 MEAN WEIGHT(GM):582 RANGE(GM):284-880 %LIPID:0.47

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.083
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	*0.020*
CALCIUM		NA
CHROMIUM		0.340
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.460
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		*NA*
ZINC		6.690

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE	<	*0.001*
gamma-CHLORDANE	<	0.001
cis-NONACHLOR		0.001
trans-NONACHLOR	<	0.001
OXYCHLORDANE	<	0.001
p,p'-DDD	<	0.001
o,p'-DDD		NA
p,p'-DDE	<	0.001
o,p'-DDE		NA
p,p'-DDT		0.014
o,p'-DDT		NA
DIELDRIN	<	0.001
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE	<	0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	0.022 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603298 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:2 LARGEMOUTH BASS
COLLECTION DATE:24-Jul-1985 LOCATION:N. FORK SALT CREEK LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):34.3 RANGE(CM):28.3-40.2 MEAN WEIGHT(GM):582 RANGE(GM):284-880 %LIPID:0.80

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		310.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		12.800
LEAD	<	0.500
MAGNESIUM		280.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3910.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		4.900

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB	NA	MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603300 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:2 LARGEMOUTH BASS
COLLECTION DATE:23-Jul-1985 LOCATION:RAMP CREEK LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):40.9 RANGE(CM):35.2-46.5 MEAN WEIGHT(GM):1103 RANGE(GM):624-1583 %LIPID:1.40

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		160.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		36.500
IRON		11.300
LEAD		3.300
MAGNESIUM		290.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		4370.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		26.500

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB	NA	MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:625-85 SITE:MONROE RESERVOIR COUNTY:MONROE | SPECIES:2 LARGEMOUTH BASS
COLLECTION DATE:24-Jul-1985 LOCATION:RAMP CREEK LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):40.9 RANGE(CM):35.2-46.5 MEAN WEIGHT(GM):1103 RANGE(GM):624-1583 %LIPID:0.81

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.076
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.420
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.500
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		33.700

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE	<	0.001
gamma-CHLORDANE	<	0.001
cis-NONACHLOR		0.001
trans-NONACHLOR	<	0.001
OXYCHLORDANE	<	0.001
p,p'-DDD		0.001
o,p'-DDD		NA
p,p'-DDE	<	0.001
o,p'-DDE		NA
p,p'-DDT		0.001
o,p'-DDT		NA
DIELDRIN		0.001
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE	<	0.001
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	0.044 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:685-86 SITE:LAKE LEMON COUNTY:MONROE | SPECIES:5 FLATHEAD CATFISH
COLLECTION DATE:05-Aug-1986 LOCATION: LAB:1 | PREPARATION:SK-ON FIDDLERS

MEAN LENGTH(CM):35.1 RANGE(CM):25.8-51.5 MEAN WEIGHT(GM):494 RANGE(GM):83-1334 %LIPID:3.16

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.035
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.044
CALCIUM		NA
CHROMIUM		0.200
COBALT		NA
COPPER		0.061
IRON		NA
LEAD	<	0.070
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.098
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		8.430

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE		0.010
gamma-CHLORDANE		0.004
cis-NONACHLOR		0.013
trans-NONACHLOR		0.011
OXYCHLORDANE		0.001
p,p'-DDD		0.003
o,p'-DDD		NA
p,p'-DDE		0.015
o,p'-DDE		NA
p,p'-DDT		0.001
o,p'-DDT		NA
DIELDRIN		0.003
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.001
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.002
TOXAPHENE		NA

TOTAL PCB	0.072 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603336 SITE:LAKE LEMON COUNTY:MONROE | SPECIES:5 FLATHEAD CATFISH
COLLECTION DATE:05-Aug-1986 LOCATION: LAB:H | PREPARATION:SK-ON FIDDLERS

MEAN LENGTH(CM):35.1 RANGE(CM):25.8-51.5 MEAN WEIGHT(GM):494 RANGE(GM):83-1334 %LIPID:3.80

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM		NA
BERYLLIUM	<	5.000
CADMIUM	<	0.500
CALCIUM		4870.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON	<	10.000
LEAD		0.600
MAGNESIUM		290.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3320.000
SELENIUM	<	1.000
SILVER		5.500
SODIUM		660.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		6.600

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	660
CHRYSENE	<	60
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	660
DIETHYLPHTHALATE	<	60
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

VOLATILE ORGANIC COMPOUNDS	(MG/KG)				
ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA		
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA		
2-BUTANONE	NA	2-HEXANONE	NA	4-METHYL-2-PENTANONE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	1,2-DICHLOROPROPANE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	c-1,3-DICHLOROPROPYLENE	NA
1,1-DICHLOROETHANE	NA			t-1,3-DICHLOROPROPYLENE	NA
1,2-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	STYRENE	NA
1,1,1-TRICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	TOLUENE	NA
1,1,2-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	VINYL CHLORIDE	NA
				TOTAL XYLENE	NA

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:643-85 SITE:NORTH TWIN LAKE COUNTY:MONROE | SPECIES:2 CARP
COLLECTION DATE:14-Aug-1985 LOCATION: LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):73.6 RANGE(CM):70.2-77.0 MEAN WEIGHT(GM):4230 RANGE(GM):4034-4425 %LIPID:5.99

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.053
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.070
CALCIUM		NA
CHROMIUM		0.300
COBALT		NA
COPPER		0.170
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.300
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		8.320

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.001
beta-BHC		0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE		0.469
gamma-CHLORDANE		0.299
cis-NONACHLOR		0.142
trans-NONACHLOR		0.364
OXYCHLORDANE		0.038
p,p'-DDD		0.009
o,p'-DDD		NA
p,p'-DDE		0.007
o,p'-DDE		NA
p,p'-DDT		0.008
o,p'-DDT		NA
DIELDRIN		0.050
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.021
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.002
TOXAPHENE		NA

TOTAL PCB	0.862 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:10643-85 SITE:NORTH TWIN LAKE COUNTY:MONROE | SPECIES:2 CARP
COLLECTION DATE:14-Aug-1985 LOCATION: LAB:I | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):73.6 RANGE(CM):70.2-77.0 MEAN WEIGHT(GM):4230 RANGE(GM):4034-4425 %LIPID:6.07

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC	<	0.001
alpha-CHLORDANE		0.322
gamma-CHLORDANE		0.163
cis-NONACHLOR		0.145
trans-NONACHLOR		0.133
OXYCHLORDANE		0.021
p,p'-DDD		0.002
o,p'-DDD		NA
p,p'-DDE		0.010
o,p'-DDE		NA
p,p'-DDT		0.006
o,p'-DDT		NA
DIELDRIN		0.021
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.018
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.001
TOXAPHENE		NA

TOTAL PCB 0.656 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:

LAB NUMBER:70603317 SITE:NORTH TWIN LAKE COUNTY:MONROE | SPECIES:2 CARP
COLLECTION DATE:14-Aug-1985 LOCATION: LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):73.6 RANGE(CM):70.2-77.0 MEAN WEIGHT(GM):4230 RANGE(GM):4034-4425 %LIPID:6.60

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		620.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		18.200
LEAD		0.600
MAGNESIUM		300.000
MANGANESE	<	1.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3820.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		7.300

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	0.660
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS	(MG/KG)				
ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA		
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA		
2-BUTANONE	NA	2-HEXANONE	NA	4-METHYL-2-PENTANONE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	1,2-DICHLOROPROPANE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	c-1,3-DICHLOROPROPYLENE	NA
1,1-DICHLOROETHANE	NA			t-1,3-DICHLOROPROPYLENE	NA
1,2-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	STYRENE	NA
1,1,1-TRICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	TOLUENE	NA
1,1,2-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	VINYL CHLORIDE	NA
				TOTAL XYLENE	NA

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISOM FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 101-87

LAB NUMBER: 70700715 SITE: STOUTS CREEK COUNTY: MONROE | SPECIES: 5 CREEK CHUB
COLLECTION DATE: 26-May-1987 LOCATION: @ ACUFF RD. LAB: H | PREPARATION: WHOLE

MEAN LENGTH(CM): 18.4 RANGE(CM): 17.2-19.5 MEAN WEIGHT(GM): 79 RANGE(GM): 66-90 %LIPID: 2.10

METALS		(MG/KG)
ALUMINUM		54.400
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		5190.00
CHROMIUM		1.600
COBALT	<	5.000
COPPER		2.200
IRON		42.000
LEAD	<	0.500
MAGNESIUM		275.000
MANGANESE		5.100
MERCURY		0.076
NICKEL	<	4.000
POTASSIUM		3040.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1020.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		20.000

PESTICIDES		(MG/KG)
ALDRIN		0.035
alpha-BHC	<	0.021
beta-BHC	<	0.021
delta-BHC	<	0.021
gamma-BHC	<	0.021
alpha-CHLORDANE	<	0.021
gamma-CHLORDANE		0.035
cis-NONACHLOR	<	0.021
trans-NONACHLOR	<	0.021
OXYCHLORDANE	<	0.021
p,p'-DDD	<	0.027
o,p'-DDD	<	0.027
p,p'-DDE		0.010
o,p'-DDE	<	0.027
p,p'-DDT	<	0.027
o,p'-DDT	<	0.027
DIELDRIN		0.024
ENDOSULFAN I	<	0.054
ENDOSULFAN II	<	0.054
ENDOSULFAN SULFATE	<	0.054
ENDRIN	<	0.027
ENDRIN ALDEHYDE	<	0.027
ENDRIN KETONE	<	0.027
HEPTACHLOR		0.011
HEPTACHLOR EPOXIDE	<	0.021
HEXACHLOROBENZENE	<	0.027
METHOXYCHLOR	<	0.054
PENTACHLOROANISOLE	<	0.021
TOXAPHENE		NA

TOTAL PCB 0.710 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	.660
di-n-BUTYLPHTHALATE	BJ	0.360
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	1.900
BENZENE	J	0.001
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.011
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.020
TRICHLOROMETHANE (CHLOROFORM)	B	0.006
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.003
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:102-87

LAB NUMBER:70700716 SITE:STOUTS CREEK COUNTY:MONROE | SPECIES:10 CREEK CHUB
COLLECTION DATE:26-May-1987 LOCATION:@ ACUFF RD. LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):12.8 RANGE(CM):11.0-16.0 MEAN WEIGHT(GM):30 RANGE(GM):20-50 %LIPID:1.20

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		3990.00
CHROMIUM		1.600
COBALT	<	5.000
COPPER		4.600
IRON	<	10.000
LEAD	<	0.500
MAGNESIUM		320.000
MANGANESE		1.500
MERCURY		0.055
NICKEL	<	4.000
POTASSIUM		3250.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		540.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		22.100

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	1.300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	1.300
di-n-BUTYLPHTHALATE	BJ	0.570
DIETHYLPHTHALATE	<	1.300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	BE	3.900	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)	B 0.011
BENZENE	J	0.002	1,2-DICHLOROETHYLENE	<	0.005		
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	< 0.025
ETHYLBENZENE	<	0.005	TETRACHLOROETHYLENE	<	0.005		
2-BUTANONE	E	12.000	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	< 0.010
CARBON DISULFIDE	<	0.005	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	< 0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	< 0.025
						t-1,3-DICHLOROPROPYLENE	< 0.025
1,1-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	< 0.005
1,2-DICHLOROETHANE	<	0.005	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	J 0.004
1,1,1-TRICHLOROETHANE	J	0.003	CHLOROMETHANE	<	0.010	VINYL ACETATE	NA
1,1,2-TRICHLOROETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.025	VINYL CHLORIDE	< 0.010
1,1,2,2-TETRACHLORETHANE	<	0.005				TOTAL XYLENE	< 0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:109-87

LAB NUMBER:70700723 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:6 CREEK CHUB
COLLECTION DATE:27-May-1987 LOCATION:U/S CONFL. CONARD'S BRANCH LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):18.1 RANGE(CM):15.5-21.0 MEAN WEIGHT(GM):59 RANGE(GM):35-90 %LIPID:1.70

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		6860.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		4.300
IRON		48.800
LEAD	<	0.500
MAGNESIUM		290.000
MANGANESE		3.300
MERCURY		0.152
NICKEL	<	4.000
POTASSIUM		2640.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1330.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		27.100

PESTICIDES		(MG/KG)
ALDRIN	<	0.018
alpha-BHC	<	0.009
beta-BHC	<	0.009
delta-BHC	<	0.009
gamma-BHC	<	0.009
alpha-CHLORDANE	<	0.009
gamma-CHLORDANE	<	0.009
cis-NONACHLOR	<	0.009
trans-NONACHLOR	<	0.009
OXYCHLORDANE	<	0.009
p,p'-DDD	<	0.011
o,p'-DDD	<	0.011
p,p'-DDE	<	0.011
o,p'-DDE	<	0.011
p,p'-DDT	<	0.011
o,p'-DDT	<	0.011
DIELDRIN	<	0.011
ENDOSULFAN I	<	0.022
ENDOSULFAN II	<	0.022
ENDOSULFAN SULFATE	<	0.022
ENDRIN	<	0.011
ENDRIN ALDEHYDE	<	0.011
ENDRIN KETONE	<	0.011
HEPTACHLOR	<	0.018
HEPTACHLOR EPOXIDE	<	0.009
HEXACHLOROBENZENE	<	0.011
METHOXYCHLOR	<	0.022
PENTACHLOROANISOLE	<	0.009
TOXAPHENE		NA

TOTAL PCB 0.370 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.66[illegible]
CHRYSENE	<	0.6[illegible]
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	BJ	0.38[illegible]
DIETHYLPHTHALATE	<	0.6
DIMETHYLPHTHALATE	<	0.66[illegible]
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	3.000
BENZENE	J	0.003
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.021
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	J	0.002
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.018
TRICHLOROMETHANE (CHLOROFORM)		0.007
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	BJ	0.004
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:110-87

LAB NUMBER:70700724 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:7 LONGEAR SUNFISH
COLLECTION DATE:27-May-1987 LOCATION:U/S CONFL. CONARD'S BRANCH LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):12.2 RANGE(CM):10.5-14.0 MEAN WEIGHT(GM):35 RANGE(GM):20-65 %LIPID:0.80

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.300
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		14600.00
CHROMIUM		2.000
COBALT	<	5.000
COPPER	<	2.500
IRON		12.800
LEAD	<	0.500
MAGNESIUM		500.000
MANGANESE		1.600
MERCURY		0.152
NICKEL	<	4.000
POTASSIUM		3440.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1000.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		20.300

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	1.300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	1.300
di-n-BUTYLPHTHALATE	BJ	0.092
DIETHYLPHTHALATE	<	1.300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.140
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	BE	4.200	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)		0.005
BENZENE	J	0.001	1,2-DICHLOROETHYLENE	<	0.005			
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
ETHYLBENZENE	<	0.005	TETRACHLOROETHYLENE	<	0.005			
2-BUTANONE	B	0.038	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	<	0.010
CARBON DISULFIDE	<	0.005	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	<	0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	<	0.025
1,1-DICHLOROETHANE	<	0.005				t-1,3-DICHLOROPROPYLENE	<	0.025
1,2-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	BJ	0.004
1,1,2-TRICHLOROETHANE	<	0.005	CHLOROMETHANE	<	0.010	VINYL ACETATE		NA
1,1,2,2-TETRACHLORETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.017	VINYL CHLORIDE	<	0.010
						TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:111-87

LAB NUMBER:70700725 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:1 ROCK BASS
COLLECTION DATE:27-May-1987 LOCATION:U/S CONFL. CONARD'S BRANCH LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):19.0 RANGE(CM):19.0-19.0 MEAN WEIGHT(GM):110 RANGE(GM):110-110 %LIPID:1.20

METALS		(MG/KG)
ALUMINUM		24.000
ANTIMONY	<	2.000
ARSENIC		1.400
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		27400.00
CHROMIUM		5.900
COBALT	<	5.000
COPPER	<	2.500
IRON		41.300
LEAD	<	0.500
MAGNESIUM		630.000
MANGANESE		8.100
MERCURY		0.140
NICKEL	<	4.000
POTASSIUM		2470.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1560.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		31.300

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.6
CHRYSENE	<	0.6
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	J	0.011
di-n-BUTYLPHTHALATE	BJ	0.2
DIETHYLPHTHALATE	<	0.6
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.150
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	2.100
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.024
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.008
TRICHLOROMETHANE (CHLOROFORM)	J	0.003
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	BJ	0.004
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:057-93

LAB NUMBER:30900806 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:21 ROCK BASS
COLLECTION DATE:01-Sep-1993 LOCATION:D/S CONFLUENCE CONARD'S BRANCH LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):14.2 RANGE(CM):10.4-19.5 MEAN WEIGHT(GM):63 RANGE(GM):24-136 %LIPID:0.83

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.220
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.016
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.076 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:058-93

LAB NUMBER:30900807 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:5 WHITE SUCKER
COLLECTION DATE:01-Sep-1993 LOCATION:D/S CONFLUENCE CONARD'S BRANCH LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):26.9 RANGE(CM):25.0-28.8 MEAN WEIGHT(GM):206 RANGE(GM):164-258 %LIPID:2.13

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.110
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.016
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.480 MG/KG

Page 1 of 2

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:059-93

LAB NUMBER:30900808 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:7 WHITE SUCKER
COLLECTION DATE:01-Sep-1993 LOCATION:D/S CONFLUENCE CONARD'S BRANCH LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):22.7 RANGE(CM):22.0-23.5 MEAN WEIGHT(GM):117 RANGE(GM):105-134 %LIPID:6.71

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.026
gamma-CHLORDANE		0.023
cis-NONACHLOR		0.011
trans-NONACHLOR		0.040
OXYCHLORDANE		0.012
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.047
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE		0.012
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.009
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.900 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:060-93

LAB NUMBER:30900809 SITE:RICHLAND CREEK COUNTY:MONROE | SPECIES:10 CREEK CHUB
COLLECTION DATE:01-Sep-1993 LOCATION:D/S CONFLUENCE CONARD'S BRANCH LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):17.6 RANGE(CM):16.4-18.6 MEAN WEIGHT(GM):60 RANGE(GM):46-77 %LIPID:1.78

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.009
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.700 MG/KG

page 1 of 2

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 106-87

LAB NUMBER:70700720 SITE:RICHLAND CREEK COUNTY:OWEN | SPECIES:6 ROCK BASS
COLLECTION DATE:27-May-1987 LOCATION:@ WHITEHALL, IN (SR 43) LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):17.2 RANGE(CM):16.0-18.5 MEAN WEIGHT(GM):104 RANGE(GM):86-120 %LIPID:2.00

METALS		(MG/KG)
ALUMINUM		25.400
ANTIMONY	<	2.000
ARSENIC	<	1.300
BARIUM		5.700
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		17400.00
CHROMIUM		2.600
COBALT	<	5.000
COPPER	<	2.500
IRON		30.600
LEAD	<	0.500
MAGNESIUM		470.000
MANGANESE		14.100
MERCURY		0.228
NICKEL	<	4.000
POTASSIUM		2990.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1340.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		25.000

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE		0.012
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.008
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.015
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 0.290 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS	(MG/KG)
ACENAPHTHYLENE	NA
ACENAPHTHENE	NA
4-CHLOROANILINE	NA
2-NITROANILINE	NA
3-NITROANILINE	NA
4-NITROANILINE	NA
ANTHRACENE	NA
BENZO(a)ANTHRACENE	NA
DIBENZO(a,h)ANTHRACENE	NA
3,3'-DICHLOROBENZIDINE	NA
1,2-DICHLOROBENZENE	NA
1,3-DICHLOROBENZENE	NA
1,4-DICHLOROBENZENE	NA
1,2,4-TRICHLORBENZENE	NA
HEXACHLOROBENZENE	NA
NITROBENZENE	NA
BENZYL ALCOHOL	NA
CHRYSENE	NA
n-NITROSODIPHENYLAMINE	NA
n-NITROSO-di-n-PROPYLAMINE	NA
HEXACHLOROETHANE	NA
BIS(2-CHLOROETHYL)ETHER	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA
4-BROMOPHENYL-PHENYLETHER	NA
4-CHLOROPHENYL-PHENYLETHER	NA
FLUORANTHENE	NA
FLUORENE	NA
BENZO(beta)FLUORANTHENE	NA
BENZO(kappa)FLUORANTHENE	NA
DIBENZOFURAN	NA
BIS(2-CHLOROETHOXY)METHANE	NA
ISOPHORONE	NA
NAPHTHALENE	NA
2-CHLORONAPHTHALENE	NA
2-METHYLNAPHTHALENE	NA
HEXACHLOROCYCLOPENTADIENE	NA
BENZO(ghi)PERYLENE	NA
PHENANTHRENE	NA
di-n-BUTYLPHTHALATE	NA
DIETHYLPHTHALATE	NA
DIMETHYLPHTHALATE	NA
di-n-OCTYLPHTHALATE	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA
BUTYLBENZYLPHTHALATE	NA
PYRENE	NA
BENZO(alpha)PYRENE	NA
INDENO(1,2,3-c,d)PYRENE	NA
2,4-DINITROTOLUENE	NA
2,6-DINITROTOLUENE	NA
HEXACHLOROBUTADIENE	NA

ACID EXTRACTABLE COMPOUNDS	(MG/KG)
BENZOIC ACID	NA
PHENOL	NA
2-CHLOROPHENOL	NA
2,4-DICHLOROPHENOL	NA
2,4,5-TRICHLOROPHENOL	NA
2,4,6-TRICHLOROPHENOL	NA
PENTACHLOROPHENOL	NA
2-METHYLPHENOL	NA
4-METHYLPHENOL	NA
2,4-DIMETHYLPHENOL	NA
4-CHLORO-3-METHYLPHENOL	NA
4,6-DINITRO-2-METHYLPHENOL	NA
2-NITROPHENOL	NA
4-NITROPHENOL	NA
2,4-DINITROPHENOL	NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	1.000
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.055
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.016
TRICHLOROMETHANE (CHLOROFORM)	B	0.007
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE		0.006
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:107-87

LAB NUMBER:70700721 SITE:RICHLAND CREEK COUNTY:OWEN | SPECIES:4 CREEK CHUB
COLLECTION DATE:27-May-1987 LOCATION:@ WHITEHALL, IN (SR 43) LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):17.2 RANGE(CM):14.5-23.0 MEAN WEIGHT(GM):69 RANGE(GM):46-145 %LIPID:1.10

METALS		(MG/KG)
ALUMINUM		20.300
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		4130.00
CHROMIUM		1.600
COBALT	<	5.000
COPPER		10.300
IRON		36.400
LEAD	<	0.500
MAGNESIUM		280.000
MANGANESE		4.200
MERCURY		0.183
NICKEL	<	4.000
POTASSIUM		2820.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1160.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		28.900

PESTICIDES		(MG/KG)
ALDRIN		0.012
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.008
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.023
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.028
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 0.350 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1 300
BENZYL ALCOHOL	<	90
CHRYSENE	<	300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	1.300
di-n-BUTYLPHTHALATE	BJ	30
DIETHYLPHTHALATE	<	300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)							
ACETONE	BE	2.400	1,1-DICHLOROETHYLENE	<	0.005	TRICHLOROMETHANE (CHLOROFORM)	0.013
BENZENE	J	0.003	1,2-DICHLOROETHYLENE	<	0.005		
CHLOROBENZENE	<	0.005	TRICHLOROETHYLENE(TOTAL)	<	0.005	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	< 0.025
ETHYLBENZENE	<	0.005	TETRACHLOROETHYLENE	<	0.005		
2-BUTANONE	B	0.047	2-HEXANONE	<	0.010	4-METHYL-2-PENTANONE	< 0.010
CARBON DISULFIDE	<	0.005	BROMOMETHANE	<	0.050	1,2-DICHLOROPROPANE	< 0.005
CHLOROETHANE	<	0.010	TRIBROMOMETHANE (BROMOFORM)	<	0.025	c-1,3-DICHLOROPROPYLENE	< 0.025
1,1-DICHLOROETHANE	<	0.005				t-1,3-DICHLOROPROPYLENE	< 0.025
1,2-DICHLOROETHANE	<	0.005	BROMODICHLOROMETHANE	<	0.025	STYRENE	< 0.005
1,1,1-TRICHLOROETHANE	<	0.005	DIBROMOCHLOROMETHANE	<	0.025	TOLUENE	B 0.016
1,1,2-TRICHLOROETHANE	<	0.005	CHLOROMETHANE	<	0.010	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	<	0.005	DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.038	VINYL CHLORIDE	< 0.010
						TOTAL XYLENE	< 0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:108-87

LAB NUMBER:70700722 SITE:RICHLAND CREEK COUNTY:OWEN | SPECIES:9 LONGEAR SUNFISH
COLLECTION DATE:27-May-1987 LOCATION:@ WHITEHALL, IN (SR 43) LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):12.7 RANGE(CM):11.0-16.0 MEAN WEIGHT(GM):49 RANGE(GM):30-82 %LIPID:0.60

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.300
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		12400.00
CHROMIUM		1.100
COBALT	<	5.000
COPPER		20.200
IRON	<	10.000
LEAD		1.400
MAGNESIUM		460.000
MANGANESE		2.400
MERCURY		0.190
NICKEL	<	4.000
POTASSIUM		3480.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		810.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		22.900

PESTICIDES		(MG/KG)
ALDRIN	<	0.046
alpha-BHC	<	0.023
beta-BHC	<	0.023
delta-BHC	<	0.023
gamma-BHC	<	0.023
alpha-CHLORDANE	<	0.023
gamma-CHLORDANE	<	0.023
cis-NONACHLOR	<	0.023
trans-NONACHLOR	<	0.023
OXYCHLORDANE	<	0.023
p,p'-DDD	<	0.029
o,p'-DDD	<	0.029
p,p'-DDE	<	0.029
o,p'-DDE	<	0.029
p,p'-DDT	<	0.029
o,p'-DDT	<	0.029
DIELDRIN	<	0.029
ENDOSULFAN I	<	0.057
ENDOSULFAN II	<	0.057
ENDOSULFAN SULFATE	<	0.057
ENDRIN	<	0.029
ENDRIN ALDEHYDE	<	0.029
ENDRIN KETONE	<	0.029
HEPTACHLOR	<	0.046
HEPTACHLOR EPOXIDE	<	0.023
HEXACHLOROBENZENE	<	0.029
METHOXYCHLOR	<	0.057
PENTACHLOROANISOLE	<	0.023
TOXAPHENE		NA

TOTAL PCB 0.360 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	1.300
BENZYL ALCOHOL	<	1.300
CHRYSENE	<	1.300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	1.300
di-n-BUTYLPHTHALATE	BJ	0.240
DIETHYLPHTHALATE	<	1.300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	<	1.300
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	2.200
BENZENE	J	0.001
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.028
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.019
TRICHLOROMETHANE (CHLOROFORM)		0.008
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.005
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
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PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:054-83

LAB NUMBER:054-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:1 SPOTTED SUCKER
COLLECTION DATE:27-Sep-1983 LOCATION:U/S BEDFORD, IN (HWY50) LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):44.7 RANGE(CM):44.7-44.7 MEAN WEIGHT(GM):1188 RANGE(GM):1188-1188 %LIPID:7.52

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.049
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		2.400
COBALT		NA
COPPER		0.480
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.210
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		10.000

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.002
beta-BHC	<	0.001
delta-BHC		NA
gamma-BHC		0.001
alpha-CHLORDANE		0.048
gamma-CHLORDANE		0.026
cis-NONACHLOR		0.023
trans-NONACHLOR		0.119
OXYCHLORDANE		0.015
p,p'-DDD		0.007
o,p'-DDD		NA
p,p'-DDE		0.011
o,p'-DDE		NA
p,p'-DDT		0.007
o,p'-DDT		NA
DIELDRIN		0.072
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.026
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.002
TOXAPHENE		NA

TOTAL PCB	0.312 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:061-83

LAB NUMBER:061-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 LARGEMOUTH BASS
COLLECTION DATE:27-Sep-1983 LOCATION:U/S BEDFORD, IN (HWY50) LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):33.2 RANGE(CM):28.6-36.5 MEAN WEIGHT(GM):583 RANGE(GM):364-734 %LIPID:5.58

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.084
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.240
COBALT		NA
COPPER		0.940
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.160
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		2.950

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.001
beta-BHC	<	0.001
delta-BHC	<	0.001
gamma-BHC		0.001
alpha-CHLORDANE		0.062
gamma-CHLORDANE		0.024
cis-NONACHLOR		0.032
trans-NONACHLOR		0.167
OXYCHLORDANE		0.031
p,p'-DDD		0.015
o,p'-DDD		NA
p,p'-DDE		0.026
o,p'-DDE		NA
p,p'-DDT		0.012
o,p'-DDT		NA
DIELDRIN		0.095
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.028
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	1.289 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:061-83

LAB NUMBER:70602924 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 LARGEMOUTH BASS
COLLECTION DATE:27-Sep-1983 LOCATION:U/S BEDFORD, IN (HWY50) LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):33.2 RANGE(CM):28.6-36.5 MEAN WEIGHT(GM):583 RANGE(GM):364-734 %LIPID:6.62

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.670
ACENAPHTHENE	J	0.040
4-CHLOROANILINE	<	0.670
2-NITROANILINE	<	3.400
3-NITROANILINE	<	3.400
4-NITROANILINE	<	3.400
ANTHRACENE	<	0.670
BENZO(a)ANTHRACENE	<	0.670
DIBENZO(a,h)ANTHRACENE	<	0.670
3,3'-DICHLOROBENZIDINE	<	0.670
1,2-DICHLOROBENZENE	<	0.670
1,3-DICHLOROBENZENE	<	0.670
1,4-DICHLOROBENZENE	<	0.670
1,2,4-TRICHLORBENZENE	<	0.670
HEXACHLOROBENZENE	<	0.670
NITROBENZENE	<	0.670
BENZYL ALCOHOL	<	0.670
CHRYSENE	<	0.670
n-NITROSODIPHENYLAMINE	<	0.670
n-NITROSO-di-n-PROPYLAMINE	<	0.670
HEXACHLOROETHANE	<	0.670
BIS(2-CHLOROETHYL)ETHER	<	0.670
BIS(2-CHLOROISOPROPYL)ETHER	<	0.670
4-BROMOPHENYL-PHENYLETHER	<	0.670
4-CHLOROPHENYL-PHENYLETHER	<	0.670
FLUORANTHENE	<	0.670
FLUORENE	<	0.670
BENZO(beta)FLUORANTHENE	<	0.670
BENZO(kappa)FLUORANTHENE	<	0.670
DIBENZOFURAN	<	0.670
BIS(2-CHLOROETHOXY)METHANE	<	0.670
ISOPHORONE	<	0.670
NAPHTHALENE	<	0.670
2-CHLORONAPHTHALENE	<	0.670
2-METHYLNAPHTHALENE	<	0.670
HEXACHLOROCYCLOPENTADIENE	<	0.670
BENZO(ghi)PERYLENE	<	0.670
PHENANTHRENE	<	0.670
di-n-BUTYLPHTHALATE	J	0.135
DIETHYLPHTHALATE	<	0.670
DIMETHYLPHTHALATE	<	0.670
di-n-OCTYLPHTHALATE	<	0.670
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.120
BUTYLBENZYLPHTHALATE	<	0.670
PYRENE	J	0.068
BENZO(alpha)PYRENE	<	0.670
INDENO(1,2,3-c,d)PYRENE	<	0.670
2,4-DINITROTOLUENE	<	0.670
2,6-DINITROTOLUENE	<	0.670
HEXACHLOROBUTADIENE	<	0.670

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	J	0.130
2-CHLOROPHENOL	J	0.059
2,4-DICHLOROPHENOL	<	0.670
2,4,5-TRICHLOROPHENOL	<	3.400
2,4,6-TRICHLOROPHENOL	<	0.670
PENTACHLOROPHENOL	<	3.400
2-METHYLPHENOL	<	0.670
4-METHYLPHENOL	<	0.670
2,4-DIMETHYLPHENOL	<	0.670
4-CHLORO-3-METHYLPHENOL	J	0.087
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.670
4-NITROPHENOL	<	3.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS	(MG/KG)				
ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA	4-METHYL-2-PENTANONE	NA
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA	1,2-DICHLOROPROPANE	NA
2-BUTANONE	NA	2-HEXANONE	NA	c-1,3-DICHLOROPROPYLENE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	t-1,3-DICHLOROPROPYLENE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	STYRENE	NA
1,1-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	TOLUENE	NA
1,2-DICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,1-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL CHLORIDE	NA
1,1,2-TRICHLOROETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	TOTAL XYLENE	NA
1,1,2,2-TETRACHLORETHANE	NA				

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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:055-83

LAB NUMBER:055-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1983 LOCATION:D/S BEDFORD, IN (U/S SALT CR) LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):48.7 RANGE(CM):47.2-50.2 MEAN WEIGHT(GM):1103 RANGE(GM):990-1216 %LIPID:14.71

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.044
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.780
COBALT		NA
COPPER	<	0.100
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.200
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		17.100

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	0.001
beta-BHC	NA
delta-BHC	NA
gamma-BHC	0.003
alpha-CHLORDANE	0.093
gamma-CHLORDANE	0.057
cis-NONACHLOR	0.034
trans-NONACHLOR	0.165
OXYCHLORDANE	0.022
p,p'-DDD	0.005
o,p'-DDD	NA
p,p'-DDE	0.121
o,p'-DDE	NA
p,p'-DDT	0.010
o,p'-DDT	NA
DIELDRIN	0.101
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	0.120
HEXACHLOROBENZENE	0.001
METHOXYCHLOR	NA
PENTACHLOROANISOLE	0.005
TOXAPHENE	NA

TOTAL PCB 28.680 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:055-83

LAB NUMBER:10055-83 D SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1983 LOCATION:D/S BEDFORD, IN (U/S SALT CR) LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):48.7 RANGE(CM):47.2-50.2 MEAN WEIGHT(GM):1103 RANGE(GM):990-1216 %LIPID:15.34

METALS	(MG/KG)	PESTICIDES	(MG/KG)
ALUMINUM	NA	ALDRIN	NA
ANTIMONY	NA	alpha-BHC	NA
ARSENIC	NA	beta-BHC	0.002
BARIUM	NA	delta-BHC	NA
BERYLLIUM	NA	gamma-BHC	0.002
CADMIUM	NA	alpha-CHLORDANE	0.099
CALCIUM	NA	gamma-CHLORDANE	0.068
CHROMIUM	NA	cis-NONACHLOR	0.044
COBALT	NA	trans-NONACHLOR	0.170
COPPER	NA	OXYCHLORDANE	0.031
IRON	NA	p,p'-DDD	0.010
LEAD	NA	o,p'-DDD	NA
MAGNESIUM	NA	p,p'-DDE	0.045
MANGANESE	NA	o,p'-DDE	NA
MERCURY	NA	p,p'-DDT	0.020
NICKEL	NA	o,p'-DDT	NA
POTASSIUM	NA	DIELDRIN	0.018
SELENIUM	NA	ENDOSULFAN I	NA
SILVER	NA	ENDOSULFAN II	NA
SODIUM	NA	ENDOSULFAN SULFATE	NA
THALLIUM	NA	ENDRIN	NA
VANADIUM	NA	ENDRIN ALDEHYDE	NA
ZINC	NA	ENDRIN KETONE	NA
		HEPTACHLOR	NA
		HEPTACHLOR EPOXIDE	0.113
		HEXACHLOROBENZENE	0.019
		METHOXYCHLOR	NA
		PENTACHLOROANISOLE	0.005
		TOXAPHENE	NA

TOTAL PCB	26.746 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:055-83

LAB NUMBER:70602920 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1983 LOCATION:D/S BEDFORD, IN (U/S SALT CR) LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):48.7 RANGE(CM):47.2-50.2 MEAN WEIGHT(GM):1103 RANGE(GM):990-1216 %LIPID:15.65

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.670
ACENAPHTHENE	<	0.670
4-CHLOROANILINE	<	0.670
2-NITROANILINE	<	3.400
3-NITROANILINE	<	3.400
4-NITROANILINE	<	3.400
ANTHRACENE	<	0.670
BENZO(a)ANTHRACENE	<	0.670
DIBENZO(a,h)ANTHRACENE	<	0.670
3,3'-DICHLOROBENZIDINE	<	0.670
1,2-DICHLOROBENZENE	<	0.670
1,3-DICHLOROBENZENE	<	0.670
1,4-DICHLOROBENZENE	<	0.670
1,2,4-TRICHLORBENZENE	<	0.670
HEXACHLOROBENZENE	<	0.670
NITROBENZENE	<	0.670
BENZYL ALCOHOL	<	0.670
CHRYSENE	<	0.670
n-NITROSODIPHENYLAMINE	<	0.670
n-NITROSO-di-n-PROPYLAMINE	<	0.670
HEXACHLOROETHANE	<	0.670
BIS(2-CHLOROETHYL)ETHER	<	0.670
BIS(2-CHLOROISOPROPYL)ETHER	<	0.670
4-BROMOPHENYL-PHENYLETHER	<	0.670
4-CHLOROPHENYL-PHENYLETHER	<	0.670
FLUORANTHENE	<	0.670
FLUORENE	<	0.670
BENZO(beta)FLUORANTHENE	<	0.670
BENZO(kappa)FLUORANTHENE	<	0.670
DIBENZOFURAN	<	0.670
BIS(2-CHLOROETHOXY)METHANE	<	0.670
ISOPHORONE	<	0.670
NAPHTHALENE	<	0.670
2-CHLORONAPHTHALENE	<	0.670
2-METHYLNAPHTHALENE	<	0.670
HEXACHLOROCYCLOPENTADIENE	<	0.670
BENZO(ghi)PERYLENE	<	0.670
PHENANTHRENE	<	0.670
di-n-BUTYLPHTHALATE	<	0.670
DIETHYLPHTHALATE	<	0.670
DIMETHYLPHTHALATE	<	0.670
di-n-OCTYLPHTHALATE	<	0.670
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.670
BUTYLBENZYLPHTHALATE	<	0.670
PYRENE	<	0.670
BENZO(alpha)PYRENE	<	0.670
INDENO(1,2,3-c,d)PYRENE	<	0.670
2,4-DINITROTOLUENE	<	0.670
2,6-DINITROTOLUENE	<	0.670
HEXACHLOROBUTADIENE	<	0.670

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.670
2-CHLOROPHENOL	<	0.670
2,4-DICHLOROPHENOL	<	0.670
2,4,5-TRICHLOROPHENOL	<	3.400
2,4,6-TRICHLOROPHENOL	<	0.670
PENTACHLOROPHENOL	<	3.400
2-METHYLPHENOL	<	0.670
4-METHYLPHENOL	<	0.670
2,4-DIMETHYLPHENOL	<	0.670
4-CHLORO-3-METHYLPHENOL	<	0.670
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.670
4-NITROPHENOL	<	3.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS (MG/KG)

ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA		
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA		
2-BUTANONE	NA	2-HEXANONE	NA	4-METHYL-2-PENTANONE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	1,2-DICHLOROPROPANE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	c-1,3-DICHLOROPROPYLENE	NA
1,1-DICHLOROETHANE	NA			t-1,3-DICHLOROPROPYLENE	NA
1,2-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	STYRENE	NA
1,1,1-TRICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	TOLUENE	NA
1,1,2-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	VINYL CHLORIDE	NA
				TOTAL XYLENE	NA

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:056-83

LAB NUMBER:056-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 SPOTTED BASS
COLLECTION DATE:27-Sep-1983 LOCATION:D/S BEDFORD, IN (U/S SALT CR) LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):26.7 RANGE(CM):26.4-27.0 MEAN WEIGHT(GM):285 RANGE(GM):280-294 %LIPID:5.93

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.084
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.590
COBALT		NA
COPPER		0.840
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.170
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		15.400

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.001
beta-BHC	<	0.001
delta-BHC		NA
gamma-BHC		0.002
alpha-CHLORDANE		0.032
gamma-CHLORDANE		0.015
cis-NONACHLOR		0.024
trans-NONACHLOR		0.117
OXYCHLORDANE		0.028
p,p'-DDD		0.003
o,p'-DDD		NA
p,p'-DDE		0.011
o,p'-DDE		NA
p,p'-DDT		0.003
o,p'-DDT		NA
DIELDRIN		0.117
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.027
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.001
TOXAPHENE		NA

TOTAL PCB 2.363 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:056-83

LAB NUMBER:70602921 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 SPOTTED BASS
COLLECTION DATE:27-Sep-1983 LOCATION:D/S BEDFORD, IN (U/S SALT CR) LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):26.7 RANGE(CM):26.4-27.0 MEAN WEIGHT(GM):285 RANGE(GM):280-294 %LIPID:6.42

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.670
2-CHLOROPHENOL	<	0.670
2,4-DICHLOROPHENOL	<	0.670
2,4,5-TRICHLOROPHENOL	<	3.400
2,4,6-TRICHLOROPHENOL	<	0.670
PENTACHLOROPHENOL	<	3.400
2-METHYLPHENOL	<	0.670
4-METHYLPHENOL	<	0.670
2,4-DIMETHYLPHENOL	<	0.670
4-CHLORO-3-METHYLPHENOL	<	0.670
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.670
4-NITROPHENOL	<	3.400
2,4-DINITROPHENOL		NA

BASE/NEUTRAL EXTRACTABLE COMPOUNDS(MG/KG)		
ACENAPHTHYLENE	<	0.670
ACENAPHTHENE	<	0.670
4-CHLOROANILINE	<	0.670
2-NITROANILINE	<	3.400
3-NITROANILINE	<	3.400
4-NITROANILINE	<	3.400
ANTHRACENE	<	0.670
BENZO(a)ANTHRACENE	<	0.670
DIBENZO(a,h)ANTHRACENE	<	0.670
3,3'-DICHLOROBENZIDINE	<	0.670
1,2-DICHLOROBENZENE	<	0.670
1,3-DICHLOROBENZENE	<	0.670
1,4-DICHLOROBENZENE	<	0.670
1,2,4-TRICHLORBENZENE	<	0.670
HEXACHLOROBENZENE	<	0.670
NITROBENZENE	<	0.670
BENZYL ALCOHOL	<	0.670
CHRYSENE	<	0.670
n-NITROSODIPHENYLAMINE	<	0.670
n-NITROSO-di-n-PROPYLAMINE	<	0.670
HEXACHLOROETHANE	<	0.670
BIS(2-CHLOROETHYL)ETHER	<	0.670
BIS(2-CHLOROISOPROPYL)ETHER	<	0.670
4-BROMOPHENYL-PHENYLETHER	<	0.670
4-CHLOROPHENYL-PHENYLETHER	<	0.670
FLUORANTHENE	<	0.670
FLUORENE	<	0.670
BENZO(beta)FLUORANTHENE	<	0.670
BENZO(kappa)FLUORANTHENE	<	0.670
DIBENZOFURAN	<	0.670
BIS(2-CHLOROETHOXY)METHANE	<	0.670
ISOPHORONE	<	0.670
NAPHTHALENE	<	0.670
2-CHLORONAPHTHALENE	<	0.670
2-METHYLNAPHTHALENE	<	0.670
HEXACHLOROCYCLOPENTADIENE	<	0.670
BENZO(ghi)PERYLENE	<	0.670
PHENANTHRENE	<	0.670
di-n-BUTYLPHTHALATE	<	0.670
DIETHYLPHTHALATE	<	0.670
DIMETHYLPHTHALATE	<	0.670
di-n-OCTYLPHTHALATE	<	0.670
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.670
BUTYLBENZYLPHTHALATE	<	0.670
PYRENE	<	0.670
BENZO(alpha)PYRENE	<	0.670
INDENO(1,2,3-c,d)PYRENE	<	0.670
2,4-DINITROTOLUENE	<	0.670
2,6-DINITROTOLUENE	<	0.670
HEXACHLOROBUTADIENE	<	0.670

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	1.700
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	E	0.050
2-BUTANONE		0.075
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE		0.031
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	5.800
TRICHLOROMETHANE (CHLOROFORM)	B	0.150
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.130
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE		0.210

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:378-83

LAB NUMBER:378-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:5 CARP
COLLECTION DATE:27-Sep-1983 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):45.0 RANGE(CM):43.9-46.5 MEAN WEIGHT(GM):1209 RANGE(GM):1107-1277 %LIPID:7.31

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.027
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.075
CALCIUM		NA
CHROMIUM		0.610
COBALT		NA
COPPER		1.430
IRON		NA
LEAD	<	0.130
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		77.000

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		0.001
beta-BHC		0.004
delta-BHC	<	0.001
gamma-BHC		0.001
alpha-CHLORDANE		0.017
gamma-CHLORDANE		0.041
cis-NONACHLOR		0.013
trans-NONACHLOR		0.145
OXYCHLORDANE		0.010
p,p'-DDD		0.043
o,p'-DDD		NA
p,p'-DDE		0.066
o,p'-DDE		NA
p,p'-DDT		0.013
o,p'-DDT		NA
DIELDRIN		0.096
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		NA
HEXACHLOROBENZENE		0.002
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.003
TOXAPHENE		NA

TOTAL PCB	5.331 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:379-83

LAB NUMBER:379-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 RIVER CARPSUCKER
COLLECTION DATE:27-Sep-1983 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):35.2 RANGE(CM):33.7-37.3 MEAN WEIGHT(GM):577 RANGE(GM):511-681 %LIPID<11.40

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.191
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.029
CALCIUM		NA
CHROMIUM		3.120
COBALT		NA
COPPER		0.750
IRON		NA
LEAD	<	0.130
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		15.000

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	0.002
beta-BHC	0.007
delta-BHC	NA
gamma-BHC	0.003
alpha-CHLORDANE	0.049
gamma-CHLORDANE	0.114
cis-NONACHLOR	0.050
trans-NONACHLOR	0.356
OXYCHLORDANE	0.024
p,p'-DDD	0.083
o,p'-DDD	NA
p,p'-DDE	0.193
o,p'-DDE	NA
p,p'-DDT	0.134
o,p'-DDT	NA
DIELDRIN	0.288
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	0.004
METHOXYCHLOR	NA
PENTACHLOROANISOLE	0.009
TOXAPHENE	NA

TOTAL PCB 5.887 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:380-83

LAB NUMBER:380-83 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:5 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1983 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):38.8 RANGE(CM):30.7-48.3 MEAN WEIGHT(GM):562 RANGE(GM):227-1022 %LIPID:9.39

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.147
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.029
CALCIUM		NA
CHROMIUM		0.770
COBALT		NA
COPPER		0.410
IRON		NA
LEAD	<	0.130
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.160
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		19.000

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	0.002
beta-BHC	NA
delta-BHC	NA
gamma-BHC	0.004
alpha-CHLORDANE	0.029
gamma-CHLORDANE	0.048
cis-NONACHLOR	0.028
trans-NONACHLOR	0.216
OXYCHLORDANE	0.013
p,p'-DDD	0.137
o,p'-DDD	NA
p,p'-DDE	0.089
o,p'-DDE	NA
p,p'-DDT	0.089
o,p'-DDT	NA
DIELDRIN	0.107
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	0.005
TOXAPHENE	NA

TOTAL PCB 7.257 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
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PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:584-85

LAB NUMBER:584-85 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:5 CARP
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):53.9 RANGE(CM):50.7-57.5 MEAN WEIGHT(GM):2316 RANGE(GM):1958-2696 %LIPID:8.92

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.500
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.070
CALCIUM		NA
CHROMIUM		0.470
COBALT		NA
COPPER		0.860
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.180
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		84.800

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC		NA
delta-BHC		NA
gamma-BHC		0.001
alpha-CHLORDANE		0.064
gamma-CHLORDANE		0.043
cis-NONACHLOR		0.030
trans-NONACHLOR		0.047
OXYCHLORDANE		0.008
p,p'-DDD		0.013
o,p'-DDD		NA
p,p'-DDE		0.050
o,p'-DDE		NA
p,p'-DDT		0.002
o,p'-DDT		NA
DIELDRIN		0.108
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.013
HEXACHLOROBENZENE		0.002
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.001
TOXAPHENE		NA

TOTAL PCB 5.079 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:584-85

LAB NUMBER:70603278 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:5 CARP
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):53.9 RANGE(CM):50.7-57.5 MEAN WEIGHT(GM):2316 RANGE(GM):1958-2696 %LIPID:10.70

METALS		(MG/KG)
ALUMINUM		23.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		15100.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		60.300
LEAD	<	0.500
MAGNESIUM		465.000
MANGANESE		5.600
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3030.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1100.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		84.500

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	660
CHRYSENE	<	660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	660
DIETHYLPHTHALATE	<	660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	0.660
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE		0.100
2-BUTANONE	<	0.010
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE		0.014
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE		0.140
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.400
TRICHLOROMETHANE (CHLOROFORM)		0.034
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.060
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE		0.410

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:585-85

LAB NUMBER:585-85 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:4 SMALLMOUTH BUFFALO
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):44.0 RANGE(CM):38.3-47.1 MEAN WEIGHT(GM):1391 RANGE(GM):851-1731 %LIPID:8.74

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.120
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.040
CALCIUM		NA
CHROMIUM		0.470
COBALT		NA
COPPER		1.400
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.200
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		16.000

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC	<	0.001
beta-BHC		NA
delta-BHC	<	0.001
gamma-BHC		0.001
alpha-CHLORDANE		0.046
gamma-CHLORDANE		0.027
cis-NONACHLOR		0.030
trans-NONACHLOR		0.028
OXYCHLORDANE		0.006
p,p'-DDD		0.006
o,p'-DDD		NA
p,p'-DDE		0.057
o,p'-DDE		NA
p,p'-DDT		0.003
o,p'-DDT		NA
DIELDRIN		0.101
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.015
HEXACHLOROBENZENE		0.002
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.004
TOXAPHENE		NA

TOTAL PCB 4.205 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:585-85

LAB NUMBER:70603279 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:4 SMALLMOUTH BASS
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):44.0 RANGE(CM):38.3-47.1 MEAN WEIGHT(GM):1391 RANGE(GM):851-1731 %LIPID:9.00

METALS		(MG/KG)
ALUMINUM	<	10.000
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		20600.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		4.800
IRON		66.100
LEAD	<	0.500
MAGNESIUM		545.000
MANGANESE		22.500
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		2580.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1140.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		24.500

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	660
CHRYSENE	<	660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	660
DIETHYLPHTHALATE	<	660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.130
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	1.300
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE		0.083
2-BUTANONE	<	0.010
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE		0.013
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE		0.096
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.200
TRICHLOROMETHANE (CHLOROFORM)		0.025
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.063
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE		0.320

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:592-85

LAB NUMBER:592-85 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:1 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:SK-OFF FIDDLERS

MEAN LENGTH(CM):50.9 RANGE(CM):50.9-50.9 MEAN WEIGHT(GM):1277 RANGE(GM):1277-1277 %LIPID:7.75

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.190
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.470
COBALT		NA
COPPER		0.110
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.250
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		14.600

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	0.001
gamma-BHC	0.001
alpha-CHLORDANE	0.038
gamma-CHLORDANE	0.031
cis-NONACHLOR	0.024
trans-NONACHLOR	0.040
OXYCHLORDANE	0.007
p,p'-DDD	0.011
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	0.011
o,p'-DDT	NA
DIELDRIN	0.071
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	0.049
HEXACHLOROBENZENE	0.001
METHOXYCHLOR	NA
PENTACHLOROANISOLE	0.002
TOXAPHENE	NA

TOTAL PCB 3.671 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:592-85

LAB NUMBER:70603286 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:1 CHANNEL CATFISH
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FIDDLERS

MEAN LENGTH(CM):50.9 RANGE(CM):50.9-50.9 MEAN WEIGHT(GM):1277 RANGE(GM):1277-1277 %LIPID:6.30

METALS		(MG/KG)
ALUMINUM		15.400
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		4500.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		1.410
LEAD		2.400
MAGNESIUM		308.000
MANGANESE		2.210
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3590.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		510.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		12.200

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	[illegible]60
CHRYSENE	<	[illegible]0
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	BJ	[illegible]5
DIETHYLPHTHALATE	<	.0
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.030
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS	(MG/KG)				
ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA		
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA		
2-BUTANONE	NA	2-HEXANONE	NA	4-METHYL-2-PENTANONE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	1,2-DICHLOROPROPANE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	c-1,3-DICHLOROPROPYLENE	NA
1,1-DICHLOROETHANE	NA			t-1,3-DICHLOROPROPYLENE	NA
1,2-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	STYRENE	NA
1,1,1-TRICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	TOLUENE	NA
1,1,2-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	VINYL CHLORIDE	NA
				TOTAL XYLENE	NA

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:593-85

LAB NUMBER:593-85 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:4 MICROPTERUS SP MIXTURE
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):26.9 RANGE(CM):21.0-34.9 MEAN WEIGHT(GM):316 RANGE(GM):128-568 %LIPID:2.53

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		0.045
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.020
CALCIUM		NA
CHROMIUM		0.470
COBALT		NA
COPPER		0.550
IRON		NA
LEAD	<	0.090
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.280
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		16.900

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		NA
beta-BHC		NA
delta-BHC		NA
gamma-BHC	<	0.001
alpha-CHLORDANE		0.011
gamma-CHLORDANE		0.003
cis-NONACHLOR		0.014
trans-NONACHLOR		0.017
OXYCHLORDANE		0.040
p,p'-DDD		0.001
o,p'-DDD		NA
p,p'-DDE		0.021
o,p'-DDE		NA
p,p'-DDT		0.005
o,p'-DDT		NA
DIELDRIN		0.019
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.009
HEXACHLOROBENZENE	<	0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE	<	0.001
TOXAPHENE		NA

TOTAL PCB	1.810 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:593-85

LAB NUMBER:70603287 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE SPECIES:4 MICROPTERUS SP MIXTURE
COLLECTION DATE:27-Sep-1985 LOCATION:D/S WILLIAMS DAM LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):26.9 RANGE(CM):21.0-34.9 MEAN WEIGHT(GM):316 RANGE(GM):128-568 %LIPID:2.30

METALS		(MG/KG)
ALUMINUM		20.900
ANTIMONY	<	2.000
ARSENIC		NA
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		18500.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		25.600
LEAD		3.600
MAGNESIUM		529.000
MANGANESE		6.270
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		2810.000
SELENIUM	<	1.000
SILVER		0.500
SODIUM		1320.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		69.800

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	J	0.048
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	BJ	1
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS	(MG/KG)				
ACETONE	NA	1,1-DICHLOROETHYLENE	NA	TRICHLOROMETHANE (CHLOROFORM)	NA
BENZENE	NA	1,2-DICHLOROETHYLENE	NA		
CHLOROBENZENE	NA	TRICHLOROETHYLENE(TOTAL)	NA	TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	NA
ETHYLBENZENE	NA	TETRACHLOROETHYLENE	NA		
2-BUTANONE	NA	2-HEXANONE	NA	4-METHYL-2-PENTANONE	NA
CARBON DISULFIDE	NA	BROMOMETHANE	NA	1,2-DICHLOROPROPANE	NA
CHLOROETHANE	NA	TRIBROMOMETHANE (BROMOFORM)	NA	c-1,3-DICHLOROPROPYLENE	NA
1,1-DICHLOROETHANE	NA			t-1,3-DICHLOROPROPYLENE	NA
1,2-DICHLOROETHANE	NA	BROMODICHLOROMETHANE	NA	STYRENE	NA
1,1,1-TRICHLOROETHANE	NA	DIBROMOCHLOROMETHANE	NA	TOLUENE	NA
1,1,2-TRICHLOROETHANE	NA	CHLOROMETHANE	NA	VINYL ACETATE	NA
1,1,2,2-TETRACHLORETHANE	NA	DICHLOROMETHANE (METHYLENE CHLORIDE)	NA	VINYL CHLORIDE	NA
				TOTAL XYLENE	NA

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:243-87

LAB NUMBER:70806995 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE SPECIES:3 CARP
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):55.0 RANGE(CM):51.6-61.0 MEAN WEIGHT(GM):2217 RANGE(GM):1775-2951 %LIPID:10.10

METALS		(MG/KG)
ALUMINUM		35.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		9330.00
CHROMIUM		1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		51.500
LEAD	<	0.500
MAGNESIUM		390.000
MANGANESE		3.000
MERCURY		0.148
NICKEL		4.100
POTASSIUM		3230.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		900.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		72.500

PESTICIDES		(MG/KG)
ALDRIN	<	0.040
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.066
gamma-CHLORDANE		0.065
cis-NONACHLOR		0.039
trans-NONACHLOR		0.099
OXYCHLORDANE	<	0.032
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.059
o,p'-DDE		0.170
p,p'-DDT	<	0.010
o,p'-DDT		0.024
DIELDRIN		0.140
ENDOSULFAN I	<	0.080
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.012
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 2.360 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	0.660
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	1.300
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.028
CARBON DISULFIDE		0.043
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.037
TRICHLOROMETHANE (CHLOROFORM)		0.009
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.005
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.003

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:244-87

LAB NUMBER:70806996 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 CARP
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):53.2 RANGE(CM):53.1-53.3 MEAN WEIGHT(GM):2245 RANGE(GM):2179-2311 %LIPID:5.00

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		1300.00
CHROMIUM		1.400
COBALT	<	5.000
COPPER	<	2.500
IRON		29.600
LEAD	<	0.500
MAGNESIUM		320.000
MANGANESE	<	1.500
MERCURY		0.278
NICKEL	<	4.000
POTASSIUM		4000.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		16.000

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.017
trans-NONACHLOR		0.042
OXYCHLORDANE		0.010
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.057
p,p'-DDT	<	0.010
o,p'-DDT		0.014
DIELDRIN		0.061
ENDOSULFAN I		0.029
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.130 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:245-87

LAB NUMBER:70806997 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:4 FRESHWATER DRUM
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SHOLE

MEAN LENGTH(CM):34.3 RANGE(CM):30.7-40.6 MEAN WEIGHT(GM):455 RANGE(GM):318-717 %LIPID:5.30

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		14600.00
CHROMIUM		1.500
COBALT	<	5.000
COPPER		2.500
IRON		37.600
LEAD	<	0.500
MAGNESIUM		370.000
MANGANESE		7.300
MERCURY		0.174
NICKEL		8.500
POTASSIUM		2930.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1370.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		18.100

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.025
trans-NONACHLOR		0.042
OXYCHLORDANE		0.022
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.031
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.099
ENDOSULFAN I		0.025
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.011
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.160 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:246-87

LAB NUMBER:70806998 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:4 FRESHWATER DRUM
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):34.3 RANGE(CM):31.5-37.1 MEAN WEIGHT(GM):476 RANGE(GM):308-621 %LIPID:2.70

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		2860.00
CHROMIUM		1.100
COBALT	<	5.000
COPPER	<	2.500
IRON		10.200
LEAD	<	0.500
MAGNESIUM		320.000
MANGANESE	<	1.500
MERCURY		0.316
NICKEL		4.500
POTASSIUM		4140.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		540.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		10.300

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.021
OXYCHLORDANE		0.010
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.021
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.042
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.310 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:247-87

LAB NUMBER:70806999 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 FLATHEAD CATFISH
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):31.2 RANGE(CM):10.3-14.2 MEAN WEIGHT(GM):306 RANGE(GM):163-449 %LIPID:3.00

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		5230.00
CHROMIUM		1.700
COBALT	<	5.000
COPPER	<	2.500
IRON		17.900
LEAD	<	0.500
MAGNESIUM		290.000
MANGANESE		1.800
MERCURY		0.174
NICKEL	<	4.000
POTASSIUM		3200.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		970.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		15.600

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.016
trans-NONACHLOR		0.033
OXYCHLORDANE		0.010
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.024
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.616 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:248-87

LAB NUMBER:70807000 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 CHANNEL CATFISH
COLLECTION DATE:17-Aug-1987 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):34.0 RANGE(CM):32.0-36.3 MEAN WEIGHT(GM):377 RANGE(GM):272-439 %LIPID:5.30

METALS		(MG/KG)
ALUMINUM		35.100
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		12100.00
CHROMIUM		4.500
COBALT	<	5.000
COPPER	<	2.500
IRON	<	10.000
LEAD	<	0.500
MAGNESIUM		440.000
MANGANESE		8.700
MERCURY		0.088
NICKEL	<	4.000
POTASSIUM		2900.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1270.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		23.900

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.015
trans-NONACHLOR		0.030
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.043
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.652 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:027-89

LAB NUMBER:90901821 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 CARP
COLLECTION DATE:11-Jul-1989 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):53.3 RANGE(CM):51.5-56.5 MEAN WEIGHT(GM):2300 RANGE(GM):1950-2900 %LIPID:8.86

METALS		(MG/KG)
ALUMINUM	<	5.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	0.500
BERYLLIUM	<	0.050
CADMIUM	<	0.010
CALCIUM		256.00
CHROMIUM	<	0.100
COBALT	<	0.500
COPPER		0.700
IRON		12.700
LEAD		0.070
MAGNESIUM		237.000
MANGANESE		0.170
MERCURY		0.204
NICKEL	<	0.400
POTASSIUM		3220.000
SELENIUM		0.290
SILVER	<	0.500
SODIUM		306.000
THALLIUM	<	1.000
VANADIUM	<	0.500
ZINC		24.900

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.017
trans-NONACHLOR		0.020
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.063
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE	<	0.010

TOTAL PCB 1.400 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE	<	0.660
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	J	0.089
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID	<	3.200
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL	<	3.200
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL	<	3.200

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.290
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.100
CARBON DISULFIDE		0.019
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.010
TRIBROMOMETHANE (BROMOFORM)	<	0.005
BROMODICHLOROMETHANE	<	0.005
DIBROMOCHLOROMETHANE	<	0.005
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.006
TRICHLOROMETHANE (CHLOROFORM)	<	0.005
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.005
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.005
t-1,3-DICHLOROPROPYLENE	<	0.005
STYRENE	<	0.005
TOLUENE		0.010
VINYL ACETATE	<	0.010
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	X	0.006

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:027-89D

LAB NUMBER:90901822 D SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE SPECIES:3 CARP
COLLECTION DATE:11-Jul-1989 LOCATION:D/S WILLIAMS DAM LAB:H PREPARATION:DUPLICATE OF 90901821

MEAN LENGTH(CM):53.5 RANGE(CM):51.5-56.5 MEAN WEIGHT(GM):2300 RANGE(GM):1950-2900 %LIPID:12.02

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.051
gamma-CHLORDANE		0.036
cis-NONACHLOR		0.031
trans-NONACHLOR		0.019
OXYCHLORDANE	<	0.008
p,p'-DDD		0.081
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.124
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE		0.026
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE	<	0.010

TOTAL PCB	2.300 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:028-89

LAB NUMBER:90901823 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 CHANNEL CATFISH
COLLECTION DATE:11-Jul-1989 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):44.0 RANGE(CM):39.0-49.0 MEAN WEIGHT(GM):900 RANGE(GM):760-1080 %LIPID:10.86

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.070
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.129
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.054
gamma-CHLORDANE		0.043
cis-NONACHLOR		0.043
trans-NONACHLOR		0.043
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.152
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE		0.027
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE	<	0.010

TOTAL PCB	2.800 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:029-89

LAB NUMBER:90901824 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 SPOTTED BASS ?
COLLECTION DATE:11-Jul-1989 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):28.5 RANGE(CM):25.5-30.5 MEAN WEIGHT(GM):235 RANGE(GM):100-384 %LIPID:0.47

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	0.010
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	0.070
MAGNESIUM	NA
MANGANESE	NA
MERCURY	0.223
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.016
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.008
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.010
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.016
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE	<	0.010

TOTAL PCB	0.160 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:153-92

LAB NUMBER:30301014 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:1 CHANNEL CATFISH
COLLECTION DATE:01-Sep-1992 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):41.6 RANGE(CM):41.6-41.6 MEAN WEIGHT(GM):684 RANGE(GM):684-684 %LIPID:4.70

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD		0.360
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.100
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.015
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.012
trans-NONACHLOR		0.027
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.033
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.009
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	0.920 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:154-92

LAB NUMBER:30301084 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:2 CHANNEL CATFISH
COLLECTION DATE:01-Sep-1992 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):56.2 RANGE(CM):55.3-57.1 MEAN WEIGHT(GM):1830 RANGE(GM):1759-1901 %LIPID:12.25

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.160
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.060
gamma-CHLORDANE		0.056
cis-NONACHLOR		0.063
trans-NONACHLOR		0.152
OXYCHLORDANE		0.012
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.037
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.140
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.017
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE		0.008
TOXAPHENE	<	0.010

TOTAL PCB	9.100 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 155-92

LAB NUMBER:30301085 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 CARP
COLLECTION DATE:01-Sep-1992 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):60.8 RANGE(CM):58.5-64.0 MEAN WEIGHT(GM):2734 RANGE(GM):2469-2923 %LIPID:3.93

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.030
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.280
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.070
gamma-CHLORDANE		0.055
cis-NONACHLOR		0.049
trans-NONACHLOR		0.110
OXYCHLORDANE		0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.032
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.057
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB 5.600 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER: 156-92

LAB NUMBER:30301086 SITE:EAST FORK WHITE RIVER COUNTY:LAWRENCE | SPECIES:3 SMALLMOUTH BUFFALO
COLLECTION DATE:01-Sep-1992 LOCATION:D/S WILLIAMS DAM LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):44.7 RANGE(CM):39.2-50.4 MEAN WEIGHT(GM):1409 RANGE(GM):936-2071 %LIPID:5.05

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.210
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.025
gamma-CHLORDANE		0.017
cis-NONACHLOR		0.021
trans-NONACHLOR		0.052
OXYCHLORDANE	<	0.016
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE		0.014
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.069
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	3.200 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:249-87

LAB NUMBER:70807001 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN SPECIES:3 CARP
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):57.4 RANGE(CM):55.9-59.7 MEAN WEIGHT(GM):2416 RANGE(GM):2259-2495 %LIPID:7.90

METALS		(MG/KG)
ALUMINUM		69.500
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		10800.00
CHROMIUM		1.800
COBALT	<	5.000
COPPER	<	2.500
IRON		79.500
LEAD	<	0.500
MAGNESIUM		300.000
MANGANESE		5.600
MERCURY		0.205
NICKEL		9.200
POTASSIUM		3360.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		850.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		49.500

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.010
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.027
trans-NONACHLOR		0.062
OXYCHLORDANE		0.027
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.066
p,p'-DDT	<	0.010
o,p'-DDT		0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.660 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-1

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:250-87

LAB NUMBER:70807002 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN | SPECIES:2 CARP
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):59.3 RANGE(CM):52.3-66.3 MEAN WEIGHT(GM):3255 RANGE(GM):2200-4309 %LIPID:6.80

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		1180.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		21.700
LEAD	<	0.500
MAGNESIUM		280.000
MANGANESE	<	1.500
MERCURY		0.309
NICKEL	<	4.000
POTASSIUM		3840.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		17.600

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.018
trans-NONACHLOR		0.048
OXYCHLORDANE		0.025
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.077
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I		0.024
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.840 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:252-87

LAB NUMBER:70807003 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN | SPECIES:3 CHANNEL CATFISH
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):33.0 RANGE(CM):31.8-34.5 MEAN WEIGHT(GM):284 RANGE(GM):249-372 %LIPID:7.90

METALS		(MG/KG)
ALUMINUM		127.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		7840.00
CHROMIUM		2.200
COBALT	<	5.000
COPPER	<	2.500
IRON		21.000
LEAD	<	0.500
MAGNESIUM		400.000
MANGANESE		12.200
MERCURY		0.095
NICKEL	<	4.000
POTASSIUM		3140.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1100.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		29.400

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.200
beta-BHC	<	0.200
delta-BHC	<	0.008
gamma-BHC	<	0.200
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.022
trans-NONACHLOR		0.049
OXYCHLORDANE		0.019
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.044
p,p'-DDT	<	0.010
o,p'-DDT		0.020
DIELDRIN	<	0.010
ENDOSULFAN I		0.030
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.250
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.200
TOXAPHENE		NA

TOTAL PCB	0.937 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:253-87

LAB NUMBER:70807004 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN | SPECIES:4 SHORTHEAD REDHORSE
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):39.5 RANGE(CM):38.1-41.9 MEAN WEIGHT(GM):611 RANGE(GM):572-666 %LIPID:14.30

METALS		(MG/KG)
ALUMINUM		78.900
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		9730.00
CHROMIUM		2.800
COBALT	<	5.000
COPPER	<	2.500
IRON		150.000
LEAD	<	0.500
MAGNESIUM		440.000
MANGANESE		11.600
MERCURY		0.105
NICKEL		6.900
POTASSIUM		3320.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		970.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		23.800

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.012
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.037
trans-NONACHLOR		0.090
OXYCHLORDANE	<	0.024
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.100
p,p'-DDT	<	0.010
o,p'-DDT		0.023
DIELDRIN		0.212
ENDOSULFAN I	<	0.060
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.027
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	1.820 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:254-87

LAB NUMBER:70807005 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN | SPECIES:4 SHORTHEAD REDHORSE
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):39.1 RANGE(CM):35.6-41.1 MEAN WEIGHT(GM):611 RANGE(GM):485-699 %LIPID:7.50

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		0.700
CALCIUM		2620.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		18.800
LEAD	<	0.500
MAGNESIUM		350.000
MANGANESE		2.100
MERCURY		0.167
NICKEL	<	4.000
POTASSIUM		4250.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM	<	500.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		10.500

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.020
trans-NONACHLOR		0.030
OXYCHLORDANE		0.018
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.053
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I		0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.956 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:251-87

LAB NUMBER:70807006 SITE:EAST FORK WHITE RIVER COUNTY:MARTIN | SPECIES:5 FRESHWATER DRUM
COLLECTION DATE:18-Aug-1987 LOCATION:@ SHOALS, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):28.0 RANGE(CM):26.4-30.0 MEAN WEIGHT(GM):254 RANGE(GM):213-308 %LIPID:6.70

METALS		(MG/KG)
ALUMINUM		30.200
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		15100.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		61.800
LEAD	<	0.500
MAGNESIUM		390.000
MANGANESE		8.300
MERCURY		0.105
NICKEL		5.300
POTASSIUM		2880.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1230.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		15.600

PESTICIDES		(MG/KG)
ALDRIN	<	0.024
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.019
trans-NONACHLOR		0.029
OXYCHLORDANE		0.017
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.042
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.010
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB	0.748 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:151-87

LAB NUMBER:70700765 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:1 FLATHEAD CATFISH
COLLECTION DATE:16-Jun-1987 LOCATION:D/S HWY 450 LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):39.0 RANGE(CM):39.0-39.0 MEAN WEIGHT(GM):652 RANGE(GM):652-652 %LIPID:3.54

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		2.500
CALCIUM		11200.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		7.600
IRON		27.400
LEAD		0.600
MAGNESIUM		360.000
MANGANESE	<	1.500
MERCURY		0.138
NICKEL		6.600
POTASSIUM		2970.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1120.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		18.900

PESTICIDES		(MG/KG)
ALDRIN		0.025
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.028
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.028
trans-NONACHLOR		0.064
OXYCHLORDANE		0.015
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.066
p,p'-DDT	<	0.010
o,p'-DDT	<	0.010
DIELDRIN		0.022
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.168
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.008
TOXAPHENE		NA

TOTAL PCB 9.500 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	J	0.240
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	<	0.660
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL		1.700
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.820
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	E	0.210
CARBON DISULFIDE		0.007
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.028
TRICHLOROMETHANE (CHLOROFORM)		0.009
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.002
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	JX	0.002

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:152-87

LAB NUMBER:70700766 SITE:SALT CREEK COUNTY:LAWRENCE SPECIES:1 SPOTTED SUCKER
COLLECTION DATE:16-Jun-1987 LOCATION:D/S HWY 450 LAB:H PREPARATION:WHOLE

MEAN LENGTH(CM):32.0 RANGE(CM):32.0-32.0 MEAN WEIGHT(GM):341 RANGE(GM):341-341 %LIPID:6.34

METALS		(MG/KG)
ALUMINUM	<	20.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		17400.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		32.500
LEAD	<	0.500
MAGNESIUM		600.000
MANGANESE		9.100
MERCURY		0.045
NICKEL	<	4.000
POTASSIUM		3120.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1060.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		13.700

PESTICIDES		(MG/KG)
ALDRIN	<	0.168
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.022
gamma-CHLORDANE	<	0.008
cis-NONACHLOR		0.011
trans-NONACHLOR		0.024
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE		0.040
p,p'-DDT	<	0.010
o,p'-DDT		0.013
DIELDRIN		0.028
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.168
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE		0.008
TOXAPHENE		NA

TOTAL PCB 12.000 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	J	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE	E	2.000
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	0.660
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.220
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.063
CARBON DISULFIDE	J	0.003
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLORDETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.028
TRICHLOROMETHANE (CHLOROFORM)		0.008
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	J	0.004
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.002
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.002

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:153-87

LAB NUMBER:70700767 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:1 GREEN SUNFISH
COLLECTION DATE:16-Jun-1987 LOCATION:D/S HWY 450 LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):14.0 RANGE(CM):14.0-14.0 MEAN WEIGHT(GM):57 RANGE(GM):57-57 %LIPID:1.09

METALS		(MG/KG)
ALUMINUM		31.400
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		2.200
CALCIUM		9320.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		33.300
LEAD	<	0.500
MAGNESIUM		360.000
MANGANESE		6.800
MERCURY		0.120
NICKEL	<	4.000
POTASSIUM		2850.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1170.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		19.400

PESTICIDES		(MG/KG)
ALDRIN	<	0.144
alpha-BHC	<	0.048
beta-BHC	<	0.048
delta-BHC	<	0.048
gamma-BHC	<	0.048
alpha-CHLORDANE	<	0.048
gamma-CHLORDANE	<	0.048
cis-NONACHLOR	<	0.048
trans-NONACHLOR	<	0.048
OXYCHLORDANE	<	0.048
p,p'-DDD	<	0.060
o,p'-DDD	<	0.060
p,p'-DDE	<	0.060
o,p'-DDE	<	0.060
p,p'-DDT	<	0.060
o,p'-DDT	<	0.060
DIELDRIN	<	0.060
ENDOSULFAN I	<	0.120
ENDOSULFAN II	<	0.120
ENDOSULFAN SULFATE	<	0.120
ENDRIN	<	0.060
ENDRIN ALDEHYDE	<	0.060
ENDRIN KETONE	<	0.060
HEPTACHLOR	<	0.144
HEPTACHLOR EPOXIDE	<	0.048
HEXACHLOROBENZENE	<	0.060
METHOXYCHLOR	<	0.120
PENTACHLOROANISOLE	<	0.048
TOXAPHENE		NA

TOTAL PCB 7.200 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS	(MG/KG)
ACENAPHTHYLENE	NA
ACENAPHTHENE	NA
4-CHLOROANILINE	NA
2-NITROANILINE	NA
3-NITROANILINE	NA
4-NITROANILINE	NA
ANTHRACENE	NA
BENZO(a)ANTHRACENE	NA
DIBENZO(a,h)ANTHRACENE	NA
3,3'-DICHLOROBENZIDINE	NA
1,2-DICHLOROBENZENE	NA
1,3-DICHLOROBENZENE	NA
1,4-DICHLOROBENZENE	NA
1,2,4-TRICHLORBENZENE	NA
HEXACHLOROBENZENE	NA
NITROBENZENE	NA
BENZYL ALCOHOL	NA
CHRYSENE	NA
n-NITROSODIPHENYLAMINE	NA
n-NITROSO-di-n-PROPYLAMINE	NA
HEXACHLOROETHANE	NA
BIS(2-CHLOROETHYL)ETHER	NA
BIS(2-CHLOROISOPROPYL)ETHER	NA
4-BROMOPHENYL-PHENYLETHER	NA
4-CHLOROPHENYL-PHENYLETHER	NA
FLUORANTHENE	NA
FLUORENE	NA
BENZO(beta)FLUORANTHENE	NA
BENZO(kappa)FLUORANTHENE	NA
DIBENZOFURAN	NA
BIS(2-CHLOROETHOXY)METHANE	NA
ISOPHORONE	NA
NAPHTHALENE	NA
2-CHLORONAPHTHALENE	NA
2-METHYLNAPHTHALENE	NA
HEXACHLOROCYCLOPENTADIENE	NA
BENZO(ghi)PERYLENE	NA
PHENANTHRENE	NA
di-n-BUTYLPHTHALATE	NA
DIETHYLPHTHALATE	NA
DIMETHYLPHTHALATE	NA
di-n-OCTYLPHTHALATE	NA
BIS(2-ETHYLHEXYL)PHTHALATE	NA
BUTYLBENZYLPHTHALATE	NA
PYRENE	NA
BENZO(alpha)PYRENE	NA
INDENO(1,2,3-c,d)PYRENE	NA
2,4-DINITROTOLUENE	NA
2,6-DINITROTOLUENE	NA
HEXACHLOROBUTADIENE	NA

ACID EXTRACTABLE COMPOUNDS	(MG/KG)
BENZOIC ACID	NA
PHENOL	NA
2-CHLOROPHENOL	NA
2,4-DICHLOROPHENOL	NA
2,4,5-TRICHLOROPHENOL	NA
2,4,6-TRICHLOROPHENOL	NA
PENTACHLOROPHENOL	NA
2-METHYLPHENOL	NA
4-METHYLPHENOL	NA
2,4-DIMETHYLPHENOL	NA
4-CHLORO-3-METHYLPHENOL	NA
4,6-DINITRO-2-METHYLPHENOL	NA
2-NITROPHENOL	NA
4-NITROPHENOL	NA
2,4-DINITROPHENOL	NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.350
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.050
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.018
TRICHLOROMETHANE (CHLOROFORM)		0.008
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	J	0.002
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.001
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:071-93

LAB NUMBER:30900797 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:3 LARGEMOUTH BASS
COLLECTION DATE:20-Sep-1993 LOCATION:S.R.450 LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):38.1 RANGE(CM):28.9-45.2 MEAN WEIGHT(GM):631 RANGE(GM):376-928 %LIPID:1.14

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.240
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.017
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.011
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.900 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:072-93

LAB NUMBER:30900849 SITE:SALT CREEK COUNTY:LAWRENCE SPECIES:1 CHANNEL CATFISH
COLLECTION DATE:20-Sep-1993 LOCATION:S.R.450 LAB:H PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):54.4 RANGE(CM):54.4-54.4 MEAN WEIGHT(GM):1958 RANGE(GM):1958-1958 %LIPID:21.10

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.140
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.081
gamma-CHLORDANE		0.039
cis-NONACHLOR		0.040
trans-NONACHLOR		0.122
OXYCHLORDANE		0.016
p,p'-DDD		0.025
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.038
o,p'-DDT	<	0.020
DIELDRIN		0.220
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.026
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	4.700 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:073-93

LAB NUMBER:30900852 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:3 FLATHEAD CATFISH
COLLECTION DATE:20-Sep-1993 LOCATION:S.R.450 LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):35.9 RANGE(CM):32.1-40.7 MEAN WEIGHT(GM):487 RANGE(GM):286-750 %LIPID:1.43

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.030
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.180
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.010
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.026
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.014
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.011
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	5.300 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:075-93

LAB NUMBER:30900854 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:2 SPOTTED BASS
COLLECTION DATE:21-Sep-1993 LOCATION:D/S CONFLUENCE OF CLEAR CREEK LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):30.6 RANGE(CM):27.1-34.1 MEAN WEIGHT(GM):460 RANGE(GM):296-624 %LIPID:1.30

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.300
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.018
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.008
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.200 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:076-93

LAB NUMBER:30900855 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:2 LARGEMOUTH BASS
COLLECTION DATE:21-Sep-1993 LOCATION:D/S CONFLUENCE OF CLEAR CREEK LAB:H | PREPARATION:SK-ON FILLETS, SCALELESS

MEAN LENGTH(CM):34.6 RANGE(CM):31.2-38.0 MEAN WEIGHT(GM):632 RANGE(GM):408-856 %LIPID:1.26

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.230
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.028
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.021
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.800 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:077-93

LAB NUMBER:30900858 SITE:SALT CREEK COUNTY:LAWRENCE | SPECIES:1 CHANNEL CATFISH
COLLECTION DATE:21-Sep-1993 LOCATION:D/S CONFLUENCE OF CLEAR CREEK LAB:H | PREPARATION:SK-OFF FILLETS

MEAN LENGTH(CM):68.2 RANGE(CM):68.2-68.2 MEAN WEIGHT(GM):3632 RANGE(GM):3632-3632 %LIPID:11.58

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	<	0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	<	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.250
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.073
gamma-CHLORDANE		0.039
cis-NONACHLOR		0.049
trans-NONACHLOR		0.122
OXYCHLORDANE	<	0.008
p,p'-DDD		0.030
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN		0.081
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.008
HEPTACHLOR EPOXIDE		0.019
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	8.000 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
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OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:079-83

LAB NUMBER:079-83 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:3 YELLOW BULLHEAD
COLLECTION DATE:08-Sep-1983 LOCATION:D/S CENTRAL FOUNDRY, BEDFORD LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):18.4 RANGE(CM):17.5-20.3 MEAN WEIGHT(GM):0 RANGE(GM):0-0 %LIPID:5.49

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		NA
beta-BHC		0.051
delta-BHC		NA
gamma-BHC		NA
alpha-CHLORDANE	<	0.001
gamma-CHLORDANE		0.003
cis-NONACHLOR		0.281
trans-NONACHLOR		0.051
OXYCHLORDANE		0.365
p,p'-DDD		0.020
o,p'-DDD		NA
p,p'-DDE		0.007
o,p'-DDE		NA
p,p'-DDT	<	0.001
o,p'-DDT		NA
DIELDRIN		0.013
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		4.779
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.026
TOXAPHENE		NA

TOTAL PCB 635.526 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:080-83

LAB NUMBER:080-83 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:9 CREEK CHUB
COLLECTION DATE:08-Sep-1983 LOCATION:U/S CENTRAL FOUNDRY, BEDFORD LAB:I | PREPARATION:WHOLE

MEAN LENGTH(CM):0.0 RANGE(CM):4.0-7.0 MEAN WEIGHT(GM):0 RANGE(GM):0-0 %LIPID:3.48

METALS	(MG/KG)
ALUMINUM	NA
ANTIMONY	NA
ARSENIC	NA
BARIUM	NA
BERYLLIUM	NA
CADMIUM	NA
CALCIUM	NA
CHROMIUM	NA
COBALT	NA
COPPER	NA
IRON	NA
LEAD	NA
MAGNESIUM	NA
MANGANESE	NA
MERCURY	NA
NICKEL	NA
POTASSIUM	NA
SELENIUM	NA
SILVER	NA
SODIUM	NA
THALLIUM	NA
VANADIUM	NA
ZINC	NA

PESTICIDES		(MG/KG)
ALDRIN		NA
alpha-BHC		NA
beta-BHC	<	0.001
delta-BHC		NA
gamma-BHC		NA
alpha-CHLORDANE		0.002
gamma-CHLORDANE		0.007
cis-NONACHLOR		0.002
trans-NONACHLOR		0.007
OXYCHLORDANE		0.005
p,p'-DDD		NA
o,p'-DDD		NA
p,p'-DDE		0.002
o,p'-DDE		NA
p,p'-DDT		NA
o,p'-DDT		NA
DIELDRIN		0.001
ENDOSULFAN I		NA
ENDOSULFAN II		NA
ENDOSULFAN SULFATE		NA
ENDRIN		NA
ENDRIN ALDEHYDE		NA
ENDRIN KETONE		NA
HEPTACHLOR		NA
HEPTACHLOR EPOXIDE		0.033
HEXACHLOROBENZENE		0.001
METHOXYCHLOR		NA
PENTACHLOROANISOLE		0.001
TOXAPHENE		NA

TOTAL PCB 2.531 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-19
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:116-87

LAB NUMBER:70700730 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:1 BLACK BULLHEAD
COLLECTION DATE:28-May-1987 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):24.3 RANGE(CM):24.3-24.3 MEAN WEIGHT(GM):242 RANGE(GM):242-242 %LIPID:2.10

METALS		(MG/KG)
ALUMINUM		55.200
ANTIMONY	<	2.000
ARSENIC		1.900
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		5670.00
CHROMIUM		2.600
COBALT	<	5.000
COPPER		4.400
IRON		41.200
LEAD	<	0.500
MAGNESIUM		420.000
MANGANESE		3.700
MERCURY	<	0.025
NICKEL	<	4.000
POTASSIUM		3180.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		790.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		18.900

PESTICIDES		(MG/KG)
ALDRIN		2.000
alpha-BHC	<	0.040
beta-BHC	<	0.040
delta-BHC	<	0.040
gamma-BHC	<	0.040
alpha-CHLORDANE		0.040
gamma-CHLORDANE		0.520
cis-NONACHLOR	<	0.040
trans-NONACHLOR	<	0.040
OXYCHLORDANE	<	0.040
p,p'-DDD	<	0.050
o,p'-DDD	<	0.050
p,p'-DDE		0.074
o,p'-DDE	<	0.050
p,p'-DDT	<	0.050
o,p'-DDT	<	0.050
DIELDRIN	<	0.050
ENDOSULFAN I	<	0.100
ENDOSULFAN II	<	0.100
ENDOSULFAN SULFATE	<	0.100
ENDRIN	<	0.050
ENDRIN ALDEHYDE	<	0.050
ENDRIN KETONE	<	0.050
HEPTACHLOR		1.000
HEPTACHLOR EPOXIDE	<	0.040
HEXACHLOROBENZENE	<	0.050
METHOXYCHLOR	<	0.100
PENTACHLOROANISOLE	<	0.040
TOXAPHENE		NA

TOTAL PCB 64.000 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.300
ACENAPHTHENE	<	1.300
4-CHLOROANILINE	<	1.300
2-NITROANILINE	<	6.400
3-NITROANILINE	<	6.400
4-NITROANILINE	<	6.400
ANTHRACENE	<	1.300
BENZO(a)ANTHRACENE	<	1.300
DIBENZO(a,h)ANTHRACENE	<	1.300
3,3'-DICHLOROBENZIDINE	<	2.600
1,2-DICHLOROBENZENE	<	1.300
1,3-DICHLOROBENZENE	<	1.300
1,4-DICHLOROBENZENE	<	1.300
1,2,4-TRICHLORBENZENE	<	1.300
HEXACHLOROBENZENE	<	1.300
NITROBENZENE	<	300
BENZYL ALCOHOL	<	00
CHRYSENE	<	1.300
n-NITROSODIPHENYLAMINE	<	1.300
n-NITROSO-di-n-PROPYLAMINE	<	1.300
HEXACHLOROETHANE	<	1.300
BIS(2-CHLOROETHYL)ETHER	<	1.300
BIS(2-CHLOROISOPROPYL)ETHER	<	1.300
4-BROMOPHENYL-PHENYLETHER	<	1.300
4-CHLOROPHENYL-PHENYLETHER	<	1.300
FLUORANTHENE	<	1.300
FLUORENE	<	1.300
BENZO(beta)FLUORANTHENE	<	1.300
BENZO(kappa)FLUORANTHENE	<	1.300
DIBENZOFURAN	<	1.300
BIS(2-CHLOROETHOXY)METHANE	<	1.300
ISOPHORONE	<	1.300
NAPHTHALENE	<	1.300
2-CHLORONAPHTHALENE	<	1.300
2-METHYLNAPHTHALENE	<	1.300
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.300
PHENANTHRENE	<	300
di-n-BUTYLPHTHALATE	BJ	30
DIETHYLPHTHALATE	<	1.300
DIMETHYLPHTHALATE	<	1.300
di-n-OCTYLPHTHALATE	<	1.300
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.280
BUTYLBENZYLPHTHALATE	<	1.300
PYRENE	<	1.300
BENZO(alpha)PYRENE	<	1.300
INDENO(1,2,3-c,d)PYRENE	<	1.300
2,4-DINITROTOLUENE	<	1.300
2,6-DINITROTOLUENE	<	1.300
HEXACHLOROBUTADIENE	<	1.300

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.300
2-CHLOROPHENOL	<	1.300
2,4-DICHLOROPHENOL	<	1.300
2,4,5-TRICHLOROPHENOL	<	6.400
2,4,6-TRICHLOROPHENOL	<	1.300
PENTACHLOROPHENOL	<	6.400
2-METHYLPHENOL	<	1.300
4-METHYLPHENOL	<	1.300
2,4-DIMETHYLPHENOL	<	1.300
4-CHLORO-3-METHYLPHENOL	<	1.300
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.300
4-NITROPHENOL	<	6.400
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	1.800
BENZENE	J	0.001
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.029
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.011
TRICHLOROMETHANE (CHLOROFORM)	B	0.007
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	BJ	0.002
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:117-87

LAB NUMBER:70700731 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:4 GREEN SUNFISH
COLLECTION DATE:28-May-1987 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):8.8 RANGE(CM):7.8-10.2 MEAN WEIGHT(GM):14 RANGE(GM):10-20 %LIPID:2.90

METALS		(MG/KG)
ALUMINUM		32.700
ANTIMONY	<	2.000
ARSENIC	<	1.300
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		7900.00
CHROMIUM		1.300
COBALT	<	5.000
COPPER		3.600
IRON		25.300
LEAD		0.600
MAGNESIUM		470.000
MANGANESE		3.800
MERCURY		0.080
NICKEL	<	4.000
POTASSIUM		3270.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		640.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		30.900

PESTICIDES		(MG/KG)
ALDRIN		1.300
alpha-BHC	<	0.080
beta-BHC	<	0.080
delta-BHC	<	0.080
gamma-BHC	<	0.080
alpha-CHLORDANE	<	0.080
gamma-CHLORDANE		0.280
cis-NONACHLOR	<	0.080
trans-NONACHLOR	<	0.080
OXYCHLORDANE	<	0.080
p,p'-DDD	<	0.100
o,p'-DDD	<	0.100
p,p'-DDE		0.059
o,p'-DDE		1.500
p,p'-DDT	<	0.100
o,p'-DDT	<	0.100
DIELDRIN	<	0.100
ENDOSULFAN I	<	0.200
ENDOSULFAN II	<	0.200
ENDOSULFAN SULFATE	<	0.200
ENDRIN	<	0.100
ENDRIN ALDEHYDE	<	0.100
ENDRIN KETONE	<	0.100
HEPTACHLOR		0.840
HEPTACHLOR EPOXIDE		0.061
HEXACHLOROBENZENE	<	0.100
METHOXYCHLOR	<	0.200
PENTACHLOROANISOLE	<	0.080
TOXAPHENE		NA

TOTAL PCB 110.000 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	1.500
ACENAPHTHENE	<	1.500
4-CHLOROANILINE	<	1.500
2-NITROANILINE	<	7.100
3-NITROANILINE	<	7.100
4-NITROANILINE	<	7.100
ANTHRACENE	<	1.500
BENZO(a)ANTHRACENE	<	1.500
DIBENZO(a,h)ANTHRACENE	<	1.500
3,3'-DICHLOROBENZIDINE	<	2.900
1,2-DICHLOROBENZENE	<	1.500
1,3-DICHLOROBENZENE	<	1.500
1,4-DICHLOROBENZENE	<	1.500
1,2,4-TRICHLORBENZENE	<	1.500
HEXACHLOROBENZENE	<	1.500
NITROBENZENE	<	1.500
BENZYL ALCOHOL	<	1.500
CHRYSENE	<	1.500
n-NITROSODIPHENYLAMINE	<	1.500
n-NITROSO-di-n-PROPYLAMINE	<	1.500
HEXACHLOROETHANE	<	1.500
BIS(2-CHLOROETHYL)ETHER	<	1.500
BIS(2-CHLOROISOPROPYL)ETHER	<	1.500
4-BROMOPHENYL-PHENYLETHER	<	1.500
4-CHLOROPHENYL-PHENYLETHER	<	1.500
FLUORANTHENE	<	1.500
FLUORENE	<	1.500
BENZO(beta)FLUORANTHENE	<	1.500
BENZO(kappa)FLUORANTHENE	<	1.500
DIBENZOFURAN	<	1.500
BIS(2-CHLOROETHOXY)METHANE	<	1.500
ISOPHORONE	<	1.500
NAPHTHALENE	<	1.500
2-CHLORONAPHTHALENE	<	1.500
2-METHYLNAPHTHALENE	<	1.500
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	1.500
PHENANTHRENE	<	1.500
di-n-BUTYLPHTHALATE	<	1.500
DIETHYLPHTHALATE	<	1.500
DIMETHYLPHTHALATE	<	1.500
di-n-OCTYLPHTHALATE	<	1.500
BIS(2-ETHYLHEXYL)PHTHALATE	J	0.310
BUTYLBENZYLPHTHALATE	<	1.500
PYRENE	<	1.500
BENZO(alpha)PYRENE	<	1.500
INDENO(1,2,3-c,d)PYRENE	<	1.500
2,4-DINITROTOLUENE	<	1.500
2,6-DINITROTOLUENE	<	1.500
HEXACHLOROBUTADIENE	<	1.500

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	<	1.500
2-CHLOROPHENOL	<	1.500
2,4-DICHLOROPHENOL	<	1.500
2,4,5-TRICHLOROPHENOL	<	7.100
2,4,6-TRICHLOROPHENOL	<	1.500
PENTACHLOROPHENOL	<	7.100
2-METHYLPHENOL	<	1.500
4-METHYLPHENOL	<	1.500
2,4-DIMETHYLPHENOL	<	1.500
4-CHLORO-3-METHYLPHENOL	<	1.500
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	1.500
4-NITROPHENOL	<	7.100
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	3.400
BENZENE		0.006
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	B	0.031
CARBON DISULFIDE	<	0.005
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.020
TRICHLOROMETHANE (CHLOROFORM)	B	0.010
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	B	0.013
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	<	0.005

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
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PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:147-87

LAB NUMBER:70700761 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:3 COMMON WHITE SUCKER
COLLECTION DATE:17-Jun-1987 LOCATION:@ MT. PLEASANT RD. BEDFORD, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):22.7 RANGE(CM):18.0-27.0 MEAN WEIGHT(GM):104 RANGE(GM):57-142 %LIPID:4.54

METALS		(MG/KG)
ALUMINUM		89.500
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		18000.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		45.200
IRON		59.500
LEAD	<	0.500
MAGNESIUM		570.000
MANGANESE		11.400
MERCURY		0.092
NICKEL	<	4.000
POTASSIUM		2950.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1240.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		46.200

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	[illegible]
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE		6
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	BJ	0.410
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	0.110
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	BE	0.460
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.009
TRICHLOROMETHANE (CHLOROFORM)	B	0.006
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	<	0.005
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.004

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1994
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:147-87

LAB NUMBER:70700761 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:3 COMMON WHITE SUCKER
COLLECTION DATE:17-Jun-1987 LOCATION:@ MT. PLEASANT RD. BEDFORD, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):22.7 RANGE(CM):18.0-27.0 MEAN WEIGHT(GM):104 RANGE(GM):57-142 %LIPID:4.54

METALS		(MG/KG)
ALUMINUM		89.500
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM	<	0.500
CALCIUM		18000.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER		45.200
IRON		59.500
LEAD	<	0.500
MAGNESIUM		570.000
MANGANESE		11.400
MERCURY		0.092
NICKEL	<	4.000
POTASSIUM		2950.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1240.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		46.200

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE		6.500
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	BJ	0.410
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	B	0.110
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE	BE	0.460
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.009
TRICHLOROMETHANE (CHLOROFORM)	B	0.006
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	<	0.005
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.004

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:148-87

LAB NUMBER:70700762 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:2 CREEK CHUB
COLLECTION DATE:17-Jun-1987 LOCATION:@ MT. PLEASANT RD. BEDFORD, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):16.8 RANGE(CM):16.5-17.0 MEAN WEIGHT(GM):57 RANGE(GM):57-57 %LIPID:4.33

METALS		(MG/KG)
ALUMINUM		21.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		0.700
CALCIUM		11700.00
CHROMIUM	<	1.000
COBALT	<	5.000
COPPER	<	2.500
IRON		14.800
LEAD	<	0.500
MAGNESIUM		430.000
MANGANESE		1.700
MERCURY		0.097
NICKEL	<	4.000
POTASSIUM		2730.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		980.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		25.200

PESTICIDES		(MG/KG)
ALDRIN	<	0.021
alpha-BHC	<	0.013
beta-BHC		0.016
delta-BHC	<	0.013
gamma-BHC	<	0.013
alpha-CHLORDANE	<	0.013
gamma-CHLORDANE	<	0.013
cis-NONACHLOR	<	0.013
trans-NONACHLOR	<	0.013
OXYCHLORDANE	<	0.013
p,p'-DDD	<	0.016
o,p'-DDD	<	0.016
p,p'-DDE	<	0.016
o,p'-DDE	<	0.016
p,p'-DDT	<	0.016
o,p'-DDT	<	0.016
DIELDRIN	<	0.016
ENDOSULFAN I	<	0.032
ENDOSULFAN II	<	0.032
ENDOSULFAN SULFATE	<	0.032
ENDRIN	<	0.016
ENDRIN ALDEHYDE	<	0.016
ENDRIN KETONE	<	0.016
HEPTACHLOR	<	0.021
HEPTACHLOR EPOXIDE	<	0.013
HEXACHLOROBENZENE	<	0.016
METHOXYCHLOR	<	0.032
PENTACHLOROANISOLE	<	0.013
TOXAPHENE		NA

TOTAL PCB 0.120 MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	660
BENZYL ALCOHOL	<	660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	660
di-n-BUTYLPHTHALATE	E	00
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	BJ	0.200
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.220
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.045
CARBON DISULFIDE	J	0.002
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	B	0.027
TRICHLOROMETHANE (CHLOROFORM)		0.014
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.004
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.002

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES, MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:149-87

LAB NUMBER:70700763 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:3 1-LONGEAR, 2-GREEN
COLLECTION DATE:17-Jun-1987 LOCATION:@ MT. PLEASANT RD. BEDFORD, IN LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):10.0 RANGE(CM):9.0-12.0 MEAN WEIGHT(GM):23 RANGE(GM):14-42 %LIPID:2.61

METALS		(MG/KG)
ALUMINUM		178.000
ANTIMONY	<	2.000
ARSENIC	<	1.000
BARIUM	<	5.000
BERYLLIUM	<	0.500
CADMIUM		0.500
CALCIUM		18900.00
CHROMIUM		1.200
COBALT	<	5.000
COPPER		22.900
IRON		141.000
LEAD		0.700
MAGNESIUM		570.000
MANGANESE		8.400
MERCURY		NA
NICKEL	<	4.000
POTASSIUM		3020.000
SELENIUM	<	1.000
SILVER	<	0.500
SODIUM		1290.000
THALLIUM	<	2.000
VANADIUM	<	5.000
ZINC		42.800

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB NA MG/KG

BASE/NEUTRAL EXTRACTABLE COMPOUNDS		(MG/KG)
ACENAPHTHYLENE	<	0.660
ACENAPHTHENE	<	0.660
4-CHLOROANILINE	<	0.660
2-NITROANILINE	<	3.200
3-NITROANILINE	<	3.200
4-NITROANILINE	<	3.200
ANTHRACENE	<	0.660
BENZO(a)ANTHRACENE	<	0.660
DIBENZO(a,h)ANTHRACENE	<	0.660
3,3'-DICHLOROBENZIDINE	<	1.300
1,2-DICHLOROBENZENE	<	0.660
1,3-DICHLOROBENZENE	<	0.660
1,4-DICHLOROBENZENE	<	0.660
1,2,4-TRICHLORBENZENE	<	0.660
HEXACHLOROBENZENE	<	0.660
NITROBENZENE	<	0.660
BENZYL ALCOHOL	<	0.660
CHRYSENE	<	0.660
n-NITROSODIPHENYLAMINE	<	0.660
n-NITROSO-di-n-PROPYLAMINE	<	0.660
HEXACHLOROETHANE	<	0.660
BIS(2-CHLOROETHYL)ETHER	<	0.660
BIS(2-CHLOROISOPROPYL)ETHER	<	0.660
4-BROMOPHENYL-PHENYLETHER	<	0.660
4-CHLOROPHENYL-PHENYLETHER	<	0.660
FLUORANTHENE	<	0.660
FLUORENE	<	0.660
BENZO(beta)FLUORANTHENE	<	0.660
BENZO(kappa)FLUORANTHENE	<	0.660
DIBENZOFURAN	<	0.660
BIS(2-CHLOROETHOXY)METHANE	<	0.660
ISOPHORONE	<	0.660
NAPHTHALENE	<	0.660
2-CHLORONAPHTHALENE	<	0.660
2-METHYLNAPHTHALENE	<	0.660
HEXACHLOROCYCLOPENTADIENE		NA
BENZO(ghi)PERYLENE	<	0.660
PHENANTHRENE	<	0.660
di-n-BUTYLPHTHALATE		6.500
DIETHYLPHTHALATE	<	0.660
DIMETHYLPHTHALATE	<	0.660
di-n-OCTYLPHTHALATE	<	0.660
BIS(2-ETHYLHEXYL)PHTHALATE	<	0.660
BUTYLBENZYLPHTHALATE	<	0.660
PYRENE	<	0.660
BENZO(alpha)PYRENE	<	0.660
INDENO(1,2,3-c,d)PYRENE	<	0.660
2,4-DINITROTOLUENE	<	0.660
2,6-DINITROTOLUENE	<	0.660
HEXACHLOROBUTADIENE	<	0.660

ACID EXTRACTABLE COMPOUNDS		(MG/KG)
BENZOIC ACID		NA
PHENOL	BJ	0.200
2-CHLOROPHENOL	<	0.660
2,4-DICHLOROPHENOL	<	0.660
2,4,5-TRICHLOROPHENOL	<	3.200
2,4,6-TRICHLOROPHENOL	<	0.660
PENTACHLOROPHENOL	<	3.200
2-METHYLPHENOL	<	0.660
4-METHYLPHENOL	<	0.660
2,4-DIMETHYLPHENOL	<	0.660
4-CHLORO-3-METHYLPHENOL	<	0.660
4,6-DINITRO-2-METHYLPHENOL		NA
2-NITROPHENOL	<	0.660
4-NITROPHENOL	<	3.200
2,4-DINITROPHENOL		NA

VOLATILE ORGANIC COMPOUNDS		(MG/KG)
ACETONE	BE	0.240
BENZENE	<	0.005
CHLOROBENZENE	<	0.005
ETHYLBENZENE	<	0.005
2-BUTANONE		0.041
CARBON DISULFIDE	J	0.001
CHLOROETHANE	<	0.010
1,1-DICHLOROETHANE	<	0.005
1,2-DICHLOROETHANE	<	0.005
1,1,1-TRICHLOROETHANE	<	0.005
1,1,2-TRICHLOROETHANE	<	0.005
1,1,2,2-TETRACHLORETHANE	<	0.005
1,1-DICHLOROETHYLENE	<	0.005
1,2-DICHLOROETHYLENE	<	0.005
TRICHLOROETHYLENE(TOTAL)	<	0.005
TETRACHLOROETHYLENE	<	0.005
2-HEXANONE	<	0.010
BROMOMETHANE	<	0.050
TRIBROMOMETHANE (BROMOFORM)	<	0.025
BROMODICHLOROMETHANE	<	0.025
DIBROMOCHLOROMETHANE	<	0.025
CHLOROMETHANE	<	0.010
DICHLOROMETHANE (METHYLENE CHLORIDE)	BJ	0.016
TRICHLOROMETHANE (CHLOROFORM)		0.009
TETRACHLOROMETHANE (CARBON TETRACHLORIDE)	<	0.025
4-METHYL-2-PENTANONE	<	0.010
1,2-DICHLOROPROPANE	<	0.005
c-1,3-DICHLOROPROPYLENE	<	0.025
t-1,3-DICHLOROPROPYLENE	<	0.025
STYRENE	<	0.005
TOLUENE	J	0.002
VINYL ACETATE		NA
VINYL CHLORIDE	<	0.010
TOTAL XYLENE	J	0.002

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:064-93

LAB NUMBER:30900811 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:16 SPOTTED BASS
COLLECTION DATE:01-Sep-1993 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):11.0 RANGE(CM):6.6-21.7 MEAN WEIGHT(GM):18 RANGE(GM):1-132 %LIPID:3.82

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.020
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.100
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	1.600
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.015
gamma-CHLORDANE		0.060
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.015
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.038
p,p'-DDE	<	2.000
o,p'-DDE	<	2.010
p,p'-DDT	<	2.010
o,p'-DDT	<	2.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.040
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	1.600
HEPTACHLOR EPOXIDE	<	0.056
HEXACHLOROBENZENE	<	2.000
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	1.608
TOXAPHENE	<	0.200

TOTAL PCB	220.000 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:065-93

LAB NUMBER:30900812 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:20 WHITE SUCKER
COLLECTION DATE:01-Sep-1993 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):14.6 RANGE(CM):12.0-21.5 MEAN WEIGHT(GM):27 RANGE(GM):8-88 %LIPID:5.52

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.040
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	S	0.080
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.060
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	1.600
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE		0.022
gamma-CHLORDANE	<	0.060
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.019
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.038
p,p'-DDE	<	2.000
o,p'-DDE	<	2.010
p,p'-DDT	<	2.010
o,p'-DDT	<	2.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.042
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.018
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	1.600
HEPTACHLOR EPOXIDE	<	0.089
HEXACHLOROBENZENE	<	2.000
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	1.608
TOXAPHENE	<	0.200

TOTAL PCB 260.000 MG/KG

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RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINANT ANALYTICAL RESULTS
HAZLETON ENVIRONMENTAL SERVICES, INC

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC METHOD

LABORATORY ID #:30900812

IDEM SAMPLE #:065-93

SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE LOCATION:D/S GMC, PEERLESS RD.
DATE OF COLLECTION:01-Sep-1993

SPECIES:20-WHITE SUCKER PREPARATION:WHOLE
LENGTH RANGE:12.0-21.5 CM MEAN LENGTH:14.6 CM WEIGHT RANGE:8-88 GM MEAN WEIGHT:27 GM

PERCENT LIPID:5.52% PERCENT MOISTURE:76.20%

		HPLC METHOD (ug/kg)
NAPHTHALENE	<	100.000
1-METHYL NAPHTHALENE	<	100.000
2-METHYL NAPHTHALENE	<	100.000
ACENAPHTHYLENE	<	125.000
ACENAPHTHENE	<	49.900
FLUORENE	<	10.000
PHENANTHRENE		10.200
ANTHRACENE	<	7.480
FLUORANTHENE	<	7.480
PYRENE	<	7.480
BENZO(a)ANTHRACENE	<	4.990
CHRYSENE	<	4.990
BENZO(b)FLUORANTHENE	<	10.000
BENZO(k)FLUORANTHENE	<	4.990
BENZO(a)PYRENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	15.000
BENZO(g,h,i)PERYLENE	<	12.500
INDENO(1,2,3-c,d)PYRENE	<	7.480

PRINT DATE:20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:066-93

LAB NUMBER:30900813 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:20 CREEK CHUB
COLLECTION DATE:01-Sep-1993 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):13.5 RANGE(CM):11.5-16.5 MEAN WEIGHT(GM):21 RANGE(GM):8-40 %LIPID:6.64

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.070
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.030
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	4.000
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.015
gamma-BHC	<	0.008
alpha-CHLORDANE		0.015
gamma-CHLORDANE	<	0.022
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.026
OXYCHLORDANE	<	0.020
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	5.000
o,p'-DDE	<	5.010
p,p'-DDT	<	5.010
o,p'-DDT	<	5.010
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.019
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	4.000
HEPTACHLOR EPOXIDE	<	0.021
HEXACHLOROBENZENE	<	5.000
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	4.008
TOXAPHENE	<	0.200

TOTAL PCB	330.000 MG/KG

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RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINANT ANALYTICAL RESULTS
HAZLETON ENVIRONMENTAL SERVICES, INC

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC METHOD

| LABORATORY ID #:30900813 |

| IDEM SAMPLE #:066-93 |

SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE LOCATION:D/S GMC, PEERLESS RD.
DATE OF COLLECTION:01-Sep-1993

SPECIES:20-CREEK CHUB PREPARATION:WHOLE
LENGTH RANGE:11.5-16.5 CM MEAN LENGTH:13.5 CM WEIGHT RANGE:8-40 GM MEAN WEIGHT:21 GM

PERCENT LIPID:6.64% PERCENT MOISTURE:75.80%

		HPLC METHOD (ug/kg)
NAPHTHALENE	<	100.000
1-METHYL NAPHTHALENE	<	100.000
2-METHYL NAPHTHALENE	<	100.000
ACENAPHTHYLENE	<	125.000
ACENAPHTHENE	<	49.900
FLUORENE	<	10.000
PHENANTHRENE		13.000
ANTHRACENE	<	7.480
FLUORANTHENE	<	7.480
PYRENE	<	7.480
BENZO(a)ANTHRACENE	<	4.990
CHRYSENE	<	4.990
BENZO(b)FLUORANTHENE	<	10.000
BENZO(k)FLUORANTHENE	<	4.990
BENZO(a)PYRENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	15.000
BENZO(g,h,i)PERYLENE	<	12.500
INDENO(1,2,3-c,d)PYRENE	<	7.480

PRINT DATE:20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:066-93D

LAB NUMBER:30900818 D SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:20 CREEK CHUB
COLLECTION DATE:01-Sep-1993 LOCATION:D/S GMC, PEERLESS RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):13.5 RANGE(CM):11.5-16.5 MEAN WEIGHT(GM):21 RANGE(GM):8-40 %LIPID:6.64

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.068
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.032
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.068
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES	(MG/KG)
ALDRIN	NA
alpha-BHC	NA
beta-BHC	NA
delta-BHC	NA
gamma-BHC	NA
alpha-CHLORDANE	NA
gamma-CHLORDANE	NA
cis-NONACHLOR	NA
trans-NONACHLOR	NA
OXYCHLORDANE	NA
p,p'-DDD	NA
o,p'-DDD	NA
p,p'-DDE	NA
o,p'-DDE	NA
p,p'-DDT	NA
o,p'-DDT	NA
DIELDRIN	NA
ENDOSULFAN I	NA
ENDOSULFAN II	NA
ENDOSULFAN SULFATE	NA
ENDRIN	NA
ENDRIN ALDEHYDE	NA
ENDRIN KETONE	NA
HEPTACHLOR	NA
HEPTACHLOR EPOXIDE	NA
HEXACHLOROBENZENE	NA
METHOXYCHLOR	NA
PENTACHLOROANISOLE	NA
TOXAPHENE	NA

TOTAL PCB	NA	MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
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PRINT DATE: 20-Oct-

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:067-93

LAB NUMBER:30900814 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:11 CREEK CHUB
COLLECTION DATE:02-Sep-1993 LOCATION:U/S GMC, MT. PLEASANT RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):17.2 RANGE(CM):15.6-19.5 MEAN WEIGHT(GM):58 RANGE(GM):42-78 %LIPID:4.02

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.030
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.020
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.090
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR		0.021
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.036
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	5.800 MG/KG

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PRINT DATE: 20-Oct-19

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINANT ANALYTICAL RESULTS
HAZLETON ENVIRONMENTAL SERVICES, INC

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC METHOD

| LABORATORY ID #:30900814 |

| IDEM SAMPLE #:067-93 |

SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE LOCATION:U/S GMC, MT. PLEASANT RD.
DATE OF COLLECTION:02-Sep-1993

SPECIES:11-CREEK CHUB PREPARATION:WHOLE
LENGTH RANGE:15.6-19.5 CM MEAN LENGTH:17.2 CM WEIGHT RANGE:42-78 GM MEAN WEIGHT:58 GM

PERCENT LIPID:4.02% PERCENT MOISTURE:77.30%

		HPLC METHOD (ug/kg)
NAPHTHALENE	<	100.000
1-METHYL NAPHTHALENE	<	100.000
2-METHYL NAPHTHALENE	<	100.000
ACENAPHTHYLENE	<	125.000
ACENAPHTHENE	<	50.000
FLUORENE	<	10.000
PHENANTHRENE	<	5.000
ANTHRACENE	<	7.490
FLUORANTHENE	<	7.490
PYRENE	<	7.490
BENZO(a)ANTHRACENE	<	5.000
CHRYSENE	<	5.000
BENZO(b)FLUORANTHENE	<	10.000
BENZO(k)FLUORANTHENE	<	5.000
BENZO(a)PYRENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	15.000
BENZO(g,h,i)PERYLENE	<	12.500
INDENO(1,2,3-c,d)PYRENE	<	7.490

PRINT DATE:20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:069-93

LAB NUMBER:30900816 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:7 WHITE SUCKER
COLLECTION DATE:02-Sep-1993 LOCATION:U/S GMC, MT. PLEASANT RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):23.0 RANGE(CM):21.0-25.4 MEAN WEIGHT(GM):124 RANGE(GM):86-168 %LIPID:4.40

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM	W	0.020
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.050
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.070
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.008
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.016
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.010
o,p'-DDE	<	0.020
p,p'-DDT	<	0.020
o,p'-DDT	<	0.020
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.015
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.010
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.016
TOXAPHENE	<	0.010

TOTAL PCB	1.600 MG/KG

page 1 of 2

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE PRINT DATE: 20-Oct-1
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINANT ANALYTICAL RESULTS
HAZLETON ENVIRONMENTAL SERVICES, INC

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC METHOD

| LABORATORY ID #:30900816 |

| IDEM SAMPLE #:069-93 |

SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE LOCATION:U/S GMC, MT. PLEASANT RD.
DATE OF COLLECTION:02-Sep-1993

SPECIES:7-WHITE SUCKER PREPARATION:WHOLE
LENGTH RANGE:21.0-25.4 CM MEAN LENGTH:23.0 CM WEIGHT RANGE:86-168 GM MEAN WEIGHT:124 GM

PERCENT LIPID:4.40% PERCENT MOISTURE:76.90%

		HPLC METHOD (ug/kg)
NAPHTHALENE	<	100.000
1-METHYL NAPHTHALENE	<	100.000
2-METHYL NAPHTHALENE	<	100.000
ACENAPHTHYLENE	<	125.000
ACENAPHTHENE	<	50.000
FLUORENE	<	10.000
PHENANTHRENE	<	5.000
ANTHRACENE	<	7.500
FLUORANTHENE	<	7.500
PYRENE	<	7.500
BENZO(a)ANTHRACENE	<	5.000
CHRYSENE	<	5.000
BENZO(b)FLUORANTHENE	<	10.000
BENZO(k)FLUORANTHENE	<	5.000
BENZO(a)PYRENE	<	10.000
DIBENZO(a,h)ANTHRACENE	<	15.000
BENZO(g,h,i)PERYLENE	<	12.500
INDENO(1,2,3-c,d)PYRENE	<	7.500

PRINT DATE:20-Oct-1994

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OWM-BIOLOGICAL STUDIES
FISH TISSUE CONTAMINATION RESULTS
IDEM SAMPLE NUMBER:068-93

LAB NUMBER:30900815 SITE:PLEASANT RUN CREEK COUNTY:LAWRENCE | SPECIES:8 LONGEAR SUNFISH
COLLECTION DATE:02-Sep-1993 LOCATION:U/S GMC, MT. PLEASANT RD. LAB:H | PREPARATION:WHOLE

MEAN LENGTH(CM):13.6 RANGE(CM):11.8-15.5 MEAN WEIGHT(GM):57 RANGE(GM):36-92 %LIPID:4.61

METALS		(MG/KG)
ALUMINUM		NA
ANTIMONY		NA
ARSENIC		NA
BARIUM		NA
BERYLLIUM		NA
CADMIUM		0.010
CALCIUM		NA
CHROMIUM		NA
COBALT		NA
COPPER		NA
IRON		NA
LEAD	B	0.030
MAGNESIUM		NA
MANGANESE		NA
MERCURY		0.080
NICKEL		NA
POTASSIUM		NA
SELENIUM		NA
SILVER		NA
SODIUM		NA
THALLIUM		NA
VANADIUM		NA
ZINC		NA

PESTICIDES		(MG/KG)
ALDRIN	<	0.040
alpha-BHC	<	0.008
beta-BHC	<	0.008
delta-BHC	<	0.008
gamma-BHC	<	0.008
alpha-CHLORDANE	<	0.008
gamma-CHLORDANE	<	0.008
cis-NONACHLOR	<	0.008
trans-NONACHLOR	<	0.048
OXYCHLORDANE	<	0.008
p,p'-DDD	<	0.010
o,p'-DDD	<	0.010
p,p'-DDE	<	0.050
o,p'-DDE	<	0.060
p,p'-DDT	<	0.060
o,p'-DDT	<	0.060
DIELDRIN	<	0.010
ENDOSULFAN I	<	0.020
ENDOSULFAN II	<	0.020
ENDOSULFAN SULFATE	<	0.020
ENDRIN	<	0.010
ENDRIN ALDEHYDE	<	0.010
ENDRIN KETONE	<	0.010
HEPTACHLOR	<	0.040
HEPTACHLOR EPOXIDE	<	0.008
HEXACHLOROBENZENE	<	0.050
METHOXYCHLOR	<	0.020
PENTACHLOROANISOLE	<	0.048
TOXAPHENE	<	0.010

TOTAL PCB	19.000 MG/KG

RESULTS REPORTED ON A WHOLE SAMPLE BASIS. D=DUPLICATE
H=HAZLETON ENVIRONMENTAL SERVICES,MADISON, WI I=ISDH FOOD AND DRUG LAB
NA=NOT ANALYZED ND=NONE DETECTED
OTHER FLAGS ARE EXPLAINED ON A SEPARATE SHEET

PRINT DATE: 20-Oct-

ISDH
FAX

INDIANA STATE DEPARTMENT OF HEALTH
FAX NUMBER: 317/633-0847

TO: Lee Bridges DATE: 9-7-93

FROM: Gregory Steele, Dr.P.H.
Environmental Epidemiology Section
Epidemiology Resource Center
1330 West Michigan Street
Indianapolis, IN 46206

FAX NUMBER: 243-5092 PHONE: 317/633-0808

TOTAL PAGES: 2

REMARKS: Salt Creek Fish Lengths

Salt Creek (Monroe tailwater) fish samples
Collection date: 5/28/92
Collectors: Andrews, Flatt, Carnahan

fillets

PCBs	%lipid	Sample No.	Species	Length (inch)	Weight (lb)
1.64 (1.44)	3.19 (3.29)	1	Walleye	21.4	3.15
1.257	0.289	2	Walleye	15.1	1.01
3.74	6.93	3	Freshwater Drum	15.7	1.76
1.088	0.0601	4	Hybrid striped bass	11.6	0.69
1.313	0.235	5	Hybrid striped bass	11.8	0.80
1.0854	1.06	6	Yellow bass	8.3	0.31
1.0579	0.399	7	Yellow bass	8.4	0.29
1.0578	0.503	8	White crappie	7.5	0.20
1.150	0.0614	9	White crappie	7.3	0.16
0.139	0.200	10	Bluegill	7.0	0.27

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM— 4383

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish labeled "In Valley Monroe Tail 5/28/92"

Code(s)

Amount of Product Before Sampling fillets - 21 4 length
Obtained in/Possession of Salt Creek (Monroe tailwater)
Amount Collected as Sample ~~entire lot~~ 1 package
No. of Containers (Subs) 1 Price Paid NC
Sample Sealed With Official Seals Marked

Manufacturer/Distributor
Address
Firm or Person In Possession of Lot DNR
Person From Whom You Obtained Sample Carnahan + Andrews Title biologist
Reason for Sampling for admission - routine

Remarks:
☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Shirley K. Vargas / Carnahan, Andrews, Flatt
Analysis Requested PCB's
Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 625
Date Rec'd 5-28-92
Cond. of Com. FROZEN
State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS
Date Seal Broken
Sign. of Seal Breaker
Ana. Started 6-1-92
Ana. Finished 6-15-92
Sample Storage
1. Pre-Analysis Freez.-467
2. Post Analysis " "
3. Date Discarded

☐ Discard ☑ Hold 60 days
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. T Curran Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Reg Stock for admission SKV

Sign. _____ Date _____

CC: _____

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4383 CHLD# 625

A. BACTERIOLOGICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

B. MICROANALYTICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 3.19
Duplicate % Fat = 3.29

	PPM Fat Basis	PPM Whole Sample Basis
PCB	51.5	1.64
Duplicate PCB	43.8	1.44

Analyst. R.L.S..... Date 6/18/92

Reviewed by: K. Wall Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM—4384

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fillets of fish labled "2. Walleye Salt Ck | Monroe Tail 5/28/92

Code(s) _____

Amount of Product Before Sampling _____
Collected in/Possession of Salt Creek (Monroe Tail Water)
Amount Collected as Sample 1 package
No. of Containers (Subs) 1 Price Paid NC
Sample Sealed With Official Seals Marked _____
Manufacturer/Distributor _____
Address _____
Firm or Person In Possession of Lot DNR
Person From Whom You Obtained Sample Carnahan Andrews Title biologists
Reason for Sampling for adversary - routine

Remarks:
☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Carnahan, Andrews, Slatt/SKV
Analysis Requested PCB's
Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K Vasquez

BUREAU OF LABORATORIES
Sample Record

Lab. No. 626
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification ITS NOTED
Sign. of Lab Identifier RLS
Date Seal Broken _____
Sign. of Seal Breaker —

Ana. Started 6-2-92
Ana. Finished 6-18-92
Sample Storage
1. Pre-Analysis Freezer
2. Post Analysis " "
3. Date Discarded _____

☐ Discard ☒ Hold 60 days
☐ Released to: _____

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/15/92

CONCLUSION AND RECOMMENDED ACTION

Given to Shirley Slatt for service SKV

Sign. _____ Date _____

cc:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4384 CHLD# 626

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.289

	PPM Fat Basis	PPM Whole Sample Basis
PCB	89.1	0.257

Analyst. RLS ..... Date 6/18/92

Reviewed by: [signature] Date 6/15/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM— 4385

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish fillets labeled "3. Drum Salt Ck. Monroe tail 5/28/92

Code(s)

Amount of Product Before Sampling

ated in/Possession of Salt Creek (Monroe Tailwaters)

Amount Collected as Sample 1 package

No. of Containers (Subs) 1 Price Paid N/C

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person In Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan & Andrews Title Biologists

Reason for Sampling Advisory — routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Glatt / SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargo

BUREAU OF LABORATORIES
Sample Record

Lab. No. 627
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6-1-91
Ana. Finished 6-18-92

Sample Storage
1. Pre-Analysis Freezer 46
2. Post Analysis " "
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. Tillman Date 6/18/92.

CONCLUSION AND RECOMMENDED ACTION

Return to Reg Stock for reissue SKV

Sign. _____ Date _____

cc:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4385 CHLD# 627

A. BACTERIOLOGICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

B. MICROANALYTICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 6.93

	PPM Fat Basis	PPM Whole Sample Basis
PCB	54.0	3.74

Analyst..... RLS Date 6/18/92

Reviewed by:..... Ken Neff Date 6/15/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM— 4386

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
Fish fillets labeled "4. Hybrid Striped Bass Salt Ck. Monroe trail 5/28/92

Code(s)

Amount of Product Before Sampling

ated in/Possession of Salt Creek (Monroe Tailwaters)

Amount Collected as Sample 1 package

No. of Containers (Subs) 1 Price Paid NC

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person in Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan + Andrews Title biologists

Reason for Sampling odour - routine

Remarks:
☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Platt | SKV

Analysis Requested PC Bis

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 628
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTE
Sign. of Lab Identifier RLS

Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6-2-92
Ana. Finished 6-15-92

Sample Storage
1. Pre-Analysis Freezer 467
2. Post Analysis " "
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Greg Stolz for seizure SKV

Sign. _____ Date _____

CC:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4386 CHLD# 628

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.0601

	PPM Fat Basis	PPM Whole Sample Basis
PCB	146	0.088

Analyst. RLS ..... Date 6/18/92

Reviewed by: [signature] Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM—4387

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

BUREAU OF LABORATORIES
Sample Record

Lab. No. 629
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

Description of Sample (type of product, type and condition of container, labeling) fish fillets labeled "F1 Hybrid Stripped Bass / Salt Ck. Monroe Tail / 5/28/92

Code(s) _____

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Amount of Product Before Sampling _____
Date Seal Broken —
Sign. of Seal Breaker —

Collected in/Possession of Salt Creek (Monroe Tailwater)
Amount Collected as Sample 1 package
No. of Containers (Subs) 1 Price Paid NC

Ana. Started 6-2-92
Ana. Finished 6-18-92

Sample Sealed With Official Seals Marked _____

Sample Storage
1. Pre-Analysis Evap-461
2. Post Analysis " "
3. Date Discarded _____

Manufacturer/Distributor _____
Address _____
Firm or Person In Possession of Lot DNR

☐ Discard ☐ Hold
☐ Released to: _____

Person From Whom You Obtained Sample Carnahan Andrews Title biologist

Reason for Sampling adhesion - routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Flott / SKV
Analysis Requested PCBs
Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargo

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. _____ Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Discuss to beg stock for removal SKV

Sign. _____ Date _____

CC: _____

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4387 CHLD# 629

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.235

	PPM Fat Basis	PPM Whole Sample Basis
PCB	133	0.313

Analyst. RLS ..... Date 6/18/92

Reviewed by: [illegible] Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM— 4388

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish fillets labeled "6. Yellow bass Salt Ck. Monroe Tail 5/28/92

Code(s)

Amount of Product Before Sampling

Collected in/Possession of Salt Creek (Monroe Tailwater)

Amount Collected as Sample Package No. of Containers (Subs) 1 Price Paid NC

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person In Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan & Andrews Title biologists

Reason for Sampling advisory - routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Flatt SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 630
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6/92
Ana. Finished 6-18-92

Sample Storage
1. Pre-Analysis Freezer 467
2. Post Analysis Freezer 467
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Hwy State for review SKV

Sign. _____ Date _____

cc:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4388 CHLD# 630

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 1.06

	PPM Fat Basis	PPM Whole Sample Basis
PCB	8.06	0.0854

Analyst... RLS ..... Date 6/18/92

Reviewed by: Hen Hall, Jr Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract
Type: _____

Date Collected 5-28-92 Sample Number RM— 1389

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish fillets labelled "Yellow bass Salt Ck. Monroe Trail 5/28/92

Code(s)

Amount of Product Before Sampling

Located in/Possession of Salt Creek (Monroe Trail Water)

Amount Collected as Sample

No. of Containers (Subs) 1 Price Paid

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person In Possession of Lot ~~Andrews~~ DNR

Person From Whom You Obtained Sample ~~Andrews~~ + Carnahan Title Biologists

Reason for Sampling ~~Andrews~~ - routine

Remarks:
☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Platt/SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K. Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 631
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6/4/92
Ana. Finished 6-18-92

Sample Storage
1. Pre-Analysis Freezer 46
2. Post Analysis Freezer 46
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Greg Steele for review SKV

Sign. _____ Date _____

CC: _____

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4389 CHLD# 631

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.399

	PPM Fat Basis	PPM Whole Sample Basis
PCB	14.5	0.0579

Analyst..RLS..... Date 6/18/92

Reviewed by: [signature] Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM—4390

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish fillets labeled "S. White Crappie Salt Ck Monroe Tail 5/28/92

Code(s)

Amount of Product Before Sampling

Collected in/Possession of Salt Creek (Monroe tail water)

Amount Collected as Sample 1 Package

No. of Containers (Subs) 1 Price Paid NC

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person In Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan + Andrews Title biologists

Reason for Sampling Advisory - routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Flatt/SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shelly K Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 632
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6/92
Ana. Finished 6-18-92

Sample Storage
1. Pre-Analysis Freezer-4
2. Post Analysis Freezer-4
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Greg Steele for review SKV

Sign. _____ Date _____

cc:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4390 CHLD# 632

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.503

	PPM Fat Basis	PPM Whole Sample Basis
PCB	11.5	0.0578

Analyst..RLS..... Date 6/18/92

Reviewed by: Hen Wells Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM— 1331

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

BUREAU OF LABORATORIES
Sample Record

Lab. No. 633
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

Description of Sample (type of product, type and condition of container, labeling): fish fillets labeled "9, White Croppid Salt Ck - Monroe tail 5/28/92

Code(s) _____

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS

Amount of Product Before Sampling _____
Date Seal Broken —
Located in/Possession of Salt Creek (Monroe Tailwater)
Sign. of Seal Breaker —

Amount Collected as Sample 1 package
No. of Containers (Subs) _____ Price Paid _____

Ana. Started 6/92
Ana. Finished 6-18-92

Sample Sealed With Official Seals Marked _____

Sample Storage
1. Pre-Analysis Freezer
2. Post Analysis " "
3. Date Discarded _____

Manufacturer/Distributor _____

Address _____

☐ Discard ☐ Hold
☐ Released to: _____

Firm or Person In Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan + Andrews Title biologists

Reason for Sampling advisory - routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Eldt/SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley K Vargas

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. T Eldridge Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Greg Steele for review SKV

Sign. _____ Date _____

CC: _____

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4391 CHLD# 633

A. BACTERIOLOGICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

B. MICROANALYTICAL:

Analyst..... Date __/__/__

Reviewed by:..... Date __/__/__

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.0614

	PPM Fat Basis	PPM Whole Sample Basis
PCB	244	0.150

Analyst. RLS..... Date 6/18/92

Reviewed by: Ken Miller Date 6/18/92

INDIANA STATE BOARD OF HEALTH
SAMPLE COLLECTION REPORT

☐ Contract Type: _____

Date Collected 5-28-92 Sample Number RM—1532

☐ From Consumer
☐ Collected as Follow-up
☐ Surveillance
☐ Official

Description of Sample (type of product, type and condition of container, labeling)
fish fillets labelled "10. Bluegill Salt Ck. Monroe Fail 5/25/92

Code(s)

Amount of Product Before Sampling

Collected in/Possession of Salt Creek (Monroe tailwater)

Amount Collected as Sample 1 package

No. of Containers (Subs) 1 Price Paid NC

Sample Sealed With Official Seals Marked

Manufacturer/Distributor

Address

Firm or Person In Possession of Lot DNR

Person From Whom You Obtained Sample Carnahan & Andrews Title biologist

Reason for Sampling advisory - routine

Remarks: ☐ See CONSUMER COMPLAINT REPORT FORM attached.
☐ See SUSPECTED FOOD—BORNE ILLNESS INVESTIGATION NARRATIVE REPORT FORM attached.

Signature of Sanitarian Who Collected Sample Andrews, Carnahan, Flatt / SKV

Analysis Requested PCB's

Signature of ISBH Sanitarian Who Delivered Sample to Laboratory Shirley A Vargas

BUREAU OF LABORATORIES
Sample Record

Lab. No. 634
Date Rec'd 5-28-92
Cond. of Cont. FROZEN

State Seal NONE
Identification AS NOTED
Sign. of Lab Identifier RLS
Date Seal Broken —
Sign. of Seal Breaker —

Ana. Started 6/9/92
Ana. Finished 6-18-92

Sample Storage
1. Pre-Analysis Freezer 4467
2. Post Analysis " "
3. Date Discarded

☐ Discard ☐ Hold
☐ Released to:

REPORT OF LABORATORY ANALYSIS

ATTACHMENT

Analyst RLS Date 6-18-92

LABORATORY REMARKS

Sign. [signature] Date 6/18/92

CONCLUSION AND RECOMMENDED ACTION

Given to Greg Steele for review SKV

Sign. _____ Date _____

cc:

LABORATORY ANALYSIS REPORT

DATA SHEET(S) FOR THE FOLLOWING SAMPLE(S):

RMF# 4392 CHLD# 634

A. BACTERIOLOGICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

B. MICROANALYTICAL:

Analyst..... Date __ / __ / __

Reviewed by:..... Date __ / __ / __

C. CHEMICAL:

Insufficient sample size for official method.
Screening Method with minimum Q.C. was used.

% Fat = 0.200

	PPM Fat Basis	PPM Whole Sample Basis
PCB	69.3	0.139

Analyst..RLS..... Date 6 / 18 / 92

Reviewed by: Hen Hall Date 6 / 18 / 92
