Final Report:
Routine Monitoring Program for Toxics in Fish

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EXECUTIVE SUMMARY

Currently, a number of freshwater lakes, rivers and reservoirs in the state of New Jersey are listed as impaired in the 303d Water Quality Assessment Report (DEP 2004) due to contaminants in fish. The 303d list drives the development of Total Maximum Daily Limits (TMDL) and other contaminant control strategies. Consumption advisories for fish are also based on contaminant information. By developing better monitoring tools, the accuracy of placing waterbodies on the 303d list and the specification of consumption advisories can be improved. In 2002, the state of New Jersey initiated a routine monitoring program in which samples are taken in one of 5 different regions each year, so that regions are resampled every five years. This report summarizes the results from the first routine monitoring study, conducted in 2002 in the Passaic Region. The results of this program will be used to amend existing advisories or, if necessary, develop new advisories, and to assist the NJDEP in evaluating trends in contaminant concentrations.

For this study, 448 analyses were done on 382 fish samples collected from 28 freshwater lakes, reservoirs and rivers within the Passaic River region of the State of New Jersey. Among sites previously sampled, sites and taxa which showed relatively high levels of contaminants in previous studies were chosen. Other taxa were analyzed which may be expected to have similar or higher contaminant concentrations based on species characteristics (trophic level, lipid content, benthic habitat, long life, etc.). New sites were chosen which may have the potential for contamination, based on potential sources of contamination, presence of species with high bioaccumulation potential, etc. Individual tissue samples were analyzed for one or more of three groups of contaminants: 1) chlorinated organic contaminants, including congener-specific PCBs, chlordanes (i.e., α and γ chlordane, heptachlor, heptachlor expoxide, cis- and trans- nonachlor) and o,p and p,p forms of DDE, DDT, and DDD (total DDTs); 2) total mercury; and /or 3) dioxins and furans. Information on size, lipid content and sex of fish were also taken.

Concentrations of mercury and PCBs were compared to NJ risk-based thresholds for consumption advisories. Concentrations of other contaminants were compared to available FDA action limits and USEPA screening values for recreational fishermen. For mercury, some advisories to high risk groups would be applicable to most species at most sites sampled. For low risk groups, advisories would be applicable to some fish (mostly larger predatory fish, carp and yellow bullhead) from a number of sites, especially some of the larger lakes. In addition to these relatively general recommendations, some sites of particular concern were noted such as: 1) Branch Brook Park; carp from this site showed relatively high concentrations of DDX, possibly indicating a local source. Consumption advisories based on mercury would also apply to some fish from this site; 2). Overpeck Creek; fish with relatively high levels of PCBs, DDX, chlordane, dieldrin and/or heptachlor epoxide were found at this site; 3). the Ramapo Lake, Ramapo River, Pompton Lake and Pompton River; some fish from these sites showed relatively high levels of mercury and/or PCBs. Some fish from Pompton Lake and Pompton River also showed relatively high concentrations of chlordane, dieldrin and/or heptachlor epoxide relative to SV; 4) Passaic River; fish from some sites showed relatively high concentrations of PCBs, DDX, chlordane, dieldrin, heptachlor epoxide and/or mercury based on risk-based criteria; fish from the Rockaway River at Powerville showed relatively high concentrations for the species analyzed; 5) Boonton Reservoir, Canistear Reservoir, Clinton Reservoir, Echo Lake, Monksville

Reservoir, Oak Ridge Reservoir, Sheppard Pond, Wanaque Reservoir and Wawayanda Lake, which had some fish for which do not eat advisories for high risk groups would be applicable for mercury. Other lakes, such as Greenwood Lake, Weequahic Lake, Lake Tappan, Split Rock Reservoir, Lake Oradell, Speedwell Lake, showed some fish with an advisory of eat less than 1 meal per month for high risk groups. A few largemouth bass from Boonton Reservoir showed relatively high concentrations of DDX and/or dieldrin relative to SV.

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INTRODUCTION

Background

In July 2002, the Academy of Natural Sciences (ANS) began a Routine Monitoring Program for Toxics in Fish for the New Jersey Department of Environmental Protection (NJDEP). The purpose of the monitoring program is to provide NJDEP with current and more comprehensive data on concentrations of toxic contaminants in fish and shellfish in order to assess human health risks and thus update/recommend fish consumption advisories. There has been a clear need for a continuous monitoring program for toxics in fish to regularly assess the status and trends of fish contamination and related consumption advisories in New Jersey waters, as many of the current consumption advisories are based on data up to 10 years old and there are limited data on some species and water bodies.

Fish and shellfish consumption advisories due to toxic chemical contamination were announced in New Jersey in the 1980s and 1990s. Data from Division of Science, Research and Technology (DSRT) studies revealed that unacceptable risks existed for eating certain species of fish and shellfish from particular waters in the State. These advisories particularly apply to pregnant women, nursing mothers and young children because polychlorinated biphenyls (PCBs), dioxin and mercury are known to cause birth defects, developmental problems, neurological problems and/or cancer (Appel 2003, Clarkson 2002,Watanabe and Satoh 1996, Schoeny 1996, Ratcliffe et al. 1996). However, until the implementation of this routine monitoring program, there has been no mechanism to regularly screen and update data on fish contamination.

New Jersey's "*Year 2000 Water Quality Inventory Report*" noted that 100% of assessed public lakes only partially support fish consumption designated use due to advisories to limit consumption and that 76% of assessed stream miles only partially support fish consumption designated use. However, both of these determinations were made on data between 5 and 10 years old.

In 1994, research on freshwater fish found mercury concentrations exceeding the risk-based health criteria established by the State. The NJDEP/Department of Health and Senior Services (DHSS) issued statewide, regional and lake-specific fish consumption advisories for two species, largemouth bass and chain pickerel. Additional data were developed and reported in ANSP (1999) and Ashley and Horwitz (2000). These data have been used to develop water quality assessments for specific waterways (see NJDEP 2004 for most current list). The state's 303d list of impaired sites (derived from the Clean Water Act) drives the development of Total Maximum Daily Limits (TMDL) and other contaminant control strategies. The results of this Routine Monitoring Program will be used to enhance waterbody assessments, to amend existing advisories or, if necessary, develop new advisories and to assist the NJDEP in evaluating trends in contaminant concentrations of these selected species.

Monitoring Program

The monitoring program developed by NJ DEP and implemented by ANS builds upon DSRT fish contamination research that identified:

- widespread mercury contamination in the fresh waters of the state;
- chlordane, PCB and dioxin contamination in site-specific locations; and
- PCB contamination, predominantly in several coastal estuarine and marine fish species.

The program focuses on collection of those fish species currently under consumption advisories from waterways identified as having a specified chemical contamination, and on providing new information on areas or taxa with little existing information. These data provide a tool to assess the status and trends of these contaminants in the state's aquatic systems.

Sampling Sites

Due to the large number of water bodies in the state, the sampling program is based on a rotating assessment of contamination of 5 regions of the state on a 5-year cycle:

1. Passaic River Region;
2. Marine/Estuarine Coastal Region.
3. Raritan River Region;
4. Atlantic Coastal Inland Waterways Region; and
5. Upper and Lower Delaware River Region;

Sampling in the Passaic Region commenced in July of 2002 and the majority of samples were collected by the fall of 2002 and Spring of 2003. Table 1 presents the Year-1 Routine Monitoring Program Sample Site List, which was developed by NJDEP. Numbers of samples are summarized in Table 2. The list incorporates some changes in scope made after the initiation of sampling. This list includes the selected sample sites and the chemical contaminants to be analyzed in the various fish species collected at that particular site. The list represents 488 analyses on 382 fish samples collected from 28 freshwater lakes, reservoirs and rivers within the Passaic River region within the State of New Jersey.

Among sites previously sampled, sites and taxa which showed relatively high levels of contaminants in previous studies (i.e., above or near DEP or FDA thresholds) were chosen. Other taxa were analyzed which may be expected to have similar or higher contaminant concentrations based on species ecology and physiology (i.e., trophic level, lipid content, benthic habitat, long life, etc.). New sites were chosen which may have the potential for contamination, based on potential sources of contamination, presence of species with high bioaccumulation potential, etc.

Previous NJDEP monitoring identified several areas of particular concern. Samples were collected from representative sites in these regions, except where indicated otherwise.

Table 1. Sampling design for Year 1 (Passaic River drainage) of the NJ Contaminant Routine Monitoring Program.

WMA	Waterbody	Analytes	Trophic Groups Anal.			Species under Advisory
			Pred.	For.	Benthic	
3	Wawayanda Lake	Mercury	X	X	X	Cp
3	Canistear Reservoir	Mercury	X	X	X	Lmb
3	Clinton Reservoir	Mercury	X	X	X	Lmb
3	Oak Ridge Reservoir	Mercury	X	X	X	Lmb ,Cp, Bbh, Ybh
3	Echo Lake	Mercury	X	X	X	Lmb
3	Greenwood Lake	Mercury	X	X	X	Lmb, Wp
3	Monksville Reservoir	Mercury	X	X	X	Lmb, Cp, Wall, Smb, Wp, Sf, Bbh
3	Wanaque Reservoir	Mercury	X	X	X	Lmb, Cp, Smb, Wp, Wcf, Bbh
3	Sheppard Pond	Mercury	X	X	X	
3	Green Turtle Lake	Mercury	X	X		Lmb, Wp
3	Ramapo Lake	Mercury	X	X		
3	Pompton Lake	Mercury	X	X	X	Lmb
		PCBs/pest.	X		X	
3	Ramapo R @ Pompton Feeder (=Pompton R @ Pequannock R)	Mercury	X	X	X	Lmb, Sf. Smb, Bc, Rb, Bbh, Ybh
		PCBs/pest.	X		X	
3	Pompton R @ Lincoln Park Rt 202	Mercury	X	X	X	Lmb, Pike, Yp
		PCBs/pest.	X		X	
6	Passaic R. @ Hanover (Pompton to Great Piece to Hatfield Swamp)	Mercury	X.	X	X	Lmb, Sf, Bc, Carp, Ybh
		PCBs/pest.	X		X	
6	Rockaway R.@ Powerville	Mercury	X.	X	X	Lmb, Cp, Ybh, Bbh
6	Split Rock Reservoir	Mercury	X	X	X	
6	Boonton Reservoir	Mercury	X		X	Lmb, Wcf, Bbh
		PCBs/pest.	X			
6	Speedwell Lake	Mercury	X.	X	X	Lmb, Sf
	Overpeck Creek	Mercury	X	X	X	
		PCBs/pest.	X		X	
	Weequahic Lake	Mercury PCBs/pest.	X.	X	X	
	Branch Brook Park	Mercury	X	X	X	
		PCBs/pest.	X		X	
5	Oradell Reservoir	Mercury	X.	X	X	Lmb, Carp, Ybh
5	Lake Tappan	Mercury	X		X	Smb, Carp, Ybh
4	Passaic R @ Elmwood Park (Upriver)	PCBs/pest.	X.	X	X	
		Mercury	X	X	X	Lmb, Bbh
4	Passaic R Lake Dundee (Upstream of Dundee Dam)	Dioxin PCBs/pest.	X		X	
		Mercury	X			
4	Passaic R @ Garfield (Downstream of Dundee Dam	Dioxin PCBs/pest.	X	X	X	All Species under Dioxin Advisory Downriver of Dundee Dam
		Mercury	X		X	
4	Passaic R @ Lyndhurst (Downstream of Dundee Dam)	PCBs/pest.			X	

See next page for Legend

Legend for Table 2:
Except where noted Mercury Advisories are listed by species
WMA = Watershed Management Area

Trophic levels of target species:

Predator (Pred.): largemouth bass (Lmb), smallmouth bass (Smb), chain pickerel (Cp), striped bass (Sb), walleye (Wall), walleye and/or northern pike (Pike)

Forage (For.): bluegill (Sf), redbreast sunfish (Sf), black crappie (Bc), rock bass (Rb), white perch (Wp) and/or yellow perch (Yp)

Benthic invertivore/omnivore (Benthic): common carp (Carp), white sucker (Ws), yellow bullhead (Ybb), brown bullhead (Bbh) and/or American eel (Eel).

Table 2. Numbers of samples on which various groups of analyses performed.

Analyses	**Hg**	**PCB/pesticides**	**Dioxins/furans**
Hg, PCB/pesticides and dioxins/furans	11	11	11
Hg and PCB/pesticides	65	65	
PCB/pesticides and dioxins/furans		19	19
PCB/pesticides		14	
Hg	273		
TOTALS	349	109	30

METHODS

Specimen Collection

Specimens were obtained by a variety of techniques and were selected to be of a size which would typically be eaten by anglers. Most fish were collected by boat electroshocking, which was effective in lakes and large rivers with access. Fish were also caught using gill nets (some fish at Clinton Lake, most fish at Split Rock Reservoir), tow-barge electroshocking (all fish from Passaic River at Garfield), backpack electroshocking (all fish from Passaic River at Powerville, and four sunfish from Clinton Lake), traps (walleye and bluegill at Monksville Reservoir, and one rock bass at Clinton Lake), angling (3 specimens) and dip netting (2 specimens).

Virtually all fish were caught between July 1 and October 31, 2002, with most fish caught in September-October, 2002. Green Turtle Lake, Greenwood Lake, Ramapo Lake, Ramapo River, and Wanaque Reservoir were sampled in July, 2002. Pompton Lake, several Passaic River sites (Eagle Rock and Lincoln Park), Rockaway River, Wawayanda Lake and Shepherds Lake were sampled in August, 2002. Some additional fish from Shepherds Lake and Wawayanda Lake were collected in October, 2002. Walleye from Monksville Reservoir were collected in April, 2003.

Specimen Handling

During collection and initial processing, specimens were held in ambient water. After initial processing, fish were individually wrapped in muffled aluminum foil secured with duct tape. Specimens were given unique serial numbers, container ID# and specimen ID#. A uniquely-numbered Floy anchor tag in the head of the fish was used as an additional specimen ID for some specimens. At the field site and during transport to the laboratory, wrapped specimens were held in wet or dry ice.

In the laboratory, all specimens were logged in to the Patrick Center for Environmental Research (PCER) Fisheries database and were retained at ANS-PCER in freezers at ≤20.0°F. All transfers of samples were properly documented throughout transport and analysis (internal lab chain-of-custody). All laboratory equipment was properly calibrated as per each method completed (see Appendix). Careful cleaning of all laboratory equipment and instruments using the appropriate soaps, solvents, acids, and double deionized water (DDW) was employed throughout this program.

Tissue preparation of fish followed common preparation methods for consumption. The specimens were filleted using clean methods for both trace metals and organic contaminants as outlined in EPA (1995; ANSP SOP-14-12r4). In brief, the samples were filleted with skin off using either titanium or stainless steel utensils on glass plates. All fish samples were individual fillets, typically the left side fillet, with the remains (right side, remaining carcass and head) retained for archival material. The archived sample material remains (including the extra sample homogenate not analyzed) will be retained by PCER for a period of one year following project data submission.

Chemical Analyses

Individual tissue samples were analyzed for one or more of three groups of contaminants (Table 2):

- chlorinated organic contaminants including congener-specific PCBs, chlordanes (i.e., α and γ chlordane, heptachlor, heptachlor epoxide, cis- and trans- nonachlor) and o,p and p,p forms of DDE, DDT, and DDD (total DDTs);
- total mercury;
- dioxins and furans. Additional information such as lipid content and size of fish were also collected for correlation with contaminant levels.

Each tissue sample was minced and tissuemized and placed into separate pre-cleaned jars (certified ICHEM) for trace metals and organic analysis. Chemical analysis was performed by PCER using modified U.S. EPA and NOAA Status and Trends approved methods (ANSP SOPs P-16-84r4, P-16-111, P-16-109r1, and P-16-108). Chemical contaminants and ancillary parameters are listed in Table 3.

As part of quality assurance and quality control (QA/QC), Standard Reference Material (SRM) were analyzed as part of the QA/QC procedure. This material was obtained from the National Institute of Standards and Technology (NIST) or equivalent agency (see NOAA, 1992) and consisted of NRC (National Research Council) DORM-2, NRC TORT-2 and NIST (National Institute of Standards and Technology) SRM 1946 for mercury analysis and NIST SRM 1974B (Organics in Mussel Tissue) and SRM 1946 (Lake Superior Fish Tissue) for organic analyses. Also, additional duplicate samples were analyzed to help assess laboratory variations in the analysis of fish tissue, which provided critical information for the assessment of both geographical and temporal trends.

All glassware and materials coming into contact with the fish were pre-cleaned with the appropriate cleaning agent (e.g., micro soap, acids, deionized water, solvents, etc) pertaining to the specific parameter or group of parameters. The various procedures are provided in the Appendix.

Mercury

Extractions and Analyses: Strong acid digestions were performed using 10 ml nitric acid on approximately 1 g homogenized wet fish material in a CEM MDS 2100 microwave digestion system. Mercury quantitation was subsequently accomplished using a Perkin Elmer Fimms 400 Cold Vapor AA. Multiple point calibrations, laboratory blanks, intercalibration verification samples, and instrument duplicates were part of this program to ensure instrument performance and accuracy.

Polychlorinated Biphenyls and Organochlorine Pesticides

Extractions and Analyses: Homogenized fish samples were stored frozen until extraction. For extraction, samples were thawed and 2 g of the homogenate was sub-sampled using a stainless steel spatula. An additional 2-5 g sub-sample was taken for moisture analysis. Approximately 30 g of Na_2SO_4 (previously extracted with hexane using a Soxhlet extractor and dried) was added to the sub-sample to eliminate water. The dried sample was then placed in a glass thimble and extracted using a Soxhlet extractor with ca. 200 ml dichloromethane (DCM) for a minimum of 18 h. The extracts were then sub-sampled for gravimetric lipid determination. For this, a known volume of extract was transferred to a pre-weighed aluminum pan. The solvent was evaporated at 110° C for at least 24 h. The residue remaining (lipid) was weighed and percent lipid calculated.

Lipids were removed from sample extracts by gel permeation chromatography (GPC) using DCM as the mobile phase. The collected fraction containing analytes was concentrated by roto-evaporation and a N_2 stream. Solid-liquid chromatography using florisil was performed as an additional clean-up step. Using this technique, PCBs (as well as heptachlor, nonachlors, and DDEs) were eluted from the chromatographic column containing florisil using petroleum ether (F1 fraction). The remaining organochlorine pesticides were eluted using 50:50 petroleum ether and dichloromethane (F2 fraction).

Congener-specific PCBs and organochlorine pesticides (Table 3) were analyzed using a Hewlett Packard 5890 gas chromatograph equipped with a 63Ni electron capture detector and a 5% phenylmethyl silicon capillary column. The identification and quantification of PCB congeners follows a method described by Swackhamer (1987) in which the identities and concentrations of each congener in a mixed Aroclor standard (25:18:18 mixture of Aroclors 1232, 1248 and 1262) were determined by calibration with individual PCB congener standards. Congener identities in the sample extracts were based on their chromatographic retention times relative to the internal standards added. In cases where two or more congeners could not be chromatographically resolved, the combined concentrations were reported (Table 3). Organochlorine pesticides (OCPs) were identified and quantified based on comparisons (retention times and peak areas) with a known calibration standard prepared from individual compounds. Quality assurance and control measures were included at a frequency of 10% of the total number of samples. These measures included: evaluation of surrogate recoveries, calculation of blank-based detection limits, use of NIST standard reference materials and involvement in NIST's annual inter-laboratory comparison to assess PCER's accuracy and precision in quantifying PCBs and OCPs, duplicate analysis, and spike recoveries. The quantitated congeners include two coplanar congeners (77 and 81) which co-elute with non-coplanar congeners.

Dioxin

The 30 samples prepared for dioxin/furans analysis (Table 3b) were sent to the Texas A&M University, Geochemical and Environmental Research Group (GERG). Quality assurance and control measures followed by GERG are summarized in the QA/QC report accompany this report (Appendix Vii).

Table 3a. Analytes for routine monitoring program.

Organochlorinated Pesticides	**Polychlorinated biphenyls**[1]					
BHC (alpha, beta, gamma delta)	1	31,28	74	134,144	185	207
Heptachlor	3	33,21,53	70,76	107	174	194
Heptachlor epoxide	4,10	22	66,95	149	177	205
Chlordanes (gamma and alpha)	6	45	91	118	201,171	206
Nonachlors (cis[2] and trans)	7	46	56,60	134	172,197	209
Dieldrin	8,5	52	101	131	180	16,32[4]
DDDs (o,p and p,p)	14	49	99	146	193	163,138[4]
DDEs (o,p[3] and p,p)	19	48,47	83	132,153,105	191	25
DDTs (o,p and p,p)	12,13	44	97	141	199	63
Aldrin	18	37,42	81,87	137,176	170,190	151
Endosulfan I and II	17	41,71	85	158	198	128
Endrin	24,27	64	136	129,178	201	208,195
Oxychlordane	29	40	77,110	187,182	203,196	
Total Mercury (T Hg)	26	100	82	183	189	

[1] PCB congeners appearing as pairs or triplets will coelute and will be reported as sum.
[2] o,p-DDE coelutes with PCB congeners 92,85.
[3] Evidence for PCB coelution with cis-nonachlor.
[4] PCB congeners not listed in draft work plan.

Table 3b. Dioxin and furan compounds as part of routine monitoring program.

Dioxin Compounds	**Furan Compounds**
2,3,7,8-TCDD	2,3,7,8-TCDF
1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF
1,2,3,4,7,8-HxCDD	2,3,4,7,8-PeCDF
1,2,3,6,7,8-HxCDD	1,2,3,4,7,8-HxCDF
1,2,3,7,8,9-HxCDD	1,2,3,6,7,8-HxCDF
1,2,3,4,6,7,8-HpCDD	2,3,4,6,7,8-HxCDF
OCDD	1,2,3,7,8,9-HxCDF
	1,2,3,4,6,7,8-HpCDF
	1,2,3,4,7,8,9-HpCDF
	OCDF

RESULTS AND DISCUSSION

Temporal and Spatial Changes in Contaminant Concentrations

Summary statistics (means, minimum and maximum values) for each station are presented in Table 4 (mercury), Table 5 (PCBs), Tables 6 and 7 (Organochlorine Pesticides), and Table 8 (dioxins and furans). The concentrations of mercury (for all samples) and the measured organic contaminants for specimens are presented in Appendix I (mercury) and Appendix II (organic contaminants). Unless otherwise indicated, units are reported as ng/g wet weight for organic compounds and µg/g wet weight for mercury. The taxa and stations sampled in the study were designed to supplement data for the Passaic region from previous contaminant surveys. Comparisons with earlier data (ANSP1994, Horwitz, et al. 1995, ANSP 1999, Ashley and Horwitz 2000) may show temporal changes, particularly comparing stations sampled in the earlier studies (1992-1994) with those sampled in the current study (2002-2003). Where temporal changes are not evident, the current data provide greater coverage of species and size groups and provide more precision from the larger sample size. Mercury and PCB concentrations in fishes from the Passaic Region from earlier studies are also presented in Tables 4 and 5, respectively. Data on diadromous fish from 1998 (i.e., striped bass and American eel; Ashley and Horwitz 2000) from coastal sites are also presented. Relationships between contaminant concentrations and size/age of fish (most contaminants) and/or lipid content (organic contaminants) are shown in Figures 1-20. Lipid-normalized PCB concentrations (Table 5) also adjust for organic concentration-lipid relationships.

Mercury

Most sites sampled in 1992-1994 and in the current study show no difference in mercury-length relationships among the two sampling periods for largemouth bass, the primary indicator species (Figures 1-14). These sites include Tappan Reservoir, Wanaque Reservoir, Oradell Reservoir, Oak Ridge Reservoir, Greenwood Lake, Boonton Lake, Pompton Lake, and the Passaic River near the mouth of Pompton River (including Great Piece). Two sites, Monksville Reservoir (Figure 6) and Canistear Reservoir (Figure 2), appear to show lower mercury concentrations in 2002 than in 1992, although the small sample size precludes statistical comparisons.

No between-survey differences were seen for most sites sampled in the 1996 or 1998 survey and the current survey. These sites include Green Turtle Lake (Figure 4), Echo Lake (Figure 3), the Passaic River at Elmwood Park (Figure 9), and Passaic River at East Hanover (Figure 9; Hatfield Swamp and Eagle Rock Road). Mercury concentrations in bass from the Pompton River at Lincoln Park (Figure 12) appeared lower in 2002 than in 1996. However, sample size was too small to make statistical comparisons.

There are differences in mercury concentrations among stations, taking into account the mercury-fish length relationships, although sample sizes at each station are too low for statistical comparisons. The highest values (based on approximate concentrations in a mid-sized bass) were seen at the Ramapo River at Pompton Feeder and the Pompton River at Lincoln Park in 1996. Relatively high concentrations (e.g., approximately 0.7-0.8 µg/g for a 40-cm largemouth bass) were seen at Lake Wanaque, Monksville Reservoir in 1998, Pompton River at Lincoln Park in 2002, and Oak Ridge Reservoir. Intermediate concentrations (approximately 0.5-0.6 µg/g for a

40-cm bass) were seen at Branch Brook Lake, Boonton Reservoir, Lake Canistear, Wawayanda Lake, and the Passaic River sites. Lower concentrations (approximately 0.3-0.4 µg/g for a 40 cm bass) were seen at Monksville Reservoir in 2002, Green Turtle Pond, Greenwood Lake and Echo Lake. The lowest concentrations (<0.3 for a 40 cm bass) were seen at Weequahic Lake, Lake Tappan, Overpeck Lake, and Oradell Reservoir.

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs), globally ubiquitous despite their production ban in the mid 1970s, are of particular concern due to their bioaccumulative nature. PCBs were measured in ten fish species at various locations within the Passaic River region (Table 5). For yellow bullhead, northern pike, and redbreast sunfish, concentrations of total PCB (t-PCB defined as the sum of all quantified PCB congeners on a wet weight basis) were well below 100 ng/g, likely due to a combination of factors such as trophic position (e.g., low such as redbreast sunfish) and/or lipid content (e.g., relatively lean fish such as pike). White sucker, channel catfish, and bluegill from the Passaic River had t-PCB concentrations ranging from 190 to 334 ng/g.

PCBs were measured in striped bass from the Passaic River at Garfield. Spatial comparisons can be made with other coastal striped bass measured in the 1998 study (Ashley and Horwitz, 2000). The PCB concentrations in the Passaic River fish were similar to typical values in the previous study (Figure 15). The Passaic River fish were smaller than the fish sampled at the other sites, but there is not a clear PCB concentration-length relationship among the larger fish from the other sites. The PCB concentrations in the Passaic River fish were in range, though on the high end, of typical concentrations of fish with similar lipid content.

PCBs were measured in common carp from a number of sites in the Passaic River (Figure 16). Carp were analyzed from one of these sites and in Lake Dundee as part of the 1998 study (Ashley and Horwitz, 2000). There was no clear relationship between PCB concentration and length among the fish analyzed (all fish were relative large, so accumulation patterns between juvenile and adult fish cannot be discerned). In addition, t-PCB concentration increased with lipid content of the fish. The pattern was similar among all the stations, and there was no obvious temporal difference in concentration.

PCBs were measured in American eels from three sites on the Passaic River (Figure 17). Eels from one of these sites (Passaic River at Elmwood Park) had been analyzed in the 1998 study (Ashley and Horwitz, 2000). In the current study, t-PCB concentrations increased with lipid content. The pattern was similar among most of the stations sampled in 1998 and the current study, except for higher concentrations in some of the eels from Raritan Bay in the 1998 study. Comparison of eels from Northeastern sites (1986-7) to the more recent data sets (1998 and this current study), shows a decrease in PCB body burdens over time (Figure 17). This relationship is largely driven by four northeastern eels of low to moderate lipid content (and length from around 30 to 55 cm) having concentrations higher than 1500 ng/g.

PCBs were measured in largemouth bass and smallmouth bass from several sites in the 1998 and current study (Figure 18). PCB concentration tended to increase with both length and lipid content of the fish in both studies. Concentrations were similar among fish from most sites. The highest concentrations were seen in largemouth and smallmouth bass from Boonton Reservoir,

These fish were both larger and had higher lipid content than the other fish, so it cannot be determined whether this is a spatial pattern or due to individual fish condition.

Organochlorine Pesticides

Organochlorine pesticide (OCP) concentrations, grouped according to location and species (Tables 6 and 7), reveal considerable variation for some analytes. DDXs had the highest concentrations, across species and location. In this report, DDXs are comprised of the two isomers (p,p and o,p) of DDT (1,1,1-trichloro-2,2-bis-(p-chlorophenyl)ethane), which was widely used to control insect pests on agricultural crops and those carrying infectious diseases, and the two isomers (p,p and o,p) of each of its metabolites, DDE (1,1-dichloro-2,2-bis(p-chlorophenyl)ethylene) and DDD (1,1-dichloro-2, 2-bis(p-chlorophenyl) ethane). Four of six of the highest mean DDX concentrations (ranging from approximately 200 to 950 ng/g) were found in carp (Table 6). The highest detected DDX concentration came from a carp from Branch Brook Park; the second highest from an American eel from Overpeck Creek. Comparisons with several historical surveys can be done for some species in some areas (Table 9). These do not show clear, consistent changes in concentrations, which may reflect differences in precise locations, size and condition of fish analyzed in the various studies.

Following DDXs, chlordanes had the highest concentrations across species and location. In the U.S., chlordane was used as a pesticide on crops such as corn and citrus and on home lawns and gardens from 1948 to 1988. Chlordane is comprised of pure chlordane (cis and trans isomers) as well as many related chemicals (cis- and trans-nonachlor, oxychlordane, alpha-, beta- and gamma-chlordene, and chlordene). Total chlordane is reported as the sum of all these quantified compounds, except for comparisons with the FDA action limit, which is based on the sum of cis and trans isomers only.

In most locations of this study, elevated levels of chlordane within a species mirrored the elevated DDX concentrations (e.g., American eels from Overpeck Creek, common carp from the Passaic River at Lincoln Park and Eagle Rock Ave.) (Table 6). However, this was not the case for carp and largemouth bass collected from Branch Brook Park, which had elevated DDXs concentrations but very low chlordane levels, indicating a distinct source of DDT or its metabolites in this area but not of chlordane. Comparisons with results of previous surveys (Table 10) suggest decreases in some species and locations between samples from the 1980's and the later samples (1990-2002) or possibly between the 2002 and earlier samples (e.g., eels from the northeast region). These comparisons depend on the precise locations, size and condition of fish.

Aldrin and dieldrin, both chlorinated cyclodiene insecticides, were popular pesticides for agricultural crops such as corn and cotton in the 1950s-1970. Aldrin breaks down into dieldrin in the environment. The Environmental Protection Agency banned all uses of dieldrin and aldrin in 1974 with the exception of termite control. In 1987, the agency banned all uses. Because dieldrin and aldrin are so closely related both in structure and toxicity, they are reported and regulated together. Aldrin and dieldrin concentrations were low across all species and locations (Table 6). Highest concentrations were observed in American eels from the Passaic River at Dundee Lake (up to 64 ng/g) and Garfield (up to 27 ng/g), and in common carp from the Passaic River at Lyndhurst (up to 26 ng/g).

Alpha and beta forms of endosulfan (or I and II) make up the technical form of the insecticide endosulfan, which was used to control insects on grains, tea, fruit, and vegetables though the majority of applications were made to tobacco and cotton. Though the pesticide has not been produced in the US since 1982, it is still currently used on crops and is used to produce other chemicals. Concentrations of total endosulfan (I and II) were very low for all sites and species, with the highest reported value only being 25 ng/g from a common carp collected from the Passaic River Eagle Rock Ave. (Table 7).

Total benzene hexachlorides (alpha, beta, and delta BHC) were exceptionally low at each location and species. The highest value reported (6 ng/g) was observed in common carp from the Passaic River at Lyndhurst and at Elmwood Park (Table 7).

Heptachlor was used as an insecticide in the US from 1953 to 1974. The pesticide was commonly used to control termites as well as kill insects in seed grains and on crops but by 1974, nearly all registered uses of this pesticide were cancelled. Heptachlor concentrations were very low at all locations and for all species (Table 7). The highest concentration was observed in common carp from the Passaic River at Lyndhurst (23 ng/g).

Dioxins and Furans

Dioxins are a group of structurally similar compounds (congeners), which are produced inadvertently by a number of human activities, such as the combustion of fuel and commercial or municipal waste. Specific industrial processes such as chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes can create small quantities of dioxins and furans.

Total furans and dioxins (i.e., the sum of quantitated congeners) were measured in American eel, common carp, and largemouth bass from the Passaic River at Dundee Lake and in American eel, white sucker, common carp, channel catfish and striped bass from the Passaic River at Garfield. Mean concentrations were higher at the downstream site (Garfield) than at Dundee Lake (Table 8). Striped bass had the highest concentration of these contaminants. Being anadromous, striped bass body burdens are likely reflective of not only recent exposure within the estuarine waters of the Passaic River but of the their historic migrations into and out of other contaminated areas. Carp and catfish had the second most abundant dioxin burdens, likely due to their close association with sediments, which harbor these hydrophobic organic molecules. Surprisingly, eels from both locations did not have elevated concentrations of either furans or dioxins.

Risk Assessment based on Exceedances of FDA Action Levels

The FDA nationally promulgates guidelines for the consumption of fish and fishery products by issuing action limits. The primary purpose of these limits is to represent the point at or above which the administration will take legal action to remove products from the market. While fish caught by recreational anglers do not fall under FDA purview, the FDA limits are often used as a benchmark for the minimum concentration above which ingestion is not recommended. The US EPA and individual states, including New Jersey, have promulgated other action limits. These

are often based on risk assessments, may vary with target population and may recommend frequency of consumption rather than setting a single "do not eat" level. These USEPA and state levels are often lower than those of FDA. USEPA (2004) defines screening values as "concentrations of target analytes in fish or shellfish tissue that are of potential public health concern and that are used as threshold values against which levels of contamination in similar tissue collected from the ambient environment can be compared". For comparison, screening values (SV) for recreational fishermen (SVrf) are used below (Table 5-4 in USEPA 2004). SV for different groups depend on the balance between different consumption rates and lower body weights of children. For noncarcinogens, relationships between SV for different groups are more complex, since reference does (e.g., related to developmental or reproductive effects) differ among groups as well.

Mercury

The FDA action limit for total mercury in fish tissue is 1 µg/g on a wet weight basis (or 1 ppm). Nine fish, all largemouth bass, exceeded this criterion (Table 11). Two relatively small bass from Ramapo River at Pompton Feeder exceeded this criterion. Otherwise, all bass with concentration greater than 1 µg/g were relatively large (greater than 47 cm total length) fish from lakes or reservoirs.

New Jersey has used risk assessment to assign consumption advisories for high and low risk groups in the population. For each group, categories may be "no restrictions", "1 meal per week", "1 meal per month", or "do not eat". For the high risk group, some restriction would be applicable for most species at most stations for the 2002 data (Table 12). The most severe restrictions ("do not eat" or "eat once a month") apply mainly to carp or larger predatory fish, i.e., largemouth bass, striped bass, chain pickerel and walleye. However, some other species fall into these groups, e.g., sunfish (bluegill, redbreast sunfish, black crappie and rock bass) at several lakes and some rivers, and yellow bullhead at a few sites. For the low risk groups, no fish fall into the category where no consumption is advised, and no consumption restrictions would be applied to a number of species and sites (Table 12). Advisories would apply mainly to predatory fish, i.e., largemouth bass, striped bass, walleye, smallmouth bass and chain pickerel, as well as to carp and yellow bullhead at some sites. At a few sites, some, but not most, of the bluegill and rock bass analyzed would fall into the "eat 1 meal per week" category.

PCBs

The US FDA "do not eat" limit is 2,000 ng/g for total PCBs. None of the fish exceeded this limit from this study. However, many states and organizations recognize that this limit may be too high and use lower limits. Five of the fish from this study exceeded 1,000 ng/g (Table 11), three of the five being common carp.

The New Jersey DEP has developed risk-based consumption advisories (Post, et al. 2001). These set consumption advisories for total PCBs based on different cancer risk levels (Appendix IV). As with mercury advisories, these range from "do not eat" to maximal recommended frequencies of consumption ("once per year", "once per 3 months", "once per month", or "one meal per week"). The study found a general correspondence between the advisories for cancer risk of 10^{-5} and 10^{-4} and risk for high risk groups (children, pregnant women and women of child-bearing age) based on developmental and reproductive endpoints. However, intermediate frequency consumption advisories ("once per month" or "once per 3 months") are not recommended for the

developmental and reproductive endpoints, to protect against single high dosages which might be allowed under these intermediate consumption frequencies.

Some consumption advisories would be appropriate for all of the 109 fish analyzed in the 2002 study. For the more restrictive endpoint (cancer risk less than or equal to 10^{-5}), all fish fall above the "one meal per month" criterion, 84% above the "one meal per 3 months" criterion, 61% above the "one meal per year" criterion, and 17% above the "do not eat" criterion. For the less restrictive risk endpoint (cancer risk of 10^{-4}), all fish are above the "one meal per week" criterion, 67% above the "one meal per month" criterion, and 20% above the "one meal per 3 months" criterion. Only 1 fish fell above the "one meal per year" criterion, and no fish above the "do not eat" criterion. Since species and sites varied in PCB concentration, and the study targeted sites and species with higher contamination, these proportions are not representative of the overall state fish populations. Specific consumption advisories for species and sites would require a more detailed analysis of exceedance frequencies by species and site.

Chlordane

The US FDA has set an action limit of 300 ng/g wet weight (or 0.3 ppm) for chlordane (cis and trans forms, equivalent to alpha and gamma forms) in fish. Total chlordane values were calculated based on the US FDA guidelines with the exception that no chlordanes were included in the sum. Only one sample, an American eel from Overpeck Creek, exceeded this limit (Table 11). The SVrf for total chlordanes is 114 ng/g wet weight (based on carcinogenic effects. An additional 14 fish, including common carp and American eel from the Passaic River and Overpeck Creek, and carp from the Pompton River and Pompton Lake, exceeded this limit (Table 11).

DDXs

Because of its bioaccumulative nature and toxicity, the US FDA has set an action limit for DDXs (sum of DDTs, DDEs, and DDDs) at 5.0 ppm (5000ng/g). None of the samples exceeded this limit. The SVrf for total DDXs is 117 ng/g, based on carcinogenic effects. Thirty-four fish exceeded this limit (Table 11), including common carp, American eel and a few striped bass from the Passaic River, and carp and/or eel from several other sites (Overpeck Creek, Pompton River, Pompton Lake, Branch Brook Park, Weequahic Lake). Largemouth bass from several sites (Branch Brook Park, Overpeck Creek, and Boonton Reservoir) also exceeded this limit.

Dieldrin, Aldrin, Heptachlor and Heptachlor Epoxide

The US FDA's action limit for aldrin and dieldrin in fish is 0.3ppm (300ng/g). Based on the concentrations determined in this monitoring study, none of the collected fish exceeded the action limit for dieldrin and aldrin (Table 6). The SVrf for dieldrin is 2.5 ng/g based on carcinogenic effects. Forty-six fish exceeded this limit (Table 11), mainly fishes from the Passaic River. Heptachlor expoxide is an oxidation product of heptachlor formed by many organisms including humans. Based on their toxicity, both heptachlor and heptachlor expoxide action limits in food were set by the US FDA. For fish, the two compounds, either individually or in combination, should not exceed 0.3 ppm. For this study, concentrations for all collected species fell well below the action limit (Table 6). However, the SVrf for heptachlor epoxide based on carcinogenic effects is low (4.4 ng/g). Thirty-one fish exceeded this limit (Table 11), including several species from the Passaic River and Overpeck Creek. Ninety of the 109 fish specimens

analyzed (82%) exceeded the more stringent limit (0.54 ng/g) for subsistence fishermen.

Organochlorine Pesticides of Concern Having No Action Limits
The are no federal action limits or consumption guidelines for foods containing benzene hexachlorides (alpha, beta, and delta BHC). Concentrations of BHCs were very low. Lindane, another compound having no FDA fish actions limits, is used as an insecticide and fumigant on a wide variety of crops and seeds and as a means to control insect-borne diseases. Lindane is primarily comprised of the gamma isomer of hexachlorocyclohexane (γ-HCH). The SVrf for lindane is 31 ng/g. All of the specimens analyzed were below this limit. Endrin has been used as a pesticide to control insects and rodents. It is no longer produced or sold for general use in the US. To date, there are no federal consumption guidelines for foods containing endrin. The SVrf for endrin is 1200 ng/g and SV for subistence fishermen is 147. All of the specimens analyzed were well below this limit. Lastly, in this country, there are no federal consumption guidelines for foods containing endosulfan. The SVrf for endosulfan (I and II combined) is 24000 ng/g and the SV for subsistence fishermen is 2949. The concentrations of the two forms of endosulfan were well below these limits in all samples analyzed.

Regions and Species of Concern

One of the main objectives of this program was to determine potential human health impacts based on contaminant data encompassing a wide range of fish species and locations. As stated, this will be a multi-year investigation that will assess contamination in fishes from specific regions each year. Based on the results of the 2002 chemical analyses described within this report and the identification of the exceedances of action limits for PCBs, mercury, DDXs and chlordanes, recommendations can be made about potential species and regions of concern. For mercury, some advisories to high risk groups would be applicable to most species at most sites sampled. For low risk groups, advisories would be applicable to some fish (mostly larger predatory fish, carp and yellow bullhead) from a number of sites, especially some of the larger lakes. In addition to these relatively general recommendations, some sites of particular concern can be noted:

1. Branch Brook Park; carp from this site showed relatively high concentrations of DDX, possibly indicating a local source. Consumption advisories based on mercury would also apply to some fish from this site.

2. Overpeck Creek; fish with relatively high levels of PCBs, DDX, chlordane, dieldrin and/or heptachlor epoxide were found at this site.

3. The Ramapo Lake, Ramapo River, Pompton Lake and Pompton River; some fish from these sites showed relatively high levels of mercury and/or PCBs. Some fish from Pompton Lake and Pompton River also showed relatively high concentrations of chlordane, dieldrin and/or heptachlor epoxide relative to SV.

4. Passaic River; fish from some sites showed relatively high concentrations of PCBs, DDX, chlordane, dieldrin, heptachlor epoxide and/or mercury based on risk-based criteria; fish from the Rockaway River at Powerville showed relatively high concentrations for the species analyzed.

5. Boonton Reservoir, Canistear Reservoir, Clinton Reservoir, Echo Lake, Monksville Reservoir, Oak Ridge Reservoir, Sheppard Pond, Wanaque Reservoir and Wawayanda Lake, which had some fish for which do not eat advisories for high risk groups would be applicable for mercury. Other lakes, such as Greenwood Lake, Weequahic Lake, Lake Tappan, Split Rock Reservoir, Lake Oradell, Speedwell Lake, showed some fish with an advisory of eat less than 1 meal per month for high risk groups. A few largemouth bass from Boonton Reservoir showed relatively high concentrations of DDX and/or dieldrin relative to SV.

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Tables 4 - 12

Table 4. Summary of mercury statistics with comparison to previous studies.

	Station	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
Alewife										
	GWL	Greenwood Lake	1998	4	0.05	0.05	0.07	15.7	15.0	16.8
White catfish										
	BTR	Boonton Reservoir	1996	1	0.54	0.54	0.54	40.0	40.0	40.0
Yellow bullhead										
	CAN	Canistear Reservor	2002	4	0.16	0.12	0.19	25.6	24.0	27.2
	CL	Clinton Reservoir	2002	4	0.51	0.43	0.74	28.8	28.5	29.2
	EL	Echo Lake Reservoir	2002	4	0.11	0.07	0.16	24.6	22.1	27.5
	GWL	Greenwood Lake	2002	4	0.08	0.06	0.11	62.4	20.9	181.7
	MV	Monksville reservoir	2002	2	0.12	0.11	0.13	21.2	19.5	22.8
	ORA	Oradell Reservoir	1994	2	0.03	0.03	0.04	18.2	16.0	20.4
	ORA	Oradell Reservoir	2002	4	0.04	0.03	0.05	21.6	17.6	26.5
	ORR	Oak Ridge Reservoir	1998	1	0.25	0.25	0.25	24.5	24.5	24.5
	ORR	Oak Ridge Reservoir	2002	2	0.17	0.10	0.23	25.5	23.0	28.0
	PHS	Passaic River @ Hatfield Swamp	1996	1	0.11	0.11	0.11	21.4	21.4	21.4
	PPQ	Pompton River @ Pequannock River	1998	1	0.80	0.80	0.80	26.2	26.2	26.2
	PRE	Passaic River at Elmwood Park	2002	2	0.20	0.15	0.24	24.5	20.0	29.0
	ROC	Rockaway River near Powerville	1992	1	0.15	0.15	0.15	21.2	21.2	21.2
	RWH	Rockaway River at Powerville	2002	3	0.17	0.10	0.28	20.6	16.2	23.0
	RPF	Ramapo River at Pompton Feeder	2002	4	0.54	0.51	0.63	24.0	22.6	26.2
	TAP	Tappan Reservoir	1994	3	0.07	0.04	0.14	23.8	20.3	29.3
	WQ	Wanaque Reservoir	2002	4	0.13	0.08	0.17	20.1	16.1	22.6
	WWL	Wawayanda Lake	2002	3	0.37	0.30	0.45	28.3	26.8	30.0
Brown bullhead										
	BTR	Boonton Reservoir	1996	2	0.02	0.01	0.02	31.7	30.5	32.8
	LDD	Lake Dundee	1992	2	0.20	0.19	0.20	28.2	27.1	29.3
	OPP	Overpeck Creek	2002	3	0.04	0.03	0.04	22.7	21.1	24.6
	ORA	Oradell Reservoir	1994	1	0.03	0.03	0.03	27.4	27.4	27.4
	ORR	Oak Ridge Reservoir	1998	2	0.02	0.02	0.02	33.8	33.0	34.5
	PRE	Passaic River at Elmwood Park	1998	3	0.08	0.06	0.11	25.1	17.5	29.4
	ROC	Rockaway River near Powerville	1992	1	0.12	0.12	0.12	31.0	31.0	31.0
	SH	Shepherds lake	2002	3	0.09	0.06	0.13	31.1	28.3	35.4
	SPE	Speedwell Lake	1996	1	0.01	0.01	0.01	21.0	21.0	21.0
	SPL	Split Rock Reservoir	2002	2	0.04	0.04	0.04	33.9	29.8	37.9
	WEE	Weequahic Lake	2002	3	0.03	0.03	0.03	29.3	27.3	31.4

Table 4. Cont'd.

	STATION	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
Rock bass										
	BTR	Boonton Reservoir	2002	4	0.22	0.13	0.27	21.7	20.5	22.3
	CL	Clinton Reservoir	2002	3	0.34	0.18	0.65	16.5	15.7	17.9
	PLP	Pompton River at Lincoln Park	2002	3	0.69	0.60	0.83	21.8	21.0	23.4
	PPQ	Pompton River @ Pequannock River	1998	3	0.48	0.43	0.57	20.8	19.2	22.0
	RPF	Ramapo River at Pompton Feeder	2002	3	0.37	0.32	0.46	17.2	16.3	17.9
	RWH	Rockaway River at Powerville	2002	4	0.34	0.29	0.41	23.6	22.9	24.2
	SH	Shepherds lake	2002	2	0.18	0.15	0.20	17.8	15.0	20.6
American eel										
	OPP	Overpeck Creek	2002	3	0.14	0.12	0.16	49.1	35.7	63.5
	ORA	Oradell Reservoir	2002	3	0.07	0.06	0.08	70.1	61.4	81.1
White sucker										
	CL	Clinton Reservoir	2002	3	0.23	0.19	0.25	44.4	43.3	45.4
Common carp										
	BBP	Branch Brook Park	2002	4	0.14	0.07	0.19	64.6	49.8	71.8
	OPP	Overpeck Creek	2002	3	0.10	0.09	0.11	56.8	50.5	64.2
	ORA	Oradell Reservoir	1994	3	0.06	0.04	0.07	59.9	54.9	64.0
	PER	Passaic River at Eagle Rock Ave	2002	4	0.19	0.15	0.23	55.7	49.7	59.5
	PLP	Pompton River at Lincoln Park	2002	4	0.34	0.22	0.47	53.9	49.5	58.5
	POMP	Pompton Lake	2002	4	0.41	0.23	0.66	63.6	53.6	75.1
	PRE	Passaic River at Elmwood Park	1998	3	0.15	0.12	0.19	54.5	51.7	57.6
	PRP	Passaic River at Pompton	1998	3	0.34	0.31	0.38	50.9	50.3	51.3
	SPE	Speedwell Lake	2002	4	0.11	0.05	0.14	60.8	57.4	63.0
	TAP	Tappan Reservoir	1994	3	0.10	0.09	0.12	53.9	52.5	55.3
	WEE	Weequahic Lake	2002	3	0.08	0.04	0.10	59.2	50.8	71.3
Creek chubsucker										
	PPQ	Pompton River @ Pequannock River	1998	3	0.06	0.05	0.07	9.3	8.2	9.8
Northern pike										
	PER	Passaic River at Eagle Rock Ave	2002	2	0.18	0.15	0.20	42.8	41.2	44.3
	PLP	Pompton River @ Lincoln Park	1996	3	0.39	0.17	0.59	45.5	27.8	66.6
Chain pickerel										
	CAN	Canistear Reservor	2002	4	0.19	0.14	0.25	41.1	39.2	44.0
	CL	Clinton Reservoir	2002	2	0.52	0.43	0.61	47.5	44.5	50.4
	EL	Echo Lake Reservoir	2002	3	0.28	0.20	0.37	48.3	41.7	60.0
	GTL	Green Turtle Lake	1996	3	0.13	0.11	0.15	39.8	28.1	46.6
	MKR	Monksville Reservoir	1992	3	0.57	0.21	1.14	48.6	39.3	64.0
	MV	Monksville reservoir	2002	3	0.22	0.15	0.31	40.7	34.9	49.5
	ORR	Oak Ridge Reservoir	1998	4	0.28	0.24	0.30	35.4	25.0	58.0
	PLP	Pompton River @ Lincoln Park	1996	1	0.23	0.23	0.23	22.7	22.7	22.7

Table 4. Cont'd.

	STATION	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
	ROC	Rockaway River	1992	5	0.23	0.15	0.31	37.8	30.6	44.7
	SPE	Speedwell Lake	2002	3	0.16	0.09	0.26	36.5	24.8	55.6
	SPL	Split Rock Reservoir	2002	5	0.30	0.26	0.32	52.8	45.6	60.0
	WAN	Wanaque Reservoir	1992	2	0.63	0.33	0.93	47.1	38.7	55.5
	WWL	Wawayanda Lake	1996	6	0.32	0.25	0.44	39.6	35.0	42.4
	WWL	Wawayanda Lake	2002	5	0.32	0.23	0.50	31.5	25.7	43.7
Channel catfish										
	PRG	Passaic River at Garfield	2002	2	0.27	0.23	0.31	48.7	47.0	50.3
Redbreast sunfish										
	CL	Clinton Reservoir	2002	4	0.19	0.16	0.25	13.4	12.7	14.0
	ORR	Oak Ridge Reservoir	1998	3	0.04	0.03	0.05	10.8	10.6	11.1
	PPQ	Pompton River @ Pequannock River	1998	2	0.37	0.32	0.41	14.8	13.7	15.8
	PRE	Passaic River at Elmwood Park	1998	3	0.18	0.15	0.21	15.6	15.1	16.0
	PRP	Passaic River at Pompton	1998	3	0.31	0.22	0.45	15.1	14.2	16.7
	SH	Shepherds lake	2002	3	0.19	0.18	0.20	14.9	14.0	15.5
Pumpkinseed										
	ORR	Oak Ridge Reservoir	1998	3	0.03	0.02	0.05	9.7	9.3	9.9
	PHS	Passaic River @ Hatfield Swamp	1996	2	0.07	0.06	0.07	12.5	12.4	12.6
	PPQ	Pompton River @ Pequannock River	1998	6	0.28	0.11	0.78	11.4	9.1	14.5
Bluegill										
	BBP	Branch Brook Park	2002	3	0.18	0.15	0.24	15.4	14.8	16.0
	CAN	Canistear Reservor	2002	4	0.14	0.10	0.23	20.1	18.2	21.7
	EL	Echo Lake Reservoir	2002	4	0.09	0.06	0.11	17.4	16.1	19.0
	GTL	Green Turtle Lake	2002	4	0.22	0.07	0.58	17.9	16.9	19.3
	GWL	Greenwood Lake	1996	4	0.02	0.01	0.03	13.3	13.0	13.6
	GWL	Greenwood Lake	2002	4	0.09	0.07	0.13	18.2	18.0	18.6
	MV	Monksville reservoir	2002	4	0.12	0.08	0.17	18.2	16.8	19.8
	OPP	Overpeck Creek	2002	3	0.08	0.07	0.09	15.5	15.0	16.3
	ORA	Oradell Reservoir	2002	3	0.04	0.03	0.05	16.8	14.9	19.0
	ORR	Oak Ridge Reservoir	1998	4	0.04	0.03	0.05	9.5	9.0	10.4
	ORR	Oak Ridge Reservoir	2002	4	0.20	0.11	0.28	18.6	17.1	19.9
	PHS	Passaic River @ Hatfield Swamp	1996	1	0.19	0.19	0.19	18.9	18.9	18.9
	POMP	Pompton Lake	2002	4	0.26	0.17	0.47	17.5	16.4	18.2
	PRE	Passaic River at Elmwood Park	2002	3	0.19	0.12	0.24	17.0	16.1	18.1
	RL	Ramapo Lake	2002	4	0.23	0.19	0.28	18.9	17.3	21.0
	RWH	Rockaway River near Whippany	1996	1	0.12	0.12	0.12	14.5	14.5	14.5
	RWH	Rockaway River at Powerville	2002	3	0.12	0.11	0.13	15.3	15.0	15.5
	SPE	Speedwell Lake	1996	2	0.12	0.12	0.13	19.0	18.3	19.7
	SPE	Speedwell Lake	2002	4	0.12	0.10	0.16	16.9	15.0	19.6

Table 4. Cont'd.

	STATION	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
	SPL	Split Rock Reservoir	2002	4	0.14	0.10	0.21	21.6	21.0	22.1
	TAP	Lake Tappan	2002	4	0.07	0.05	0.09	14.2	11.9	15.3
	WEE	Weequahic Lake	2002	3	0.12	0.09	0.15	17.1	16.3	17.5
	WQ	Wanaque Reservoir	2002	4	0.28	0.22	0.41	20.0	19.3	21.0
	WWL	Wawayanda Lake	2002	3	0.19	0.14	0.21	17.7	17.0	18.3
Smallmouth bass										
	BTR	Boonton Reservoir	2002	4	0.51	0.39	0.75	41.5	36.3	47.2
	ORR	Oak Ridge Reservoir	1998	1	0.49	0.49	0.49	40.2	40.2	40.2
	PPQ	Pompton River @ Pequannock River	1998	4	0.96	0.57	1.14	29.9	25.4	36.8
	RPF	Ramapo River at Pompton Feeder	2002	3	0.75	0.65	0.91	29.7	25.3	35.1
	TAP	Tappan Reservoir	1994	4	0.07	0.04	0.10	30.7	24.4	35.4
	TAP	Lake Tappan	2002	3	0.29	0.06	0.43	43.9	27.6	58.1
	WAN	Wanaque Reservoir	1992	2	0.43	0.34	0.51	32.7	27.5	37.9
Largemouth bass										
	BBP	Branch Brook Park	2002	4	0.74	0.56	0.99	43.8	40.2	46.5
	BTR	Boonton Reservoir	1996	3	0.58	0.33	0.81	40.6	35.0	45.1
	BTR	Boonton Reservoir	2002	5	0.71	0.36	1.08	46.4	40.9	52.0
	CAN	Canistear Reservoir	1992	7	0.60	0.41	0.74	40.8	36.0	45.7
	CAN	Canistear Reservor	2002	4	0.46	0.29	0.67	44.1	40.0	50.0
	CLI	Clinton Reservoir	1992	6	0.71	0.39	0.85	35.7	28.2	44.1
	EL	Echo Lake	1996	4	0.15	0.12	0.17	32.2	29.0	35.0
	EL	Echo Lake	2002	4	0.64	0.43	0.79	46.7	43.7	49.6
	GPC	Passaic River Great Piece	1992	6	0.52	0.19	0.66	32.9	29.4	34.5
	GTL	Green Turtle Lake	1996	3	0.24	0.17	0.32	28.1	23.6	34.7
	GTL	Green Turtle Lake	2002	5	0.38	0.20	0.74	38.0	31.4	49.4
	GWL	Greenwood Lake	1998	5	0.18	0.11	0.32	35.6	31.4	40.0
	GWL	Greenwood Lake	2002	5	0.29	0.21	0.31	40.7	38.3	42.3
	LDD	Lake Dundee	1992	5	0.44	0.27	0.62	34.1	31.1	36.0
	MKR	Monksville Reservoir	1992	3	0.66	0.45	1.00	33.7	28.7	38.4
	MV	Monksville reservoir	2002	5	0.24	0.13	0.39	32.9	26.4	43.0
	OPP	Overpeck Creek	2002	3	0.12	0.09	0.14	38.6	36.0	40.5
	ORA	Oradell Reservoir	1994	9	0.21	0.03	0.46	40.8	28.9	51.0
	ORA	Oradell Reservoir	2002	4	0.33	0.20	0.51	46.9	45.0	48.3
	ORR	Oak Ridge Reservoir	1998	4	0.65	0.38	0.89	43.8	36.8	48.0
	ORR	Oak Ridge Reservoir	2002	4	0.79	0.65	0.90	41.5	40.3	44.0
	PER	Passaic River at Eagle Rock Ave	2002	2	0.40	0.27	0.54	34.0	29.7	38.2
	PHS	Passaic River @ Hatfield Swamp	1996	3	0.31	0.17	0.53	27.5	23.0	36.0
	PLP	Pompton River at Lincoln Park	1996	2	0.59	0.50	0.68	35.5	35.4	35.5
	PLP	Pompton River at Lincoln Park	2002	3	0.53	0.35	0.74	36.4	34.3	39.4

Table 4. Cont'd.

	STATION	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
	POM	Pompton Lake	1992	9	0.45	0.22	0.94	35.6	30.1	45.8
	POMP	Pompton Lake	2002	5	0.86	0.45	1.30	41.0	31.7	52.3
	PPQ	Pompton River @ Pequannock River	1998	2	1.17	0.99	1.36	39.4	39.0	39.8
	PRDL	Passaic River at Dundee Lake	2002	5	0.20	0.15	0.35	29.7	25.1	37.5
	PRE	Passaic River at Elmwood Park	1998	3	0.47	0.22	0.63	39.1	34.0	44.0
	PRE	Passaic River at Elmwood Park	2002	3	0.22	0.17	0.24	31.8	27.2	34.6
	PRP	Passaic River at Pompton	1998	3	0.41	0.35	0.52	30.8	27.9	34.6
	RL	Ramapo Lake	2002	4	0.50	0.29	1.05	35.8	29.4	47.3
	ROC	Rockaway River	1992	3	0.56	0.36	0.73	28.9	26.4	31.5
	RPF	Ramapo River at Pompton Feeder	2002	3	0.89	0.44	1.19	29.6	25.4	33.8
	RWH	Rockaway River near Whippany	1996	1	0.92	0.92	0.92	39.8	39.8	39.8
	SH	Shepherds lake	2002	5	0.66	0.56	0.76	38.5	35.5	40.5
	SPE	Speedwell Lake	1996	3	0.28	0.10	0.38	32.0	27.5	36.1
	SPL	Split Rock Reservoir	2002	5	0.40	0.32	0.52	36.8	34.2	39.4
	TAP	Lake Tappan	1994	9	0.36	0.02	0.72	41.1	25.8	50.5
	TAP	Lake Tappan	2002	5	0.21	0.05	0.31	40.7	26.7	47.7
	WAN	Wanaque Reservoir	1992	6	0.85	0.40	1.18	39.7	32.8	46.4
	WQ	Wanaque Reservoir	2002	5	0.83	0.23	1.47	40.3	28.5	47.2
	WEE	Weequahic Lake	2002	4	0.28	0.20	0.39	40.2	33.3	47.5
	WWL	Wawayanda Lake	2002	5	0.56	0.29	0.78	39.6	32.9	45.1
White perch										
	GWL	Greenwood Lake	1996	4	0.00	-0.01	0.00	18.2	17.2	19.2
	ORA	Oradell Reservoir	1994	3	0.12	0.08	0.19	19.7	17.3	24.3
	TAP	Tappan Reservoir	1994	3	0.09	0.04	0.13	16.4	16.0	17.1
	WEE	Weequahic Lake	2002	3	0.09	0.08	0.10	18.0	17.7	18.1
Striped bass										
	AOC	Atlantic Ocean, Asbury Park to Atlantic City	1998	5	0.42	0.26	0.77	76.5	68.7	88.2
	AOS	Atlantic Ocean, Atlantic City to Cape May	1998	4	0.69	0.56	0.78	90.7	81.4	100.5
	PRG	Passaic River at Garfield	2002	4	0.51	0.33	0.66	52.3	48.8	56.6
Golden shiner										
	ORR	Oak Ridge Reservoir	1998	2	0.02	-0.03	0.06	13.9	9.6	18.1
Rainbow trout										
	ROC	Rockaway River	1992	1	0.04	0.04	0.04	53.6	53.6	53.6
Yellow perch										
	CAN	Canistear Reservor	2002	3	0.23	0.18	0.29	28.3	24.3	34.4
	GTL	Green Turtle Lake	1996	2	0.09	0.09	0.10	22.7	20.8	24.6
	MV	Monksville reservoir	2002	2	0.17	0.17	0.17	30.9	27.5	34.2
	ORA	Oradell Reservoir	1994	3	0.11	0.06	0.19	20.7	19.5	22.1
	ORR	Oak Ridge Reservoir	1998	2	0.04	0.04	0.04	17.5	16.7	18.3
	PLP	Pompton River @ Lincoln Park	1996	2	0.23	0.21	0.26	22.5	21.0	24.0
	SPL	Split Rock Reservoir	2002	4	0.18	0.10	0.34	28.2	25.4	29.8
	TAP	Tappan Reservoir	1994	3	0.04	0.02	0.07	22.4	18.5	26.3

Table 4. Cont'd.

	STATION	Station Name	Survey	Number	Hg (µg/g wet weight) Mean	Min	Max	Total Length (cm) Mean	Min	Max
Black crappie										
	PER	Passaic River at Eagle Rock Ave	2002	4	0.16	0.12	0.25	19.2	16.2	25.2
	PHS	Passaic River @ Hatfield Swamp	1996	4	0.23	0.21	0.26	19.3	18.1	20.0
	PLP	Pompton River at Lincoln Park	2002	3	0.21	0.15	0.29	19.7	17.6	21.0
	PPQ	Pompton River @ Pequannock River	1998	1	0.24	0.24	0.24	19.3	19.3	19.3
	RWH	Rockaway River near Whippany	1996	1	0.21	0.21	0.21	17.9	17.9	17.9
Walleye										
	GWL	Greenwood Lake	2002	5	0.30	0.18	0.47	55.7	49.0	61.1
	MV	Monksville reservoir	2002	5	0.51	0.35	0.78	51.6	43.0	59.4

Table 5. Summary of PCB statistics with comparison to previous studies.

Station Name	Station	Survey	Number	Total PCBs (ng/g wet weight) Mean	Minimum	Maximum	Total PCBs/ %Lipid	% Lipid	Total Length (cm) Mean	Minimum	Maximum
Yellow bullhead											
Passaic River at Elmwood Park	PRE	2002	2	37.8	36.5	39.1	5201	0.7	24.5	20.0	29.0
Ramapo River at Pompton Feeder	RPF	2002	3	BDL*	BDL	34.3	6864	0.3	24.3	22.6	26.2
Brown bullhead											
Passaic River at Elmwood Park	PRE	1998	3	109.7	26.0	260.2	4985	2.2	25.1	17.5	29.4
American eel											
Passaic River at Elmwood Park	PRE	2002	3	206.3	184.1	223.4	10967	2.1	53.8	47.2	58.1
Passaic River at Elmwood Park	PRE	1998	4	539.9	183.5	730.3	15177	5.0	50.4	40.2	60.6
Passaic River at Dundee Lake	PRDL	2002	5	312.1	182.3	492.8	5250	7.8	49.7	34.5	61.5
Passaic River at Garfield	PRG	2002	3	229.8	88.1	445.3	19666	1.9	55.5	48.7	68.7
Overpeck Creek	OPP	2002	3	789.4	326.1	1589.6	78023	4.1	49.1	35.7	63.5
Navesink River	NVR	1998	3	218.3	112.3	275.0	5617	4.1	41.0	35.6	47.1
Raritan Bay at Rt. 1	RBM	1998	4	1468.8	377.4	2308.3	14384	11.1	42.6	28.8	49.0
Shrewsbury River	SBR	1998	7	241.2	131.1	547.8	4916	7.3	54.2	39.8	64.8
Shark River	SKR	1998	6	458.7	BDL	1303.9	6887	9.2	57.3	39.3	78.3
White sucker											
Passaic River at Garfield	PRG	2002	3	189.6	124.0	277.3	16237	1.3	43.3	40.6	46.5
Common carp											
Branch Brook Park	BBP	2002	3	338.9	229.1	405.9	5683	5.9	69.6	68.0	71.8
Overpeck Creek	OPP	2002	3	483.4	224.5	766.1	30226	1.6	58.9	52.0	64.2
Weequahic Lake	WEE	2002	3	265.0	154.6	386.1	4951	5.6	59.2	50.8	71.3
Passaic River at Eagle Rock Ave	PER	2002	3	326.8	146.8	419.5	10297	3.3	57.7	56.0	59.5
Pompton River at Lincoln Park	PLP	2002	3	591.2	228.1	1192.8	11409	4.7	55.2	49.5	58.5
Pompton Lake	POMP	2002	3	323.9	128.5	703.5	7102	4.0	66.9	59.1	75.1
Passaic River at Pompton	PRP	1998	4	911.8	774.5	969.3	13701	6.8	50.6	49.6	51.3
Passaic River at Elmwood Park	PRE	2002	4	350.5	144.7	610.4	11608	2.9	54.6	51.0	62.8
Passaic River at Elmwood Park	PRE	1998	6	1020.8	309.4	2237.6	26843	4.0	53.4	48.7	57.6
Passaic River at Dundee Lake	PRDL	2002	5	374.0	320.6	440.2	8076	5.1	56.7	53.2	62.4
Passaic River at Garfield	PRG	2002	3	662.1	327.4	1148.4	19459	3.3	60.9	59.5	62.4
Passaic River at Lyndhurst	PRL	2002	7	901.5	622.2	1260.1	19792	4.9	52.9	48.2	57.0

*BDL Below detection limitof 24ng/g wet weight

Table 5. Cont'd.

Station Name	Station	Survey	Number	Total PCBs (ng/g wet weight) Mean	Minimum	Maximum	Total PCBs/ %Lipid	% Lipid	Total Length (cm) Mean	Minimum	Maximum
Northern pike											
Passaic River at Eagle Rock Ave	PER	2002	2	59.1	45.9	72.3	17335	0.3	42.8	41.2	44.3
Channel catfish											
Passaic River at Garfield	PRG	2002	2	334.4	265.6	403.2	11176	3.1	48.7	47.0	50.3
Redbreast sunfish											
Passaic River at Elmwood Park	PRE	1998	3	60.6	50.2	66.3	12078	5.8	15.6	15.1	16.0
Passaic River at Pompton	PRP	1998	3	54.0	45.8	63.3	13300	0.5	15.1	14.2	16.7
Bluegill											
Passaic River at Elmwood Park	PRE	2002	3	275.8	23.0	740.9	61546	0.6	17.0	16.1	18.1
Weequahic Lake	WEE	2002	3	BDL	BDL	24.1	2523	0.8	17.1	16.3	17.5
Smallmouth bass											
Boonton Reservoir	BTR	2002	2	503.0	384.1	621.8	13947	3.6	44.6	42.0	47.2
Ramapo River at Pompton Feeder	RPF	2002	3	48.9	BDL	96.4	6015	0.9	29.7	25.3	35.1
Largemouth bass											
Branch Brook Park	BBP	2002	3	98.5	65.3	128.4	6769	1.5	45.0	43.7	46.5
Overpeck Creek	OPP	2002	3	481.2	346.4	706.5	34888	1.4	38.6	36.0	40.5
Weequahic Lake	WEE	2002	3	118.6	64.7	179.8	8296	1.4	42.5	35.6	47.5
Boonton Reservoir	BTR	2002	3	561.0	209.4	1018.4	30520	2.0	49.1	47.6	52.0
Ramapo River at Pompton Feeder	RPF	2002	3	81.2	47.1	144.1	9673	0.8	29.6	25.4	33.8
Pompton Lake	POMP	2002	3	64.2	34.2	93.1	10873	0.6	46.1	37.4	52.3
Pompton River at Lincoln Park	PLP	2002	3	60.3	BDL	112.2	7443	0.7	36.4	34.3	39.4
Passaic River at Pompton	PRP	1998	3	71.0	51.1	108.6	15607	0.5	30.8	27.9	34.6
Passaic River at Elmwood Park	PRE	2002	3	75.1	70.7	82.4	9077	0.8	31.8	27.2	34.6
Passaic River at Elmwood Park	PRE	1998	3	172.4	119.2	248.7	20324	0.8	39.1	34.0	44.0
Passaic River at Dundee Lake	PRDL	2002	5	65.1	51.1	97.4	8666	0.8	29.7	25.1	37.5
Passaic River at Eagle Rock Ave	PER	2002	2	40.9	35.4	46.3	7326	0.7	34.0	29.7	38.2
Striped bass											
Passaic River at Garfield	PRG	2002	4	475.2	308.7	563.6	46624	1.3	52.3	48.8	56.6
Atlantic Ocean, Asbury Park to Atlantic City	AOC	1998	7	305.1	85.6	824.6	19605	1.9	74.6	68.4	88.2
Atlantic Ocean, North of Asbury Park	AON	1998	9	461.5	227.3	863.9	17460	3.9	79.3	73.0	91.5
Atlantic Ocean, Atlantic City to Cape May	AOS	1998	6	481.2	179.8	1091.5	17788	3.5	97.2	81.4	125.8
Raritan Bay upper	RBU	1998	5	430.4	139.1	819.0	33187	2.3	69.0	59.5	76.6

Table 6. Summary of DDX, chlordanes, aldrin and dieldrin (all ng/g wet weight) analyzed in the 2002 Monitoring program. Data are based on using one-half the detection limit for component compounds less than the detection limit.

Station Name	Total DDX			Total chlordanes			Aldrin+Dieldrin		
Common Name	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Booton Reservoir									
largemouth bass	148	45	270	44	16	80	1.9	0.6	2.7
smallmouth bass	109	108	110	46	37	55	2.8	2.1	3.5
Branch Brook Park									
common carp	956	700	1280	28	19	35	0.4	0.3	0.4
largemouth bass	311	196	398	9	6	11	0.5	0.4	0.7
Overpeck Creek									
American eel	299	70	659	180	34	444	7.9	0.4	22.6
common carp	130	42	249	86	28	181	2.0	0.5	4.5
largemouth bass	139	78	204	99	51	140	2.6	1.2	3.7
Ramapo River at Pompton Feeder									
largemouth bass	15	5	30	7	6	8	0.4	0.2	0.7
smallmouth bass	4	2	5	5	3	7	0.2	0.2	0.18
yellow bullhead	5	4	8	4	2	5			
Pompton Lake									
common carp	104	42	220	71	36	131	1.1	0.9	1.4
largemouth bass	17	10	23	10	7	12	0.4	0.4	0.4
Pompton River at Lincoln Park									
common carp	209	87	429	106	52	214	2.6	1.2	4.9
largemouth bass	23	7	49	13	4	25	0.8	0.5	1.2
Passaic River at Hanover									
common carp	393	172	528	195	84	290	4.2	1.8	6.5
largemouth bass	35	33	36	18	13	23	0.8	0.8	0.8
northern pike	37	26	47	21	16	26	0.5	0.4	0.6
Passaic River at Lyndhurst									
common carp	196	128	278	150	104	215	15.0	8.9	26.3
Passaic River at Elmwood Park									
American eel	77	66	86	75	55	88	11.1	7.8	14.9
bluegill	13	4	21	21	5	44	1.7	1.7	1.7
common carp	65	33	103	71	37	102	7.3	3.9	12.5
largemouth bass	19	19	19	20	18	21	1.9	1.5	2.2
yellow bullhead	8	7	9	13	11	15	0.4	0.3	0.5

Table 6. Cont'd.

Station Name	Total DDX			Total chlordanes			Aldrin+Dieldrin		
Common Name	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Passaic River at Dundee Lake									
American eel	130	76	241	149	73	261	36.8	11.1	63.6
common carp	88	73	101	109	88	139	11.8	5.3	15.9
largemouth bass	12	11	16	18	15	22	2.5	1.6	4.1
Passaic River at Garfield									
American eel	88	35	181	79	32	172	10.5	1.7	26.9
channel catfish	108	100	116	89	88	90	11.2	8.6	13.8
common carp	145	65	219	104	43	137	7.8	4.5	11.1
striped bass	127	105	174	64	34	79	5.9	5.0	7.1
white sucker	60	35	78	68	37	110	7.8	3.9	14.5
Weequahic Lake									
bluegill	7	5	10	2	1	3			
common carp	234	98	421	38	22	51	0.6	0.3	0.9
largemouth bass	58	32	88	9	4	13	0.2	0.2	0.2

Table 7. Summary of selected OCPs (endosulfan, BHC and heptachlor) analyzed in the 2002 Monitoring program. Data are based on using one-half the detection limit for component compounds less than the detection limit. All data are ng/g wet weight.

Station Name	Total endosulfan			Total BHC		Heptachlor	
Common Name	Mean	Minimum	Maximum	Mean	Maximum	Mean	Maximum
Boonton Reservoir							
largemouth bass	1.2	0.6	1.8	0.5	0.6	0.2	0.3
smallmouth bass	1.4	1.3	1.5	0.8	0.9	0.2	0.3
Branch Brook Park							
common carp	3.3	2.1	4.0	0.4	0.5	0.8	1.1
largemouth bass	1.1	0.9	1.5	0.4	0.4	0.1	0.2
Overpeck Creek							
American eel	1.7	1.7	1.7	0.4	0.5	2.0	4.5
common carp	0.6	0.6	0.6	0.5	0.5	8.6	16.7
largemouth bass	1.5	0.9	1.9	0.5	0.5	12.3	17.7
Ramapo River at Pompton Feeder							
largemouth bass	0.6	0.2	0.9	0.6	0.7	0.1	0.3
smallmouth bass	0.2	0.2	0.3	0.7	0.8	0.1	0.1
yellow bullhead	0.3	0.3	0.4	0.5	0.5	0.1	0.2
Pompton Lake							
common carp	2.8	1.3	5.1	0.5	0.7	0.7	1.4
largemouth bass	1.2	1.0	1.4	0.4	0.4	0.1	0.1
Pompton River at Lincoln Park							
common carp	4.2	2.0	8.3	0.8	0.8	2.8	5.4
largemouth bass	0.7	0.5	1.1	0.8	1.1	0.4	1.0
Passaic River at Hanover							
common carp	14.1	5.3	24.9	0.9	1.4	2.5	3.8
largemouth bass	4.5	4.5	4.6	0.7	0.9	0.2	0.4
northern pike	4.7	3.7	5.6			0.3	0.3
Passaic River at Lyndhurst							
common carp	4.2	2.1	7.1	3.8	5.9	14.3	23.4
Passaic River at Elmwood Park							
American eel	5.2	3.6	6.7	1.9	2.7	0.5	0.8
bluegill	2.5	1.3	4.7	0.4	0.4	0.2	0.4
common carp	6.1	3.5	10.2	4.0	5.7	1.2	1.6
largemouth bass	3.7	3.0	4.0	2.3	3.1	0.4	0.4
yellow bullhead	1.3	1.3	1.3			0.2	0.2
Passaic River at Dundee Lake							
American eel	12.2	7.3	15.4	2.2	3.0	1.9	2.8
common carp	6.8	2.8	9.2	1.2	1.6	8.6	13.4
largemouth bass	1.6	1.2	2.2	0.6	0.9	1.2	1.8
Passaic River at Garfield							
American eel	4.3	1.4	9.6	1.0	1.5	0.5	1.1
channel catfish	5.0	4.0	5.9	1.1	1.2	1.8	2.2
common carp	2.4	2.4	2.4	0.4	0.4	6.5	11.3
striped bass	3.4	2.4	4.8	0.4	0.4	6.5	7.9
white sucker	8.3	3.3	17.3	0.4	0.4	3.2	4.2
Weequahic Lake							
bluegill	0.2	0.2	0.2	0.4	0.4	0.1	0.1
common carp				0.5	0.5	0.8	0.9
largemouth bass				0.5	0.5	0.1	0.2

Table 8. Summary of Furan and Dioxin concentrations from species collected from the Passiac River at Garfield and Dundee Lake.

Fish #	LTL (cm)	% solid	% Lipid	Total Furans (pg/g dry weight)	Total Dioxins (pg/g dry weight)	Total Furans (pg/g wet weight)	Total Dioxins (pg/g wet weight)
Station							
Common Name							
Passaic River at Dundee Lake							
American eel							
F-2484	34.5	30.8	43.6	1.5	0.0	4.2	0.0
F-2485	45.3	23.8	18.9	0.0	0.0	0.0	0.0
F-2486	56.0	22.1	11.3	0.0	0.0	0.0	0.0
F-2482	51.0	29.5	32.8	0.0	9.2	0.0	25.9
F-2487	61.5	30.5	31.6	0.0	0.0	0.0	0.0
Mean	**49.7**	**27.3**	**27.6**	**0.3**	**1.8**	**0.8**	**5.2**
% Detect				**0.20**	**0.20**	**0.20**	**0.20**
common carp							
F-2481	58.2	26.5	19.9	0.0	17.9	0.0	56.3
F-2480	55.0	26.2	24.2	0.0	23.2	0.0	73.6
F-2479	54.7	22.1	9.8	0.0	15.0	0.0	56.8
F-2478	53.2	15.0	19.0	1.5	23.2	8.3	128.6
F-2483	62.4	25.7	20.7	3.0	0.0	9.8	0.0
Mean	**56.7**	**23.1**	**18.7**	**0.9**	**15.9**	**3.6**	**63.1**
% Detect				**0.60**	**0.80**	**0.60**	**0.80**
largemouth bass							
F-2475	37.5	19.0	1.7	0.0	0.0	0.0	0.0
F-2476	25.1	22.8	1.7	0.7	4.6	2.4	16.9
F-2477	30.8	22.7	2.4	1.4	0.0	5.3	0.0
F-2474	26.6	21.5	2.1	2.8	0.9	10.7	3.3
F-2473	28.5	22.4	1.9	3.4	3.3	12.8	12.1
Mean	**29.7**	**21.7**	**2.0**	**1.7**	**1.7**	**6.2**	**6.5**
% Detect				**0.80**	**0.60**	**0.80**	**0.60**
Passaic River at Garfield							
American eel							
F-2500	49.0	20.4	5.2	0.0	0.0	0.0	0.0
F-2499	48.7	22.0	5.5	0.0	0.0	0.0	0.0
F-2501	68.7	24.1	18.7	0.0	0.0	0.0	0.0
Mean	**55.5**	**22.2**	**9.8**	**0.0**	**0.0**	**0.0**	**0.0**
% Detect				**0.0**	**0.0**	**0.0**	**0.0**
white sucker							
F-2496	46.5	15.0	9.4	0.0	0.0	0.0	0.0
F-2502	42.9	20.3	6.0	0.0	0.0	0.0	0.0
F-2494	40.6	19.8	5.6	0.0	3.1	0.0	13.2
Mean	**43.3**	**18.4**	**7.0**	**0.0**	**1.0**	**0.0**	**4.4**
% Detect				**0.0**	**0.33**	**0.0**	**0.33**

Table 8. Cont'd

Fish #	LTL (cm)	% solid	% Lipid	Total Furans (pg/g dry weight)	Total Dioxins (pg/g dry weight)	Total Furans (pg/g wet weight)	Total Dioxins (pg/g wet weight)
Station							
Common Name							
Passaic River at Garfield							
common carp							
F-2498	62.4	22.8	15.9	0.0	0.0	0.0	0.0
F-2497	59.5	23.6	17.6	0.0	24.0	0.0	84.9
F-2495	60.8	22.5	10.1	0.0	0.0	0.0	0.0
Mean	**60.9**	**23.0**	**14.5**	**0.0**	**8.0**	**0.0**	**28.3**
% Detect				**0.0**	**0.33**	**0.0**	**0.33**
channel catfish							
F-2492	50.3	22.6	12.7	1.1	1.4	3.9	5.3
F-2493	47.0	21.8	16.0	14.5	8.8	55.6	33.8
Mean	**48.7**	**22.2**	**14.3**	**7.8**	**5.1**	**29.8**	**19.5**
% Detect				**1.0**	**1.0**	**1.0**	**1.0**
striped bass							
F-2491	54.6	19.9	4.6	7.5	93.2	31.4	389.6
F-2489	56.6	21.6	2.4	0.0	0.0	0.0	0.0
F-2490	48.8	21.7	2.8	16.9	48.1	64.8	184.9
F-2488	49.0	26.2	7.8	0.0	3.1	0.0	9.8
Mean	**52.3**	**22.4**	**4.4**	**6.1**	**36.1**	**24.0**	**146.1**
% Detect				**0.50**	**0.75**	**0.50**	**0.75**

Table 9. DDX (sum of p,p' DDT, p,p' DDE and p,p' DDD). Comparison of NJDEP 1986-7 data and ANSP 1998-9 data. 1998-9 and 2002 data use one-half the detection limit for component compunds less than the detection limit. For 2000 data, means are averages of site means, and # spec. @ # sites indicates the total number of specimens and the number of sites.

Scientific	KRRegion	Region	1986-7		1998-9		2002	
			Mean ng/g wet	#	Mean ng/g wet	#	Mean ng/g wet	# spec. @ # sites
Ameiurus nebulosus	Camden	Camden	**177**	8	**33**	19		
Ameiurus nebulosus	Northeast	Raritan-Passaic	**193**	2	**19**	3		
Anguilla rostrata	Camden	Camden	**1300**	7	**373**	1		
Anguilla rostrata	Delaware	Delaware River and tribs	**412**	9	**554**	25		
Anguilla rostrata	Northeast	Raritan-Passaic	**261**	10	**361**	8	**148**	38@4
Cyprinus carpio	Camden	Camden	**540**	13	**666**	30		
Cyprinus carpio	Northeast	Raritan-Passaic	**425**	4	**179**	10	**252**	47@10
Micropterus salmoides	Camden	Camden	**74**	5	**163**	15		
Micropterus salmoides	Northeast	Raritan-Passaic	**30**	1	**17**	6	**78**	37@10
Morone americana	Northeast	Raritan-Passaic	**193**	6	**263**	8		
Morone saxatilis	North Coast	Atlantic Ocean north	**194**	10	**100**	9		
Morone saxatilis	Northeast	Raritan-Passaic	**189**	16	**72**	5	**127**	4@1
Morone saxatilis	South Coast	Atlantic Ocean south	**193**	5	**135**	6		
Pomatomus saltatrix	North Coast	Atlantic Ocean north	**104**	24	**91**	9		
Pomatomus saltatrix	Northeast	Raritan-Passaic	**102**	11	**76**	10		
Pomatomus saltatrix	South Coast	Atlantic Ocean south	**96**	29	**118**	8		

Table 10. Comparison of Chlordane (sum of cis- and trans-) concentrations in NJ monitoring surveys. All sites in the 2002 study are treated as part of the Northeast.

		1986-7		1988-1991		1998-9			2002			1986-7	1998-9	2002
Scientific	KRRegion	Mean (ng/g wet weight)	#	Mean (ng/g wet weight)	#	Mean (ng/g wet weight)	SD	#	Mean (ng/g wet weight)	SD	#	Prop>300	Prop>300	Prop>300
Ameiurus nebulosus	Camden	124	8	102	8	15	12	38				0.13	0	
Ameiurus nebulosus	Northeast	73	2	53	1	15	18	6				0	0	
Anguilla rostrata	Camden	630	7			15		1				0.57	0	
Anguilla rostrata	Delaware	62	9			18	18	25				0	0	
Anguilla rostrata	Northeast	73	10			63	44	8	32	45	14	0	0	0
Cyprinus carpio	Camden	260	13	275	1	111	80	60				0.31	0.017	
Cyprinus carpio	Northeast	334	4	149	1	55	32	20	51	37	36	0	0	0
Micropterus salmoides	Camden	21	5	48	2	19	21	30				0	0	
Micropterus salmoides	Northeast	13	1			6	5	6	7	10	31	0	0	0
Morone americana	Northeast	64	6			44	13	8				0	0	
Morone saxatilis	North Coast	61	10			8	4	9				0	0	
Morone saxatilis	Northeast	50	16			14	15	5	3	1	4	0	0	0
Morone saxatilis	South Coast	64	5			9	8	5				0	0	
Pomatomus saltatrix	North Coast	37	24			7	4	9				0	0	
Pomatomus saltatrix	Northeast	30	11			8	5	10				0	0	
Pomatomus saltatrix	South Coast	33	29			10	9	8				0	0	

Table 11. Individual fish exceeding stated criteria. Data are based on sums with component compounds below detection limit treated as 0. No fish were caught which exceeded the criteria for aldrin & dieldrin (300 ng/g) or heptachlor (300 ng/g). All concentrations are on a wet weight basis.

Station Name	Station	Common Name	Fish Anal #	LTL (cm)	% Lipid	Hg (µg/g)	Total PCBs (ng/g) >1000	Total DDX (ng/g) >5000	Chlordane (ng/g) >300
Boonton Reservoir	BTR	largemouth bass	F-2374	47.6	1.68	**1.08**	**1018**		
Overpeck Creek	OPP	American eel	F-2048	63.5	11.06		**1590**		
Pompton River at Lincoln Park	PLP	common carp	F-2418	58.5	8.07		**1193**		
Passaic River at Garfield	PRG	common carp	F-2498	62.4	3.74		**1148**		
Passaic River at Lyndhurst	PRL	common carp	F-2522	56.5	5.11		**1260**		
Passaic River at Eagle Rock Ave	PER	common carp	F-2426	57.6	3.85			**528**	
Branch Brook Park	BBP	common carp	F-2037	68	6.54			**1280**	
Branch Brook Park	BBP	common carp	F-2039	71.8	6.79			**888**	
Branch Brook Park	BBP	common carp	F-2040	68.9	4.37			**700**	
Overpeck Creek	OPP	American eel	F-2048	63.5	11.06			**659**	**371**
Wanaque Reservoir	WQ	largemouth bass	F-2631	47.2		**1.47**			
Wanaque Reservoir	WQ	largemouth bass	F-2634	47		**1.15**			
Wanaque Reservoir	WQ	largemouth bass	F-2336	44.8		**1.03**			
Ramapo River at Pompton Feeder	RPF	largemouth bass	F-2403	29.5		**1.02**			
Ramapo River at Pompton Feeder	RPF	largemouth bass	F-2408	33.8		**1.19**			
Pompton Lake	POMP	largemouth bass	F-2424	52.3		**1.24**			
Pompton Lake	POMP	largemouth bass	F-2425	48.5		**1.30**			
Ramapo Lake	RL	largemouth bass	F-2569	47.3		**1.05**			

Table 12. Proportion of fish at stations with mercury concentrations in different classes with respect to NJ consumption advisories.

Station Species	Total #	High Risk Population No restr. <0.07	 1/week 0.07-0.18	 1/month 0.19-0.54	 Do not eat >0.54	Low Risk Population No restr. <0.34	 1/week 0.35-0.93	 1/month 0.94-2.81	 Do not eat >2.81
Branch Brook Park									
bluegill	3	0	0.67	0.33	0	1	0	0	0
common carp	4	0	0.5	0.5	0	1	0	0	0
largemouth bass	4	0	0	0	1	0	0.75	0.25	0
Boonton Reservoir									
largemouth bass	5	0	0	0.2	0.8	0	0.8	0.2	0
rock bass	4	0	0.25	0.75	0	1	0	0	0
smallmouth bass	4	0	0	0.75	0.25	0	1	0	0
Canistear Reservor									
bluegill	4	0	0.75	0.25	0	1	0	0	0
chain pickerel	4	0	0.5	0.5	0	1	0	0	0
largemouth bass	4	0	0	0.75	0.25	0.25	0.75	0	0
yellow bullhead	4	0	0.75	0.25	0	1	0	0	0
yellow perch	3	0	0.33	0.67	0	1	0	0	0
Clinton Reservoir									
chain pickerel	2	0	0	0.5	0.5	0	1	0	0
redbreast sunfish	4	0	0.5	0.5	0	1	0	0	0
rock bass	3	0	0.33	0.33	0.33	0.67	0.33	0	0
white sucker	3	0	0	1	0	1	0	0	0
yellow bullhead	4	0	0	0.75	0.25	0	1	0	0
Echo Lake									
bluegill	4	0.25	0.75	0	0	1	0	0	0
chain pickerel	3	0	0	1	0	0.67	0.33	0	0
largemouth bass	4	0	0	0.25	0.75	0	1	0	0
yellow bullhead	4	0	1	0	0	1	0	0	0

Table 12. Cont'd		High Risk Population				Low Risk Population			
Station	Total #	No restr.	1/week	1/month	Do not eat	No restr.	1/week	1/month	Do not eat
Species		<0.07	0.07-0.18	0.19-0.54	>0.54	<0.34	0.35-0.93	0.94-2.81	>2.81
Green Turtle Lake									
bluegill	4	0	0.75	0	0.25	0.75	0.25	0	0
largemouth bass	5	0	0	0.8	0.2	0.6	0.4	0	0
Greenwood Lake									
bluegill	4	0.25	0.75	0	0	1	0	0	0
largemouth bass	5	0	0	1	0	1	0	0	0
walleye	5	0	0.2	0.8	0	0.8	0.2	0	0
yellow bullhead	4	0.25	0.75	0	0	1	0	0	0
Monksville reservoir									
bluegill	4	0	1	0	0	1	0	0	0
chain pickerel	3	0	0.33	0.67	0	1	0	0	0
largemouth bass	5	0	0.4	0.6	0	0.8	0.2	0	0
walleye	5	0	0	0.6	0.4	0	1	0	0
yellow bullhead	2	0	1	0	0	1	0	0	0
yellow perch	2	0	1	0	0	1	0	0	0
Overpeck Creek									
American eel	3	0	1	0	0	1	0	0	0
bluegill	3	0.33	0.67	0	0	1	0	0	0
brown bullhead	3	1	0	0	0	1	0	0	0
common carp	3	0	1	0	0	1	0	0	0
largemouth bass	3	0	1	0	0	1	0	0	0
Oradell Reservoir									
American eel	3	0.67	0.33	0	0	1	0	0	0
bluegill	3	1	0	0	0	1	0	0	0
largemouth bass	4	0	0	1	0	0.75	0.25	0	0
yellow bullhead	4	1	0	0	0	1	0	0	0

Table 12. Cont'd		High Risk Population				Low Risk Population			
Station	Total #	No restr.	1/week	1/month	Do not eat	No restr.	1/week	1/month	Do not eat
Species		<0.07	0.07-0.18	0.19-0.54	>0.54	<0.34	0.35-0.93	0.94-2.81	>2.81
Oak Ridge Reservoir									
bluegill	4	0	0.5	0.5	0	1	0	0	0
largemouth bass	4	0	0	0	1	0	1	0	0
yellow bullhead	2	0	0.5	0.5	0	1	0	0	0
Passaic River at Hanover									
black crappie	4	0	0.75	0.25	0	1	0	0	0
common carp	4	0	0.5	0.5	0	1	0	0	0
largemouth bass	2	0	0	1	0	0.5	0.5	0	0
northern pike	2	0	0.5	0.5	0	1	0	0	0
Pompton River at Lincoln Park									
black crappie	3	0	0.33	0.67	0	1	0	0	0
common carp	4	0	0	1	0	0.5	0.5	0	0
largemouth bass	3	0	0	0.67	0.33	0	1	0	0
rock bass	3	0	0	0	1	0	1	0	0
Pompton Lake									
bluegill	4	0	0.5	0.5	0	0.75	0.25	0	0
common carp	4	0	0	0.75	0.25	0.5	0.5	0	0
largemouth bass	5	0	0	0.2	0.8	0	0.6	0.4	0
Passaic River at Dundee Lake									
largemouth bass	5	0	0.8	0.2	0	0.8	0.2	0	0
Passaic River at Elmwood Park									
bluegill	3	0	0.33	0.67	0	1	0	0	0
largemouth bass	3	0	0.33	0.67	0	1	0	0	0
yellow bullhead	2	0	0.5	0.5	0	1	0	0	0
Passaic River at Garfield									
channel catfish	2	0	0	1	0	1	0	0	0
striped bass	4	0	0	0.5	0.5	0.25	0.75	0	0

Table 12. Cont'd		High Risk Population				Low Risk Population			
Station	Total #	No restr.	1/week	1/month	Do not eat	No restr.	1/week	1/month	Do not eat
Species		<0.07	0.07-0.18	0.19-0.54	>0.54	<0.34	0.35-0.93	0.94-2.81	>2.81
Ramapo Lake									
bluegill	4	0	0	1	0	1	0	0	0
largemouth bass	4	0	0	0.75	0.25	0.75	0	0.25	0
Ramapo River at Pompton Feeder									
largemouth bass	3	0	0	0.33	0.67	0	0.33	0.67	0
rock bass	3	0	0	1	0	0.67	0.33	0	0
smallmouth bass	3	0	0	0	1	0	1	0	0
yellow bullhead	4	0	0	0.75	0.25	0	1	0	0
Rockaway River at Powerville									
bluegill	3	0	1	0	0	1	0	0	0
rock bass	4	0	0	1	0	0.75	0.25	0	0
yellow bullhead	3	0	0.67	0.33	0	1	0	0	0
Sheppards lake									
brown bullhead	3	0.33	0.67	0	0	1	0	0	0
largemouth bass	5	0	0	0	1	0	1	0	0
redbreast sunfish	3	0	0.33	0.67	0	1	0	0	0
rock bass	2	0	0.5	0.5	0	1	0	0	0
Speedwell Lake									
bluegill	4	0	1	0	0	1	0	0	0
chain pickerel	3	0	0.67	0.33	0	1	0	0	0
common carp	4	0.25	0.75	0	0	1	0	0	0

Table 12. Cont'd		High Risk Population				Low Risk Population			
Station	Total #	No restr.	1/week	1/month	Do not eat	No restr.	1/week	1/month	Do not eat
Species		<0.07	0.07-0.18	0.19-0.54	>0.54	<0.34	0.35-0.93	0.94-2.81	>2.81
Split Rock Reservoir									
bluegill	4	0	0.75	0.25	0	1	0	0	0
brown bullhead	2	1	0	0	0	1	0	0	0
chain pickerel	5	0	0	1	0	1	0	0	0
largemouth bass	5	0	0	1	0	0.4	0.6	0	0
yellow perch	4	0	0.75	0.25	0	1	0	0	0
Lake Tappan									
bluegill	4	0.5	0.5	0	0	1	0	0	0
largemouth bass	5	0.2	0.2	0.6	0	1	0	0	0
smallmouth bass	3	0.33	0	0.67	0	0.33	0.67	0	0
Weequahic Lake									
bluegill	3	0	1	0	0	1	0	0	0
brown bullhead	3	1	0	0	0	1	0	0	0
common carp	3	0.33	0.67	0	0	1	0	0	0
largemouth bass	4	0	0	1	0	0.75	0.25	0	0
white perch	3	0	1	0	0	1	0	0	0
Wanaque Reservoir									
bluegill	4	0	0	1	0	0.75	0.25	0	0
largemouth bass	5	0	0	0.4	0.6	0.4	0	0.6	0
yellow bullhead	4	0	1	0	0	1	0	0	0
Wawayanda Lake									
bluegill	3	0	0.33	0.67	0	1	0	0	0
chain pickerel	5	0	0	1	0	0.6	0.4	0	0
largemouth bass	5	0	0	0.4	0.6	0.4	0.6	0	0
yellow bullhead	3	0	0	1	0	0.33	0.67	0	0

Figures 1 - 20

Figure 1. Largemouth Bass Boonton Reservoir

Concentrations of Mercury in largemouth bass from Boonton Reservoir in the 1996-1997 and 2002 ANS monitoring program.

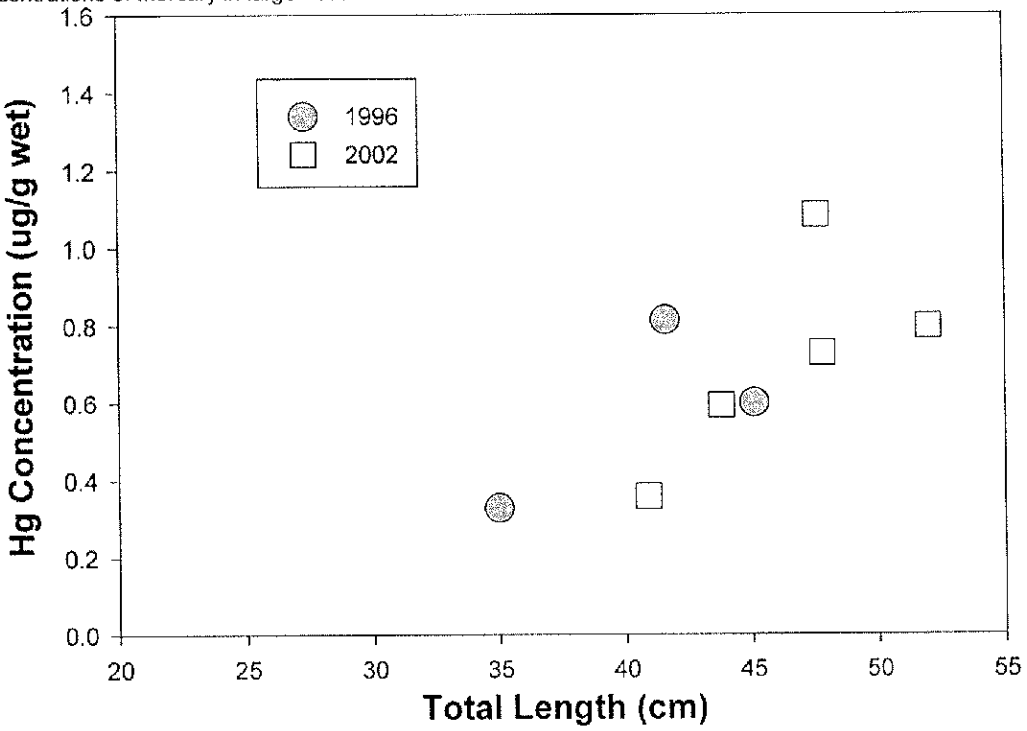


Figure 2. Largemouth Bass Canistear Reservoir

Concentrations of mercury in largemouth bass from the Canistear Reservoir in the 1992-1993 and 2002 ANS monitoring programs.

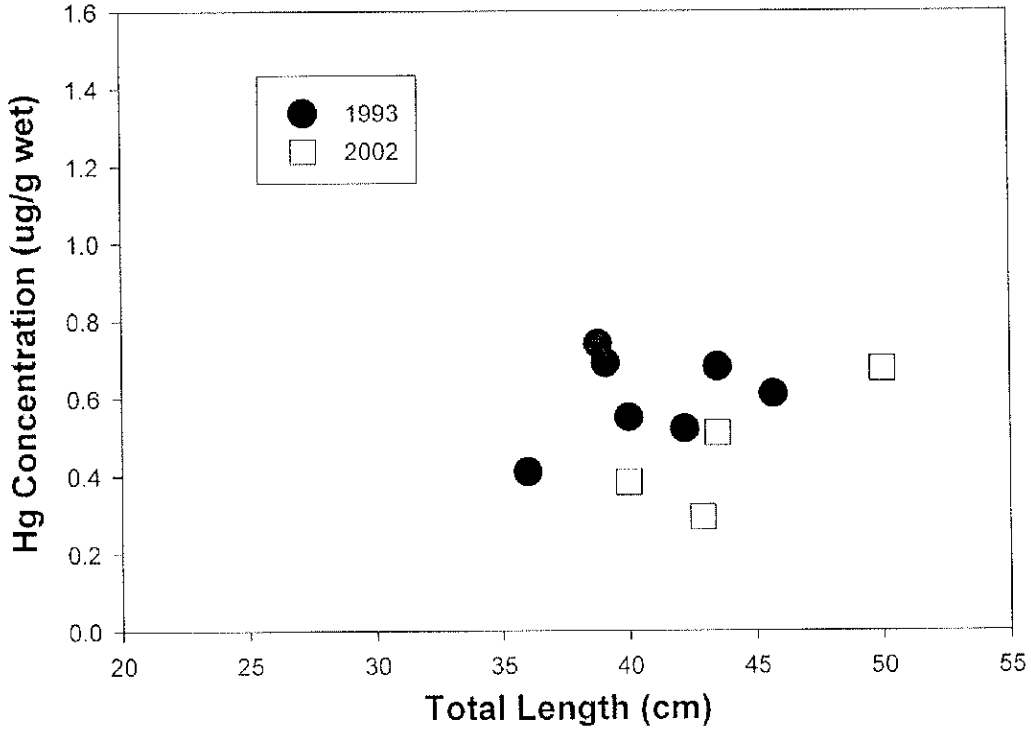


Figure 3. Largemouth Bass Echo Lake

Concentrations of mercury in largemouth bass from Echo Lake 1996-1997 and 2002 ANS monitoring programs.

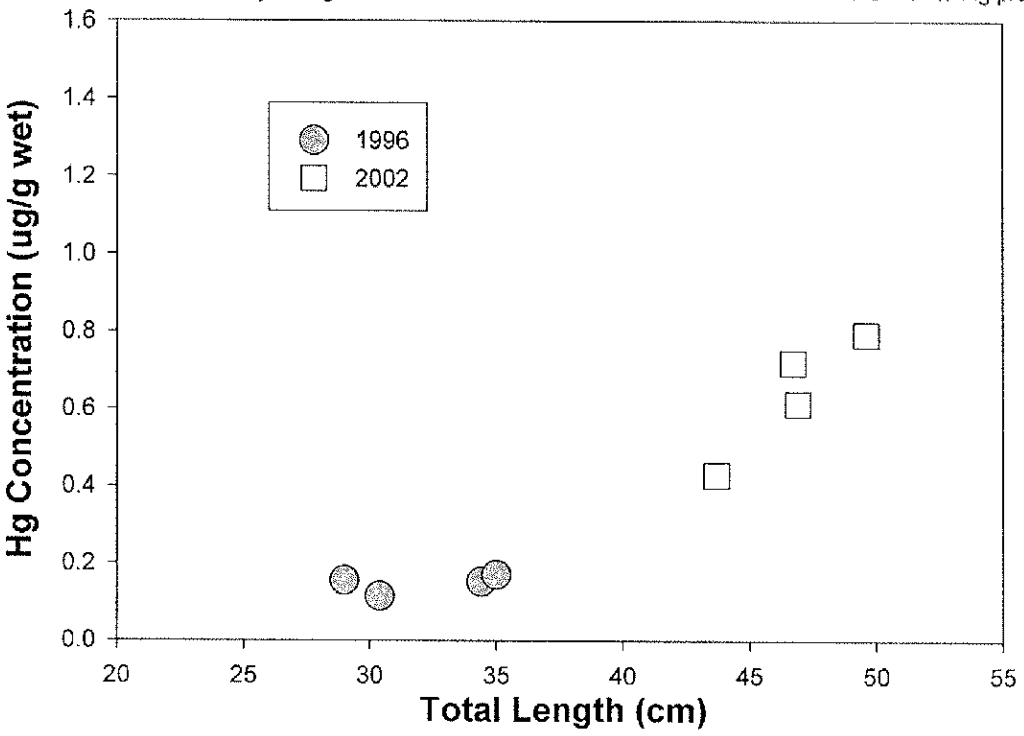


Figure 4. Largemouth Bass Green Turtle Lake

Concentrations of mercury in largemouth bass from Green Turtle Lake in the 1996-1007 and 2002 ANS monitoring programs.

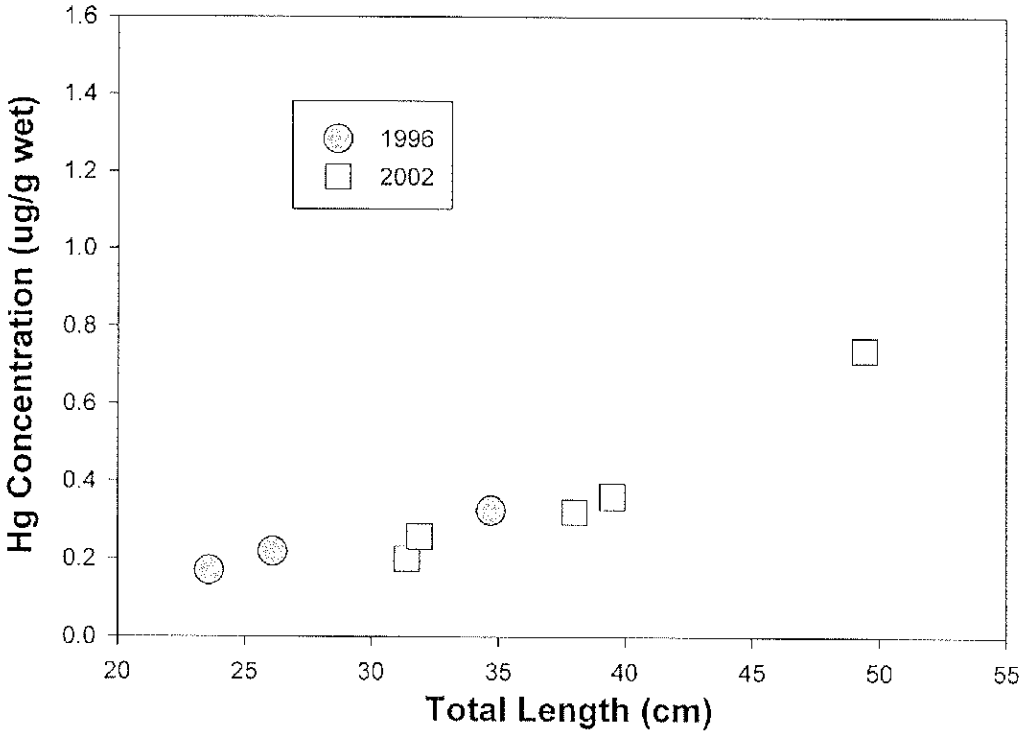


Figure 5. Largemouth Bass Greenwood Lake

Concentrations of mercury in largemouth bass from Greenwood Lake in the 1996-1997 and 2002 ANS monitoring programs. The legend box shows the actual years of collection.

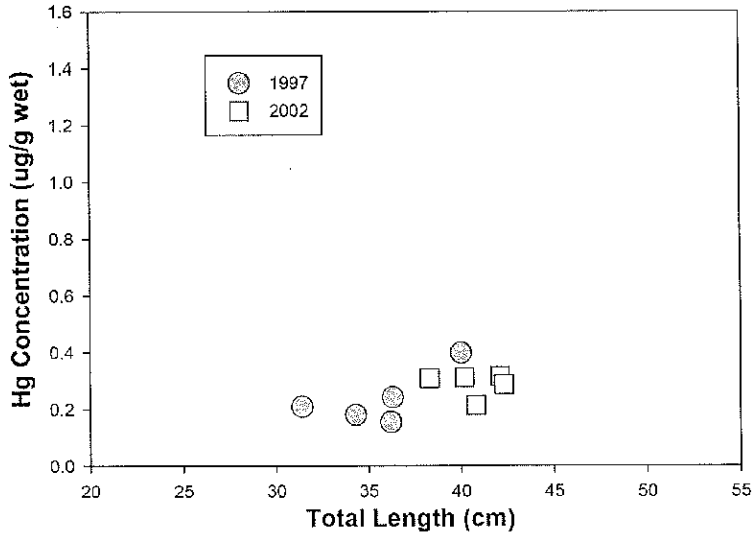


Figure 6. Largemouth Bass Monksville Reservoir

Concentrations of mercury in largemouth bass from Monksville Reservoir in the 1992-1993 and 2002 ANS monitoring programs. The legend box shows the actual years of collection.

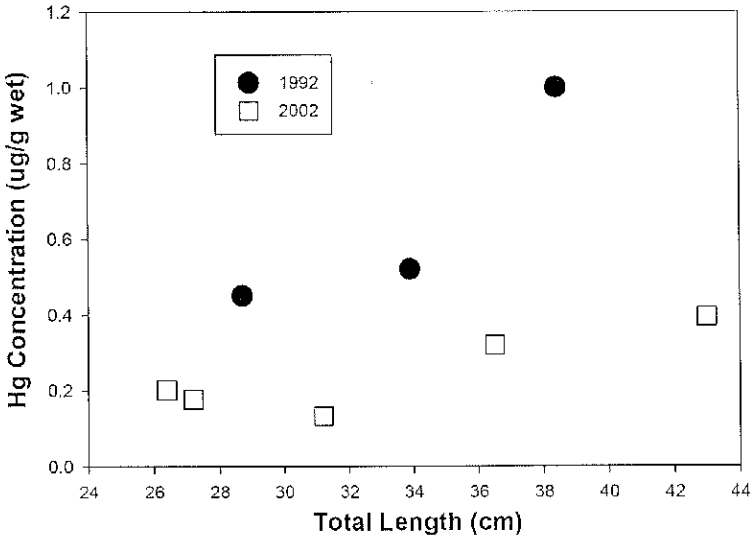


Figure 7. Largemouth Bass Oradell Reservoir

Concentrrations of mercury in largemouth bass from Oradell Reservoir in the 1994 and 2002 ANS monitoring programs.

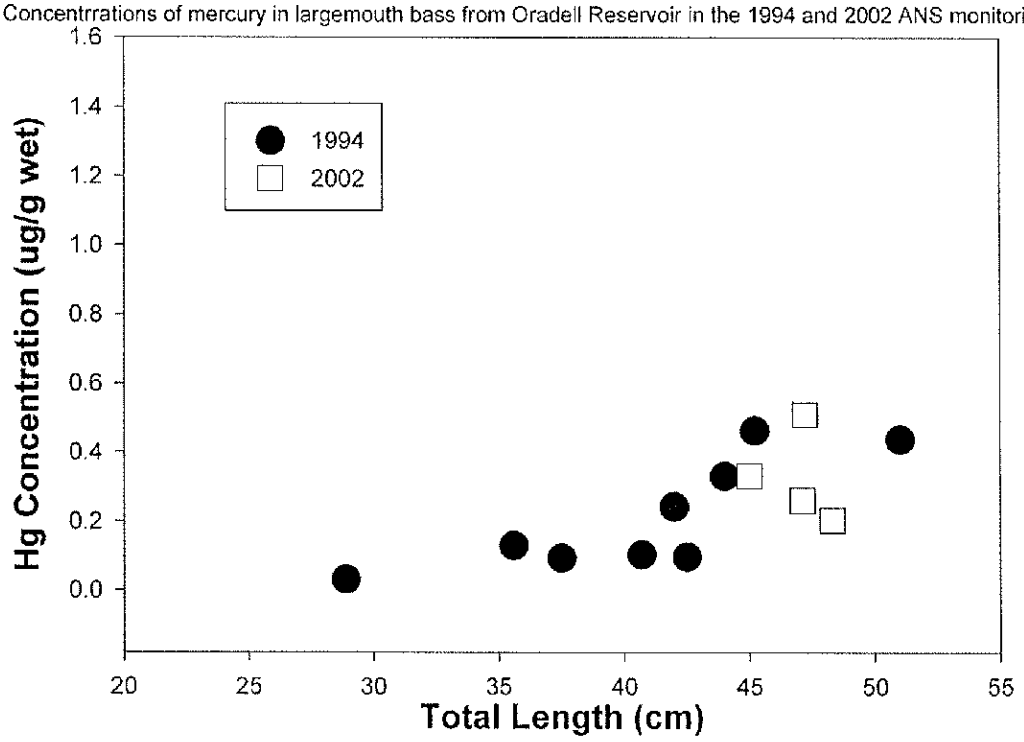


Figure 8. Largemouth Bass Oak Ridge Reservoir

Concentrations of mercury ion largemouth bass from Oak Ridge Reservoir in the 1996-1997 and 2002 ANS monitoring programs.

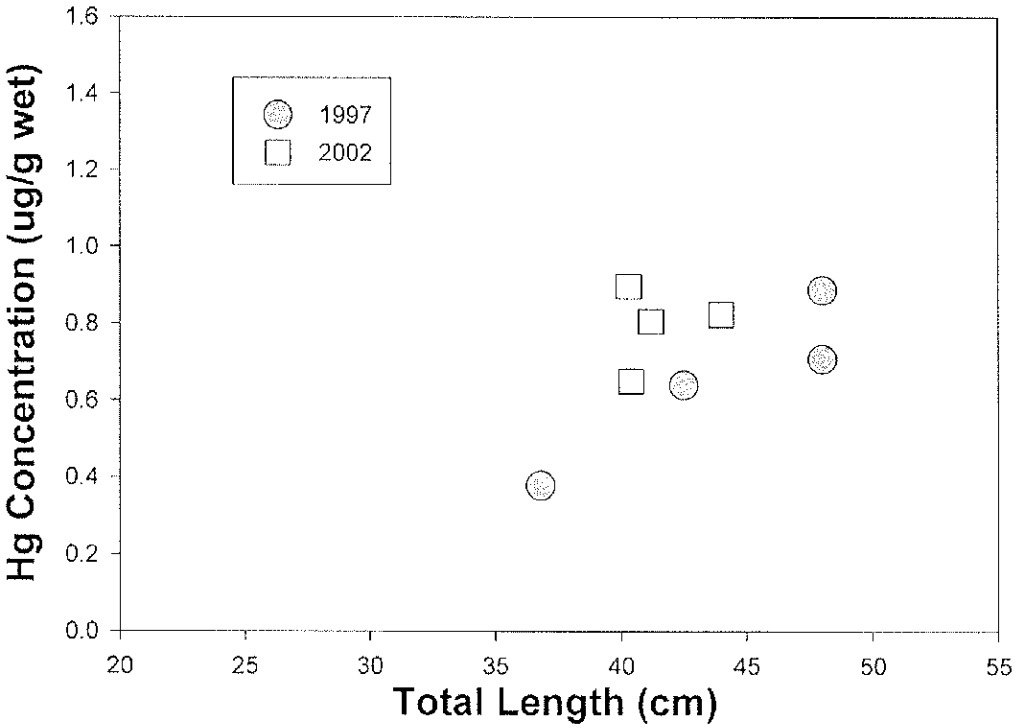


Figure 9. Largemouth Bass Passaic River

Concentrations of Mercury in largemouth bass from the Passaic River at East Hanover (Hatfield Swamp in 1996, Eagle Rock Ave in 2002) and Elmwood Park (including Lake Dundee) in the 1992-2002 ANS monitoring programs. The legend box shows the actual years of collection.

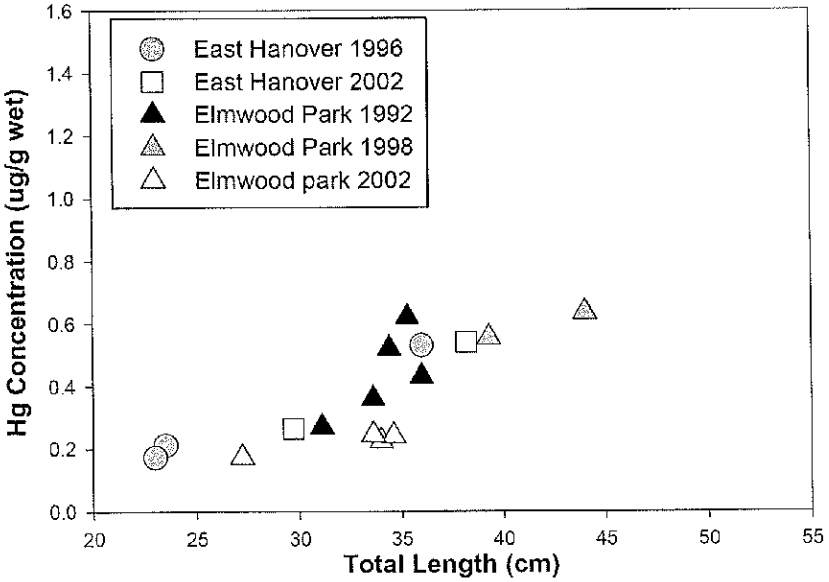


Figure 10. Largemouth Bass Passaic River

Concentrations of mercury in largemouth bass from the Passaic River at Great Piece (1992-1993) and mouth of Pompton River (1998) during ANS monitoring Programs. The legend box shows the actual years of collection.

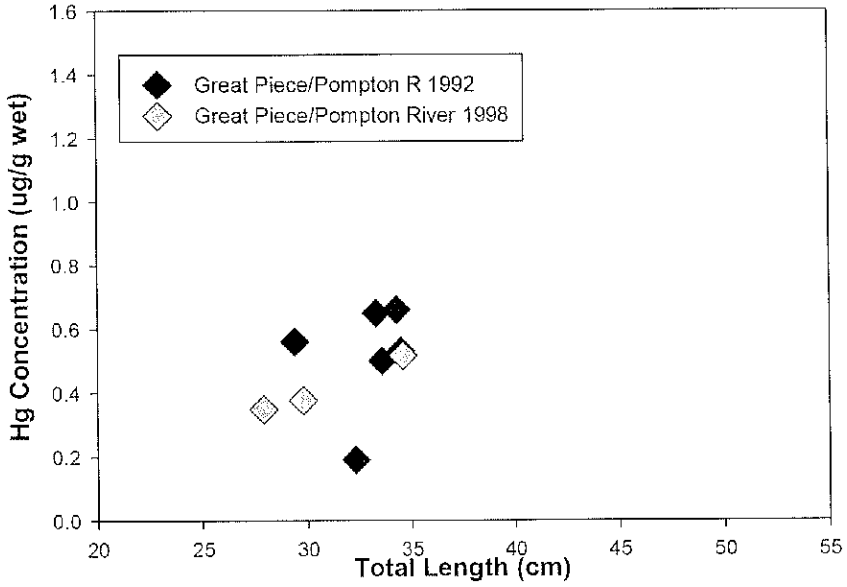


Figure 11. Largemouth Bass Pompton Lake

Concentrations of mercury in largemouth bass from Pompton Lake in the 1992-1993 amd 2002 ANS monitoring programs.

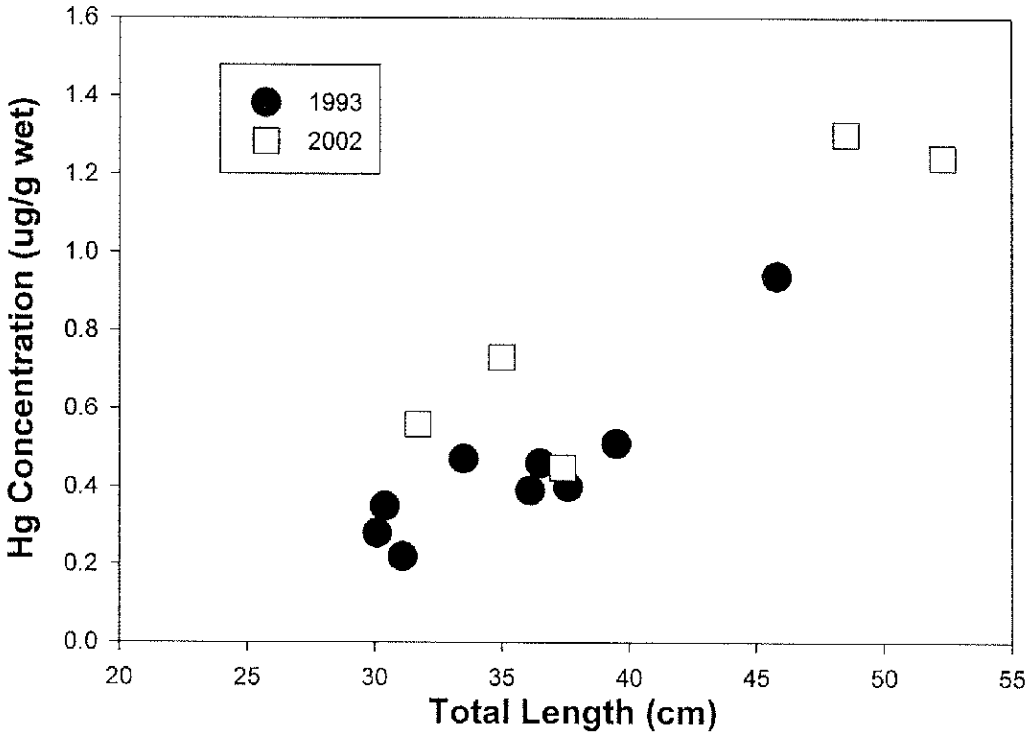


Figure 12. Largemouth Bass Pompton River

Concentrations of mercury in largemouth bass from Pompton River in the 1996-1997 and 2002 ANS monitoring programs.

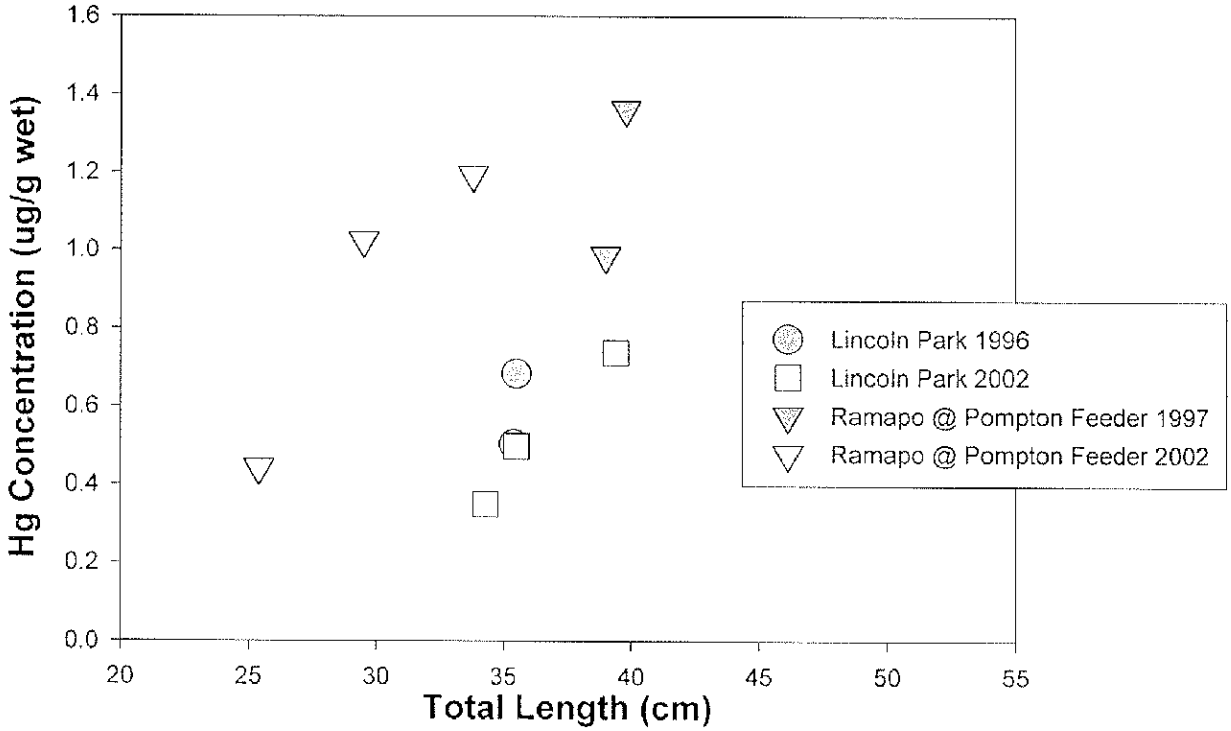


Figure 13. Largemouth Bass Branch Brook Pk, Overpeck Creek, Ramapo Lake

Concentrations of mercury in largemouth bass from Branch Brook Park, Overpeck Creek, and Ramapo Lake in the 2002 ANS monitoring program.

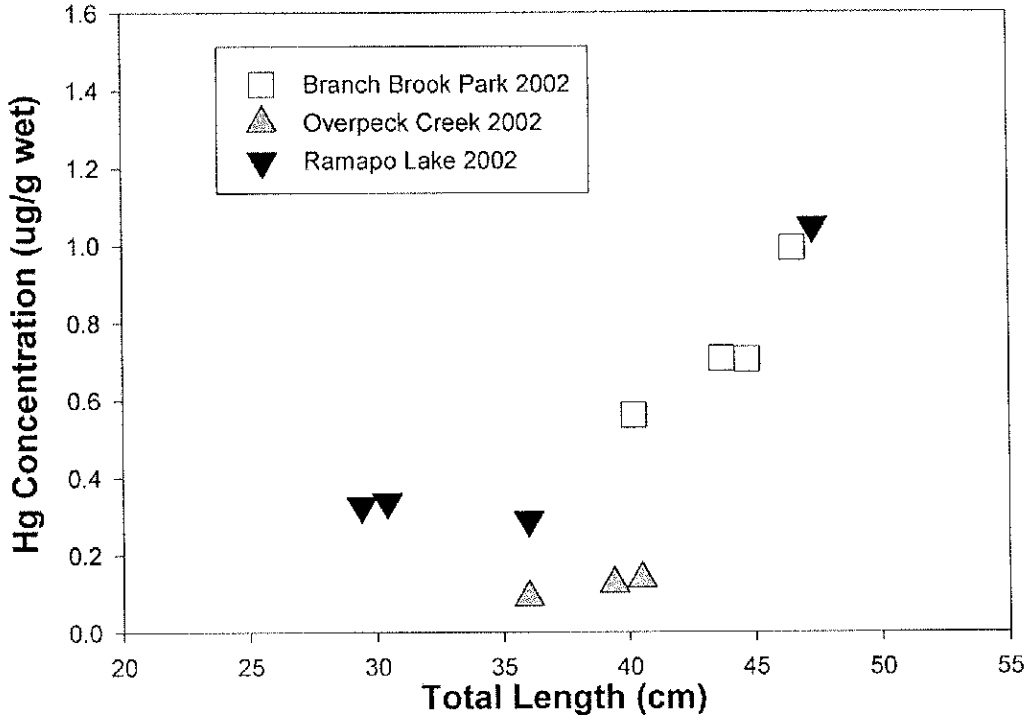


Figure 14. Largemouth Bass Weequahic & Wawayanda Lakes

Concentrations of mercury in largemouth bass from Weequahic and Wawayanda Lakes in the 2002 ANS monitoring program.

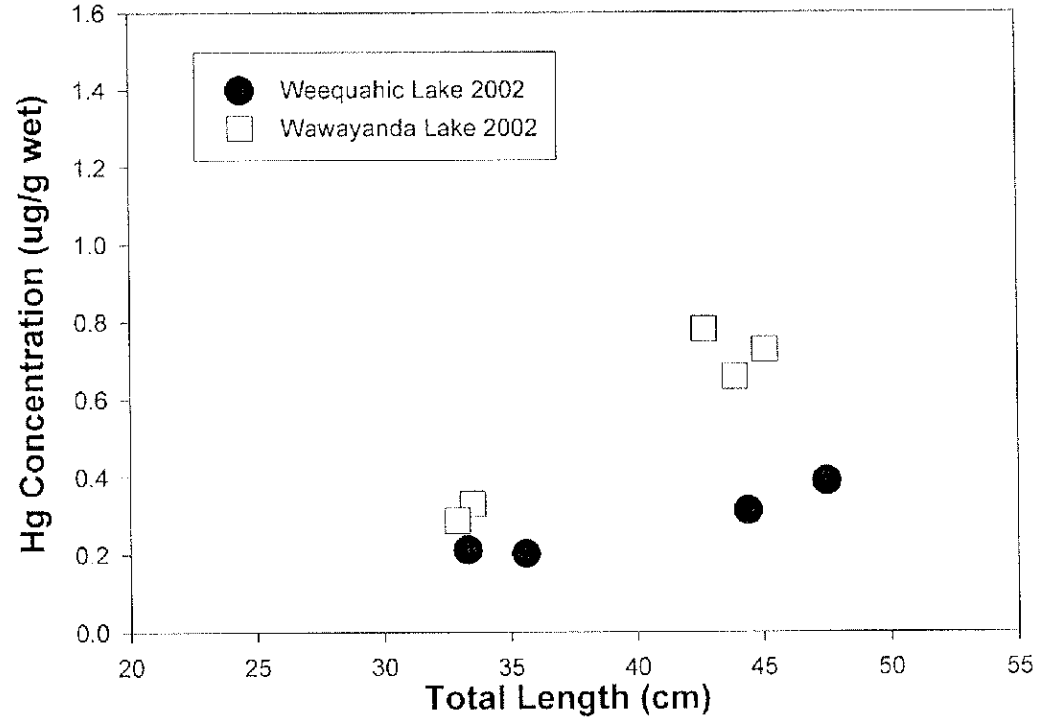
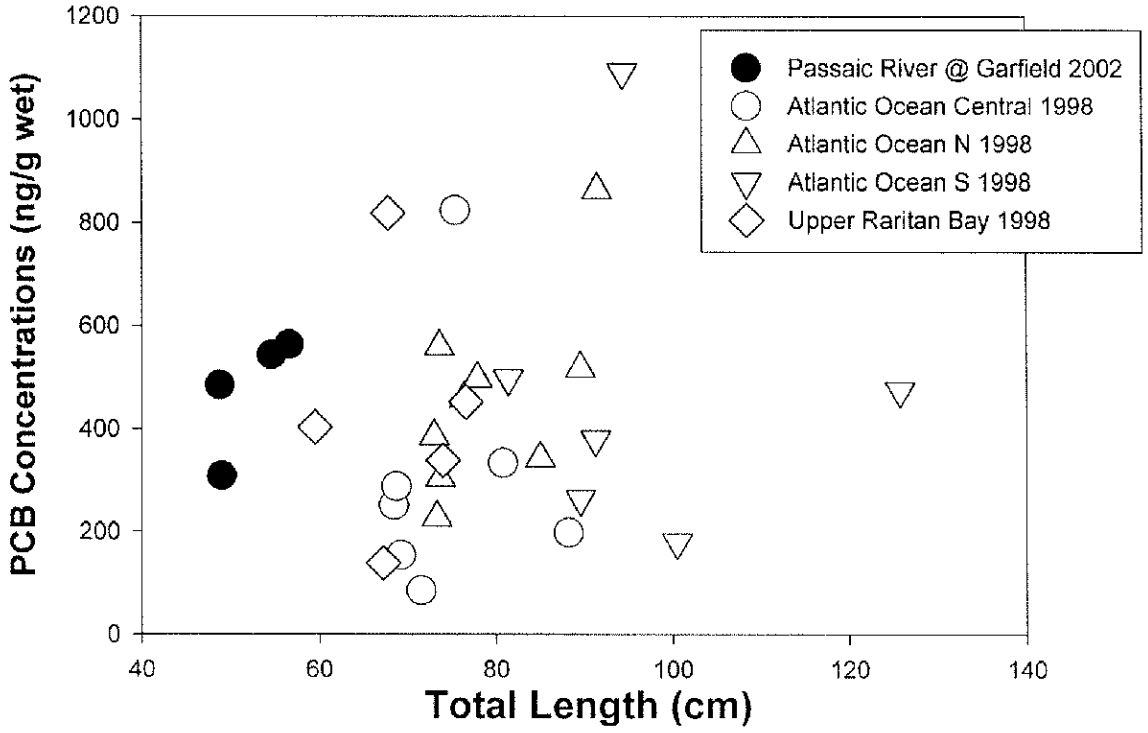


Figure 15. Striped Bass Passaic River

Concentrations of total PCBs in striped bass from the Passaic River at Garfield in the 2002 survey and in comparison sites from the 1998 ANS monitoring program, as functions of total length.



Concentrations of total PCBs in striped Bass from the Passaic River at Garfield in the 2002 survey and in comparison sites from the 1998 ANS monitoring program, as functions of total lipid content.

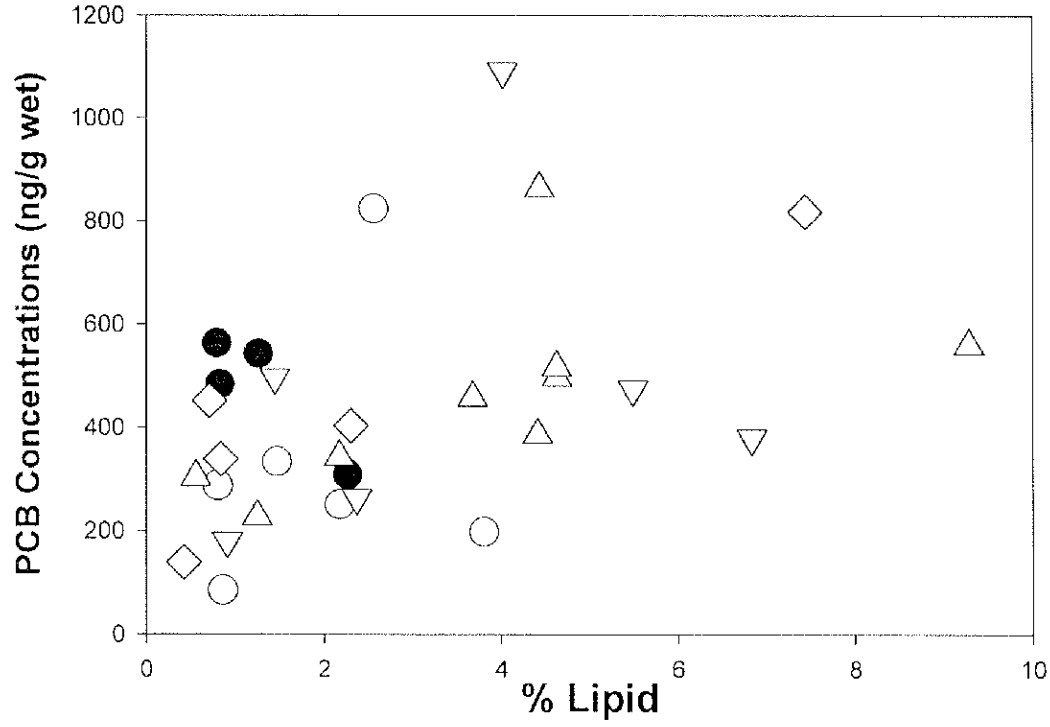
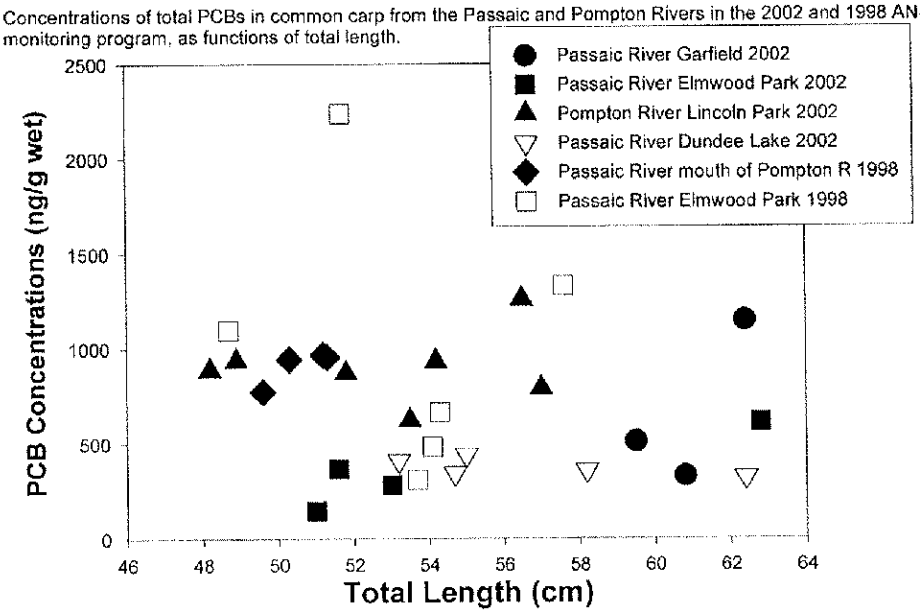


Figure 16. Common Carp

Concentrations of total PCBs in common carp from the Passaic and Pompton Rivers in the 2002 and 1998 ANS monitoring program, as functions of total length.



Concentrations of total PCBs in common carp from the Passaic and Pompton Rivers in the 2002 ANS monitoring program, as functions of total lipid content.

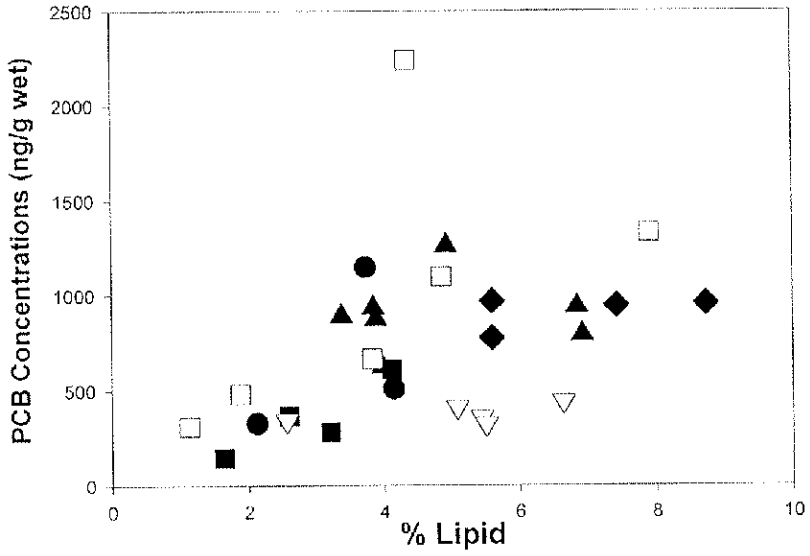
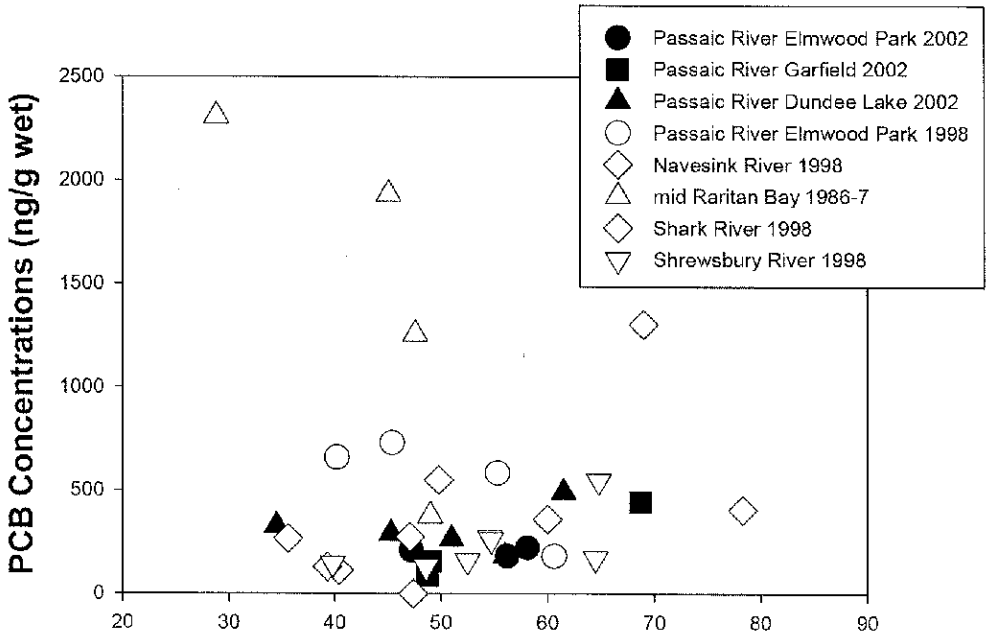


Figure 17. American Eel



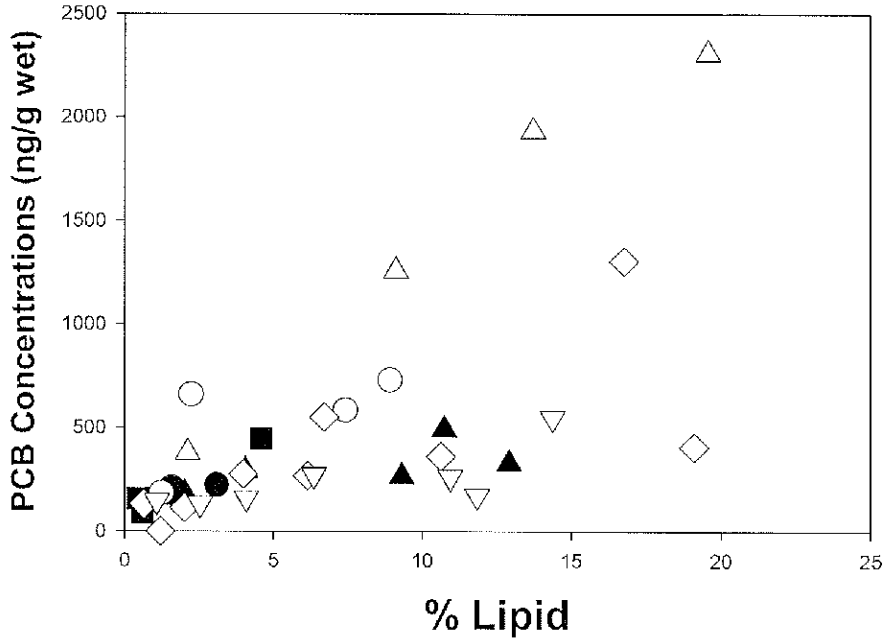
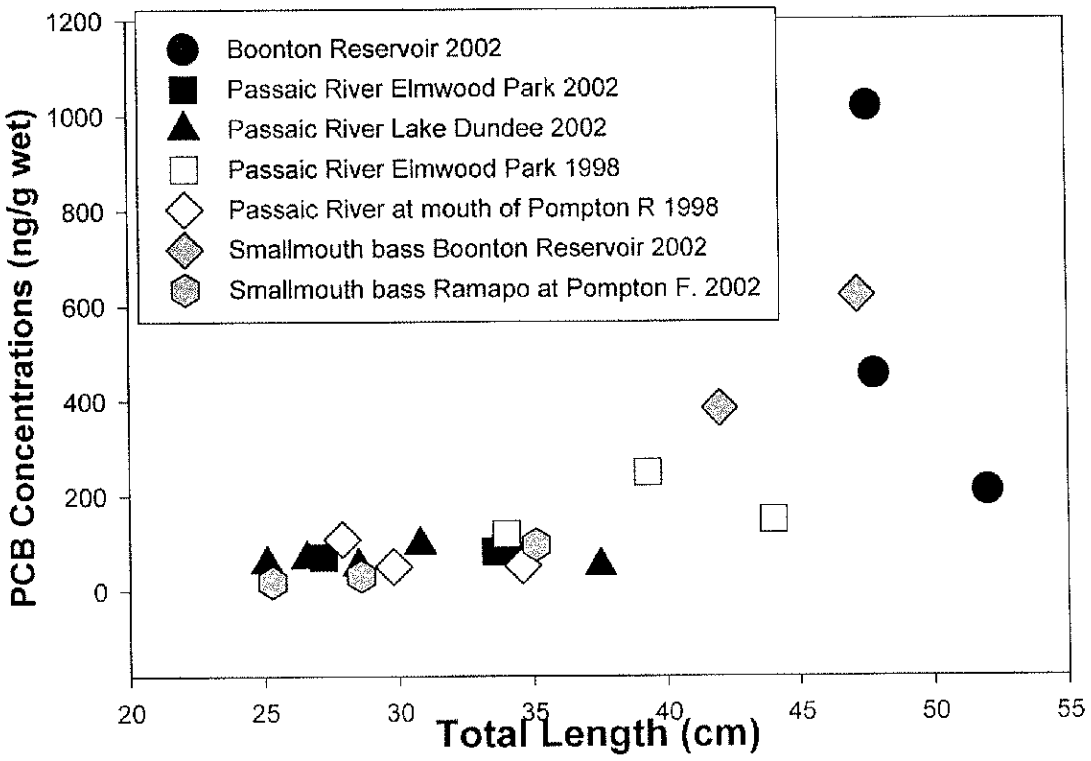


Figure 18. Largemouth & Smallmouth Bass

Concentrations of total PCBs in largemouth and smallmouth bass in the 2002 program and in comparison sites from 1998 ANS monitoring program, as functions of total length (**top**) and lipid content (**bottom**). Data are for largemouth bass, except where indicated as smallmouth bass in the key.



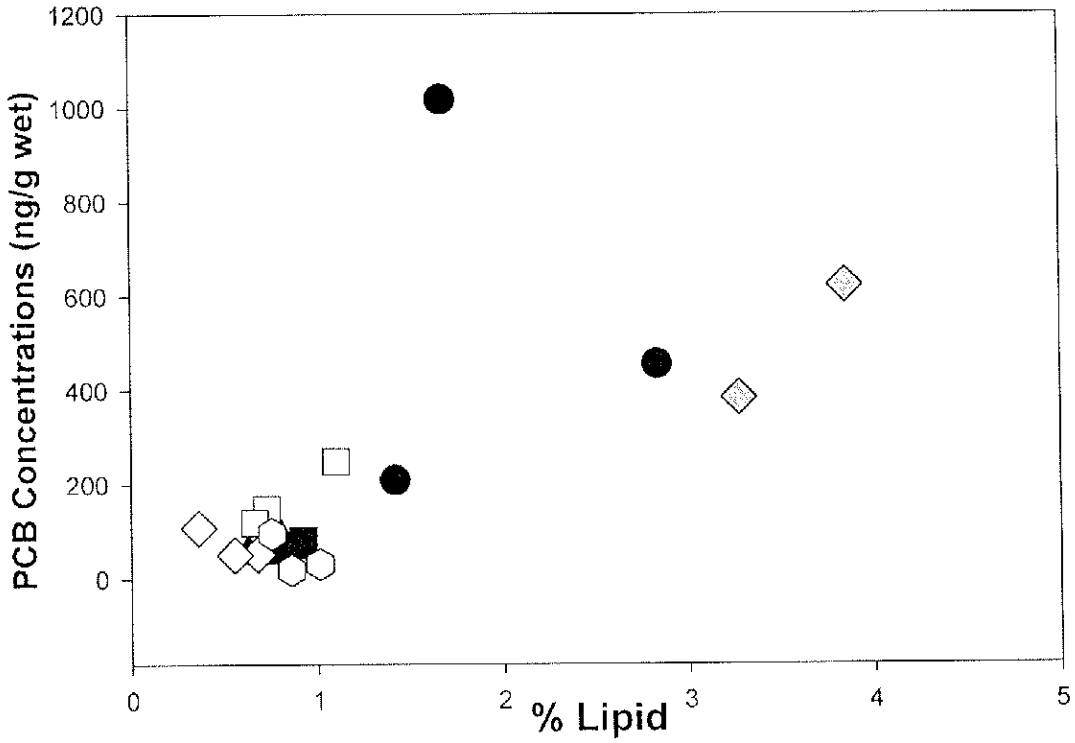


Figure 19. Largemouth Bass Tappan Reservoir

Concentrations of mercury in largemouth bass from Tappan Reservoir in the 2002 ANS monitoring program.

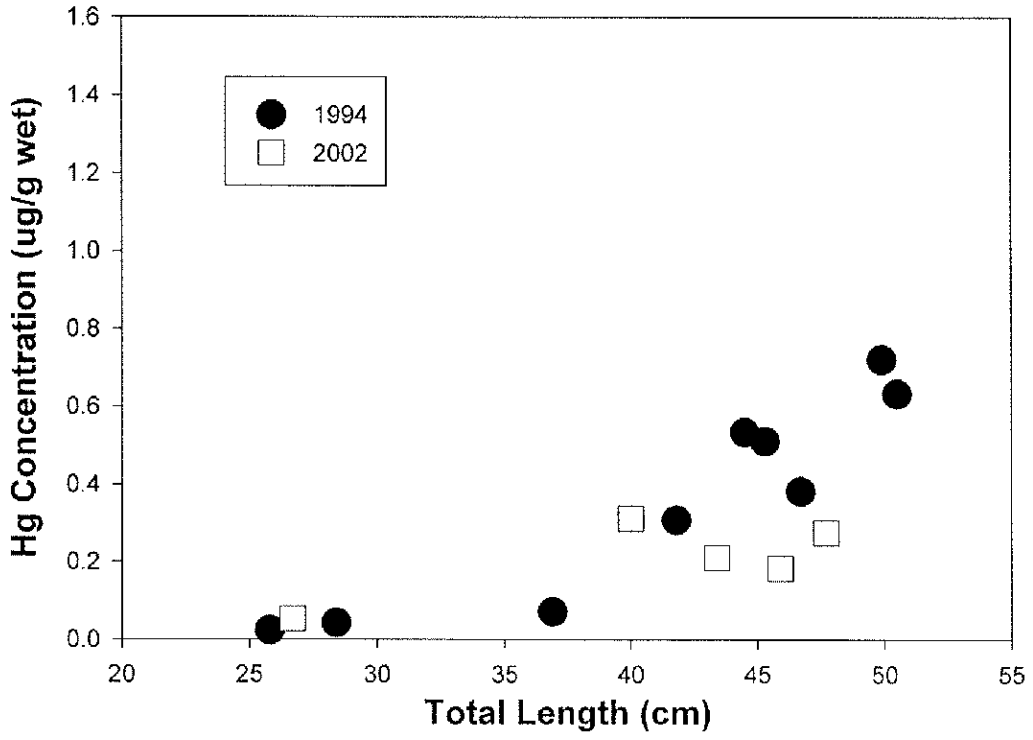
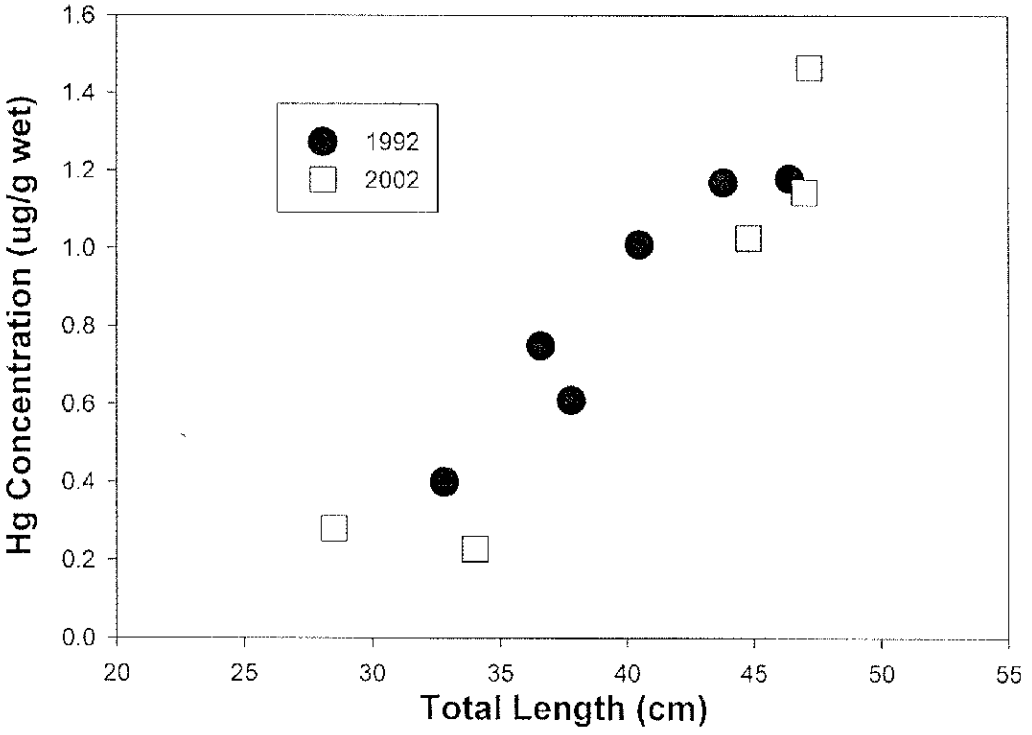


Figure 20. Largemouth Bass Wanaque Reservoir

Concentrations of mercury in largemouth bass from Wanaque Reservoir in the 2002 ANS monitoring program.



APPENDIX I

Mercury Concentrations In Individual Fish Specimens

Appendix I.

Mercury concentrations in individual fish specimens

Units: mg/g wet wt

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	49.0	48.0	F-2423	0259	1	0.12
NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	35.8	35.7	F-2041	0277	1	0.14
NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	63.7	63.5	F-2048	0284	1	0.16
NJT02-ORABS1	ORA	Oradell Reservoir	Anguilla rostrata	American eel	61.5	61.4	F-2147	0489	1	0.06
NJT02-ORABS1	ORA	Oradell Reservoir	Anguilla rostrata	American eel	67.4	67.9	F-2152	0494	1	0.08
NJT02-ORABS1	ORA	Oradell Reservoir	Anguilla rostrata	American eel	83.5	81.1	F-2153	0495	1	0.07
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	51.2	51.0	F-2482	9433	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	34.7	34.5	F-2484	9435	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	45.5	45.3	F-2485	9436	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	56.2	56.0	F-2486	9437	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	61.5	61.5	F-2487	9438	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	48.9	48.7	F-2499	9458	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	49.5	49.0	F-2500	9459	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	69.5	68.7	F-2501	9460	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	56.8	56.2	F-2515	9536	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	46.5	47.2	F-2516	9537	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	58.6	58.1	F-2517	9538	0	NR
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Pomoxis nigromaculatus	black crappie	21.4	21.0	F-2095	0405	1	0.15
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Pomoxis nigromaculatus	black crappie	20.3	20.6	F-2096	0406	1	0.29
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Pomoxis nigromaculatus	black crappie	17.5	17.6	F-2097	0407	1	0.19
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Pomoxis nigromaculatus	black crappie	16.6	16.2	F-2100	0410	1	0.12
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Pomoxis nigromaculatus	black crappie	25.0	25.2	F-2102	0412	1	0.25

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Pomoxis nigromaculatus	black crappie	17.6	17.8	F-2104	0414	1	0.16
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Pomoxis nigromaculatus	black crappie	18.3	17.7	F-2108	0418	1	0.12
NJT02-WQBS1	WQ	Wanaque Reservoir	Lepomis macrochirus	bluegill	21.2	21.0	F-2603	0001	1	0.41
NJT02-WQBS1	WQ	Wanaque Reservoir	Lepomis macrochirus	bluegill	20.4	19.8	F-2604	0002	1	0.23
NJT02-WQBS1	WQ	Wanaque Reservoir	Lepomis macrochirus	bluegill	20.2	19.3	F-2605	0003	1	0.22
NJT02-WQBS1	WQ	Wanaque Reservoir	Lepomis macrochirus	bluegill	20.6	20.0	F-2606	0004	1	0.27
NJT02-MVSD3	MV	Monksville reservoir	Lepomis macrochirus	bluegill	19.9	19.8	F-2607	0005	1	0.13
NJT02-MVSD1	MV	Monksville reservoir	Lepomis macrochirus	bluegill	18.5	16.8	F-2608	0006	1	0.08
NJT02-MVBS1	MV	Monksville reservoir	Lepomis macrochirus	bluegill	19.8	19.5	F-2609	0007	1	0.17
NJT02-MVBS1	MV	Monksville reservoir	Lepomis macrochirus	bluegill	17.8	16.8	F-2610	0008	1	0.11
NJT02-GWLBS1	GWL	Greenwood Lake	Lepomis macrochirus	bluegill	19.1	18.1	F-2615	0013	1	0.13
NJT02-GWLBS1	GWL	Greenwood Lake	Lepomis macrochirus	bluegill	19.0	18.2	F-2616	0014	1	0.08
NJT02-GWLBS1	GWL	Greenwood Lake	Lepomis macrochirus	bluegill	20.1	18.6	F-2617	0015	1	0.09
NJT02-GWLBS1	GWL	Greenwood Lake	Lepomis macrochirus	bluegill	19.2	18.0	F-2618	0016	1	0.07
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Lepomis macrochirus	bluegill	16.1	15.5	F-2619	0017	1	0.13
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Lepomis macrochirus	bluegill	16.0	15.4	F-2620	0018	1	0.11
NJT02-RWHBP2	RWH	Rockaway River at Powerville	Lepomis macrochirus	bluegill	15.8	15.0	F-2621	0019	1	0.11
NJT02-WWLBS1	WWL	Wawayanda Lake	Lepomis macrochirus	bluegill	18.3	18.3	F-2342	0039	1	0.21
NJT02-WWLBS1	WWL	Wawayanda Lake	Lepomis macrochirus	bluegill	18.2	17.0	F-2343	0040	1	0.21
NJT02-WWLBS1	WWL	Wawayanda Lake	Lepomis macrochirus	bluegill	17.9	17.8	F-2344	0041	1	0.14
NJT02-SPEBS1	SPE	Speedwell Lake	Lepomis macrochirus	bluegill	20.5	19.6	F-2356	0053	1	0.16
NJT02-SPEBS1	SPE	Speedwell Lake	Lepomis macrochirus	bluegill	18.6	17.6	F-2357	0054	1	0.13
NJT02-SPEBS1	SPE	Speedwell Lake	Lepomis macrochirus	bluegill	15.8	15.5	F-2358	0055	1	0.10
NJT02-SPEBS1	SPE	Speedwell Lake	Lepomis macrochirus	bluegill	15.4	15.0	F-2359	0056	1	0.10
NJT02-WEEBS1	WEE	Weequahic Lake	Lepomis macrochirus	bluegill	16.4	16.3	F-2434	0270	1	0.12
NJT02-WEEBS1	WEE	Weequahic Lake	Lepomis macrochirus	bluegill	17.3	17.5	F-2435	0271	1	0.15

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-WEEBS1	WEE	Weequahic Lake	Lepomis macrochirus	bluegill	17.4	17.5	F-2036	0272	1	0.09
NJT02-POMPBS1	POMP	Pompton Lake	Lepomis macrochirus	bluegill	16.4	16.4	F-2079	0389	1	0.18
NJT02-POMPBS1	POMP	Pompton Lake	Lepomis macrochirus	bluegill	18.3	18.2	F-2081	0391	1	0.47
NJT02-POMPBS1	POMP	Pompton Lake	Lepomis macrochirus	bluegill	17.1	17.0	F-2082	0392	1	0.17
NJT02-POMPBS1	POMP	Pompton Lake	Lepomis macrochirus	bluegill	18.3	18.2	F-2083	0393	1	0.22
NJT02-BBPBS1	BBP	Branch Brook Park	Lepomis macrochirus	bluegill	14.5	14.8	F-2088	0398	1	0.16
NJT02-BBPBS1	BBP	Branch Brook Park	Lepomis macrochirus	bluegill	15.3	15.5	F-2089	0399	1	0.15
NJT02-BBPBS1	BBP	Branch Brook Park	Lepomis macrochirus	bluegill	15.5	16.0	F-2090	0400	1	0.24
NJT02-OPPBS1	OPP	Overpeck Creek	Lepomis macrochirus	bluegill	16.4	16.3	F-2103	0413	1	0.07
NJT02-OPPBS1	OPP	Overpeck Creek	Lepomis macrochirus	bluegill	14.7	15.0	F-2109	0419	1	0.09
NJT02-OPPBS1	OPP	Overpeck Creek	Lepomis macrochirus	bluegill	15.1	15.1	F-2110	0420	1	0.09
NJT02-TAPBS1	TAP	Lake Tappan	Lepomis macrochirus	bluegill	14.1	14.5	F-2124	0466	1	0.06
NJT02-TAPBS1	TAP	Lake Tappan	Lepomis macrochirus	bluegill	15.0	15.0	F-2125	0467	1	0.05
NJT02-TAPBS1	TAP	Lake Tappan	Lepomis macrochirus	bluegill	11.8	11.9	F-2126	0468	1	0.08
NJT02-TAPBS1	TAP	Lake Tappan	Lepomis macrochirus	bluegill	15.2	15.3	F-2127	0469	1	0.09
NJT02-ORABS1	ORA	Oradell Reservoir	Lepomis macrochirus	bluegill	19.0	19.0	F-2144	0486	1	0.05
NJT02-ORABS1	ORA	Oradell Reservoir	Lepomis macrochirus	bluegill	14.7	14.9	F-2145	0487	1	0.03
NJT02-ORABS1	ORA	Oradell Reservoir	Lepomis macrochirus	bluegill	16.4	16.5	F-2146	0488	1	0.05
NJT02-ELBS1	EL	Echo Lake Reservoir	Lepomis macrochirus	bluegill	17.9	17.4	F-2154	0496	1	0.06
NJT02-ELBS1	EL	Echo Lake Reservoir	Lepomis macrochirus	bluegill	19.0	19.0	F-2155	0497	1	0.11
NJT02-ELBS1	EL	Echo Lake Reservoir	Lepomis macrochirus	bluegill	18.5	17.2	F-2156	0498	1	0.11
NJT02-ELBS1	EL	Echo Lake Reservoir	Lepomis macrochirus	bluegill	16.4	16.1	F-2157	0499	1	0.10
NJT02-CANBS1	CAN	Canistear Reservor	Lepomis macrochirus	bluegill	18.5	18.2	F-2170	0512	1	0.11
NJT02-CANBS2	CAN	Canistear Reservor	Lepomis macrochirus	bluegill	21.8	21.7	F-2173	0515	1	0.11
NJT02-CANBS2	CAN	Canistear Reservor	Lepomis macrochirus	bluegill	21.2	20.8	F-2174	0516	1	0.23

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-CANBS2	CAN	Canistear Reservor	Lepomis macrochirus	bluegill	21.0	19.8	F-2175	0517	1	0.10
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Lepomis macrochirus	bluegill	20.0	19.9	F-2193	0539	1	0.28
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Lepomis macrochirus	bluegill	17.5	17.1	F-2194	0540	1	0.15
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Lepomis macrochirus	bluegill	18.1	17.8	F-2195	0541	1	0.11
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Lepomis macrochirus	bluegill	19.9	19.7	F-2196	0542	1	0.24
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	18.1	18.1	F-2503	9462	0	0.24
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	16.4	16.1	F-2504	9463	0	0.12
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	16.9	16.7	F-2505	9464	0	0.21
NJT02-RLBS1	RL	Ramapo Lake	Lepomis macrochirus	bluegill	21.1	21.0	F-2570	9848	1	0.28
NJT02-RLBS1	RL	Ramapo Lake	Lepomis macrochirus	bluegill	19.2	19.2	F-2571	9849	1	0.26
NJT02-RLBS1	RL	Ramapo Lake	Lepomis macrochirus	bluegill	19.0	18.2	F-2572	9850	1	0.19
NJT02-RLBS1	RL	Ramapo Lake	Lepomis macrochirus	bluegill	17.5	17.3	F-2573	9851	1	0.19
NJT02-SPLA1	SPL	Split Rock Reservoir	Lepomis macrochirus	bluegill	21.2	21.0	F-2574	9890	1	0.13
NJT02-SPLGN1	SPL	Split Rock Reservoir	Lepomis macrochirus	bluegill	22.6	22.1	F-2575	9891	1	0.12
NJT02-SPLGN2	SPL	Split Rock Reservoir	Lepomis macrochirus	bluegill	22.0	22.0	F-2576	9892	1	0.10
NJT02-SPLGN1	SPL	Split Rock Reservoir	Lepomis macrochirus	bluegill	21.4	21.2	F-2577	9893	1	0.21
NJT02-GTLBS1	GTL	Green Turtle Lake	Lepomis macrochirus	bluegill	17.9	17.2	F-2594	9974	1	0.09
NJT02-GTLBS1	GTL	Green Turtle Lake	Lepomis macrochirus	bluegill	18.6	18.2	F-2595	9975	1	0.14
NJT02-GTLBS1	GTL	Green Turtle Lake	Lepomis macrochirus	bluegill	19.9	19.3	F-2596	9976	1	0.58
NJT02-GTLBS1	GTL	Green Turtle Lake	Lepomis macrochirus	bluegill	17.7	16.9	F-2597	9977	1	0.07
NJT02-WEEBS1	WEE	Weequahic Lake	Ameiurus nebulosus	brown bullhead	27.2	27.3	F-2078	0388	1	0.03
NJT02-WEEBS1	WEE	Weequahic Lake	Ameiurus nebulosus	brown bullhead	30.0	29.2	F-2080	0390	1	0.03
NJT02-WEEBS1	WEE	Weequahic Lake	Ameiurus nebulosus	brown bullhead	31.0	31.4	F-2087	0397	1	0.03
NJT02-OPPBS1	OPP	Overpeck Creek	Ameiurus nebulosus	brown bullhead	25.0	24.6	F-2105	0415	1	0.04
NJT02-OPPBS1	OPP	Overpeck Creek	Ameiurus nebulosus	brown bullhead	22.6	22.3	F-2106	0416	1	0.03

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-OPPBS1	OPP	Overpeck Creek	Ameiurus nebulosus	brown bullhead	21.2	21.1	F-2107	0417	1	0.04
NJT02-SHBS1	SH	Shepherds lake	Ameiurus nebulosus	brown bullhead	29.5	29.5	F-2558	9836	1	0.13
NJT02-SHBS1	SH	Shepherds lake	Ameiurus nebulosus	brown bullhead	36.1	35.4	F-2559	9837	1	0.07
NJT02-SHBS1	SH	Shepherds lake	Ameiurus nebulosus	brown bullhead	28.9	28.3	F-2560	9838	1	0.06
NJT02-SPLGN7	SPL	Split Rock Reservoir	Ameiurus nebulosus	brown bullhead	39.0	37.9	F-2587	9911	1	0.04
NJT02-SPLGN7	SPL	Split Rock Reservoir	Ameiurus nebulosus	brown bullhead	30.7	29.8	F-2588	9912	1	0.04
NJT02-MVBS1	MV	Monksville reservoir	Esox niger	chain pickerel	35.5	34.9	F-2350	0047	1	0.15
NJT02-MVBS1	MV	Monksville reservoir	Esox niger	chain pickerel	51.1	49.5	F-2351	0048	1	0.31
NJT02-MVBS1	MV	Monksville reservoir	Esox niger	chain pickerel	38.4	37.7	F-2352	0049	1	0.19
NJT02-WWLA1	WWL	Wawayanda Lake	Esox niger	chain pickerel	44.5	43.7	F-2365	0062	1	0.44
NJT02-WWLBS1	WWL	Wawayanda Lake	Esox niger	chain pickerel	28.0	27.5	F-2366	0063	1	0.23
NJT02-WWLBS1	WWL	Wawayanda Lake	Esox niger	chain pickerel	26.4	25.7	F-2367	0064	1	0.23
NJT02-WWLBS1	WWL	Wawayanda Lake	Esox niger	chain pickerel	27.1	26.8	F-2368	0065	1	0.23
NJT02-WWLBS1	WWL	Wawayanda Lake	Esox niger	chain pickerel	33.9	33.9	F-2369	0066	1	0.50
NJT02-SPEBS1	SPE	Speedwell Lake	Esox niger	chain pickerel	25.9	24.8	F-2383	0158	1	0.09
NJT02-SPEBS1	SPE	Speedwell Lake	Esox niger	chain pickerel	31.8	29.1	F-2384	0159	1	0.11
NJT02-SPEBS1	SPE	Speedwell Lake	Esox niger	chain pickerel	59.6	55.6	F-2385	0160	1	0.26
NJT02-CLGN4	CL	Clinton Reservoir	Esox niger	chain pickerel	45.2	50.4	F-2116	0426	1	0.61
NJT02-CLGN1	CL	Clinton Reservoir	Esox niger	chain pickerel	53.0	44.5	F-2117	0427	1	0.43
NJT02-ELBS1	EL	Echo Lake Reservoir	Esox niger	chain pickerel	45.6	43.1	F-2162	0504	1	0.27
NJT02-ELBS1	EL	Echo Lake Reservoir	Esox niger	chain pickerel	62.8	60.0	F-2163	0505	1	0.37
NJT02-ELBS1	EL	Echo Lake Reservoir	Esox niger	chain pickerel	43.5	41.7	F-2165	0507	1	0.20
NJT02-CANBS2	CAN	Canistear Reservor	Esox niger	chain pickerel	47.2	44.0	F-2181	0523	1	0.16
NJT02-CANBS1	CAN	Canistear Reservor	Esox niger	chain pickerel	44.0	41.3	F-2183	0525	1	0.14

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-CANBS2	CAN	Canistear Reservor	Esox niger	chain pickerel	41.8	39.2	F-2184	0526	1	0.25
NJT02-CANBS1	CAN	Canistear Reservor	Esox niger	chain pickerel	41.5	39.7	F-2185	0527	1	0.19
NJT02-SPLGN7	SPL	Split Rock Reservoir	Esox niger	chain pickerel	54.5	53.8	F-2589	9913	1	0.30
NJT02-SPLGN10	SPL	Split Rock Reservoir	Esox niger	chain pickerel	46.8	45.6	F-2590	9914	1	0.30
NJT02-SPLGN10	SPL	Split Rock Reservoir	Esox niger	chain pickerel	49.0	48.3	F-2591	9915	1	0.32
NJT02-SPLGN4	SPL	Split Rock Reservoir	Esox niger	chain pickerel	61.0	60.0	F-2592	9916	1	0.26
NJT02-SPLGN1	SPL	Split Rock Reservoir	Esox niger	chain pickerel	57.0	56.4	F-2593	9917	1	0.32
NJT02-PRGWS1	PRG	Passaic River at Garfield	Ictalurus punctatus	channel catfish	50.4	50.3	F-2492	9451	1	0.31
NJT02-PRGWS1	PRG	Passaic River at Garfield	Ictalurus punctatus	channel catfish	48.2	47.0	F-2493	9452	1	0.23
NJT02-SPEBS1	SPE	Speedwell Lake	Cyprinus carpio	common carp	62.5	61.5	F-2386	0161	1	0.14
NJT02-SPEBS1	SPE	Speedwell Lake	Cyprinus carpio	common carp	61.7	61.2	F-2387	0162	1	0.10
NJT02-SPEBS1	SPE	Speedwell Lake	Cyprinus carpio	common carp	63.6	63.0	F-2388	0163	1	0.05
NJT02-SPEBS1	SPE	Speedwell Lake	Cyprinus carpio	common carp	57.7	57.4	F-2389	0164	1	0.13
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	49.9	49.5	F-2416	0252	1	0.47
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	57.5	57.5	F-2417	0253	1	0.28
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	58.7	58.5	F-2418	0254	1	0.39
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	58.5	57.6	F-2426	0262	1	0.23
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	56.5	56.0	F-2427	0263	1	0.18
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	60.3	59.5	F-2428	0264	1	0.15
NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	75.5	75.1	F-2429	0265	1	0.66
NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	61.2	60.5	F-2433	0269	1	0.10
NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	69.0	68.0	F-2037	0273	1	0.19
NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	66.8	66.4	F-2038	0274	1	0.45
NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	72.5	71.8	F-2039	0275	1	0.07

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	69.5	68.9	F-2040	0276	1	0.19
NJT02-WEEBS1	WEE	Weequahic Lake	Cyprinus carpio	common carp	50.5	50.8	F-2043	0279	1	0.04
NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	50.0	50.5	F-2044	0280	0	NR
NJT02-WEEBS1	WEE	Weequahic Lake	Cyprinus carpio	common carp	56.2	55.6	F-2046	0282	1	0.08
NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	51.7	52.0	F-2049	0285	1	0.09
NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	63.7	64.2	F-2050	0286	1	0.11
NJT02-WEEBS1	WEE	Weequahic Lake	Cyprinus carpio	common carp	71.0	71.3	F-2051	0287	1	0.10
NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	58.8	59.1	F-2068	0378	1	0.30
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	49.5	49.9	F-2069	0379	1	0.22
NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	60.5	49.8	F-2070	0380	1	0.10
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	50.3	49.7	F-2071	0381	1	0.21
NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	54.2	53.6	F-2072	0382	1	0.23
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	53.5	53.2	F-2478	9429	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	54.8	54.7	F-2479	9430	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	54.8	55.0	F-2480	9431	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	58.7	58.2	F-2481	9432	0	NR
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	62.9	62.4	F-2483	9434	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	60.8	60.8	F-2495	9454	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	60.5	59.5	F-2497	9456	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	62.9	62.4	F-2498	9457	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	51.8	51.6	F-2506	9465	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	53.0	53.0	F-2507	9466	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	63.5	62.8	F-2513	9534	0	NR
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	51.6	51.0	F-2514	9535	0	NR

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	54.2	54.2	F-2518	9539	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	57.5	57.0	F-2519	9540	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	49.0	48.9	F-2520	9541	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	53.6	53.5	F-2521	9542	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	54.5	56.5	F-2522	9543	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	51.8	51.8	F-2523	9544	0	NR
NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	48.2	48.2	F-2524	9545	0	NR
NJT02-WQBS1	WQ	Wanaque Reservoir	Micropterus salmoides	largemouth bass	48.0	47.2	F-2631	0029	1	1.47
NJT02-WQBS1	WQ	Wanaque Reservoir	Micropterus salmoides	largemouth bass	34.2	34.0	F-2632	0030	1	0.23
NJT02-WQBS1	WQ	Wanaque Reservoir	Micropterus salmoides	largemouth bass	30.7	28.5	F-2633	0031	1	0.28
NJT02-WQBS1	WQ	Wanaque Reservoir	Micropterus salmoides	largemouth bass	47.5	47.0	F-2634	0032	1	1.15
NJT02-WQBS1	WQ	Wanaque Reservoir	Micropterus salmoides	largemouth bass	45.2	44.8	F-2336	0033	1	1.03
NJT02-GWLBS1	GWL	Greenwood Lake	Micropterus salmoides	largemouth bass	42.7	40.8	F-2337	0034	1	0.21
NJT02-GWLBS1	GWL	Greenwood Lake	Micropterus salmoides	largemouth bass	42.6	42.1	F-2338	0035	1	0.31
NJT02-GWLBS1	GWL	Greenwood Lake	Micropterus salmoides	largemouth bass	39.9	38.3	F-2339	0036	1	0.31
NJT02-GWLBS1	GWL	Greenwood Lake	Micropterus salmoides	largemouth bass	42.0	40.2	F-2340	0037	1	0.31
NJT02-GWLBS1	GWL	Greenwood Lake	Micropterus salmoides	largemouth bass	44.4	42.3	F-2341	0038	1	0.29
NJT02-MVBS1	MV	Monksville reservoir	Micropterus salmoides	largemouth bass	26.5	26.4	F-2345	0042	1	0.20
NJT02-MVBS1	MV	Monksville reservoir	Micropterus salmoides	largemouth bass	28.0	27.2	F-2346	0043	1	0.18
NJT02-MVBS1	MV	Monksville reservoir	Micropterus salmoides	largemouth bass	31.5	31.2	F-2347	0044	1	0.13
NJT02-MVBS1	MV	Monksville reservoir	Micropterus salmoides	largemouth bass	36.9	36.5	F-2348	0045	1	0.32
NJT02-MVBS1	MV	Monksville reservoir	Micropterus salmoides	largemouth bass	44.0	43.0	F-2349	0046	1	0.39
NJT02-WWLBS1	WWL	Wawayanda Lake	Micropterus salmoides	largemouth bass	33.0	32.9	F-2360	0057	1	0.29
NJT02-WWLBS1	WWL	Wawayanda Lake	Micropterus salmoides	largemouth bass	33.4	33.5	F-2361	0058	1	0.33

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-WWLBS1	WWL	Wawayanda Lake	Micropterus salmoides	largemouth bass	44.1	43.9	F-2362	0059	1	0.66
NJT02-WWLBS1	WWL	Wawayanda Lake	Micropterus salmoides	largemouth bass	42.9	42.7	F-2363	0060	1	0.78
NJT02-WWLBS1	WWL	Wawayanda Lake	Micropterus salmoides	largemouth bass	45.3	45.1	F-2364	0061	1	0.73
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus salmoides	largemouth bass	41.6	40.9	F-2370	0079	1	0.36
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus salmoides	largemouth bass	45.0	43.8	F-2371	0080	1	0.59
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus salmoides	largemouth bass	48.7	47.8	F-2372	0081	1	0.73
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus salmoides	largemouth bass	52.2	52.0	F-2373	0082	1	0.80
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus salmoides	largemouth bass	48.3	47.6	F-2374	0083	1	1.08
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	29.4	25.4	F-2402	0238	1	0.44
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	30.1	29.5	F-2403	0239	1	1.02
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	34.2	33.8	F-2408	0244	1	1.19
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	34.6	34.3	F-2409	0245	1	0.35
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Micropterus salmoides	largemouth bass	38.8	38.2	F-2410	0246	1	0.54
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	39.2	39.4	F-2411	0247	1	0.74
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Micropterus salmoides	largemouth bass	30.2	29.7	F-2412	0248	1	0.27
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	35.2	35.5	F-2414	0250	1	0.50
NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	37.6	37.4	F-2419	0255	1	0.45
NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	36.4	36.0	F-2420	0256	1	0.09
NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	39.9	39.4	F-2421	0257	1	0.12
NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	41.2	40.5	F-2422	0258	1	0.14
NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	52.3	52.3	F-2424	0260	1	1.24
NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	49.0	48.5	F-2425	0261	1	1.30
NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	43.6	43.7	F-2430	0266	1	0.71
NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	47.0	46.5	F-2431	0267	1	0.99
NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	44.5	44.7	F-2432	0268	1	0.71

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-WEEBS1	WEE	Weequahic Lake	Micropterus salmoides	largemouth bass	35.1	35.6	F-2042	0278	1	0.20
NJT02-WEEBS1	WEE	Weequahic Lake	Micropterus salmoides	largemouth bass	47.5	47.5	F-2045	0281	1	0.39
NJT02-WEEBS1	WEE	Weequahic Lake	Micropterus salmoides	largemouth bass	45.9	44.4	F-2047	0283	1	0.31
NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	40.0	40.2	F-2073	0383	1	0.56
NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	35.0	35.0	F-2074	0384	1	0.73
NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	33.5	31.7	F-2075	0385	1	0.56
NJT02-WEEBS1	WEE	Weequahic Lake	Micropterus salmoides	largemouth bass	34.0	33.3	F-2094	0404	1	0.21
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus salmoides	largemouth bass	26.7	26.7	F-2133	0475	1	0.05
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus salmoides	largemouth bass	48.3	47.7	F-2134	0476	1	0.28
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus salmoides	largemouth bass	40.6	40.0	F-2135	0477	1	0.31
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus salmoides	largemouth bass	43.5	43.4	F-2136	0478	1	0.21
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus salmoides	largemouth bass	46.5	45.9	F-2139	0481	1	0.18
NJT02-ORABS1	ORA	Oradell Reservoir	Micropterus salmoides	largemouth bass	47.1	47.1	F-2148	0490	1	0.26
NJT02-ORABS1	ORA	Oradell Reservoir	Micropterus salmoides	largemouth bass	47.9	47.2	F-2149	0491	1	0.51
NJT02-ORABS1	ORA	Oradell Reservoir	Micropterus salmoides	largemouth bass	46.0	45.0	F-2150	0492	1	0.33
NJT02-ORABS1	ORA	Oradell Reservoir	Micropterus salmoides	largemouth bass	48.6	48.3	F-2151	0493	1	0.20
NJT02-ELBS1	EL	Echo Lake Reservoir	Micropterus salmoides	largemouth bass	48.1	46.9	F-2164	0506	1	0.61
NJT02-ELBS1	EL	Echo Lake Reservoir	Micropterus salmoides	largemouth bass	45.6	43.7	F-2166	0508	1	0.43
NJT02-ELBS1	EL	Echo Lake Reservoir	Micropterus salmoides	largemouth bass	49.4	46.7	F-2167	0509	1	0.72
NJT02-ELBS1	EL	Echo Lake Reservoir	Micropterus salmoides	largemouth bass	50.5	49.6	F-2168	0510	1	0.79
NJT02-CANBS2	CAN	Canistear Reservor	Micropterus salmoides	largemouth bass	41.7	40.0	F-2179	0521	1	0.38
NJT02-CANBS1	CAN	Canistear Reservor	Micropterus salmoides	largemouth bass	43.8	42.9	F-2182	0524	1	0.29
NJT02-CANBS2	CAN	Canistear Reservor	Micropterus salmoides	largemouth bass	44.5	43.5	F-2186	0528	1	0.51
NJT02-CANBS2	CAN	Canistear Reservor	Micropterus salmoides	largemouth bass	51.4	50.0	F-2187	0529	1	0.67
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Micropterus salmoides	largemouth bass	41.6	40.4	F-2199	0545	1	0.65

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Micropterus salmoides	largemouth bass	41.3	40.3	F-2200	0546	1	0.90
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Micropterus salmoides	largemouth bass	42.2	41.2	F-2201	0547	1	0.81
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Micropterus salmoides	largemouth bass	45.1	44.0	F-2202	0548	1	0.82
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	28.2	28.5	F-2473	9424	0	0.18
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	27.0	26.6	F-2474	9425	0	0.16
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	37.8	37.5	F-2475	9426	0	0.35
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	25.2	25.1	F-2476	9427	0	0.16
NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	31.1	30.8	F-2477	9428	0	0.15
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	34.0	33.6	F-2508	9467	1	0.24
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	34.6	34.6	F-2510	9469	1	0.24
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	27.0	27.2	F-2512	9471	1	0.17
NJT02-SHBS1	SH	Shepherds lake	Micropterus salmoides	largemouth bass	41.1	40.5	F-2553	9831	1	0.60
NJT02-SHBS1	SH	Shepherds lake	Micropterus salmoides	largemouth bass	40.4	39.3	F-2554	9832	1	0.67
NJT02-SHBS1	SH	Shepherds lake	Micropterus salmoides	largemouth bass	39.7	39.2	F-2555	9833	1	0.56
NJT02-SHBS1	SH	Shepherds lake	Micropterus salmoides	largemouth bass	39.0	38.0	F-2556	9834	1	0.76
NJT02-SHBS1	SH	Shepherds lake	Micropterus salmoides	largemouth bass	39.2	35.5	F-2557	9835	1	0.71
NJT02-RLBS1	RL	Ramapo Lake	Micropterus salmoides	largemouth bass	37.5	36.0	F-2566	9844	1	0.29
NJT02-RLBS1	RL	Ramapo Lake	Micropterus salmoides	largemouth bass	30.6	29.4	F-2567	9845	1	0.33
NJT02-RLBS1	RL	Ramapo Lake	Micropterus salmoides	largemouth bass	30.9	30.4	F-2568	9846	1	0.34
NJT02-RLBS1	RL	Ramapo Lake	Micropterus salmoides	largemouth bass	48.7	47.3	F-2569	9847	1	1.05
NJT02-SPLGN7	SPL	Split Rock Reservoir	Micropterus salmoides	largemouth bass	35.5	34.7	F-2582	9906	1	0.32
NJT02-SPLGN1	SPL	Split Rock Reservoir	Micropterus salmoides	largemouth bass	39.4	38.2	F-2583	9907	1	0.48
NJT02-SPLGN1	SPL	Split Rock Reservoir	Micropterus salmoides	largemouth bass	38.0	37.6	F-2584	9908	1	0.32
NJT02-SPLH1	SPL	Split Rock Reservoir	Micropterus salmoides	largemouth bass	40.5	39.4	F-2585	9909	1	0.52
NJT02-SPLA1	SPL	Split Rock Reservoir	Micropterus salmoides	largemouth bass	35.9	34.2	F-2586	9910	1	0.38

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-GTLBS1	GTL	Green Turtle Lake	Micropterus salmoides	largemouth bass	31.7	31.4	F-2598	9978	1	0.20
NJT02-GTLBS1	GTL	Green Turtle Lake	Micropterus salmoides	largemouth bass	38.9	38.0	F-2599	9979	1	0.32
NJT02-GTLBS1	GTL	Green Turtle Lake	Micropterus salmoides	largemouth bass	49.4	49.4	F-2600	9980	1	0.74
NJT02-GTLBS1	GTL	Green Turtle Lake	Micropterus salmoides	largemouth bass	40.0	39.5	F-2601	9981	1	0.36
NJT02-GTLBS1	GTL	Green Turtle Lake	Micropterus salmoides	largemouth bass	32.5	31.9	F-2602	9982	1	0.26
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Esox lucius	northern pike	41.3	41.2	F-2413	0249	1	0.15
NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Esox lucius	northern pike	44.5	44.3	F-2415	0251	1	0.20
NJT02-CLBP1	CL	Clinton Reservoir	Lepomis auritus	redbreast sunfish	13.8	13.6	F-2111	0421	1	0.16
NJT02-CLBP1	CL	Clinton Reservoir	Lepomis auritus	redbreast sunfish	14.1	14.0	F-2112	0422	1	0.16
NJT02-CLBP1	CL	Clinton Reservoir	Lepomis auritus	redbreast sunfish	13.2	13.3	F-2113	0423	1	0.19
NJT02-CLBP1	CL	Clinton Reservoir	Lepomis auritus	redbreast sunfish	12.7	12.7	F-2114	0424	1	0.25
NJT02-SHBS2	SH	Shepherds lake	Lepomis auritus	redbreast sunfish	15.9	15.5	F-2563	9841	1	0.20
NJT02-SHBS2	SH	Shepherds lake	Lepomis auritus	redbreast sunfish	14.6	14.0	F-2564	9842	1	0.19
NJT02-SHBS2	SH	Shepherds lake	Lepomis auritus	redbreast sunfish	15.6	15.3	F-2565	9843	1	0.18
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Ambloplites rupestris	rock bass	24.1	24.0	F-2611	0009	1	0.34
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Ambloplites rupestris	rock bass	23.3	22.9	F-2612	0010	1	0.29
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Ambloplites rupestris	rock bass	23.9	23.2	F-2613	0011	1	0.41
NJT02-RWHBP2	RWH	Rockaway River at Powerville	Ambloplites rupestris	rock bass	24.5	24.2	F-2614	0012	1	0.32
NJT02-BTRBS1	BTR	Boonton Reservoir	Ambloplites rupestris	rock bass	22.3	22.3	F-2379	0154	1	0.22
NJT02-BTRBS1	BTR	Boonton Reservoir	Ambloplites rupestris	rock bass	20.7	20.5	F-2380	0155	1	0.13
NJT02-BTRBS1	BTR	Boonton Reservoir	Ambloplites rupestris	rock bass	22.2	22.0	F-2381	0156	1	0.27
NJT02-BTRBS1	BTR	Boonton Reservoir	Ambloplites rupestris	rock bass	22.3	21.9	F-2382	0157	1	0.26
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ambloplites rupestris	rock bass	18.3	17.9	F-2091	0401	1	0.32
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ambloplites rupestris	rock bass	17.0	16.3	F-2092	0402	1	0.46
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ambloplites rupestris	rock bass	17.6	17.5	F-2093	0403	1	0.33

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Ambloplites rupestris	rock bass	20.8	21.0	F-2098	0408	1	0.64
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Ambloplites rupestris	rock bass	23.7	23.4	F-2099	0409	1	0.83
NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Ambloplites rupestris	rock bass	21.5	21.1	F-2101	0411	1	0.60
NJT02-CLGN4	CL	Clinton Reservoir	Ambloplites rupestris	rock bass	15.9	15.8	F-2118	0428	1	0.19
NJT02-CLGN4	CL	Clinton Reservoir	Ambloplites rupestris	rock bass	15.8	15.7	F-2119	0429	1	0.18
NJT02-CLB2	CL	Clinton Reservoir	Ambloplites rupestris	rock bass	18.2	17.9	F-2120	0430	1	0.65
NJT02-SHBS2	SH	Shepherds lake	Ambloplites rupestris	rock bass	15.3	15.0	F-2561	9839	1	0.20
NJT02-SHBS2	SH	Shepherds lake	Ambloplites rupestris	rock bass	20.9	20.6	F-2562	9840	1	0.15
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus dolomieu	smallmouth bass	43.4	42.0	F-2375	0084	1	0.52
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus dolomieu	smallmouth bass	48.4	47.2	F-2376	0085	1	0.75
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus dolomieu	smallmouth bass	38.9	36.3	F-2377	0086	1	0.39
NJT02-BTRBS1	BTR	Boonton Reservoir	Micropterus dolomieu	smallmouth bass	41.0	40.6	F-2378	0087	1	0.39
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	29.7	28.6	F-2399	0235	1	0.70
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	26.4	25.3	F-2400	0236	1	0.65
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	35.0	35.1	F-2401	0237	1	0.91
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus dolomieu	smallmouth bass	27.7	27.6	F-2132	0474	1	0.06
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus dolomieu	smallmouth bass	46.4	45.9	F-2137	0479	1	0.38
NJT02-TAPBS1	TAP	Lake Tappan	Micropterus dolomieu	smallmouth bass	48.4	58.1	F-2138	0480	1	0.43
NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	49.6	49.0	F-2488	9447	1	0.33
NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	57.6	56.6	F-2489	9448	1	0.66
NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	49.0	48.8	F-2490	9449	1	0.41
NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	54.4	54.6	F-2491	9450	1	0.64
NJT02-MVSD1	MV	Monksville reservoir	Stizostedion vitreum	walleye	47.8	47.1	F-2390	0165	1	0.55
NJT02-MVSD1	MV	Monksville reservoir	Stizostedion vitreum	walleye	51.6	50.2	F-2391	0166	1	0.42
NJT02-MVSD1	MV	Monksville reservoir	Stizostedion vitreum	walleye	59.8	59.4	F-2392	0167	1	0.78

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Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-MVSD1	MV	Monksville reservoir	Stizostedion vitreum	walleye	54.0	58.5	F-2393	0168	1	0.35
NJT02-MVBS1	MV	Monksville reservoir	Stizostedion vitreum	walleye	44.4	43.0	F-2394	0169	1	0.44
NJT02-GWLBS2	GWL	Greenwood Lake	Stizostedion vitreum	walleye		54.8	F-2188	0530	1	0.30
NJT02-GWLBS2	GWL	Greenwood Lake	Stizostedion vitreum	walleye		56.4	F-2189	0531	1	0.28
NJT02-GWLBS2	GWL	Greenwood Lake	Stizostedion vitreum	walleye		49.0	F-2190	0532	1	0.18
NJT02-GWLBS2	GWL	Greenwood Lake	Stizostedion vitreum	walleye		57.1	F-2191	0533	1	0.28
NJT02-GWLBS2	GWL	Greenwood Lake	Stizostedion vitreum	walleye		61.1	F-2192	0534	1	0.47
NJT02-WEEBS1	WEE	Weequahic Lake	Morone americana	white perch	18.0	18.1	F-2084	0394	1	0.09
NJT02-WEEBS1	WEE	Weequahic Lake	Morone americana	white perch	17.9	18.1	F-2085	0395	1	0.08
NJT02-WEEBS1	WEE	Weequahic Lake	Morone americana	white perch	17.7	17.7	F-2086	0396	1	0.10
NJT02-CLGN5	CL	Clinton Reservoir	Catostomus commersoni	white sucker	44.5	43.3	F-2121	0431	1	0.25
NJT02-CLGN4	CL	Clinton Reservoir	Catostomus commersoni	white sucker	45.5	44.6	F-2122	0432	1	0.19
NJT02-CLGN1	CL	Clinton Reservoir	Catostomus commersoni	white sucker	46.8	45.4	F-2123	0433	1	0.24
NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	42.0	40.6	F-2494	9453	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	47.3	46.5	F-2496	9455	0	NR
NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	44.0	42.9	F-2502	9461	0	NR
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Ameiurus natalis	yellow bullhead	23.5	23.0	F-2622	0020	1	0.14
NJT02-RWHBP1	RWH	Rockaway River at Powerville	Ameiurus natalis	yellow bullhead	22.5	22.5	F-2623	0021	1	0.28
NJT02-RWHBP2	RWH	Rockaway River at Powerville	Ameiurus natalis	yellow bullhead	16.6	16.2	F-2624	0022	1	0.10
NJT02-GWLBS1	GWL	Greenwood Lake	Ameiurus natalis	yellow bullhead	23.7	23.3	F-2625	0023	1	0.07
NJT02-GWLBS1	GWL	Greenwood Lake	Ameiurus natalis	yellow bullhead	23.8	181.7	F-2626	0024	1	0.11
NJT02-GWLBS1	GWL	Greenwood Lake	Ameiurus natalis	yellow bullhead	21.4	20.9	F-2627	0025	1	0.06
NJT02-GWLBS1	GWL	Greenwood Lake	Ameiurus natalis	yellow bullhead	23.6	23.6	F-2628	0026	1	0.09
NJT02-MVBS1	MV	Monksville reservoir	Ameiurus natalis	yellow bullhead	19.4	19.5	F-2629	0027	1	0.11
NJT02-MVBS1	MV	Monksville reservoir	Ameiurus natalis	yellow bullhead	23.0	22.8	F-2630	0028	1	0.13
NJT02-WWLBS1	WWL	Wawayanda Lake	Ameiurus natalis	yellow bullhead	29.9	30.0	F-2353	0050	1	0.36

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-WWLBS1	WWL	Wawayanda Lake	Ameiurus natalis	yellow bullhead	28.3	28.2	F-2354	0051	1	0.45
NJT02-WWLBS1	WWL	Wawayanda Lake	Ameiurus natalis	yellow bullhead	27.1	26.8	F-2355	0052	1	0.30
NJT02-WQBS1	WQ	Wanaque Reservoir	Ameiurus natalis	yellow bullhead	18.8	16.1	F-2395	0170	1	0.10
NJT02-WQBS1	WQ	Wanaque Reservoir	Ameiurus natalis	yellow bullhead	22.9	22.6	F-2396	0171	1	0.17
NJT02-WQBS1	WQ	Wanaque Reservoir	Ameiurus natalis	yellow bullhead	19.9	20.0	F-2397	0172	1	0.08
NJT02-WQBS1	WQ	Wanaque Reservoir	Ameiurus natalis	yellow bullhead	22.2	21.7	F-2398	0173	1	0.16
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	24.5	24.0	F-2404	0240	1	0.63
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	23.4	22.6	F-2405	0241	1	0.52
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	26.9	26.2	F-2406	0242	1	0.51
NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	22.5	23.2	F-2407	0243	1	0.52
NJT02-CLGN4	CL	Clinton Reservoir	Ameiurus natalis	yellow bullhead	28.4	28.9	F-2128	0470	1	0.44
NJT02-CLGN4	CL	Clinton Reservoir	Ameiurus natalis	yellow bullhead	28.2	28.5	F-2129	0471	1	0.43
NJT02-CLGN4	CL	Clinton Reservoir	Ameiurus natalis	yellow bullhead	29.7	29.2	F-2130	0472	1	0.45
NJT02-CLGN4	CL	Clinton Reservoir	Ameiurus natalis	yellow bullhead	28.3	28.7	F-2131	0473	1	0.74
NJT02-ORABS1	ORA	Oradell Reservoir	Ameiurus natalis	yellow bullhead	23.7	23.5	F-2140	0482	1	0.04
NJT02-ORABS1	ORA	Oradell Reservoir	Ameiurus natalis	yellow bullhead	27.0	26.5	F-2141	0483	1	0.05
NJT02-ORABS1	ORA	Oradell Reservoir	Ameiurus natalis	yellow bullhead	18.6	18.6	F-2142	0484	1	0.03
NJT02-ORABS1	ORA	Oradell Reservoir	Ameiurus natalis	yellow bullhead	18.3	17.6	F-2143	0485	1	0.04
NJT02-ELBS1	EL	Echo Lake Reservoir	Ameiurus natalis	yellow bullhead	22.9	22.5	F-2158	0500	1	0.14
NJT02-ELBS1	EL	Echo Lake Reservoir	Ameiurus natalis	yellow bullhead	28.6	27.5	F-2159	0501	1	0.07
NJT02-ELBS1	EL	Echo Lake Reservoir	Ameiurus natalis	yellow bullhead	26.4	26.4	F-2160	0502	1	0.16
NJT02-ELBS1	EL	Echo Lake Reservoir	Ameiurus natalis	yellow bullhead	22.4	22.1	F-2161	0503	1	0.09
NJT02-CANBS1	CAN	Canistear Reservor	Ameiurus natalis	yellow bullhead	25.1	24.8	F-2172	0514	1	0.17
NJT02-CANBS2	CAN	Canistear Reservor	Ameiurus natalis	yellow bullhead	28.6	27.2	F-2176	0518	1	0.19
NJT02-CANBS2	CAN	Canistear Reservor	Ameiurus natalis	yellow bullhead	24.5	24.0	F-2177	0519	1	0.12

Appendix I. Cont'd.

Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm	Fish Anal #	Chem Anal #	Hg workup	Total Hg ug/g wet wt
NJT02-CANBS2	CAN	Canistear Reservor	Ameiurus natalis	yellow bullhead	27.6	26.3	F-2178	0520	1	0.16
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Ameiurus natalis	yellow bullhead	28.5	28.0	F-2197	0543	1	0.23
NJT02-ORRBS1	ORR	Oak Ridge Reservoir	Ameiurus natalis	yellow bullhead	23.8	23.0	F-2198	0544	1	0.10
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Ameiurus natalis	yellow bullhead	29.1	29.0	F-2509	9468	1	0.24
NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Ameiurus natalis	yellow bullhead	20.5	20.0	F-2511	9470	1	0.15
NJT02-MVBS1	MV	Monksville reservoir	Perca flavescens	yellow perch	34.9	34.2	F-2076	0386	1	0.17
NJT02-MVBS1	MV	Monksville reservoir	Perca flavescens	yellow perch	27.6	27.5	F-2077	0387	1	0.17
NJT02-CANBS1	CAN	Canistear Reservor	Perca flavescens	yellow perch	25.3	24.3	F-2169	0511	1	0.18
NJT02-CANBS2	CAN	Canistear Reservor	Perca flavescens	yellow perch	27.5	26.3	F-2171	0513	1	0.22
NJT02-CANBS2	CAN	Canistear Reservor	Perca flavescens	yellow perch	20.5	34.4	F-2180	0522	1	0.29
NJT02-SPLGN5	SPL	Split Rock Reservoir	Perca flavescens	yellow perch	26.2	25.4	F-2578	9894	1	0.10
NJT02-SPLGN5	SPL	Split Rock Reservoir	Perca flavescens	yellow perch	30.0	29.8	F-2579	9895	1	0.34
NJT02-SPLH1	SPL	Split Rock Reservoir	Perca flavescens	yellow perch	29.5	28.5	F-2580	9896	1	0.15
NJT02-SPLGN5	SPL	Split Rock Reservoir	Perca flavescens	yellow perch	30.0	29.1	F-2581	9897	1	0.13

Totals 342

Summary Stats	
Min	0.03
Max	1.47
Median	0.22
Mean	0.30
Stdev	0.25

NR = Not Run or Requested

APPENDIX II.i.

INDIVIDUAL SAMPLE DATA ORGANIC CONTAMINANTS: KEY

Appendix II.i. Key to Summary of PCB and OCP Concentrations

CHEM ID	Fish #	Fish Anal #	Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm
81	F-2372	F-2372	NJT02-BTRBS1	BTR	Booton Reservoir	Micropterus salmoides	largemouth bass	48.7	47.8
82	F-2373	F-2373	NJT02-BTRBS1	BTR	Booton Reservoir	Micropterus salmoides	largemouth bass	52.2	52
83	F-2374	F-2374	NJT02-BTRBS1	BTR	Booton Reservoir	Micropterus salmoides	largemouth bass	48.3	47.6
84	F-2375	F-2375	NJT02-BTRBS1	BTR	Booton Reservoir	Micropterus dolomieu	smallmouth bass	43.4	42
85	F-2376	F-2376	NJT02-BTRBS1	BTR	Booton Reservoir	Micropterus dolomieu	smallmouth bass	48.4	47.2
235	F-2399	F-2399	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	29.7	28.6
236	F-2400	F-2400	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	26.4	25.3
237	F-2401	F-2401	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus dolomieu	smallmouth bass	35.0	35.1
238	F-2402	F-2402	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	29.4	25.4
239	F-2403	F-2403	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	30.1	29.5
240	F-2404	F-2404	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	24.5	24
241	F-2405	F-2405	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	23.4	22.6
242	F-2406	F-2406	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Ameiurus natalis	yellow bullhead	26.9	26.2
244	F-2408	F-2408	NJT02-RPFBS1	RPF	Ramapo River at Pompton Feeder	Micropterus salmoides	largemouth bass	34.2	33.8
245	F-2409	F-2409	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	34.6	34.3
247	F-2411	F-2411	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	39.2	39.4
248	F-2412	F-2412	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Micropterus salmoides	largemouth bass	30.2	29.7
249	F-2413	F-2413	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Esox lucius	northern pike	41.3	41.2
251	F-2415	F-2415	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Esox lucius	northern pike	44.5	44.3
252	F-2416	F-2416	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	49.9	49.5
253	F-2417	F-2417	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	57.5	57.5
254	F-2418	F-2418	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Cyprinus carpio	common carp	58.7	58.5
255	F-2419	F-2419	NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	37.6	37.4
256	F-2420	F-2420	NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	36.4	36
257	F-2421	F-2421	NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	39.9	39.4
258	F-2422	F-2422	NJT02-OPPBS1	OPP	Overpeck Creek	Micropterus salmoides	largemouth bass	41.2	40.5
259	F-2423	F-2423	NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	49.0	48
260	F-2424	F-2424	NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	52.3	52.3
261	F-2425	F-2425	NJT02-POMPBS1	POMP	Pompton Lake	Micropterus salmoides	largemouth bass	49.0	48.5
262	F-2426	F-2426	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	58.6	57.6
263	F-2427	F-2427	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	56.5	56
264	F-2428	F-2428	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Cyprinus carpio	common carp	60.3	59.5
265	F-2429	F-2429	NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	75.5	75.1
266	F-2430	F-2430	NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	43.6	43.7
267	F-2431	F-2431	NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	47.0	46.5
268	F-2432	F-2432	NJT02-BBPBS1	BBP	Branch Brook Park	Micropterus salmoides	largemouth bass	44.6	44.7
269	F-2433	F-2433	NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	61.2	60.5
270	F-2434	F-2434	NJT02-WEEBS1	WEE	Weequachic Lake	Lepomis macrochirus	bluegill	16.4	16.3
271	F-2435	F-2435	NJT02-WEEBS1	WEE	Weequachic Lake	Lepomis macrochirus	bluegill	17.3	17.5
272	F-2036	F-2036	NJT02-WEEBS1	WEE	Weequachic Lake	Lepomis macrochirus	bluegill	17.4	17.5
273	F-2037	F-2037	NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	69.0	68
274	F-2038	F-2038	NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	66.8	66.4
275	F-2039	F-2039	NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	72.5	71.8
276	F-2040	F-2040	NJT02-BBPBS1	BBP	Branch Brook Park	Cyprinus carpio	common carp	69.5	68.9
277	F-2041	F-2041	NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	35.8	35.7
278	F-2042	F-2042	NJT02-WEEBS1	WEE	Weequachic Lake	Micropterus salmoides	largemouth bass	35.1	35.6
279	F-2043	F-2043	NJT02-WEEBS1	WEE	Weequachic Lake	Cyprinus carpio	common carp	50.5	50.8
281	F-2045	F-2045	NJT02-WEEBS1	WEE	Weequachic Lake	Micropterus salmoides	largemouth bass	47.5	47.5
282	F-2046	F-2046	NJT02-WEEBS1	WEE	Weequachic Lake	Cyprinus carpio	common carp	56.2	55.6
283	F-2047	F-2047	NJT02-WEEBS1	WEE	Weequachic Lake	Micropterus salmoides	largemouth bass	45.9	44.4
284	F-2048	F-2048	NJT02-OPPBS1	OPP	Overpeck Creek	Anguilla rostrata	American eel	63.7	63.6
285	F-2049	F-2049	NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	51.7	52
286	F-2050	F-2050	NJT02-OPPBS1	OPP	Overpeck Creek	Cyprinus carpio	common carp	63.7	64.2
287	F-2051	F-2051	NJT02-WEEBS1	WEE	Weequachic Lake	Cyprinus carpio	common carp	71.0	71.3
378	F-2068	F-2068	NJT02-POMPBS1	POMP	Pompton Lake	Cyprinus carpio	common carp	58.8	59.1
9424	F-2473	F-2473	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	28.2	28.5
9425	F-2474	F-2474	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	27.0	26.6
9426	F-2475	F-2475	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	37.8	37.5
9427	F-2476	F-2476	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	25.2	25.1
9428	F-2477	F-2477	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Micropterus salmoides	largemouth bass	31.1	30.8
9429	F-2478	F-2478	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	53.5	53.2
9430	F-2479	F-2479	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	54.8	54.7
9431	F-2480	F-2480	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	54.8	55
9432	F-2481	F-2481	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	58.7	58.2
9433	F-2482	F-2482	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	51.2	51
9434	F-2483	F-2483	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Cyprinus carpio	common carp	62.9	62.4
9435	F-2484	F-2484	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	34.7	34.5
9436	F-2485	F-2485	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	45.5	45.3
9437	F-2486	F-2486	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	56.2	56
9438	F-2487	F-2487	NJT02-PRDLBS1	PRDL	Passaic River at Dundee Lake	Anguilla rostrata	American eel	61.5	61.5
9447	F-2488	F-2488	NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	49.6	49
9448	F-2489	F-2489	NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	57.6	56.6
9449	F-2490	F-2490	NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	49.0	48.8
9450	F-2491	F-2491	NJT02-PRGWS1	PRG	Passaic River at Garfield	Morone saxatilis	striped bass	54.4	54.6
9451	F-2492	F-2492	NJT02-PRGWS1	PRG	Passaic River at Garfield	Ictalurus punctatus	channel catfish	50.4	50.3
9452	F-2493	F-2493	NJT02-PRGWS1	PRG	Passaic River at Garfield	Ictalurus punctatus	channel catfish	48.2	47

Appendix II.i. Cont'd. Key to Summary of PCB and OCP Concentrations

CHEM ID	Fish #	Fish Anal #	Serial Number	Station	Station Name	Scientific	Common Name	FTL cm	LTL cm
9453	F-2494	F-2494	NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	42.0	40.6
9454	F-2495	F-2495	NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	60.8	60.8
9455	F-2496	F-2496	NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	47.3	46.5
9456	F-2497	F-2497	NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	60.5	59.5
9457	F-2498	F-2498	NJT02-PRGWS1	PRG	Passaic River at Garfield	Cyprinus carpio	common carp	62.9	62.4
9458	F-2499	F-2499	NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	48.9	48.7
9459	F-2500	F-2500	NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	49.5	49
9460	F-2501	F-2501	NJT02-PRGWS1	PRG	Passaic River at Garfield	Anguilla rostrata	American eel	69.5	68.7
9461	F-2502	F-2502	NJT02-PRGWS1	PRG	Passaic River at Garfield	Catostomus commersoni	white sucker	44.0	42.9
9462	F-2503	F-2503	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	18.1	18.1
9463	F-2504	F-2504	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	16.4	16.1
9464	F-2505	F-2505	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Lepomis macrochirus	bluegill	16.9	16.7
9465	F-2506	F-2506	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	51.8	51.6
9466	F-2507	F-2507	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	53.0	53
9467	F-2508	F-2508	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	34.0	33.6
9468	F-2509	F-2509	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Ameiurus natalis	yellow bullhead	29.1	29
9469	F-2510	F-2510	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	34.6	34.6
9470	F-2511	F-2511	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Ameiurus natalis	yellow bullhead	20.5	20
9471	F-2512	F-2512	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Micropterus salmoides	largemouth bass	27.0	27.2
9542	F-2521	F-2521	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	53.6	53.5
9544	F-2523	F-2523	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	51.8	51.8
9545	F-2524	F-2524	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	48.2	48.2
0246R2	F-2410	F-2410	NJT02-PERBS1	PER	Passaic River at Eagle Rock Ave	Micropterus salmoides	largemouth bass	38.8	38.2
0250R	F-2414	F-2414	NJT02-PLPBS1	PLP	Pompton River at Lincoln Park	Micropterus salmoides	largemouth bass	35.2	35.5
9534R	F-2513	F-2513	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	63.5	62.8
9535R	F-2514	F-2514	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Cyprinus carpio	common carp	51.6	51
9536R	F-2515	F-2515	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	56.8	56.2
9537R	F-2516	F-2516	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	46.5	47.2
9538R	F-2517	F-2517	NJT02-PREBS1	PRE	Passaic River at Elmwood Park	Anguilla rostrata	American eel	58.6	58.1
9539R	F-2518	F-2518	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	54.2	54.2
9540R	F-2519	F-2519	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	57.5	57
9541R	F-2520	F-2520	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	49.0	48.9
9543R	F-2522	F-2522	NJT02-PRLBS1	PRL	Passaic River at Lyndhurst	Cyprinus carpio	common carp	54.5	56.6

APPENDIX II.ii.

INDIVIDUAL SAMPLE DATA ORGANIC CONTAMINANTS

Appendix II.ii. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9424 F-2473	Data Label	9425 F-2474	Data Label	9426 F-2475	Data Label	9427 F-2476	Data Label	9428 F-2477	Data Label	9429 F-2478	Data Label	9430 F-2479	Data Label
LIPID PERCENT (%)	0.77		0.86		0.70		0.63		0.79		5.08		2.66	
EXTRACTION MASS (wet wt/g)	2.026		2.117		2.059		2.028		2.068		2.19		2.188	
SURROGATE RECOVERY (%)														
PCB 14	109		102		98		100		108		134		124	
PCB 65	88		84		81		85		95		98		102	
PCB 166	90		84		84		87		98		101		105	
Concentrations (ng/g wet wt)														
TOTAL PCBs	52.0		67.8		51.1		57.2		97.4		410.1		342.4	
TOTAL DDXs	10.6		15.1		10.7		10.2		10.2		90.8		82.8	
TOTAL CHLORDANES	15.5		21.7		17.3		16.2		19.2		113.4		88.0	
1		BDL	0.268		0.365		0.310			ND		ND	0.872	
3	0.623		1.199			ND	0.854		1.027		1.658		1.885	
4+10	0.096		0.110		0.101		0.136		0.126		0.348		0.233	
7		BDL		BDL		BDL		BDL		BDL	0.098		0.093	
6	0.375		0.054			ND	0.059		0.061		0.314		0.275	
8+5	0.432		0.641		0.473		0.489		0.636		2.839		2.236	
19	0.072		0.091		0.049		0.130		0.078		0.449		0.257	
12+13	0.076			ND		ND	0.023		0.025		0.046		0.095	
18	0.581		0.562		0.516		0.443		0.714		4.481		4.146	
17	0.349		0.354		0.295		0.435		0.470		2.492		2.109	
24+27	0.157			BDL	0.153			BDL		BDL	0.493		0.408	
16+32	0.517		0.698		0.543		0.591		0.858		6.005		5.028	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.184		0.224		0.155		0.201		0.323		1.748		1.610	
25		BDL		ND		BDL		BDL		BDL	0.798		0.610	
31+28	1.504		1.786		1.085		1.404		2.546		15.593		13.678	
53+33+21	0.446		0.779		0.680		0.674		1.133		6.261		5.765	
22	0.666		0.836		0.663		0.705		1.082		5.665		4.965	
45	0.117		0.144		0.112		0.119		0.208		1.176		1.175	
46	0.061		0.080		0.069		0.061		0.085		0.498		0.522	
52	1.241		1.398		0.968		1.266		1.830		9.851		8.598	
49	1.120		1.351		0.913		1.135		1.760		9.832		7.937	
47	2.098		2.614		1.692		2.059		3.242		11.257		8.209	
48	0.459		0.417		0.516		0.408		0.435		1.957		2.098	
44	0.909		1.258		0.919		1.028		1.469		10.136		9.306	
37+42	0.496		0.783		0.637		0.696		0.808		6.306		5.641	
41+71	1.470		1.393		1.399		1.651		2.437		13.739		12.521	
40	0.130		0.219		0.191		0.191		0.286		1.892		1.638	
100	0.184		0.226		0.155		0.207		0.475		0.809		0.560	
63	0.125		0.187		0.122		0.125		0.188		0.929		0.738	
74	0.918		1.201		0.864		0.913		1.421		7.313		5.899	
70+76	1.214		1.246		0.730		1.069		1.937		10.934		9.108	
66+95	3.705		4.605		3.290		3.729		5.791		29.852		26.525	
91	0.291		0.360		0.248		0.322		0.514		2.607		2.363	
56+60	1.446		1.767		1.341		1.353		3.085		10.388		8.881	
101	1.640		1.949		1.342		1.639		2.576		11.054		9.460	
99	1.099		1.326		0.950		1.112		1.675		8.346		6.147	
83	0.069		0.097		0.071		0.075		0.113		0.688		0.619	
97	0.556		0.685		0.492		0.546		0.782		3.860		3.322	
87+81	0.468		0.546		0.391		0.438		0.666		3.159		2.717	
85	0.606		0.794		0.508		0.589		0.820			ND	2.772	
136	0.066		0.107		0.064		0.068		0.206		0.879		0.859	
77+110	2.466		2.926		1.984		2.392		3.353		17.556		16.307	
82	0.149		0.204		0.185		0.190		0.242		1.373		1.256	
151	0.420		0.528		0.389		0.430		1.051		3.048		2.973	
135+144	0.257		0.300		0.227		0.248		0.525		2.109		2.040	
107	0.268		0.331		0.235		0.272		0.414		1.702		1.470	
149	1.219		1.626		1.116		1.233		2.544		8.275		8.157	
118	1.766		2.220		1.737		1.790		2.555		11.068		8.335	
131	0.020		0.026		0.021		0.023		0.050		0.191		0.174	
146	0.567		0.779		0.611		0.627		1.081		3.701		2.958	
153+132+105	4.276		5.901		4.403		4.813		8.821		29.441		22.622	
141	0.059		0.090		0.076		0.079		0.335		0.963		0.966	
137+176	0.153		0.189		0.161		0.159		0.349			ND	1.019	
163+138	3.988		5.402		3.980		4.269		7.362		27.091		20.675	
158	0.301		0.390		0.314		0.324		0.501		1.776		1.421	
129+178	0.145		0.226		0.173		0.210		0.465		1.438		1.142	
187+182	1.230		1.787		1.493		1.493		2.906		9.676		7.808	
183	0.535		0.767		0.609		0.677		1.431		4.308		3.016	
128	0.638		0.917		0.682		0.732		1.079		4.302		3.164	
185	0.068		0.107		0.083		0.090		0.238		0.724		0.578	
174	0.303		0.444		0.359		0.416		1.098		3.088		2.924	
177	0.241		0.369		0.315		0.373		0.936		2.709		2.424	
202+171	0.245		0.725		0.588		0.642		1.089		3.726		2.692	
157+200	0.095		0.247		0.206		0.220		0.445		1.730		1.413	
172+197	0.200		0.281		0.235		0.245		0.529		1.740		1.328	
180	1.593		2.462		2.146		2.152		4.797		17.111		11.226	
193	0.207		0.306		0.261		0.392		0.477		1.838		1.173	
191	0.042		0.061		0.049		0.079		0.129		0.408		0.468	
199	0.013		0.031		0.035		0.055		0.066		0.234		0.267	
170+190	1.312		1.902		1.546		1.619		3.665		12.316		8.244	
201	0.632		0.881		0.853		0.813		1.632		6.244		4.862	
203+196	0.807		1.210		1.068		1.050		2.089		8.119		5.693	
189	0.067		0.152		0.080		0.091		0.195		0.776		0.717	
208+195	0.479		0.679		0.650		0.619		1.207		5.521		4.067	
207	0.034		0.057		0.048		0.046		0.062		0.321		0.239	
194	0.305		0.423		0.426		0.427		0.913		3.573		2.379	
205	0.023		0.039		0.033		0.033		0.076		0.236		0.166	
206	0.416		0.644		0.614		0.571		0.751		4.705		3.638	
209	0.028		0.035		0.038		0.037		0.036		0.262		0.219	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9424 F-2473	Data Label	9425 F-2474	Data Label	9426 F-2475	Data Label	9427 F-2476	Data Label	9428 F-2477	Data Label	9429 F-2478	Data Label	9430 F-2479	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	0.265		0.369		0.341		0.361		0.484		3.604		3.194	
ppDDE	3.049		4.816		3.180		3.178		5.010		37.391		28.603	
op ddt	3.173		4.330		2.913		2.783		2.146		13.446		10.603	
pp ddt		BDL		BDL		BDL		BDL		BDL		BDL		BDL
o,p ddd	0.556		0.788		0.855		0.558		0.665		6.844		8.294	
p,p ddd	3.544		4.834		3.384		3.345		1.946		29.489		32.204	
Total DDXs	10.587		15.137		10.673		10.224		10.250		90.774		82.798	
alpha BHC		BDL		BDL		BDL		BDL		BDL		BDL		BDL
beta BHC		ND	0.677			BDL		BDL		BDL	0.972		0.460	
delta BHC	0.322			BDL		BDL		BDL		ND		BDL		BDL
lindane		BDL	0.136			BDL		BDL		BDL	0.441		0.331	
heptaclor	1.088		1.146		0.785		1.285		1.792		12.469		11.246	
heptachlor epoxide	1.080		1.367		1.147		1.016		0.887		5.408		2.586	
oxychlordane	1.843		2.292		1.040		1.471		1.561		5.677		3.421	
gamma chlordane	1.236		2.062		2.817		1.004		1.135		17.524		15.641	
alpha chlordane	3.583		5.179		4.477		3.240		3.042		34.654		26.399	
cis nonachlor	0.903		1.083		0.942		0.860		1.862		5.868		4.292	
trans nonachlor	5.810		8.536		6.116		6.331		8.903		31.798		24.394	
Total Chlordanes	15.543		21.683		17.324		15.205		19.182		113.398		87.978	
dieldrin	2.025		2.230		3.973		1.458		1.809		10.135		4.878	
endrin		BDL		BDL	0.096			BDL		BDL	0.180		0.182	
aldrin		BDL		BDL		BDL		BDL		BDL	0.623		0.416	
endosulfan I	1.480		1.665		0.960		1.005		0.974		7.323		2.061	
endosulfan II	0.355		0.520		0.263		0.347		0.305		1.337		0.787	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9431 F-2480	Data Label	9432 F-2481	Data Label	9433 F-2482	Data Label	9434 F-2483	Data Label	9435 F-2484	Data Label	9436 F-2485	Data Label	9437 F-2486	Data Label
LIPID PERCENT (%)	6.64		5.48		9.32		5.51		12.92		4.06		2.01	
EXTRACTION MASS (wet wt/g)	2.04		2.0545		2.008		2.018		2.003		2.004		2.028	
SURROGATE RECOVERY (%)														
PCB 14	135		123		121		144		120		114		123	
PCB 65	95		98		107		95		92		96		103	
PCB 166	99		102		107		99		90		101		108	
Concentrations (ng/g wet wt)														
TOTAL PCBs	440.2		357.0		265.1		320.6		326.5		291.7		182.3	
TOTAL DDXs	100.5		91.2		120.5		72.4		99.5		110.9		75.6	
TOTAL CHLORDANES	139.3		117.3		156.5		87.8		141.7		111.9		73.1	
1	1.118		0.285		0.447		1.691		0.408		0.232			BDL
3	1.800		1.024		2.130		1.782		0.994		0.721		1.014	
4+10	0.455		0.226		0.100		0.378		0.249		0.099			BDL
7	0.131		0.148			BDL	0.151			BDL		BDL		BDL
6	0.371		0.318		0.043		0.290		0.054			BDL		BDL
8+5	3.264		2.889		0.461		3.149		0.814		0.327		0.266	
19	0.163		0.087		0.064		0.735		0.108		0.055		0.030	
12+13	0.079		0.110		0.087		0.068		0.065		0.050		0.019	
18	3.735		2.487		0.207		4.198		0.434		0.254		0.127	
17	2.319		1.385		0.169		2.946		0.223		0.174		0.066	
24+27	0.331		0.234			BDL	0.530			BDL		BDL		BDL
16+32	3.982		2.330		0.396		5.780		0.687		0.456		0.140	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	2.219		1.475		0.370		1.595		0.349		0.340		0.114	
25	0.695		0.569		0.553		0.564			BDL		BDL		BDL
31+28	19.148		14.620		2.947		15.567		3.064		2.430		0.939	
53+33+21	4.385		3.098		0.504		2.220		0.639		0.477		0.190	
22	6.521		5.336		3.910		5.603		4.460		3.028		1.568	
45	0.711		1.508		0.789		1.049		0.236		0.123			ND
46	0.125		0.115		0.082		0.670		0.225		0.120		0.046	
52	12.062		8.838		7.326		8.998		9.629		8.384		4.481	
49	12.091		8.479		1.450		8.946		2.047		1.791		0.680	
47	7.192		5.060		7.506		10.270		9.051		7.234		3.897	
48	1.580		1.130		0.642		1.639		0.538		0.632		0.368	
44	11.825		8.579		2.129		9.753		3.717		3.257		1.045	
37+42	4.725		3.403		0.811		5.629		1.611		1.210		0.497	
41+71	11.697		8.845		9.468		11.716		7.539		7.971		4.733	
40	1.784		1.093		0.387		1.951		0.948		0.401		0.170	
100	0.497		0.266		2.109		0.723		0.550		0.440		0.300	
63	1.059		0.837		0.603		0.735		0.540		0.465		0.255	
74	7.565		6.475		6.001		5.420		4.708		4.789		3.915	
70+76	12.291		10.050		0.837		9.539		0.676		0.510		0.155	
66+95	31.638		26.295		10.117		24.894		15.480		12.529		4.271	
91	2.574		1.764		1.069		2.014		1.509		1.254		0.497	
56+60	11.014		8.999		2.694		8.061		2.697		2.637		1.154	
101	11.702		10.265		5.552		8.108		6.436		5.949		2.639	
99	7.578		7.127		5.350		4.117		15.417		7.085		2.732	
83	0.682		0.668		0.387		0.554		0.538		0.482		0.304	
97	3.911		3.528		0.846		2.758		1.355		1.860		0.523	
87+81	3.290		2.970		1.255		2.215		1.899		2.024		0.724	
85	1.953		1.871		1.974		2.528		3.420		3.398		0.768	
136	0.886		0.715		0.269		0.697		0.474		0.303		0.088	
77+110	17.940		14.488		18.317		13.984		21.326		19.426		7.066	
82	1.306		0.840		0.374		1.067		0.701		0.574		0.112	
151	3.962		3.064		1.052		2.677		4.284		1.449		0.262	
135+144	2.257		1.872		0.839		1.526		0.941		0.750		0.231	
107	1.665		1.722		0.941		1.171		1.125		0.970		0.520	
149	9.376		7.194		7.320		7.524		12.586		7.157		3.587	
118	11.688		10.955		10.582		8.187		11.642		14.524		6.872	
131	0.188		0.177		0.309		0.165		0.260		0.247		0.266	
146	4.134		3.471		4.666		2.566		5.639		4.867		3.837	
153+132+105	33.019		28.436		28.955		19.680		33.465		34.792		24.577	
141	1.046		0.830		0.325		0.723		0.730		0.498		0.104	
137+176	1.212		1.136		0.999		0.801		1.121		1.339		1.293	
163+138	30.650		26.995		31.350		19.480		38.275		36.942		25.479	
158	1.947		1.718		1.911		1.165		1.806		2.457		1.655	
129+178	1.724		1.360		1.526		0.932		1.700		1.536		1.313	
187+182	12.240		10.096		14.794		6.748		20.511		10.537		8.905	
183	4.687		4.000		3.782		2.452		3.389		3.900		3.091	
128	4.480		3.916		4.061		2.148		3.806		4.539		2.848	
185	0.775		0.561		0.236		0.498		0.327		0.201		0.113	
174	3.273		2.455		1.519		2.251		2.286		1.945		0.750	
177	3.069		2.939		3.076		2.023		3.151		2.837		2.219	
202+171	4.072		3.471		1.725		1.336		1.573		1.693		2.303	
157+200	1.656		1.215		1.154		0.942		1.121		1.337		0.917	
172+197	2.027		1.438		1.225		3.295		4.261		4.357		3.762	
180	20.226		16.024		11.901		11.972		14.634		17.215		13.802	
193	1.966		1.430		2.067		3.044		6.943		3.996		3.743	
191	0.464		0.360		0.317		0.281		0.331		0.421		0.317	
199	0.236		0.197		0.126		0.109		0.062		0.048		0.022	
170+190	13.556		11.279		8.815		6.864		8.945		10.009		7.601	
201	7.277		6.113		5.176		3.506		6.172		4.750		4.192	
203+196	9.006		7.467		5.293		4.143		4.697		5.240		4.946	
189	0.721		0.771		0.575		0.556		0.613		0.595		0.492	
208+195	6.118		5.002		3.110		2.458		2.596		2.869		2.732	
207	0.364		0.337		0.245		0.120		0.131		0.158		0.135	
194	4.217		3.376		1.733		1.696		1.578		1.632		1.700	
205	0.264		0.166		0.292		0.119		0.088		0.105		0.136	
206	5.515		4.530		2.317		2.148		1.944		2.031		1.988	
209	0.280		0.243		0.112		0.106		0.075		0.083		0.093	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9431 F-2480	Data Label	9432 F-2481	Data Label	9433 F-2482	Data Label	9434 F-2483	Data Label	9435 F-2484	Data Label	9436 F-2485	Data Label	9437 F-2486	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	3.371		2.809		3.381		5.149		4.855		3.496		1.632	
ppDDE	39.188		35.549		60.989		28.492		40.727		55.083		51.676	
op ddt	18.036		15.946		21.856		9.383		16.488		18.433		6.747	
pp ddt		BDL		BDL	0.945			BDL		BDL		BDL		ND
o,p ddd	5.694		3.829		0.765		5.021		1.621		0.595		0.167	
p,p ddd	34.228		33.073		32.530		24.347		35.789		33.263		15.362	
Total DDXs	100.519		91.206		120.465		72.391		99.479		110.859		75.584	
alpha BHC		BDL		BDL		BDL		BDL		BDL		BDL		BDL
beta BHC	1.351		1.109		2.240		1.362		2.556		1.127		0.476	
delta BHC		ND		ND		ND		BDL		BDL		ND		BDL
lindane	0.709		0.601		0.738		0.523		1.269		0.490		0.319	
heptaclor	4.469		1.548		2.261		13.416		2.842		1.392		0.563	
heptachlor epoxide	7.945		7.138		20.964		6.006		20.799		10.208		5.007	
oxychlordane	8.236		7.526		15.113		3.633		10.424		9.952		2.264	
gamma chlordane	26.537		18.372		11.273		15.939		14.632		5.741		0.791	
alpha chlordane	52.056		45.131		14.815		7.707		14.201		6.356		0.500	
cis nonachlor	5.579		4.825		13.062		7.711		13.917		14.331		13.904	
trans nonachlor	35.481		32.724		79.003		33.398		64.869		63.919		50.064	
Total Chlordanes	139.304		117.262		156.491		87.811		141.705		111.899		73.114	
dieldrin	14.746		14.254		42.060		11.275		62.800		26.037		10.859	
endrin	0.124		0.113		0.224			BDL	0.212			BDL		BDL
aldrin	1.107		1.278		0.676		0.343		0.814		0.252		0.287	
endosulfan 1	6.749		3.342		0.596		7.885		2.661		0.954		0.259	
endosulfan II	1.804		1.424		14.788		1.343		12.140		10.312		7.024	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9446 F-2487	Data Label	9447 F-2488	Data Label	9448 F-2489	Data Label	9449 F-2490	Data Label	9450 F-2491	Data Label	9451 F-2492	Data Label	9452 F-2493	Data Label
LIPID PERCENT (%)	10.74		2.26		0.79		0.83		1.26		2.79		3.36	
EXTRACTION MASS (wet wt/g)	2.049		2.037		2.11		2.182		2.059		2.017		2.016	
SURROGATE RECOVERY (%)														
PCB 14	116		115		116		116		111		115		120	
PCB 65	90		95		95		101		90		95		98	
PCB 166	99		99		105		111		98		99		102	
Concentrations (ng/g wet wt)														
TOTAL PCBs	492.8		308.7		563.6		484.7		543.6		403.2		265.6	
TOTAL DDXs	240.5		173.8		118.8		106.6		104.7		115.7		99.9	
TOTAL CHLORDANES	261.1		33.7		73.8		70.5		78.7		90.3		88.4	
1		BDL	0.365		0.189			BDL	0.196			BDL	0.204	
3	0.531		0.725		0.465		0.484		0.574		0.351		0.578	
4+10	0.129		0.159			BDL		BDL		BDL	0.252		0.275	
7		BDL		BDL		BDL		BDL		BDL		BDL		BDL
6		BDL	0.187		0.053		0.033		0.040			BDL		BDL
8+5	0.283		0.983		0.458		0.413		0.609		0.695		0.661	
19	0.098		0.220		0.043		0.052		0.083		0.054		0.110	
12+13	0.109		0.024		0.020		0.029		0.027		0.037		0.044	
18	0.248		2.922		0.847		0.741		1.275		0.468		0.798	
17	0.122		1.767		0.606		0.544		0.996		0.463		0.461	
24+27		BDL	0.258			BDL		BDL		BDL		BDL		BDL
16+32	0.315		3.370		1.108		0.946		1.689		0.974		0.443	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.550		1.156		0.735		0.469		1.102		0.106		0.134	
25		BDL	0.434		0.257			BDL	0.443			BDL		BDL
31+28	3.575		11.045		5.770		3.222		10.697		0.762		1.619	
53+33+21	0.141		1.253		1.260		0.863		2.319		0.239		0.386	
22	5.266		3.440		2.197		1.961		3.217		1.431		1.593	
45	0.862		0.936		0.407		0.344		0.567		0.945		1.200	
46	0.116		0.411		0.132		0.135		0.164		0.056		0.096	
52	10.169		10.224		10.146		7.471		11.211		2.770		3.074	
49	2.134		7.938		10.930		7.609		11.098		5.648		4.930	
47	10.129		7.812		13.136		10.036		13.037		9.548		7.504	
48	2.024		1.510		2.475		1.711		2.101		1.075		0.752	
44	3.571		9.327		7.478		5.357		9.001		0.936		1.078	
37+42	3.316		4.968		5.977		4.045		6.651		1.523		1.833	
41+71	13.008		7.652		14.487		7.556		11.787		6.380		2.451	
40	0.579		1.772		1.569		1.194		1.498		0.370		0.335	
100	0.600		0.706		2.359		2.047		1.986		1.239		1.357	
63	0.817		0.892		1.334		1.026		1.193		0.773		0.505	
74	5.571		8.122		11.837		9.940		11.008		9.034		7.217	
70+76	0.860		9.810		17.556		10.411		19.677		0.453		0.392	
66+95	19.041		28.426		38.537		30.964		35.156		18.221		15.208	
91	1.689		1.677		3.169		2.500		2.933		1.030		1.349	
56+60	5.313		13.755		15.261		10.365		14.386		6.522		4.818	
101	7.035		8.009		17.328		14.347		14.526		7.454		5.739	
99	11.407		8.955		17.807		15.274		16.383		17.737		6.841	
83	0.704		4.978		0.399		0.410		0.860		0.654		0.543	
97	2.168		2.529		6.143		4.907		5.211		0.834		0.844	
87+81	2.680		1.956		4.371		3.540		3.584		1.156		0.805	
85	6.738		2.947		7.500		6.091		5.883		4.164		3.144	
136	0.319		0.608		0.887		0.760		0.769		0.102		0.166	
77+110	26.123		12.593		26.133		21.454		22.935		6.288		2.369	
82	0.747		0.890		1.765		1.309		1.460		0.138		0.040	
151	1.865		3.405		5.847		5.342		4.710		3.226		2.697	
135+144	0.900		1.452		2.528		2.332		2.106		1.367		1.402	
107	1.554		1.359		2.803		2.540		2.299		1.966		0.938	
149	8.930		5.545		12.025		10.568		10.224		3.139		4.885	
118	23.860		10.076		19.873		18.549		17.163		16.919		10.927	
131	0.202		0.397		0.184		0.162		0.275		0.242		0.237	
146	8.020		3.612		7.609		7.405		6.966		6.883		4.502	
153+132+105	60.123		23.584		54.340		52.499		50.141		54.245		35.948	
141	0.631		0.632		1.260		1.071		0.999		0.320		0.665	
137+176	2.550		0.775		1.466		1.546		1.640		0.419		0.288	
163+138	50.081		17.328		45.527		42.406		40.637		40.598		23.578	
158	4.046		0.869		3.022		2.828		2.593		3.149		1.798	
129+178	2.547		1.381		1.824		1.691		1.597		2.347		1.629	
187+182	17.450		6.059		15.163		14.485		15.075		16.169		10.093	
183	7.820		2.712		8.276		8.096		8.179		8.315		4.964	
128	7.288		1.440		6.022		4.483		4.225		5.008		2.736	
185	0.309		0.346		1.084		1.065		0.953		0.676		0.633	
174	3.327		1.180		3.247		2.957		2.956		3.163		3.307	
177	5.294		1.502		2.547		2.246		2.489		0.421		0.596	
202+171	3.062		2.594		6.566		5.968		6.235		3.477		3.449	
157+200	2.104		0.826		2.268		1.804		2.101		1.763		1.169	
172+197	9.017		2.476		7.923		7.175		7.960		9.344		5.310	
180	40.883		12.601		37.148		38.217		38.366		41.789		24.960	
193	7.193		1.588		5.887		5.552		5.251		6.659		3.778	
191	0.766		0.240		0.877		0.762		0.712		0.794		0.475	
199	0.070		0.040		0.108		0.098		0.079		0.063		0.094	
170+190	22.151		6.225		19.390		19.668		18.338		21.268		12.135	
201	10.313		2.264		7.603		6.617		8.333		8.946		5.042	
203+196	12.265		3.512		11.583		11.046		13.079		12.120		6.523	
189	1.153		0.484		1.739		1.314		1.505		1.172		0.812	
208+195	7.025		1.787		6.126		5.362		6.783		6.047		3.390	
207	0.402		0.101		0.382		0.277		0.411		0.305		0.171	
194	4.862		1.096		4.593		4.234		5.284		5.219		2.621	
205	0.316		0.046		0.265		0.203		0.264		0.241		0.136	
206	6.005		1.365		4.270		3.378		5.203		4.171		2.307	
209	0.249		0.094		0.220		0.163		0.259		0.150		0.092	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9438 F-2487	Data Label	9447 F-2488	Data Label	9448 F-2489	Data Label	9449 F-2490	Data Label	9450 F-2491	Data Label	9451 F-2492	Data Label	9452 F-2493	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	4.563		7.946		3.022		2.813		3.445		2.181		2.741	
ppDDE	144.333		140.433		91.619		79.926		80.060		84.459		68.822	
op ddt	34.286		1.709		8.352		9.204		7.441		8.421		7.509	
pp ddt	2.230			BDL		BDL		BDL		BDL		BDL		BDL
o,p ddd	1.562		3.640		1.407		1.539		1.079		1.335		1.788	
p,p ddd	53.562		20.065		14.402		13.147		12.712		19.288		19.015	
Total DDXs	240.526		173.795		118.803		106.628		104.727		115.684		99.875	
alpha BHC		BDL		ND		BDL		BDL		BDL		BDL		BDL
beta BHC	2.731		1.305			BDL		BDL	0.216		0.697		1.004	
delta BHC		BDL		BDL		BDL		BDL		BDL		BDL		BDL
lindane	0.606		0.377		0.132		0.160		0.236		0.427		0.469	
heptaclor	2.187		6.117		6.444		5.292		7.949		1.371		2.199	
heptachlor epoxide	14.353		2.726		1.832		1.793		2.987		3.613		7.905	
oxychlordane	22.815		0.366		0.896		2.102		1.224		3.008		3.359	
gamma chlordane	13.881		1.027		1.388		2.103		1.596		7.756		8.597	
alpha chlordane	44.905		0.195		1.107		2.200		2.557		3.547		4.282	
cis nonachlor	12.514		8.619		16.514		14.956		16.170		17.746		14.187	
trans nonachlor	160.394		14.615		45.575		42.088		46.221		53.219		47.854	
Total Chlordanes	261.060		33.664		73.765		70.534		78.704		90.290		88.383	
dieldrin	41.005		6.150		4.904		4.894		6.950		8.481		13.551	
endrin	0.104			BDL		BDL		ND		BDL		BDL		BDL
aldrin	0.448			BDL		BDL		BDL	0.193			BDL	0.233	
endosulfan I	0.995		3.423		1.319		1.455		2.870		1.811		3.266	
endosulfan II	11.254		0.392		1.054		1.107		1.899		2.217		2.675	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9453 F-2494	Data Label	9454 F-2495	Data Label	9455 F-2496	Data Label	9456 F-2497	Data Label	9457 F-2498	Data Label	9458 F-2499	Data Label	9459 F-2500	Data Label
LIPID PERCENT (%)	0.89		2.13		1.83		4.15		3.74		0.59		0.46	
EXTRACTION MASS (wet wt/g)	2.003		2.04		2.008		2.003		2.016		2.016		2.019	
SURROGATE RECOVERY (%)														
PCB 14	115		116		118		99		118		109		100	
PCB 65	95		93		96		77		95		95		82	
PCB 166	99		101		103		84		114		101		89	
Concentrations (ng/g wet wt)														
TOTAL PCBs	167.3		327		124.0		510.4		1148.4		68.1		156.0	
TOTAL DDXs	34.1		65		77.6		149.1		219.4		34.1		46.5	
TOTAL CHLORDANES	37.2		43		109.7		130.6		137.2		32.5		31.3	
1	0.220		0.258			BDL		BDL	0.197			ND		ND
3	0.764		0.533		0.426		0.387		0.413			BDL		BDL
4+10		BDL		BDL		BDL	0.136		0.100			BDL		BDL
7		BDL		BDL		BDL		BDL	0.045			BDL		BDL
6	0.050		0.038		0.063		0.109		0.126			BDL		BDL
8+5	0.449		0.488		0.512		1.122		1.677			BDL		BDL
19	0.090			BDL	0.102		0.191		0.210			BDL	0.034	
12+13	0.046			BDL	0.022		0.050		0.050		0.018		0.019	
18	0.454		0.755		0.361		2.480		4.676			BDL		BDL
17	0.567		0.327		0.568		1.021		1.282			BDL	0.029	
24+27		BDL		BDL		BDL	0.220		0.350			BDL		BDL
16+32	1.034		0.568		1.071		2.972		4.996			BDL		BDL
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.279		0.496		0.274		0.950		2.445		0.030		0.023	
25		BDL		BDL		BDL	0.317		0.451			BDL		BDL
31+28	2.268		5.258		2.004		11.287		24.288		0.188		0.158	
53+33+21	1.138		0.886		0.424		1.458		3.149			BDL	0.083	
22	1.337		1.913		1.563		3.979		9.066			BDL	0.295	
45	0.458		0.481		0.826		0.771		1.844			BDL	0.145	
46	0.180		0.055		0.191		0.304		0.410		0.028		0.055	
52	0.744		4.767		0.557		9.703		21.946		0.989		1.179	
49	3.387		4.382		2.511		9.313		23.341		0.088		0.086	
47	3.799		1.576		2.144		9.141		20.451		1.195		2.702	
48	0.469		0.471		0.397		1.861		5.336			BDL		BDL
44	2.933		4.193		2.397		9.591		24.403		0.141		0.173	
37+42	2.003		1.333		1.639		6.060		16.632		0.123		0.245	
41+71	4.383		4.827		3.682		13.727		37.598		1.201		1.619	
40	0.422		0.695		0.347		1.574		3.501		0.025		0.031	
100	0.335		0.608		0.207		0.717		1.229		0.112		0.306	
63	0.382		0.534		0.351		0.880		2.836		0.074		0.084	
74	3.532		4.629		2.638		8.730		28.818		0.332		0.435	
70+76	3.434		4.783		3.502		11.260		21.765			BDL		BDL
66+95	10.903		16.131		8.892		34.817		91.208		0.932		1.357	
91	1.019		1.155		0.950		3.106		6.739		0.149		0.144	
56+60	3.803		5.345		3.994		12.841		40.932		0.401		0.482	
101	4.142		8.436		3.103		13.435		29.463		0.430		0.690	
99	6.730		5.791		2.473		7.896		17.739		1.119		3.858	
83	0.149		0.463		0.207		0.707		1.704		0.079		0.143	
97	1.734		2.652		1.472		4.652		10.867		0.114		0.209	
87+81	1.375		2.081		1.211		3.785		9.469			BDL		BDL
85	2.052		0.954		1.230		4.916		11.234		0.676		1.772	
136	0.274		0.384		0.219		0.945		1.699		0.054		0.040	
77+110	9.221		13.885		7.956		23.313		51.308		2.918		4.822	
82	0.511		0.697		0.621		1.608		3.828		0.025		0.081	
151	1.252		1.915		0.739		3.679		7.264		0.031		0.064	
135+144	0.746		1.658		0.744		2.775		5.877		0.117		0.201	
107	0.862		1.193		0.618		1.938		5.071		0.247		0.502	
149	4.032		9.108		3.573		13.236		28.004		1.144		1.769	
118	6.443		10.582		5.298		16.776		46.176		3.381		6.544	
131	0.098		0.223		0.053		0.154		0.408		0.021		0.044	
146	2.229		4.118		1.324		5.280		13.165		1.962		3.203	
153+132+105	17.510		36.683		10.196		43.871		100.899		13.780		25.157	
141	0.387		0.769		0.231		1.428		2.790		0.028		0.148	
137+176	0.434		1.232		0.413		1.780		4.171		0.563		0.750	
163+138	14.625		28.681		9.848		38.484		89.607		13.187		21.282	
158	0.918		1.819		0.681		2.429		6.590		0.902		1.357	
129+178	0.672		1.769		0.365		2.046		4.162		0.872		1.567	
187+182	4.245		10.127		2.254		13.226		26.436		4.555		7.417	
183	2.051		6.178		1.003		7.213		15.440		1.990		3.622	
128	1.492		2.464		0.997		3.899		9.203		1.560		2.184	
185	0.303		0.850		0.117		1.074		2.289			ND		ND
174	0.995		4.551		0.889		6.432		11.679		0.327		0.653	
177	0.882		3.410		0.782		4.669		9.516		1.435		2.188	
202+171	0.847		3.695		0.599		5.301		5.638		1.458		2.682	
157+200	0.687		1.361		0.404		1.929		4.066		0.466		0.818	
172+197	2.331		6.883		1.184		8.016		15.095		2.487		4.366	
180	9.596		32.942		3.861		36.696		69.231		8.121		16.800	
193	2.807		4.512		9.630		9.325		16.414		1.975		3.368	
191	0.217		0.582		0.105		0.658		1.099		0.200		0.345	
199	0.046		0.175		0.028		0.242		0.407			ND	0.100	
170+190	4.986		15.662		2.507		19.903		37.244		4.659		9.210	
201	1.919		6.776		1.051		8.040		15.663		2.711		4.410	
203+196	2.548		10.087		1.358		11.308		22.558		3.224		5.638	
189	0.321		0.926		0.231		1.271		2.600		0.332		0.552	
208+195	1.467		5.274		0.784		5.921		11.617		1.960		3.022	
207	0.077		0.242		0.038		0.239		0.574		0.100		0.163	
194	0.992		4.496		0.512		5.029		8.313		1.297		2.120	
205	0.068		0.214		0.046		0.269		0.460		0.081		0.132	
206	1.076		3.165		0.458		3.372		8.297		1.434		2.368	
209	0.050		0.166		0.019		0.151		0.451		0.060		0.099	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9453 F-2494	Data Label	9454 F-2495	Data Label	9455 F-2496	Data Label	9456 F-2497	Data Label	9457 F-2498	Data Label	9458 F-2499	Data Label	9459 F-2500	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	1.626		2.369		2.643		5.202		9.367		0.370		0.276	
ppDDE	21.981		46.458		39.568		87.489		210.022		21.239		32.826	
op ddt	3.478		4.565		13.819		17.410			NQ	6.071		6.404	
pp ddt		BDL		BDL	2.084			BDL		NQ		BDL		BDL
o,p ddd	0.810		0.838		2.964		5.611			NQ	0.076			BDL
p,p ddd	6.223		10.469		16.490		33.422			NQ	6.380		6.977	
Total DDXs	34.118		64.709		77.569		149.134		219.389		34.136		46.483	
alpha BHC		BDL		BDL		BDL		BDL		NQ		BDL		BDL
beta BHC		BDL		BDL	0.244		0.825			NQ	0.185			BDL
delta BHC		BDL		BDL		ND		ND		NQ		BDL		ND
lindane	0.200		0.328		0.133		0.345			NQ		BDL		BDL
heptaclor	2.782		0.721		2.574		7.322		11.328		0.256		0.275	
heptachlor epoxide	2.129		2.169		4.884		4.673			NQ	1.258		0.792	
oxychlordane	0.862		1.087		7.323		5.775			NQ	3.215		2.248	
gamma chlordane	2.850		4.612		14.156		20.980			NQ		BDL		BDL
alpha chlordane	1.777		1.964		31.527		35.154			NQ	3.973		3.177	
cis nonachlor	6.505		9.842		5.113		8.482		24.399		2.242		3.752	
trans nonachlor	20.315		22.805		44.089		48.240		101.487		21.520		21.104	
Total Chlordanes	37.220		43.200		109.665		130.627		137.213		32.463		31.348	
dieldrin	4.887		4.382		14.208		10.824			NQ	2.824		1.534	
endrin		BDL		ND	0.123		3.432			NQ		BDL		ND
aldrin		BDL		BDL	0.263		0.260			NQ		BDL		BDL
endosulfan I	3.782		1.804		16.567		6.032			NQ		BDL		BDL
endosulfan II	0.618		0.620		0.737			ND		NQ	1.808		1.276	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9460 F-2501	Data Label	9461 F-2502	Data Label	9462 F-2503	Data Label	9463 F-2504	Data Label	9464 F-2505	Data Label	9465 F-2506	Data Label	9466 F-2507	Data Label
LIPID PERCENT (%)	4.59		1.20		0.43		0.86		0.52		2.60		3.21	
EXTRACTION MASS (wet wt/g)	2.015		2.0075		2.007		2.006		2.002		2		2.004	
SURROGATE RECOVERY (%)														
PCB 14	105		101		100		89		97		128		94	
PCB 65	94		88		83		84		84		97		84	
PCB 166	101		95		98		88		90		105		90	
Concentrations (ng/g wet wt)														
TOTAL PCBs	445.3		277.3		740.9		63.4		23.0		366.3		280.5	
TOTAL DDXs	181.4		68.4		21.3		14.8		3.6		65.4		60.4	
TOTAL CHLORDANES	171.8		56.1		43.6		15.2		4.3		76.1		68.8	
1		BDL		BDL		BDL		BDL		BDL		BDL	0.252	
3	4.711		0.578		0.326		0.399			BDL	0.636		0.997	
4+10		BDL		BDL		BDL		BDL		BDL	0.146		0.135	
7		BDL		BDL		BDL		BDL		BDL	0.051		0.036	
6		BDL	0.032			BDL	0.029			BDL	0.116		0.163	
8+5	0.134		0.466		0.305		0.506		0.270		1.065		1.596	
19	0.033		0.175		0.056		0.086		0.048		0.074		0.096	
12+13	0.017		0.168			BDL		BDL		BDL	0.034		0.046	
18	0.079		0.436		0.182		0.533		0.112		1.328		2.460	
17	0.052		0.837		0.148		0.305		0.083		0.738		1.292	
24+27		BDL	0.168			BDL		BDL		BDL	0.193		0.263	
16+32	0.096		1.549		0.271		0.637		0.230		1.462		2.374	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.148		0.507		0.132		0.254		0.095		0.857		1.185	
25		ND		BDL	1.023		0.686		0.753		0.450		0.783	
31+28	0.997		4.618		1.352		2.505		0.953		7.567		11.128	
53+33+21		BDL	1.037		0.467		0.530		0.260		1.592		2.917	
22	1.615		1.773		1.018		1.372		0.635		2.907		4.281	
45	0.388		0.275		0.048		0.166		0.029		0.498		0.625	
46	0.046		0.232		0.044		0.033			BDL	0.298		0.113	
52	6.078		0.589		2.637		1.960		0.437		8.362		7.133	
49	0.507		5.597		2.152		1.463		0.350		6.077		6.333	
47	6.776		6.708		3.146		1.672			BDL	2.850		3.264	
48	0.364		1.149		0.549		0.449			BDL	0.570		1.076	
44	1.068		4.734		0.457		1.374		0.330		7.147		7.518	
37+42	0.420		3.655		0.674		0.746		0.225		2.998		2.298	
41+71	7.658		9.376		1.688		2.073		0.295		7.583		7.066	
40	0.222		0.628		0.301		0.158		0.056		1.014		1.091	
100	0.541		0.646		0.543		0.105		0.030		0.124		0.208	
63	0.431		0.654		0.498		0.156		0.043		0.692		0.634	
74	2.122		6.254		5.593		1.040		0.302		5.270		4.712	
70+76	0.185		8.256		6.423		1.925		0.509		7.562		7.598	
66+95	5.568		19.188		16.665		4.839		1.053		25.599		21.736	
91	0.882		1.541		2.835		0.350		0.060		1.728		1.416	
56+60	1.575		8.695		3.471		1.717		0.486		6.962		6.573	
101	5.086		6.283		41.408		2.127		0.472		11.745		7.890	
99	7.263		6.434		28.910		1.324		0.354		6.504		4.403	
83	0.345		0.229		0.073		0.083		0.018		0.654		0.521	
97	0.477		2.949		11.455		0.593		0.149		3.918		2.588	
87+81	1.699		2.230		8.647		0.550			BDL	3.067		1.947	
85	3.373		3.726		24.262		0.748		0.189		2.893		1.834	
136	0.152		0.387		0.206		0.160		0.023		0.904		0.628	
77+110	17.066		15.237		31.095		3.355		0.543		18.832		12.769	
82	0.150		0.943		0.494		0.219		0.037		1.416		0.791	
151	0.287		1.863		7.497		0.658		0.158		3.195		2.349	
135+144	0.726		1.264		5.356		0.342		0.083		2.354		1.575	
107	1.354		1.379		5.809		0.224		0.057		1.328		0.823	
149	8.339		6.334		19.847		1.739		0.398		10.543		7.111	
118	16.725		11.147		60.977		2.006		0.695		12.869		7.382	
131	0.140		0.057		0.239		0.029		0.006		0.173		0.125	
146	10.153		3.894		16.353		0.669		0.248		4.338		2.788	
153+132+105	61.384		26.513		113.497		5.069		2.688		36.712		22.487	
141	0.199		0.571		0.252		0.167		0.045		1.046		0.773	
137+176	3.096		0.778		3.337		0.222		0.065		1.447		0.829	
163+138	60.592		24.327		138.963		4.302		2.023		32.077		19.000	
158	5.001		1.520		30.946		0.687		0.277		4.793		2.755	
129+178	4.458		1.312		1.393		0.248		0.151		1.716		1.129	
187+182	20.199		7.044		10.918		1.514		0.743		11.023		7.711	
183	10.066		3.485		9.205		0.620		0.401		5.422		3.338	
128	8.403		2.477		27.554		0.522		0.200		3.943		2.262	
185	0.136		0.394		0.809		0.112		0.048		0.875		0.533	
174	1.709		1.633		1.731		0.471		0.142		3.749		2.580	
177	6.998		1.510		2.356		0.413		0.191		3.592		2.208	
202+171	7.573		1.454		4.721		0.279		0.251		3.809		2.647	
157+200	2.425		1.127			ND		ND	0.099		1.507		1.126	
172+197	12.168		3.881		2.239		0.155		0.098		1.494		0.977	
180	39.862		15.758		25.376		1.667		1.334		19.038		12.074	
193	9.858		3.277		1.982		0.434		0.312		1.615		1.615	
191	0.925		0.567		0.815		0.033		0.042		0.425		0.270	
199	0.023		0.096			BDL	0.019		0.014		0.277		0.201	
170+190	23.962		8.504		28.073		1.133		0.711		12.747		7.649	
201	12.305		3.219		3.199		0.602		0.480		6.471		5.283	
203+196	14.999		4.408		6.210		0.736		0.619		8.412		6.321	
189	1.467		0.663		1.772		0.070		0.080		1.123		0.608	
208+195	8.389		2.391		3.632		0.412		0.318		5.274		4.290	
207	0.421		0.156		0.120		0.018		0.025		0.252		0.237	
194	5.903		1.623		3.369		0.243		0.236		3.836		2.657	
205	0.350		0.138		0.268		0.019		0.020		0.211		0.143	
206	6.163		1.655		2.216		0.279		0.314		3.191		3.858	
209	0.208		0.072		0.039		0.016		0.019		0.137		0.179	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9460 F-2501	Data Label	9461 F-2502	Data Label	9462 F-2503	Data Label	9463 F-2504	Data Label	9464 F-2505	Data Label	9465 F-2506	Data Label	9466 F-2507	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	2.369		1.910		0.238		0.490		0.100		3.101		2.717	
ppDDE	108.771		42.192		8.188		4.009		0.998		26.666		17.382	
op ddt	33.040		7.992		7.206		4.661		1.073		13.153		12.360	
pp ddt	1.477		0.969		1.699		0.820			BDL	0.874		0.948	
o,p ddd	0.523		1.737		1.061		0.615		0.159		3.500		4.669	
p,p ddd	35.204		13.636		2.911		4.216		1.240		18.100		22.346	
Total DDXs	181.385		68.436		21.303		14.810		3.570		65.394		60.421	
alpha BHC		BDL		BDL		BDL		ND		ND	0.293		0.254	
beta BHC	1.306			BDL		BDL	0.413			ND	1.508		2.701	
delta BHC		BDL		BDL		BDL		BDL		BDL		ND		ND
lindane	0.514		0.166			BDL	0.175		0.288		0.434		0.408	
heptaclor	1.064		4.218		0.146		0.400		0.071		1.022		0.971	
heptachlor epoxide	9.817		1.523		0.746		1.607		1.016		3.968		4.458	
oxychlordane	17.662		3.519		4.701		2.214		0.730		4.886		4.036	
gamma chlordane	7.478		3.914			BDL	0.639			BDL	13.501		14.667	
alpha chlordane	26.699		11.530		1.338		2.600		0.886		28.426		26.852	
cis nonachlor	14.471		5.755		16.815		0.575			BDL	3.552		3.003	
trans nonachlor	94.591		24.681		19.858		6.954		1.617		20.703		14.785	
Total Chlordanes	171.783		56.140		43.603		15.186		4.321		76.078		68.774	
dieldrin	26.454		3.752			ND	1.548			ND	5.960		6.446	
endrin	0.222			BDL		ND		BDL		BDL	0.336		0.399	
aldrin	0.398			BDL		BDL		BDL		BDL		BDL		BDL
endosulfan I	0.174		2.945		0.907		3.702		0.978		5.466		2.861	
endosulfan II	9.457		0.391		0.705		0.987		0.289		0.956		0.839	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9467 F-2508	Data Label	9468 F-2509	Data Label	9469 F-2510	Data Label	9470 F-2511	Data Label	9471 F-2512	Data Label	9534R F-2513	Data Label	9535R F-2514	Data Label
LIPID PERCENT (%)	0.92		0.73		0.88		0.72		0.70		4.12		1.64	
EXTRACTION MASS (wet wt/g)	2.065		2.076		2.009		2.012		2.009		2.114		2.201	
SURROGATE RECOVERY (%)														
PCB 14	109		112		109		113		114		90		102	
PCB 65	87		99		86		89		84		81		82	
PCB 166	100		111		98		103		98		92		93	
Concentrations (ng/g wet wt)														
TOTAL PCBs	82.4		39.1		72.2		36.5		70.7		610.4		144.7	
TOTAL DDXs	19.4		8.6		19.3		6.9		19.1		102.9		32.2	
TOTAL CHLORDANES	20.4		15.4		18.4		11.0		20.8		101.8		36.5	
1		BDL		BDL		BDL		BDL		BDL	0.248		0.327	
3	0.470		0.476		0.431			BDL	0.368		4.870		1.153	
4+10		BDL		BDL		BDL		BDL		BDL	0.200			BDL
7		BDL		BDL		BDL		BDL		BDL	0.079		0.035	
6	0.106			BDL	0.186			BDL		BDL	0.189		0.073	
8+5	0.322		0.164		0.303		0.160		0.287		1.774		0.628	
19	0.036			BDL	0.049			BDL	0.042		0.115		0.088	
12+13	0.197		0.057		0.114		0.028		0.084		0.051		0.018	
18	0.607		0.098		0.454		0.115		0.444		2.700		0.890	
17	0.331		0.031		0.216		0.061		0.263		1.629		0.545	
24+27		BDL		BDL	0.173			BDL		BDL	0.299			BDL
16+32	0.548		0.146		0.405		0.175		0.468		2.888		1.155	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.235		0.069		0.215		0.049		0.207		1.777		0.459	
25	0.600		0.612		0.376		0.700		0.388		0.800			BDL
31+28	1.661		0.363		1.281		0.298		1.779		15.418		3.688	
53+33+21	0.956			BDL	0.355		0.181		0.519		3.615		0.661	
22	0.842		0.464		0.755		0.252		0.895		6.149		1.549	
45	0.126		0.043		0.095		0.052		0.111		0.712		0.297	
46	0.083		0.028		0.065		0.021		0.055		0.141		0.174	
52	1.756		0.731		1.524		0.561		1.703		12.103		2.923	
49	1.398		0.497		1.236		0.447		1.315		10.794		2.639	
47	1.560			BDL	1.445			BDL	1.329		5.260		2.813	
48	0.872		0.311		0.721			BDL		BDL	1.280		0.307	
44	1.288		0.326		1.020		0.433		1.205		12.799		2.865	
37+42	0.648		0.194		0.739		0.199		0.747		4.320		1.743	
41+71	1.987		0.621		1.706		0.517		1.813		14.360		3.302	
40	0.193		0.060		0.167		0.060		0.162		2.097		0.515	
100	0.131		0.043		0.132		0.029		0.103		0.272		0.242	
83	0.184		0.086		0.155		0.059		0.147		1.056		0.246	
74	1.327		0.617		1.232		0.306		1.165		9.486		1.938	
70+76	1.641		0.153		1.316		0.137		1.777		14.167		2.874	
66+95	5.576		2.229		5.115		2.226		5.354		40.819		8.995	
91	0.377		0.118		0.356		0.175		0.362		2.608		0.676	
56+60	1.756		0.604		1.552		0.404		1.852		14.006		2.656	
101	2.416		1.010		2.389		0.807		2.331		16.771		3.637	
99	1.621		0.849		1.577		0.625		1.600		9.445		2.389	
83	0.095		0.031		0.092		0.053		0.083		0.907		0.220	
97	0.727		0.168		0.682		0.240		0.672		5.536		1.059	
87+81	0.572			BDL	0.557		0.268		0.560		4.347		0.874	
85	1.018		0.544		1.021		0.403		0.886		4.338		1.323	
136	0.109		0.034		0.103		0.092		0.111		1.513		0.333	
77+110	3.733		1.238		3.451		1.788		3.524		28.473		5.142	
82	0.241		0.017		0.192		0.081		0.220		2.047		0.447	
151	0.672		0.283		0.598		0.467		0.605		5.891		1.189	
135+144	0.393		0.168		0.357		0.208		0.365		4.200		0.762	
107	0.323		0.132		0.274		0.110		0.247		1.791		0.465	
149	2.169		0.760		1.987		1.414		1.930		18.212		3.303	
118	2.964		1.864		2.812		0.969		2.689		17.431		3.767	
131	0.024		0.005		0.025		0.015		0.021		0.238		0.055	
146	1.161		0.630		0.944		0.607		0.873		6.699		1.612	
153+132+105	9.082		4.517		7.550		3.662		7.124		57.644		13.139	
141	0.111		0.077		0.093		0.129		0.111		2.257		0.431	
137+176	0.230		0.077		0.223		0.162		0.211		2.221		0.459	
163+138	7.447		4.411		6.673		3.617		6.059		48.414		10.546	
158	1.147		0.664		1.017		0.434		0.965		7.282		1.561	
129+178	0.383		0.196		0.285		0.210		0.253		3.304		1.077	
187+182	2.689		1.462		2.127		2.128		1.894		18.843		4.961	
183	1.145		0.636		0.869		0.535		0.811		10.025		2.159	
128	0.842		0.607		0.828		0.356		0.724		5.356		1.146	
185	0.130		0.088		0.124		0.096		0.105		1.634		0.303	
174	0.570		0.370		0.467		0.561		0.492		8.822		1.276	
177	0.574		0.142		0.411		0.383		0.414		6.760		1.494	
202+171	0.511		0.218		0.387		0.268		0.375		4.309		1.473	
157+200	0.321		0.186		0.280		0.177		0.256		2.530		0.702	
172+197	0.268		0.198		0.251		0.191		0.236		2.730		0.661	
180	3.322		2.623		2.888		2.142		2.644		36.963		8.551	
193	0.164		0.195		0.342		0.236			BDL	0.871		0.332	
191	0.075		0.063		0.060		0.038		0.052		0.629		0.156	
199	0.023		0.018		0.041		0.034		0.015		0.523		0.113	
170+190	2.271		1.700		2.023		1.310		1.846		24.176		4.765	
201	1.167		0.910		1.000		1.070		0.847		11.254		3.609	
203+196	1.435		1.142		1.229		1.006		1.089		14.675		4.351	
189	0.142		0.136		0.138		0.074		0.124		1.346		0.374	
208+195	0.817		0.642		0.714		0.781		0.613		8.519		2.925	
207	0.039		0.030		0.046		0.033		0.027		0.278		0.139	
194	0.570		0.462		0.494		0.413		0.462		6.885		1.999	
205	0.032		0.024		0.031		0.028		0.032		0.317		0.089	
206	0.652		0.490		0.598		0.580		0.452		4.688		2.885	
209	0.027		0.029		0.027		0.040		0.022		0.168		0.115	

Appendix II.il. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9467 F-2508	Data Label	9468 F-2509	Data Label	9469 F-2510	Data Label	9470 F-2511	Data Label	9471 F-2512	Data Label	9534R F-2513	Data Label	9535R F-2514	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	0.546		0.152		0.497		0.262		0.656		4.740		1.376	
ppDDE	5.331		3.510		6.219		1.352		5.877		40.678		9.884	
op ddt	5.902		2.697		6.860		2.057		5.611		19.140		7.629	
pp ddt	0.943			BDL	0.790		0.717		0.649		1.422			BDL
o,p ddd	1.061		0.240		1.007		0.441		1.001		5.074		2.617	
p,p ddd	5.666		2.011		4.944		2.097		5.386		31.680		10.655	
Total DDXs	19.438		8.611		19.316		6.927		19.080		102.934		32.161	
alpha BHC		BDL		ND	0.221		0.286			ND	0.509			BDL
beta BHC	1.040			ND	2.672			ND	0.966		4.855		1.572	
delta BHC	0.225		0.099		0.216		0.166			BDL	0.345		0.498	
lindane	0.229		0.252		0.382		0.748			BDL	0.469		0.392	
heptaclor	0.423		0.213		0.429		0.160		0.436		1.292		1.669	
heptachlor epoxide	1.462		1.259		1.330		0.717		1.629		5.697		2.333	
oxychlordane	2.584		1.943		2.782		1.239		2.995		6.796		2.011	
gamma chlordane	2.150		1.931		1.549		2.001		2.268		22.067		7.401	
alpha chlordane	5.353		4.617		4.309		3.471		5.817		40.022		13.261	
cis nonachlor	1.092		0.507		0.948		0.355		0.766			ND		ND
trans nonachlor	7.333		4.967		7.099		3.010		6.860		25.886		9.925	
Total Chlordanes	20.397		15.437		18.445		10.953		20.772		101.761		36.500	
dieldrin	1.718		0.301		1.398		0.165		2.091		12.039		3.731	
endrin		BDL	0.145			ND		ND		BDL	0.651		0.231	
aldrin		BDL		BDL		BDL		BDL		BDL	0.502		0.218	
endosulfan I	3.349		0.842		2.442		0.924		3.351		8.967		3.788	
endosulfan II	0.656		0.444		0.525		0.349		0.648		1.250		0.430	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9536R F-2515	Data Label	9537R F-2516	Data Label	9538R F-2517	Data Label	9539R F-2518	Data Label	9540R F-2519	Data Label	9541R F-2520	Data Label	9542 F-2521	Data Label
LIPID PERCENT (%)	1.50		1.58		3.08		3.85		6.92		6.85		3.98	
EXTRACTION MASS (wet wt/g)	2.024		1.907		2.127		2.678		2.219		2.313		2.026	
SURROGATE RECOVERY (%)														
PCB 14	109		127		130		131		132		140		121	
PCB 65	87		95		94		83		85		90		83	
PCB 166	104		111		113		107		109		108		104	
Concentrations (ng/g wet wt)														
TOTAL PCBs	184.1		211.4		223.4		934.3		790.4		938.5		622.2	
TOTAL DDXs	78.7		66.4		86.0		248.7		204.1		184.1		128.4	
TOTAL CHLORDANES	82.9		55.5		87.8		152.7		195.3		158.2		103.7	
1	0.616		0.371		0.575		0.388		0.421		1.064		0.548	
3	1.265		1.177		1.697		2.265		1.458		3.972		1.909	
4+10		BDL		BDL	0.117		0.264		0.315		0.379		0.299	
7	0.035			BDL		BDL	0.088		0.089		0.135		0.097	
6	0.053			BDL	0.069		0.275		0.357		0.423		0.372	
8+5	0.180		0.176		0.306		2.193		3.121		3.755		3.964	
19		BDL		BDL	0.075		0.490		0.772		0.692		0.686	
12+13	0.070		0.047		0.145		0.101		0.124		0.148		0.139	
18		BDL	0.191		0.171		6.608		11.127		10.283		8.899	
17	0.040		0.042		0.079		3.237		5.460		5.559		5.141	
24+27		BDL		BDL		BDL	0.717		1.264		1.069		0.811	
16+32	0.098		0.087		0.177		8.508		13.664		12.821		10.818	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.138		0.080		0.223		2.514		4.521		4.149		3.076	
25		BDL		BDL	0.341		0.990		1.473		1.785		1.417	
31+28	0.802		0.526		1.239		21.415		37.014		39.514		31.906	
53+33+21		BDL		BDL	0.136		10.349		4.630		4.927		4.615	
22	1.272		1.096		1.853		8.196		13.424		14.536		10.217	
45	0.063		0.033		0.091		2.166		3.144		2.854		2.145	
46	0.065		0.040		0.120		0.890		1.487		1.340		1.038	
52	3.130		4.025		4.553		22.357		24.806		25.865		17.552	
49	0.634		0.663		0.882		22.694		23.795		26.621		17.287	
47	3.058		3.259		4.803		24.346		25.355		28.105		18.266	
48		BDL		BDL	0.254		3.947		4.408		5.735		4.549	
44	0.873		1.160		1.353		25.539		29.830		29.865		21.026	
37+42	0.888		1.014		1.312		16.268		17.811		18.542		12.645	
41+71	3.249		3.695		4.929		35.541		40.231		40.850		28.086	
40	0.159		0.127		0.290		4.645		5.311		5.160		3.650	
100	0.183		0.151		0.306		2.612		2.403		2.876		1.737	
63	0.305		0.238		0.498		2.372		1.980		2.331		1.459	
74	1.419		1.124		2.664		19.715		18.267		20.407		12.606	
70+76	0.226		0.166		0.386		16.002		25.217		31.014		21.503	
66+95	5.671		5.757		7.780		75.402		73.283		83.607		53.983	
91	0.578		0.576		0.615		5.322		4.287		6.071		3.152	
56+60	1.430		1.126		2.336		26.528		29.611		33.273		22.417	
101	2.727		3.971		3.521		26.505		19.939		27.479		15.885	
99	5.070		4.146		6.812		17.324		12.080		18.517		8.882	
83	0.261		0.283		0.253		1.780		1.386		1.815		1.154	
97	0.510		0.704		0.676		8.757		6.862		9.191		5.415	
87+81	0.758		1.058		1.198		6.628		4.927		7.041		3.773	
85	2.524		2.014		3.525		10.873		8.243		11.428		6.077	
136	0.166		0.158		0.211		2.007		1.737		2.163		1.350	
77+110	9.033		11.636		12.086		43.578		34.328		46.379		25.764	
82	0.205		0.168		0.305		3.034		2.688		3.463		1.929	
151	0.643		0.693		1.034		7.587		6.202		7.117		4.650	
135+144	0.326		0.510		0.483		5.254		3.862		6.008		2.910	
107	0.466		0.574		0.628		2.999		2.168		3.320		1.620	
149	4.398		6.474		4.321		23.081		16.870		20.601		13.408	
118	8.539		8.733		11.796		27.238		18.712		29.046		14.565	
134	0.077		0.097		0.097		0.288		0.231		0.315		0.178	
146	3.944		5.676		4.255		9.709		6.079		8.151		4.727	
153+132+105	27.371		29.717		30.912		73.767		46.868		62.710		36.285	
141	0.229		0.228		0.344		2.455		1.895		2.034		1.613	
137+176	0.831		1.113		0.908		2.572		1.626		2.238		1.345	
163+138	26.074		31.100		29.685		62.054		39.614		55.942		31.672	
158	3.877		4.345		4.303		9.463		5.333		8.234		4.111	
129+178	1.793		2.048		2.103		3.542		2.058		2.179		1.936	
187+182	9.681		16.583		9.845		23.317		15.025		15.022		12.104	
183	3.320		3.702		3.531		11.465		6.114		7.295		5.452	
128	3.169		3.471		3.553		6.967		3.990		6.641		3.159	
185	0.103		0.107		0.168		1.919		1.124		1.056		0.968	
174	1.046		1.232		1.242		9.915		6.194		6.842		4.856	
177	2.154		2.830		2.313		6.250		4.266		4.904		3.549	
202+171	2.581		2.463		1.162		7.996		4.624		2.885		3.980	
157+200		ND	1.003		1.037		3.819		2.149		3.123		2.030	
172+197	0.912		1.059		0.976		3.322		1.626		2.285		1.543	
180	11.375		10.637		13.088		41.930		23.581		28.237		20.415	
193	1.014		1.866		1.566		3.863		2.419		3.324		2.127	
191	0.220		0.216		0.236		0.848		0.531		0.744		0.446	
199	0.026		0.019		0.031		0.602		0.411		0.385		0.302	
170+190	7.348		7.304		8.234		28.360		15.093		18.056		12.703	
201	4.008		5.114		4.369		12.630		6.912		7.505		6.554	
203+196	4.309		4.542		4.660		17.381		8.991		9.621		8.254	
189	0.396		0.429		0.461		2.006		1.323		1.615		1.036	
208+195	2.549		2.626		2.913		10.216		5.242		6.177		5.402	
207	0.088		0.097		0.128		0.464		0.254		0.304		0.300	
194	1.712		1.892		1.787		8.035		3.776		4.212		3.759	
205	0.096		0.096		0.102		0.424		0.199		0.314		0.291	
206	1.798		1.577		2.076		6.922		3.414		3.699		3.509	
209	0.066		0.055		0.098		0.261		0.134		0.164		0.133	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9536R F-2515	Data Label	9537R F-2516	Data Label	9538R F-2517	Data Label	9539R F-2518	Data Label	9540R F-2519	Data Label	9541R F-2520	Data Label	9542 F-2521
ORGANOCHLORINE PESTICIDES													
opDDE	1.144		0.954		1.373		8.686		8.545		9.372		6.237
ppDDE	31.885		33.233		40.947		128.739		81.441		97.271		63.715
op ddt	23.188		13.402		21.513		24.054		23.275		17.271		12.156
pp ddt	2.187		3.658		2.116		0.445		1.658		1.443		0.882
o,p ddd	0.680		0.872		0.620		18.854		24.664		15.810		12.201
p,p ddd	19.655		14.235		19.478		68.064		64.501		43.101		33.249
Total DDXs	78.737		66.355		86.046		248.742		204.084		184.069		128.440
alpha BHC	0.225			BDL	0.240		0.393		0.363		0.238		0.239
beta BHC	1.646		0.967		2.271		3.737		5.159		3.160		3.412
delta BHC		BDL	0.091		0.143		0.142		0.416		0.268		0.111
lindane	0.298		0.336		0.422		0.547		0.546		0.390		0.284
heptaclor	0.433		0.373		0.795		16.411		23.418		21.727		17.178
heptachlor epoxide	4.536		3.873		7.319		5.536		9.822		6.824		3.928
oxychlordane	11.298		5.917		13.298		5.268		6.851		4.420		2.697
gamma chlordane	7.669		4.614		6.469		31.634		47.394		32.440		21.703
alpha chlordane	21.930		14.162		19.512		51.037		73.388		51.988		32.962
cis nonachlor	2.873		2.943		3.825		7.681		4.910		6.957		3.685
trans nonachlor	34.128		23.615		36.587		35.131		29.532		33.865		21.542
Total Chlordanes	82.867		55.499		87.804		152.699		195.317		158.220		103.695
dieldrin	10.553		7.668		14.672		12.930		25.950		17.451		9.799
endrin	0.107		0.146		0.236		0.797		0.572		0.885		0.167
aldrin		BDL		BDL	0.186			BDL	0.309			BDL	
endosulfan I	0.343		0.425		0.500		2.996		5.577		5.341		1.962
endosulfan II	5.032		3.198		6.191		1.282		1.517		1.053		0.644

BDL - Below Detection Limit
ND - Not Detected

Appendix II.H. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9543R F-2522	Data Label	9544 F-2523	Data Label	9545 F-2524	Data Label	81 F-2372	Data Label	82 F-2373	Data Label	83 F-2374	Data Label	84 F-2375	Data Label
LIPID PERCENT (%)	5.11		3.89		3.38		2.83		1.42		1.68		3.27	
EXTRACTION MASS (wet wt/g)	2.066		1.976		2.032		2.001		2.063		2.075		2.044	
SURROGATE RECOVERY (%)														
PCB 14	128		112		101		100		102		102		104	
PCB 65	82		93		91		91		100		93		93	
PCB 166	110		99		95		97		104		103		99	
Concentrations (ng/g wet wt)														
TOTAL PCBs	1260.12		874.2		890.5		465.1		209.4		1018.4		384.1	
TOTAL DDXs	277.70		180.0		150.5		127.8		45.3		269.5		109.6	
TOTAL CHLORDANES	123.61		215.1		104.0		37.3		16.3		79.6		36.6	
1	0.414		0.271		0.372			BDL		BDL	0.243			BDL
3	1.849		1.020		0.582		0.560		0.321		0.844		0.429	
4+10	0.409		0.320		0.312		0.644			BDL		BDL	0.418	
7	0.127		0.067		0.073		0.056			BDL	0.039			BDL
6	0.449		0.183		0.239		0.104			BDL	0.063		0.027	
8+5	5.119		2.560		2.521		0.163			BDL	0.195		0.210	
19	0.365		0.333		0.325			BDL		BDL	0.048			BDL
12+13		ND	0.116		0.026		0.026		0.055		0.075		0.035	
18	11.583		7.384		7.169		0.238		0.059		0.202		0.086	
17	6.422		3.560		4.004		0.103			BDL	0.088		0.033	
24+27	0.995		0.536		0.513			BDL		BDL		BDL		BDL
16+32	13.063		7.916		8.079		0.179		0.082		0.145		0.113	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	4.616		2.740		2.998		0.071		0.049		0.122		0.069	
25	1.835		0.839		0.846			BDL	0.422			BDL		BDL
31+28	46.597		22.398		25.899		1.030		0.417		1.179		0.937	
53+33+21	13.419		5.985		7.396		0.165		0.077		0.188		0.147	
22	15.333		10.476		10.092		0.716		0.226		0.691		0.850	
45	2.654		6.318		1.906		0.138		0.048		0.199		0.136	
46	0.378		0.368		0.316		0.050		0.023		0.079		0.026	
52	27.619		21.078		22.036		3.157		1.373		4.789		2.897	
49	28.795		20.170		22.643		2.263		0.913		3.648		2.260	
47	23.738			ND	18.045		2.611		1.179		3.666		2.193	
48	5.913		5.343		4.627		0.478		0.276		0.977		0.577	
44	32.529		24.907		26.340		2.156		0.657		2.616		1.596	
37+42	16.460		11.870		12.402		1.216		0.430		1.977		1.078	
41+71	41.575		27.741		29.676		2.866		1.142		4.401		2.469	
40	6.255		4.689		5.014		0.618		0.213			BDL	0.613	
100	1.230		1.982		1.055		0.335		0.149		0.746		0.256	
63	2.648		1.930		2.298		0.343		0.145		0.611		0.324	
74	26.564		15.446		18.041		2.261		0.976		4.394		2.607	
70+76	30.833		18.985		20.351		4.144		1.702		7.214		3.653	
66+95	96.015		64.663		69.921		18.698		8.117		36.374		17.602	
91	5.428		5.075		5.166		2.183		0.952		4.507		2.088	
56+60	39.138		29.894		26.033		6.849		2.941		12.613		5.864	
101	30.522		21.372		24.179		13.505		6.222		27.950		11.511	
99	21.051		13.498		14.749		9.045		3.879		20.768		7.401	
83	1.960		1.532		1.528		1.008		0.370		2.041		0.929	
97	10.313		7.694		8.899		3.763		1.597		8.042		3.115	
87+81		ND	5.538		5.924		2.601		1.187		6.041		2.413	
85	9.327		25.242		5.612		4.489		1.659		12.072		4.545	
136	2.427		1.785		1.980		1.023		0.325		1.412		0.920	
77+110	46.633		36.588		36.583		20.717		8.964		45.409		18.666	
82	3.911		2.686		2.580		1.404		0.488		2.600		1.176	
151	10.530		7.500		7.790		5.940		2.587		13.167		5.013	
135+144	6.307		4.707		5.107		3.660		1.457		7.901		3.366	
107	4.329		2.751		3.239		2.131		0.977		5.032		1.695	
149	28.578		22.419		22.431		16.449		7.437		35.822		14.035	
118	35.534		22.901		26.693		14.528		6.806		35.006		12.754	
131	0.382		0.472		0.564		0.385		0.142		0.733		0.484	
146	13.418		9.466		10.447		10.551		4.846		23.385		8.282	
153+132+105	101.506		67.447		71.860		68.301		33.283		151.201		56.430	
141	3.284		2.618		2.830		1.574		0.552		2.517		1.697	
137+176	3.270		0.649		2.745		3.997		1.256		8.852			ND
163+138	82.458		58.316		60.011		57.369		26.482		134.565		47.738	
158	12.017		8.154		8.361		7.194		3.267		19.792		5.895	
129+178	4.952		2.568		3.847		3.461		1.568		7.749		3.039	
187+182	38.267		24.639		22.155		17.186		8.755		37.817		14.009	
183	16.555		11.192		11.090		9.556		4.542		24.285		7.763	
128	8.371		7.936		8.600		9.489		4.021		25.974		7.983	
185	2.487		1.805		1.813		1.269		0.569		2.982		1.057	
174	12.467		9.515		8.618		5.576		2.329		12.535		5.061	
177	9.215		6.836		7.064		6.187		2.732		13.140		5.889	
202+171	11.190		8.296		7.971		6.421		3.027		8.996		5.449	
157+200	3.975		2.780		2.678		2.186		1.011		5.199		1.971	
172+197	4.612		3.545		3.204		2.690		1.373		6.923		2.341	
180	67.657		40.360		36.565		29.291		14.143		80.022		24.739	
193	5.611		4.449		17.718		3.017		1.357		6.525		2.166	
191	1.005		1.028		1.020		0.693		0.317		1.413		0.494	
199	0.815		0.642		0.661		0.222		0.071		0.326		0.223	
170+190	43.791		28.270		25.405		19.868		9.155		51.501		16.402	
201	18.540		14.089		11.946		8.627		4.331		19.178		7.381	
203+196	26.295		19.267		15.856		11.386		5.888		26.215		9.223	
189	2.621		1.789		1.641		1.097		0.472		2.099		0.744	
208+195	14.942		11.847		9.192		5.171		2.744		11.589		4.331	
207	0.601		0.797		0.522		0.341		0.201		0.747		0.278	
194	13.460		8.717		6.498		4.123		2.213		9.754		3.503	
205	0.486		0.562		0.382		0.237		0.148		0.583		0.207	
206	10.095		9.711		6.496		2.855		1.669		5.521		2.247	
209	0.347		0.259		0.188		0.066		0.039		0.101		0.044	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	9543R F-2522	Data Label	9544 F-2523	Data Label	9545 F-2524	Data Label	81 F-2372	Data Label	82 F-2373	Data Label	83 F-2374	Data Label	84 F-2375	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	10.553			ND	5.290		1.769		0.625			ND		ND
ppDDE	165.167		45.519		68.759		81.475		29.836		185.458		99.994	
op ddt	19.184		32.029		18.385		13.777		5.922		32.891		10.878	
pp ddt	1.157		1.346			BDL	1.767		0.976		4.349		1.830	
o,p ddd	20.252		16.994		8.349		2.933		0.885		5.581		2.952	
p,p ddd	61.389		84.101		49.754		26.031		7.273		41.261		23.969	
Total DDXs	277.703		179.988		150.539		127.752		45.318		269.539		109.623	
alpha BHC	0.310			BDL		BDL		BDL		BDL		BDL		BDL
beta BHC	4.600		1.928		1.295		0.273			BDL	0.322		0.672	
delta BHC	0.322			BDL		BDL		BDL		BDL		BDL	0.078	
lindane	0.383		0.230		0.228			BDL		BDL		BDL		BDL
heptaclor	10.515		5.515		5.289		0.287		0.080		0.293		0.211	
heptachlor epoxide		NQ	6.804		4.073		0.785		0.161		0.474		0.851	
oxychlordane		NQ	7.347		3.028		2.850		1.195		3.823		2.622	
gamma chlordane	31.217		42.486		24.320		1.423		0.486		1.844		1.658	
alpha chlordane	43.076		71.741		24.572		3.842		1.477		5.599		3.777	
cis nonachlor	9.161		7.975		6.923		4.891		2.007		11.933		5.547	
trans nonachlor	29.622		73.112		35.626		23.246		10.930		55.599		21.944	
Total Chlordanes	123.610		215.080		104.032		37.324		16.345		79.565		36.610	
dieldrin	12.794		16.658		8.695		2.551		0.408		2.338		1.991	
endrin	0.504		0.372		0.181			BDL		BDL		BDL	0.104	
aldrin		BDL	0.362		0.173			BDL		BDL		BDL		BDL
endosulfan I	2.773		1.749		1.232			BDL		BDL		BDL	0.145	
endosulfan II	0.764		1.834		0.828		1.132		0.494		1.684		1.371	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	85 F-2376	Data Label	235 F-2399	Data Label	236 F-2400	Data Label	237 F-2401	Data Label	238 F-2402	Data Label	239 F-2403	Data Label	240 F-2404	Data Label
LIPID PERCENT (%)	3.85		1.01		0.86		0.76		0.89		0.79		0.29	
EXTRACTION MASS (wet wt/g)	2.046		2.003		2.02		2.038		2.043		2.003		2.014	
SURROGATE RECOVERY (%)														
PCB 14	110		104		100		104		101		94		89	
PCB 65	97		93		92		95		93		86		83	
PCB 166	109		97		96		100		97		86		81	
Concentrations (ng/g wet wt)														
TOTAL PCBs	621.8		31.6		18.7		96.4		47.1		52.4		15.2	
TOTAL DDXs	107.8		3.5		1.6		4.8		4.9		11.4		5.2	
TOTAL CHLORDANES	55.0		3.8		2.7		6.6		8.1		6.4		4.3	
1		BDL		BDL		BDL		BDL		BDL	0.324			BDL
3	0.349			BDL		BDL	0.391			BDL	0.627			BDL
4+10	0.656			BDL		BDL		BDL		BDL		BDL		BDL
7		BDL		BDL		BDL		BDL		BDL		BDL		BDL
6	0.036			BDL		BDL		BDL		BDL	0.399		0.034	
8+5	0.263			BDL		BDL	0.142		0.146		0.311		0.179	
19		BDL		BDL		BDL		BDL		BDL	0.044			BDL
12+13	0.038		0.020		0.095		0.051		0.101			ND		ND
18	0.163		0.070			BDL		BDL		BDL	0.367		0.079	
17	0.098		0.058			BDL	0.039		0.059		0.128		0.048	
24+27		BDL		BDL		BDL		BDL		BDL		BDL		BDL
16+32	0.166		0.084			BDL	0.082			BDL	0.280		0.085	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.097		0.040		0.035		0.027		0.027		0.153		0.025	
25		BDL		BDL		BDL		BDL		BDL		BDL	0.313	
31+28	1.078		0.361		0.191		0.261		0.325		1.081		0.230	
53+33+21	0.205			BDL		BDL	0.089		0.089		0.191			BDL
22	0.803		0.173		0.124		0.144		0.239		0.612		0.237	
45	0.195		0.069		0.067		0.030		0.030		0.148			BDL
46	0.038		0.027			BDL	0.042		0.033		0.113		0.025	
52	4.360		0.556		0.329		0.504		0.671		1.746		0.354	
49	3.236		0.484		0.304		0.498		0.540		1.350		0.341	
47	3.384			BDL		BDL		BDL		BDL	1.890			ND
48	0.593			BDL	0.290			BDL		BDL	0.549			BDL
44	2.685		0.349		0.177		0.293		0.328		1.132		0.203	
37+42	1.704		0.239		0.140		0.249		0.263		0.802		0.149	
41+71	3.748		0.538		0.260		0.610		0.630		0.910		0.255	
40	0.894		0.064		0.039		0.086		0.068		0.216		0.030	
100	0.384		0.038		0.047		0.050		0.114		0.120			BDL
63	0.523		0.065		0.034		0.107		0.074		0.133		0.047	
74	3.424		0.507		0.373		0.802		0.686		1.202		0.410	
70+76	5.528		0.440		0.208		0.424		0.613		1.428		0.236	
66+95	28.116		2.156		1.257		3.495		2.527		4.841		1.348	
91	3.375		0.177		0.081		0.374		0.206		0.311		0.072	
56+60	8.852		0.638		0.373		0.770		0.746		2.089		0.526	
101	17.899		1.088		0.614		2.860		1.733		1.788		0.474	
99	11.796		0.697		0.430		2.131		1.198		1.253		0.451	
83	1.466		0.077		0.040		0.155		0.061		0.341		0.052	
97	6.005		0.338		0.196		0.814		0.466		0.539		0.123	
87+81	3.879		0.320			BDL	0.630		0.371		1.042		0.463	
85	12.183		0.387		0.133		1.630		1.398		0.672		0.202	
136	1.456		0.050		0.032		0.167		0.036		0.055		0.027	
77+110	29.324		1.299		0.721		3.363		1.923		2.131		0.673	
82	1.805		0.104		0.044		0.281		0.105		0.202			ND
151	8.002		0.272		0.151		1.018		0.368		0.361		0.138	
135+144	5.344		0.205		0.142		0.670		0.112		0.267		0.111	
107	2.744		0.151		0.092		0.479		0.222		0.211		0.084	
149	23.663		1.146		0.759		3.834		1.561		1.366		0.424	
118	21.362		1.330		0.738		4.019		2.037		1.953		0.639	
131	0.648		0.023		0.016		0.082		0.038		0.021		0.009	
146	13.767		0.644		0.324		2.113		0.923		0.536		0.233	
153+132+105	90.467		3.631		2.146		14.466		6.301		4.114		1.507	
141	2.788		0.072		0.055		0.441		0.066		0.060		0.038	
137+176	4.359			ND		BDL	0.233			BDL	0.198		0.065	
163+138	78.318		3.004		1.850		12.109		5.164		3.376		1.360	
158	9.804		0.384		0.255		1.521		0.673		0.573		0.226	
129+178	4.850		0.151		0.484		0.443		0.193		0.134		0.069	
187+182	22.202		0.926		0.575		3.675		1.369		0.729		0.336	
183	12.672		0.363		0.223		1.670		0.607		0.435		0.191	
128	13.675		0.484		0.334		1.867		0.820		0.491		0.176	
185	1.715		0.056		0.036		0.216		0.076		0.077		0.050	
174	8.381		0.332		0.233		1.262		0.353		0.306		0.113	
177	9.228		0.282		0.205		1.125		0.280		0.234		0.066	
202+171	8.879		0.277		0.153		1.045		0.350		0.263		0.078	
157+200	2.956		0.120		0.068		0.505		0.176			ND		ND
172+197	3.573		0.164		0.107		0.528		0.217		0.119			BDL
180	38.446		1.244		0.744		4.796		1.754		1.070		0.471	
193	3.956		2.084		0.953		5.792		3.207		1.109			BDL
191	0.706		0.036		0.018		0.114		0.044		0.047			BDL
199	0.326		0.023		0.015		0.067			BDL	0.043		0.015	
170+190	26.397		0.768		0.473		3.208		1.263		0.866		0.385	
201	11.270		0.521		0.258		1.962		0.567		0.434		0.166	
203+196	14.256		0.556		0.260		2.120		0.689		0.529		0.217	
189	1.164		0.063		0.035		0.173		0.098		0.131		0.047	
208+195	6.718		0.348		0.168		1.354		0.415		0.320		0.122	
207	0.419		0.025		0.014		0.119		0.045		0.038		0.017	
194	5.263		0.212		0.111		0.728		0.240		0.196		0.065	
205	0.306		BDL		0.022		0.057		0.030			ND		ND
206	3.322		0.239		0.098		0.950		0.265		0.215		0.083	
209	0.069		0.012		0.009		0.034		0.014		0.070		0.033	

Appendix II.ii. Cont'd. **Summary of PCB and OCP Concentrations**

CHEM ID Fish-number	85 F-2376	Data Label	235 F-2399	Data Label	236 F-2400	Data Label	237 F-2401	Data Label	238 F-2402	Data Label	239 F-2403	Data Label	240 F-2404	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	2.863			ND		ND		ND		ND	0.641		0.158	
ppDDE	45.702		1.400		0.410		2.366		1.268		3.471		1.491	
op ddt	18.013		1.677		0.671		2.157		2.915		5.944		2.652	
pp ddt	2.690			BDL		BDL		BDL		BDL		BDL	0.631	
o,p ddd	3.091		0.103		0.091			BDL		BDL	0.160			BDL
p,p ddd	35.432		0.372		0.265		0.325		0.736		1.200		0.273	
Total DDXs	107.791		3.453		1.638		4.849		4.919		11.417		5.204	
alpha BHC		BDL		BDL		BDL		BDL		BDL	0.309		0.222	
beta BHC	0.471		0.302		0.449		0.541		0.602			BDL		BDL
delta BHC		BDL		BDL		BDL		BDL		BDL		BDL		BDL
lindane		BDL		BDL		BDL		BDL		BDL	0.283		0.425	
heptaclor	0.286		0.068			BDL	0.093			BDL	0.302		0.125	
heptachlor epoxide	0.952			BDL	0.161		0.122		0.197		0.733		0.359	
oxychlordane	4.154		0.397		0.340		0.318		0.945		0.759		0.645	
gamma chlordane	2.086			BDL		BDL		BDL		BDL	0.514		0.573	
alpha chlordane	6.367		0.490		0.269		0.261		0.485		0.926		0.962	
cis nonachlor	7.289		0.391		0.259		1.245		0.758		0.306			ND
trans nonachlor	33.826		2.433		1.653		4.610		5.662		2.816		1.657	
Total Chlordanes	54.959		3.779		2.680		6.649		8.103		6.356		4.323	
dieldrin	3.353			ND	0.030			BDL	0.049		0.510			ND
endrin	0.120			BDL		BDL		BDL		BDL		BDL		BDL
aldrin		BDL		BDL		BDL		BDL		BDL		BDL		BDL
endosulfan 1	0.111			BDL	0.187			BDL	0.358		0.777		0.171	
endosulfan II	1.194		0.164		0.146		0.077		0.196		0.173		0.175	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	241 F-2405	Data Label	242 F-2406	Data Label	244 F-2408	Data Label	245 F-2409	Data Label	0246R2 F-2410	Data Label	247 F-2411	Data Label	248 F-2412	Data Label
LIPID PERCENT (%)	0.37		0.36		0.84		1.18		1.02		0.38		0.35	
EXTRACTION MASS (wet wt/g)	2.034		2.053		2.007		2.024		2.004		2.022		2.033	
SURROGATE RECOVERY (%)														
PCB 14	89		86		91		92		141		66		85	
PCB 65	83		72		88		81		91		69		79	
PCB 166	82		72		89		82		99		67		78	
Concentrations (ng/g wet wt)														
TOTAL PCBs	21.3		34.3		144.0		112.2		46.3		22.2		35.4	
TOTAL DDXs	3.6		7.5		29.5		48.6		33.1		6.9		36.3	
TOTAL CHLORDANES	2.5		4.7		6.8		25.3		22.9		3.4		13.3	
1		BDL		BDL		BDL	0.408		3.736		0.212			BDL
3		BDL		BDL		BDL		BDL	0.330			BDL		BDL
4+10		BDL		BDL	0.082		0.621			BDL	0.116			BDL
7		BDL		BDL		BDL	0.070		0.045			BDL		BDL
8		BDL		BDL	0.035		0.305		0.813		0.040			BDL
8+5	0.222		0.239		0.331		2.564		0.290		0.385		0.543	
19		BDL		BDL		BDL	0.445		0.273		0.072			BDL
12+13		ND		BDL		BDL		ND		ND		BDL		BDL
18	0.109		0.116		0.149		0.533		1.079		0.162		0.185	
17	0.073		0.062		0.101		0.755		0.250		0.146		0.113	
24+27		BDL		BDL	0.144		0.290		0.496			BDL		BDL
16+32	0.180		0.114		0.148		0.906		0.117		0.231		0.190	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.064		0.034		0.036		0.287		0.220		0.086		0.073	
25	0.283			BDL	0.344		0.379			ND		BDL		BDL
31+28	0.378		0.241		0.265		1.765		0.418		0.528		0.486	
53+33+21	0.084		0.108		0.193		0.426		0.478		0.089		0.134	
22	0.399		0.257		0.244		0.909		0.828		0.388		0.490	
45	0.031		0.038		0.080		0.206		0.063		0.077		0.090	
46	0.022		0.032		0.262		0.127			ND	0.047		0.068	
52	0.860		0.813		0.507		2.653		0.979		0.814		0.794	
49	0.871		0.628		0.525		2.043		0.802		0.725		0.752	
47		BDL		BDL		BDL	2.593			BDL		BDL		BDL
48		BDL		BDL	0.405		0.491		3.104			BDL		BDL
44	0.427		0.497		0.342		1.560		0.389		0.490		0.586	
37+42	0.333		0.217		0.328		0.978		0.282		0.362		0.366	
41+71	0.733		0.530		0.525		1.178		0.161		0.501		0.451	
40	0.040		0.065		0.099		0.243		0.078		0.080		0.115	
100		BDL	0.027		0.124		0.178		0.055		0.038		0.040	
63	0.108		0.095		0.095		0.201		0.048		0.063		0.059	
74	0.806		0.810		0.864		1.689		0.637		0.615		0.521	
70+76	0.327		0.207		0.704		1.870		0.604		0.657		0.684	
66+95	2.484		2.997		3.167		7.291		0.955		2.156		2.490	
91	0.125		0.181		0.288		0.667		0.222		0.136		0.286	
56+60	1.162		1.101		1.216		2.726		1.220		1.197		1.288	
101	0.727		1.220		3.864		5.180		1.579		0.721		1.325	
99	0.460		0.949		3.148		3.801		1.017		0.478		0.846	
83	0.092		0.116		0.309		0.813		0.104		0.090		0.211	
97	0.205		0.351		1.034		1.447		0.367		0.230		0.390	
87+81	0.591		0.933		1.370		2.221		0.819		0.509		0.784	
85	0.337		0.605		1.292		1.666		0.390		0.276		0.477	
136	0.020		0.066		0.046		0.111		0.059		0.024		0.066	
77+110	1.295		1.867		3.324		5.634		2.007		0.877		1.737	
82	0.029		0.118		0.158		0.313		0.054		0.075		0.123	
151	0.126		0.324		0.968		0.782		0.322		0.133		0.355	
135+144	0.105		0.225		0.561		0.602		0.247		0.116		0.222	
107	0.094		0.178		0.699		0.609		0.147		0.074		0.152	
149	0.627		1.242		3.966		3.149		1.389		0.520		1.269	
118	0.783		1.621		6.031		5.808		1.475		0.747		1.291	
131	0.005		0.020		0.027		0.048		0.016		0.010		0.022	
146	0.216		0.530		3.577		1.587		0.575		0.226		0.506	
153+132+105	1.269		3.217		28.607		12.258		4.290		1.726		3.837	
141	0.026		0.080		1.107		0.054		0.064		0.016		0.054	
137+176	0.065		0.214		0.501		0.441		0.098		0.045		0.117	
163+138	1.268		3.360		20.171		11.176		3.753		1.371		3.061	
158	0.197		0.578		3.368		2.115		0.705		0.176		0.477	
129+178	0.063		0.152		0.643		0.231		0.149		0.060		0.127	
187+182	0.343		0.844		5.980		1.681		1.180		0.364		0.950	
183	0.182		0.381		3.291		0.938		0.439		0.184		0.434	
128	0.167		0.472		2.248		1.622		0.329		0.170		0.403	
185	0.022		0.058		0.283		0.120		0.086		0.031		0.062	
174	0.119		0.401		0.923		0.510		0.235		0.120		0.258	
177	0.070		0.308		0.664		0.398		0.171		0.106		0.191	
202+171	0.070		0.187		1.379		0.540		0.221		0.092		0.225	
157+200		ND		ND		ND		ND	0.045			ND		ND
172+197		BDL	0.142		1.126		0.352		0.121		0.098		0.121	
180	0.406		1.273		10.556		2.634		1.260		0.600		1.144	
193		BDL		BDL	0.497		0.360			BDL		BDL		BDL
191		BDL	0.025		0.250		0.087		0.058		0.016			BDL
199	0.010		0.022		0.017		0.019		0.029		0.012		0.016	
170+190	0.372		0.936		6.938		2.107		0.972		0.485		0.878	
201	0.184		0.484		2.978		0.839		0.660		0.218		0.501	
203+196	0.263		0.527		4.206		1.051		0.757		0.275		0.626	
189	0.044		0.080		0.849		0.238		0.140		0.058		0.075	
208+195	0.134		0.306		1.769		0.514		0.402		0.148		0.342	
207	0.013		0.020		0.177		0.031		0.030			BDL	0.028	
194	0.075		0.178		1.511		0.366		0.268		0.112		0.206	
205	0.017			BDL	0.124		0.027		0.028			BDL		BDL
206	0.081		0.180		1.512		0.350		0.344		0.129		0.285	
209	0.031		0.084		0.505		0.111		0.094		0.045		0.124	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	241 F-2405	Data Label	242 F-2406	Data Label	244 F-2408	Data Label	245 F-2409	Data Label	0246R2 F-2410	Data Label	247 F-2411	Data Label	248 F-2412	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	0.162		0.407		0.239		1.337		1.099		0.325		0.907	
ppDDE	0.979		2.124		17.664		16.774		15.694		2.127		7.693	
op ddt	1.420		3.519		10.280		23.210		7.168		2.521		18.674	
pp ddt	0.771		0.972		0.926		1.178		0.875		0.821		1.372	
o,p ddd		BDL		BDL	0.128		1.100		1.671		0.207		0.724	
p,p ddd	0.279		0.451		0.271		5.045		6.592		0.879		6.904	
Total DDXs	3.601		7.472		29.508		48.644		33.099		6.880		36.273	
alpha BHC		BDL		BDL	0.214		0.636			BDL	0.254		0.580	
beta BHC		BDL		BDL		BDL	0.343			BDL		BDL	0.216	
delta BHC	0.074		0.218		0.076		0.110		0.262		0.121			BDL
lindane	0.379		0.232		0.228		0.251		0.269		0.369		0.585	
heptaclor	0.109		0.153		0.079		0.951			BDL	0.118		0.361	
heptachlor epoxide	0.338		0.311		0.185		1.711		2.882		0.596		1.283	
oxychlordane	0.225		0.351		0.298		1.945		2.578		0.471		1.526	
gamma chlordane	0.452		0.796			BDL	1.901		2.837			BDL	1.307	
alpha chlordane	0.605		1.104		0.379		4.224		4.920		0.689		2.939	
cis nonachlor		ND		ND		ND		ND	0.588			ND		BDL
trans nonachlor	0.763		1.987		5.821		14.610		9.136		1.503		5.760	
Total Chlordanes	2.493		4.702		6.763		25.341		22.941		3.377		13.346	
dieldrin		ND		ND		ND	0.892		0.614			ND	0.605	
endrin		BDL		BDL		BDL		BDL	0.195		0.155			BDL
aldrin		BDL		BDL		BDL	0.307			BDL		BDL		BDL
endosulfan I	0.249		0.171		0.113		0.500		3.954		0.315		2.046	
endosulfan II	0.120		0.141		0.075		0.564		0.604		0.160		2.494	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	249 F-2413	Data Label	0250R F-2414	Data Label	251 F-2415	Data Label	252 F-2416	Data Label	253 F-2417	Data Label	254 F-2418	Data Label	255 F-2419	Data Label
LIPID PERCENT (%)	0.29		0.67		0.39		3.02		2.94		8.07		0.63	
EXTRACTION MASS (wet wt/g)	1.989		2.095		1.985		1.868		2.586		2.091		2.191	
SURROGATE RECOVERY (%)														
PCB 14	101		123		98		102		94		96		85	
PCB 65	92		92		89		85		86		92		88	
PCB 166	88		95		86		83		80		92		85	
Concentrations (ng/g wet wt)														
TOTAL PCBs	45.9		46.6		72.3		352.7		228.1		1192.8		34.2	
TOTAL DDXs	25.6		14.3		47.4		111.1		86.6		429.1		9.3	
TOTAL CHLORDANES	16.2		9.9		25.6		53.2		51.6		214.3		7.4	
1		ND	1.731			ND		ND	0.167		0.276			BDL
3	0.454			BDL		BDL		BDL	0.327		0.513		0.684	
4+10		ND	0.327			ND		BDL	0.117		0.287			BDL
7		BDL		BDL		BDL		BDL		BDL		BDL		BDL
6		BDL	0.854			ND		BDL	0.105		0.148		0.213	
8+5		BDL	0.841		0.214		1.012		1.350		2.906		0.231	
19	0.064		0.172		0.050		0.238		0.330		0.907			BDL
12+13	0.016			ND		BDL		BDL		BDL	0.034		0.022	
18		ND	0.570		0.115		1.058		1.251		3.778		0.279	
17		BDL	0.251		0.090		0.450		0.830		1.915		0.065	
24+27		BDL	0.284			BDL	0.322		0.417		1.242			ND
16+32	0.136		0.363		0.242		1.797		2.164		7.459		0.101	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	0.065		0.255		0.108		0.559		0.651		2.147		0.047	
25		BDL		ND		BDL	0.339		0.351		1.165			BDL
31+28	0.620		0.699		1.226		6.757		5.534		18.076		0.440	
53+33+21		BDL	0.444		0.207		0.942		1.147		3.308		0.170	
22	0.168		0.462		0.617		2.776		2.574		10.107		0.288	
45	0.050			ND	0.176		1.055		1.072		4.312		0.048	
46	0.032		0.072		0.032		0.184		0.254		0.865		0.042	
52	1.104		1.194		1.685		11.444		8.786		35.100		0.737	
49	1.605		1.101		2.288		10.641		7.326		32.115		0.563	
47		BDL	1.171		1.282		8.549		5.716		28.303			BDL
48		BDL	1.841			BDL	1.517		1.303		3.574		0.966	
44	0.741		0.631		1.048		11.642		7.954		35.488		0.536	
37+42	0.280		0.469		0.443		5.934		4.925		23.574		0.349	
41+71	0.319		0.526		0.637		8.072		5.320		26.047		0.336	
40	0.136		0.077		0.207		1.591		1.121		4.829		0.114	
100		ND	0.072		0.066			BDL	0.108		0.053			BDL
63	0.108		0.147		0.146		0.947		0.711		2.236		0.056	
74	0.561		0.973		0.978		9.671		5.472		31.053		0.487	
70+76	1.212		0.984		1.845		9.431		6.779		32.152		0.782	
66+95	3.844		1.866		5.506		37.496		22.709		118.762		2.802	
91	0.337		0.277		0.587		2.561		1.592		8.866		0.248	
56+60	1.371		1.428		1.899		13.865		8.772		48.710		0.736	
101	1.974		1.801		3.217		13.889		8.344		43.498		1.572	
99	1.007		1.034		1.768		10.371		5.638		35.759		0.863	
83	0.110		0.072		0.160		0.953		0.591		2.967		0.078	
97	0.568		0.505		0.862		5.112		2.951		15.878		0.451	
87+81	1.022		0.944		1.624		8.406		4.868		28.375		0.816	
85	0.516		0.587		0.804		5.649		3.076		17.506		0.426	
136	0.113		0.043		0.190		0.716		0.530		2.237		0.087	
77+110	2.861		2.221		4.703		21.057		12.571		71.667		2.038	
82	0.190		0.120		0.322		1.676		1.073		5.243		0.150	
151	0.436		0.298		0.784		2.561		1.667		8.252		0.444	
135+144	0.339		0.224		0.625		2.261		1.397		7.694		0.285	
107	0.212		0.170		0.429		1.664		0.978		5.494		0.206	
149	1.649		1.165		2.542		7.411		5.128		27.777		1.058	
118	1.438		1.777		2.459		12.369		7.193		44.209		1.111	
131	0.026		0.016		0.044		0.172		0.112		0.621		0.020	
146	0.562		0.495		0.878		3.392		2.175		12.505		0.466	
153+132+105	4.652		4.146		7.928		27.489		16.613		90.829		3.677	
141	0.066		0.047		0.177		0.704		0.383		1.768		0.062	
137+176	0.137		0.153		0.255		1.169		0.611		3.863		0.172	
163+138	3.795		3.568		6.398		24.503		14.414		87.407		2.897	
158	0.503		0.699		0.971		4.149		2.315		15.387		0.398	
129+178	0.136		0.099		0.222		0.895		0.464		2.392		0.105	
187+182	0.883		0.772		1.479		4.503		3.149		19.434		0.580	
183	0.559		0.392		0.725		2.512		1.392		8.379		0.296	
128	0.497		0.385		0.986		4.020		2.382		16.644		0.490	
185	0.065		0.090		0.114		0.425		0.240		1.199		0.055	
174	0.366		0.151		0.577		1.636		1.050		7.098		0.244	
177	0.272		0.141		0.461		1.945		1.043		5.616		0.179	
202+171	0.274		0.185		0.302		0.742		0.565		2.848		0.205	
157+200	0.128		0.033		0.186		1.268		0.570		3.409		0.068	
172+197	0.222		0.104		0.313		1.292		0.661		4.143		0.105	
180	1.904		1.086		2.314		7.907		4.835		30.849		1.058	
193	0.884			BDL	0.443		1.412		0.595		2.450			BDL
191	0.068		0.028		0.139		0.385		0.147		1.171		0.016	
199	0.032		0.017		0.021		0.052		0.028		0.160			BDL
170+190	0.708		0.930		1.575		5.330		3.247		20.583		0.561	
201	0.646		0.481		0.860		2.794		1.842		12.645		0.342	
203+196	0.722		0.617		1.100		3.523		2.229		13.008		0.409	
189	0.254		0.102		0.021		0.083		0.039		0.163		0.031	
208+195	0.827		0.318		0.702		2.184		1.402		7.426		0.317	
207	0.082		0.030		0.069		0.206		0.079		0.596		0.018	
194	0.242		0.215		0.316		1.326		0.809		5.083		0.137	
205	0.073			ND	0.035		0.124		0.067		0.312		0.040	
206	0.618		0.231		0.391		1.589		1.250		6.549		0.137	
209	0.064		0.052		0.042		0.166		0.126		0.590		0.024	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	249 F-2413	Data Label	0250R F-2414	Data Label	251 F-2415	Data Label	252 F-2416	Data Label	253 F-2417	Data Label	254 F-2418	Data Label	255 F-2419	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	1.096		0.572		1.713		5.758		4.624		19.022		0.684	
ppDDE	12.564		6.133		25.707		72.190		49.447		305.020		4.853	
op ddt	4.745		3.761		7.683		18.615		12.158		48.605		2.692	
pp ddt		BDL		BDL	0.622			BDL		BDL	1.203			BDL
o,p ddd	1.565		0.682		2.411		2.734		3.561		10.043			ND
p,p ddd	5.518		3.128		9.239		11.846		16.793		45.169		1.031	
Total DDXs	25.487		14.275		47.375		111.143		86.604		429.063		9.260	
alpha BHC		BDL		BDL		BDL		BDL	0.147		0.333			BDL
beta BHC		ND		ND		ND		ND		ND		BDL		ND
delta BHC		ND	0.165		0.116			BDL	0.149		0.268		0.070	
lindane		ND		ND		BDL		ND		ND		ND		ND
heptaclor	0.207		0.072		0.333		1.467		1.561		5.374		0.113	
heptachlor epoxide	1.014		1.131		1.413		3.383		3.605		11.241		0.825	
oxychlordane	1.446		1.141		2.470		3.172		2.834		10.588		0.799	
gamma chlordane	3.146		1.118		4.578		8.211		8.659		34.357		0.648	
alpha chlordane	5.038		2.087		7.149		11.624		13.233		51.938		0.948	
cis nonachlor	0.126			ND	0.498		2.692		1.588		9.190		0.245	
trans nonachlor	5.184		4.380		9.139		22.635		20.144		91.576		3.832	
Total Chlordanes	16.161		9.928		25.580		53.183		51.625		214.264		7.410	
dieldrin	0.283		0.337		0.435		1.016		1.352		4.390		0.208	
endrin		ND	0.094			BDL		BDL		BDL	0.208			BDL
aldrin		BDL		BDL		BDL		BDL	0.323		0.643			BDL
endosulfan 1	3.495		0.496		5.176		1.396		1.710		6.083		0.837	
endosulfan II	0.216		0.151		0.419		0.607		0.596		2.205		0.129	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	256 F-2420	Data Label	257 F-2421	Data Label	258 F-2422	Data Label	259 F-2423	Data Label	260 F-2424	Data Label	261 F-2425	Data Label	262 F-2426	Data Label
LIPID PERCENT (%)	1.31		1.56		1.17		0.24		0.52		0.70		3.85	
EXTRACTION MASS (wet wt/g)	2.876		2.313		2.0858		2.184		2.3694		2.1388		2.2465	
SURROGATE RECOVERY (%)														
PCB 14	96		104		98		93		99		93		119	
PCB 65	94		98		100		93		97		98		99	
PCB 166	88		96		92		91		94		93		98	
Concentrations (ng/g wet wt)														
TOTAL PCBs	390.7		706.5		346.4		452.5		93.1		65.3		414.3	
TOTAL DDXs	134.8		203.7		77.1		169.8		22.7		17.8		526.3	
TOTAL CHLORDANES	106.0		140.4		51.0		60.4		11.5		11.0		211.2	
1		BDL		BDL		BDL		BDL		BDL		BDL	0.316	
3	0.343			BDL	0.355			BDL	0.367			BDL	0.624	
4+10	0.345		0.402		0.219			BDL		BDL		BDL	0.076	
7	0.052		0.048			BDL		BDL		BDL		BDL	0.080	
8	0.201		0.254		0.149		0.043		0.026			BDL	0.109	
8+5	1.732		2.097		1.302		0.376		0.174		0.197		1.441	
19	0.663		0.743		0.477		0.081			BDL		BDL	0.082	
12+13	0.017			BDL		BDL	0.022			BDL		BDL	0.114	
18	2.716		3.777		2.597		0.105		0.179		0.125		1.187	
17	3.126		3.817		2.307		0.075		0.111		0.077		0.445	
24+27	0.906		1.140		0.703			BDL		BDL		BDL	0.157	
16+32	4.917		6.085		3.653		0.122		0.176		0.148		1.662	
29		BDL		BDL		BDL		BDL		BDL		BDL		BDL
26	2.300		3.125		1.763		0.061		0.082		0.069		0.683	
25	1.495		2.121		1.339			BDL		BDL		BDL	0.271	
31+28	12.795		20.789		12.028		0.356		0.983		0.884		5.104	
53+33+21	2.045		3.080		1.289		0.240		0.199		0.136		1.875	
22	5.987		7.544		4.274		0.586		0.497		0.358		2.934	
45	0.604		1.502		0.961		0.081		0.113		0.073		0.361	
46	0.706		1.000		0.617		0.075		0.031		0.029		0.192	
52	13.323		19.965		12.639		2.769		1.708		1.312		8.886	
49	12.466		19.631		11.840		0.568		1.303		1.084		8.005	
47	18.468		32.864		14.847		17.965		1.250			BDL	5.749	
48	2.866		2.910		2.809		0.799		0.279		0.320		0.596	
44	11.411		16.674		9.805		0.864		1.186		0.816		7.008	
37+42	6.485		9.724		5.707		0.836		0.722		0.565		4.288	
41+71	7.707		12.406		6.709		3.052		0.891		0.638		4.442	
40	2.270		3.509		1.785		0.114		0.227		0.136		1.126	
100	2.901		5.162		2.040		3.152		0.104		0.078			ND
63	1.200		1.822		1.134		0.318		0.145		0.108		0.546	
74	7.328		12.551		7.281		1.612		1.066		0.912		5.084	
70+76	12.545		22.740		13.080		0.329		1.883		1.408		7.341	
66+95	36.039		58.546		16.421		2.206		5.945		4.522		28.275	
91	2.858		4.477		2.286		0.756		0.529		0.368		3.028	
56+60	10.812		18.435		11.792		2.590		1.531		1.204		11.630	
101	12.908		21.526		12.374		5.660		3.909		3.108		14.279	
99	7.562		12.699		7.253		12.874		2.148		1.759		8.886	
83	0.697		1.165		0.693		0.208		0.207		0.134		1.250	
97	3.557		6.367		3.796		1.387		1.101		0.830		4.479	
87+81	5.987		10.513		5.964		0.914		1.816		1.478		7.972	
85	4.016		6.722		3.963		5.705		1.020		0.793		4.366	
136	1.142		2.097		0.916		0.118		0.202		0.122			ND
77+110	19.215		31.831		16.567		19.850		4.939		3.681		23.387	
82	1.389		2.289		1.347		0.240		0.384		0.257		1.064	
151	5.393		10.019		4.038		0.437		1.248		0.856		3.639	
135+144	2.971		5.424		2.231		1.013		0.749		0.523			ND
107	2.188		3.998		1.748		2.079		0.563		0.402		2.151	
149	8.559		16.283		8.009		8.461		2.765		1.930		12.174	
118	7.904		14.406		8.152		18.041		3.125		2.594		14.924	
131	0.193		0.296		0.119		0.240		0.052		0.031		0.268	
146	3.540		7.003		3.257		9.742		1.527		1.082		6.189	
153+132+105	26.053		50.575		26.102		71.103		11.442		8.315		45.081	
141	0.959		1.974		0.635		0.383		0.178		0.116		0.958	
137+176	1.175		2.010		0.812		2.089		0.452		0.354		2.249	
163+138	20.133		39.398		20.320		54.987		8.811		6.542		38.262	
158	3.430		6.731		3.192		9.617		1.317		1.007		7.757	
129+178	1.790		4.013		1.154		4.797		0.407		0.473		1.411	
187+182	6.182		13.426		5.769		17.656		2.378		1.483		10.032	
183	4.024		8.876		3.474		11.417		1.298		0.813		4.687	
128	2.770		5.807		3.114		9.543		1.506		1.053		7.268	
185	0.845		1.469		0.493		0.186		0.166		0.102		0.605	
174	2.641		6.973		2.454		2.712		0.737		0.463		3.231	
177	1.961		4.415		1.685		6.620		0.681		0.450		2.600	
202+171	2.587		5.692		2.491		7.640		0.690		0.384		2.007	
157+200	0.781		1.726		0.696		2.414		0.408		0.078			ND
172+197	1.653		4.055		1.573		5.041		0.606		0.312		2.927	
180	12.413		32.078		12.098		37.238		4.447		2.739		18.211	
193	1.628		3.960		1.602		5.438			ND		BDL	2.381	
191	0.453		0.919		0.355		1.000		0.106		0.085		0.479	
199	0.046		0.090		0.039		0.015		0.011			BDL	0.068	
170+190	7.982		20.658		7.498		23.765		2.943		1.835		13.010	
201	3.417		9.195		3.598		11.938		1.689		0.924		7.165	
203+196	4.614		12.825		5.055		16.934		2.108		1.149		9.442	
189	0.040		0.129		0.049		0.114		0.030			BDL	0.215	
208+195	2.366		6.823		2.778		9.371		1.201		0.639		6.015	
207	0.127		0.397		0.208		0.619		0.085		0.045		0.411	
194	1.770		5.569		1.907		5.991		0.792		0.402		3.661	
205	0.063		0.302		0.112		0.270		0.032		0.022		0.278	
206	1.445		4.212		2.196		6.678		0.941		0.477		4.871	
209	0.161		0.459		0.305		0.877		0.143		0.074		0.509	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	256 F-2420	Data Label	257 F-2421	Data Label	258 F-2422	Data Label	259 F-2423	Data Label	260 F-2424	Data Label	261 F-2425	Data Label	262 F-2426	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	8.137		11.407		5.579		1.256		1.211		0.865		12.053	
ppDDE	70.709		114.764		41.243		128.489		13.527		10.576		388.726	
op ddt	18.349		27.384		11.812		24.802		5.275		4.438		44.321	
pp ddt	0.854		1.054			BDL	0.561			BDL		BDL	1.733	
o,p ddd	6.048		7.239		2.914		0.166		0.242		0.141		14.873	
p,p ddd	30.688		41.892		15.561		14.499		2.408		1.798		65.588	
Total DDXs	134.785		203.741		77.110		169.774		22.663		17.817		528.294	
alpha BHC	0.214		0.241			BDL		BDL		BDL		BDL	0.359	
beta BHC		ND		BDL		BDL		BDL		BDL		BDL	0.286	
delta BHC	0.087		0.145			BDL	0.157			BDL	0.092		0.291	
lindane	0.636		0.474		0.501		0.179		0.177		0.221		0.689	
heptaclor	12.838		17.658		6.503		0.276		0.131		0.098		2.649	
heptachlor epoxide	6.424		5.104		2.102		0.990		0.853		0.712		12.577	
oxychlordane	6.132		7.298		3.662		3.926		1.442		1.591		10.218	
gamma chlordane	12.435		12.145		4.738		1.107		0.719		0.648		40.736	
alpha chlordane	26.788		32.317		10.936		9.241		1.706		1.041		67.182	
cis nonachlor	2.638		4.262		0.336		0.900		0.115			BDL	4.571	
trans nonachlor	38.783		61.598		22.731		44.004		6.560		6.929		73.284	
Total Chlordanes	106.038		140.383		51.009		60.445		11.526		11.014		211.217	
dieldrin	3.261		2.427		0.852		0.492		0.277		0.221		3.549	
endrin	0.064			BDL		BDL		BDL		BDL	0.152		0.266	
aldrin	0.465		0.442		0.313			BDL		BDL		BDL	0.719	
endosulfan I	0.459		0.385		0.223			BDL	0.875		0.691		10.596	
endosulfan II	1.169		1.539		0.688		1.563		0.290		0.664		1.561	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	263 F-2427	Data Label	264 F-2428	Data Label	265 F-2429	Data Label	266 F-2430	Data Label	267 F-2431	Data Label	268 F-2432	Data Label	269 F-2433	Data Label
LIPID PERCENT (%)	1.30		4.75		2.23		1.29		1.24		2.07		1.63	
EXTRACTION MASS (wet wt/g)	2.3855		2.0171		2.4349		2.4522		2.1622		2.008		2.196	
SURROGATE RECOVERY (%)														
PCB 14	99		121		104		98		106		98		106	
PCB 65	103		102		94		95		96		97		94	
PCB 166	100		99		94		90		91		92		91	
Concentrations (ng/g wet wt)														
TOTAL PCBs	146.8		419.5		128.5		65.3		128.4		101.7		459.5	
TOTAL DDXs	171.1		480.4		50.3		196.2		397.7		340.2		98.7	
TOTAL CHLORDANES	83.6		289.7		47.1		6.2		9.8		11.0		47.6	
1	0.528		0.489			ND		ND		ND		ND		ND
3	0.348			BDL		ND		ND		ND		ND		ND
4+10		BDL		BDL		ND		ND		ND		BDL	0.208	
7		BDL		BDL		BDL		BDL		BDL		BDL		BDL
8	0.053		0.101		0.091			BDL	0.155		0.069		0.122	
8+5	0.498		1.539			ND		BDL	0.166		0.332		1.342	
19	0.094		0.120			ND	0.032		0.137		0.036		0.432	
12+13	0.056			ND		ND		ND		ND	0.026		0.018	
18	0.505		1.498		0.089		0.360		0.600		0.753		2.933	
17	0.225		0.700		0.066		0.140		0.199		0.260		1.848	
24+27		BDL	0.176			BDL		ND		ND		BDL	0.690	
16+32	0.590		1.988		0.137		0.285		0.378		0.557		3.559	
29		BDL	0.396			ND	0.087		0.115			BDL		ND
26	0.282		0.966		0.184		0.278		0.339		0.355		1.465	
25	0.226		0.703			BDL		BDL	0.283			BDL	0.928	
31+28	2.451		6.480		2.121		2.013		3.085		3.946		10.084	
53+33+21	0.290			ND	0.380		0.543		0.730		1.072		4.972	
22	2.706			ND	0.804		0.602		1.326		1.266		3.170	
45		ND		ND		ND	0.222		0.288		0.350		0.774	
46	0.116		0.404		0.037		0.045		0.041		0.096		0.451	
52	3.146		10.416		3.729		1.632		2.886		2.892		10.864	
49	2.641		10.100		2.725		1.057		1.964		2.054		10.365	
47		BDL	5.030			BDL		BDL	1.752		1.799		12.748	
48		ND	0.823		0.326		0.417		0.761		0.573		1.556	
44	2.382		7.662		3.124		1.085		2.222		2.150		8.430	
37+42	1.108		4.499		1.094		0.615		1.146		1.184		4.887	
41+71	1.321		5.867		1.488		0.370		1.309		1.259		6.071	
40	0.597		1.623		0.526		0.163		0.324		0.337		1.360	
100		ND		ND		ND	0.077		0.140		0.142		0.848	
63	0.355		0.703		0.277		0.099		0.221		0.202		0.886	
74	1.839		5.402		1.998		1.052		1.786		1.668		5.830	
70+76	3.100		10.256		3.742		2.380		4.136		4.259		8.972	
66+95	10.702		6.920			ND	4.436		8.437		3.246		13.118	
91	1.191		3.219		0.606		0.224		0.483		0.452		1.760	
56+60	4.883		14.194		2.826		7.706		15.992		14.692		9.096	
101	5.729		16.953		5.892		2.222		4.422		3.581		13.158	
99	3.409		8.168		3.128		1.213		2.374		1.731		7.991	
83	1.229		1.129		0.322		0.293		0.578		0.536		0.633	
97	1.713		4.677		1.678		0.545		1.043		0.878		3.719	
87+81	3.101		9.444		3.041		1.039		2.020		1.851		5.754	
85	1.509		4.331		0.795		0.719			ND	0.989		3.581	
136	0.455		1.773		0.415		0.086		0.098		0.166		0.851	
77+110	8.776		27.131		8.804		2.446		5.309		4.650		14.795	
82	0.643		1.795		0.544		0.148		0.379		0.380		1.053	
151	1.700		7.070		1.681		0.594		1.197		0.951		3.618	
135+144	1.220		3.309		1.239		0.418		0.813		0.663		2.227	
107	0.695		2.160		0.752		0.342		0.566		0.375		1.766	
149	4.290		18.274		5.336		1.648		3.294		2.618		9.962	
118	4.879		15.591		5.514		2.107		4.077		2.813		11.979	
131	0.092		0.242		0.102		0.044		0.056		0.050		0.142	
146	1.912		6.147		2.022		0.828		1.584		1.021		6.056	
153+132+105	14.477		45.638		15.802		6.491		13.646		8.946		54.886	
141	0.311		1.121		0.448		0.156		0.132		0.223		1.199	
137+176	0.528		1.791		0.672		0.169		0.325		0.314		1.482	
163+138	12.773		42.316		13.308		4.575		9.659		6.371		35.080	
158	2.351		5.813		1.600		0.672		1.304		0.905		5.410	
129+178	0.545		1.729		0.653		0.266		0.659		0.392		1.981	
187+182	3.170		16.806		3.474		1.383		2.673		1.659		12.991	
183	1.527		4.158		1.748		0.727		1.530		0.990		7.511	
128	2.648		4.160		1.354		0.459		0.871		0.596		2.765	
185	0.366		0.865		0.312		0.217		0.133		0.154		0.862	
174	0.994		3.890		1.507		0.427		0.789		0.691		3.632	
177	1.112		3.753		1.421		0.448		0.737		0.587		3.392	
202+171	0.848		2.209			ND	0.732		0.917		0.996		2.462	
157+200		ND	0.517		0.622		0.210		0.298		0.095		1.229	
172+197	0.753		1.758		0.630		0.280		0.587		0.334		2.936	
180	4.728		13.763		5.021		2.203		4.694		2.964		31.394	
193	0.648			ND		ND		ND	0.322			ND	3.385	
191	0.269		0.446		0.163		0.061		0.098		0.085		0.617	
199	0.029		0.245		0.099		0.026		0.038		0.040		0.268	
170+190	4.101		10.070		3.672		1.469		2.714		1.876		16.711	
201	2.318		7.603		1.928		0.860		1.693		1.067		9.323	
203+196	3.030		7.055		2.255		1.063		2.161		1.301		14.049	
189	0.069		1.164		0.403		0.248		0.501		0.247		1.726	
208+195	1.678		3.677		1.428		0.545		0.985		0.621		8.526	
207	0.144		0.736		0.105		0.044		0.117		0.054		0.718	
194	1.121		2.679		0.864		0.381		0.683		0.425		6.118	
205	0.279		0.666		0.094		0.059		0.254		0.042		0.302	
206	1.931		3.639		0.911		0.462		0.543		0.409		8.638	
209	0.238		0.740		0.279		0.059		0.087		0.071		2.889	

Appendix II.ii. Cont'd. **Summary of PCB and OCP Concentrations**

CHEM ID Fish-number	263 F-2427	Data Label	264 F-2428	Data Label	265 F-2429	Data Label	266 F-2430	Data Label	267 F-2431	Data Label	268 F-2432	Data Label	269 F-2433	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	5.649		16.586		3.281		0.983		1.930		2.192		4.863	
ppDDE	114.212		289.696		26.442		163.083		338.003		273.328		56.890	
op ddt	18.916		87.891		13.932		1.673		2.884		2.780		8.552	
pp ddt		BDL	1.541			BDL	2.828		4.447		5.808			BDL
o,p ddd	6.200		20.876		0.811		3.160		6.616		8.292		6.069	
p,p ddd	26.151		83.591		5.884		24.432		43.786		47.761		22.313	
Total DDXs	171.128		480.380		50.350		196.159		397.666		340.160		98.688	
alpha BHC	0.201		0.493		0.271			BDL		BDL		BDL		BDL
beta BHC	0.196		0.548		0.172			BDL		BDL		BDL	0.216	
delta BHC	0.131		0.331		0.254		0.096		0.106			BDL	0.114	
lindane	0.476		1.130		0.167			BDL	0.161			BDL	0.638	
heptachlor	1.158		3.761		0.289			ND	0.086		0.157		5.541	
heptachlor epoxide	4.953		17.056		4.932		0.345		0.347		0.676		2.802	
oxychlordane	4.050		13.545		3.255		0.752		1.063		1.026		1.669	
gamma chlordane	16.700		67.152		10.813		0.756		1.133		1.373		9.978	
alpha chlordane	23.101		95.852		15.276		0.932		1.467		2.140		14.608	
cis nonachlor	1.281		4.240			ND	0.926		0.914		1.685			ND
trans nonachlor	32.367		88.079		12.547		2.523		4.759		3.911		13.039	
Total Chlordanes	83.600		289.684		47.111		6.235		9.769		10.968		47.638	
dieldrin	1.441		5.475		0.691		0.200		0.567		0.505		0.847	
endrin	0.080		0.116		0.174			ND		ND		BDL		BDL
aldrin	0.405		1.005		0.224			BDL		BDL		ND		BDL
endosulfan I	4.473		22.694		0.892		0.752		0.762		1.194		0.159	
endosulfan II	0.817		2.249		0.957		0.167		0.211		0.282		0.482	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	270 F-2434	Data Label	271 F-2435	Data Label	272 F-2036	Data Label	273 F-2037	Data Label	274 F-2038	Data Label	275 F-2039	Data Label	276 F-2040	Data Label
LIPID PERCENT (%)	0.82		0.82		0.67		6.54		6.06		6.79		4.37	
EXTRACTION MASS (wet wt/g)	2.028		2.01		2.019667		2.022		2.021		2.015		2.025	
SURROGATE RECOVERY (%)														
PCB 14	94		102		99		98		103		82		89	
PCB 65	93		96		94		94		90		87		95	
PCB 166	86		90		56		90		92		95		94	
Concentrations (ng/g wet wt)														
TOTAL PCBs	24.1		15.1		18.6		381.5		703.5		405.9		229.1	
TOTAL DDXs	9.0		5.9		4.7		1280.1		220.0		687.8		700.3	
TOTAL CHLORDANES	2.5		1.5		1.3		34.9		131.3		29.3		19.1	
1		ND		ND		ND		ND		ND		ND		ND
3		ND		BDL		ND		ND		ND		BDL		BDL
4+10		BDL		BDL		BDL		ND		BDL		BDL		BDL
7		BDL		BDL		BDL	0.084			BDL		BDL		BDL
6		ND		ND		BDL	0.276		0.028		0.084			BDL
8+5		ND		ND		ND	3.225		0.686		1.368		0.393	
19		BDL		BDL		BDL	0.170			BDL	0.127		0.036	
12+13		ND		ND		ND	0.550			ND		BDL		BDL
18		ND		ND		BDL	3.667		1.631		2.952		1.338	
17		BDL		ND		BDL	1.396		0.503		1.167		0.270	
24+27		BDL		BDL		BDL	0.232		0.234		0.265			BDL
16+32		BDL		BDL		BDL	2.617		1.541		2.427		0.737	
29		BDL		BDL		BDL	1.055			BDL		BDL		BDL
26	0.033		0.025			BDL	1.154		0.412		1.291		0.582	
25		BDL		BDL		BDL	0.611		0.268		0.912		0.360	
31+28	0.374		0.264		0.333		15.434		7.805		11.767		6.741	
53+33+21	0.084			ND		BDL	4.020		1.038		3.389		1.287	
22	0.291		0.315		0.290		4.469		3.419		4.833		1.885	
45	0.049			ND		BDL	1.052		0.692		0.726		0.475	
46		ND		BDL		BDL	0.304		0.130		0.232		0.104	
52	0.539		0.207		0.432		8.205		13.022		6.902		4.898	
49	0.400		0.224		0.365		6.064		11.218		5.554		3.356	
47		BDL		BDL		BDL	4.604		8.180		4.431		2.723	
48		BDL		BDL		BDL	1.037		2.187		0.867		0.588	
44	0.234		0.085		0.250		7.401		10.979		6.186		5.234	
37+42	0.132			BDL	0.152		3.101		6.430		3.344		1.768	
41+71		ND		ND		BDL	3.200		8.261		3.771		2.275	
40	0.026			BDL	0.035		1.218		1.689		0.958		0.514	
100		BDL	0.025			BDL	0.246			ND	0.201		0.201	
63	0.044		0.027		0.054		0.678		0.741		0.451		0.339	
74	0.236		0.167		0.177		5.063		9.137		4.042		3.278	
70+76	0.609		0.355		0.496		12.733		13.429		10.928		7.990	
66+95	1.535		0.459		0.946		9.580		18.797		8.020		7.535	
91	0.098		0.070		0.087		1.313		3.063		1.049		0.819	
56+60	1.300		0.883		0.964		47.572		11.563		31.370		28.144	
101	0.877		0.613		0.659		10.840		26.218		9.616		7.280	
99	0.364		0.266		0.267		6.451		19.218		4.651		3.996	
83	0.038		0.035		0.036		1.834		1.546		1.387		0.989	
97	0.198		0.150		0.154		2.957		7.944		2.706		1.999	
87+81	0.587		0.452		0.499		5.540		13.899		5.175		4.004	
85	0.262		0.175		0.173			ND	7.870			ND		ND
136	0.084		0.042		0.063		0.805		1.613		0.557		0.451	
77+110	1.157		0.464		0.913		12.696		31.115		10.661		9.232	
82	0.081		0.036		0.078		0.947		2.445		1.374		0.649	
151	0.321		0.230		0.241		4.191		7.898		3.316		2.233	
135+144	0.168		0.117		0.135		2.637		4.915		1.875		1.488	
107	0.098		0.069		0.078		1.409		3.477		1.090		1.015	
149	0.879		0.507		0.680		7.964		20.523		7.574		5.584	
118	0.557		0.425		0.443		11.176		30.279		11.192		8.000	
131	0.013		0.010		0.012		0.116		0.417		0.271		0.096	
146	0.353		0.258		0.274		4.213		12.001		4.414		2.904	
153+132+105	2.884		2.047		2.051		33.393		95.055		34.549		23.917	
141	0.119		0.072		0.089		1.415		2.289		0.994		0.672	
137+176	0.107		0.086		0.096		1.378		3.766		1.427		0.912	
163+138	1.890		1.343		1.409		27.594		76.569		27.572		19.050	
158	0.266		0.202		0.224		4.547		11.968		3.912		2.635	
129+178	0.213		0.142		0.166		1.652		3.059		1.286		1.422	
187+182	0.767		0.523		0.567		9.462		19.592		8.848		5.331	
183	0.433		0.307		0.336		4.757		9.670		3.707		2.343	
128	0.166		0.120		0.127		3.222		5.334		2.747		1.615	
185	0.091		0.079		0.080		0.663		1.327		0.586		0.376	
174	0.256		0.122		0.177		2.807		6.223		2.326		1.546	
177	0.273		0.191		0.198		4.491		7.710		3.124		2.068	
202+171	0.288		0.180		0.199		5.443		3.795		2.223		1.335	
157+200	0.110		0.085		0.073		1.813		1.243		0.423		0.854	
172+197	0.172			BDL	0.100		2.564		4.107		1.314		1.050	
180	1.075		0.657		0.819			ND	36.636		16.076		9.215	
193		ND		BDL		BDL		ND	4.185			ND		ND
191	0.053			BDL	0.019		0.974		0.735		0.524		0.253	
199	0.018		0.015		0.016		0.443		0.376		0.394		0.121	
170+190	0.842		0.617		0.759		12.990		25.135		13.141		6.239	
201	0.483		0.341		0.420		6.733		12.353		6.346		3.295	
203+196	0.631		0.436		0.519		8.415		15.150		7.397		4.089	
189	0.116		0.053		0.093		5.665		2.204			ND	0.805	
208+195	0.337		0.210		0.300		5.688		8.808		30.231		2.180	
207	0.031		0.019		0.024		0.586		0.627		0.644		0.143	
194	0.219		0.160		0.211		3.414		6.054		43.939		1.531	
205	0.078		0.016		0.018		0.583		0.331		5.957		0.159	
206	0.158		0.112		0.138		3.795		5.968			ND	1.801	
209	0.030		0.029		0.032		0.843		1.758		1.177		0.345	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	270 F-2434	Data Label	271 F-2435	Data Label	272 F-2036	Data Label	273 F-2037	Data Label	274 F-2038	Data Label	275 F-2039	Data Label	276 F-2040	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	0.232		0.134		0.194		6.009		9.516		4.712		3.231	
ppDDE	4.792		2.910		2.263		1033.428		152.730		706.392		565.096	
op ddt	0.920		0.618		0.522		8.556		33.114		7.667		4.920	
pp ddt		BDL		BDL		BDL	3.108		0.861		2.326		2.163	
o,p ddd	0.156		0.117			BDL	27.278		3.195		20.550		15.126	
p,p ddd	2.941		2.124		1.670		201.706		20.617		146.153		109.730	
Total DDXs	9.042		5.903		4.686		1260.085		220.033		887.801		700.266	
alpha BHC		BDL		BDL		BDL	0.198		0.211			BDL		BDL
beta BHC		BDL		BDL		BDL		BDL		BDL		BDL		BDL
delta BHC		BDL		BDL		BDL	0.090			BDL	0.137		0.089	
lindane		ND		ND		BDL		BDL	0.223			ND		BDL
heptaclor		BDL		ND		BDL	1.080		1.414		0.996		0.227	
heptachlor epoxide		BDL	0.134			BDL	1.777		8.651		1.404		1.059	
oxychlordane	0.457		0.301		0.271		2.139		6.299		1.388		1.253	
gamma chlordane	0.346			BDL		BDL	7.166		23.509		6.371		3.086	
alpha chlordane	0.362		0.200		0.216		9.172		37.456		6.880		4.716	
cis nonachlor		ND		ND		ND	2.400		5.917		4.291		1.982	
trans nonachlor	1.289		0.846		0.581		11.186		48.048		8.013		6.160	
Total Chlordanes	2.454		1.480		1.336		34.919		131.293		29.344		19.084	
dieldrin		ND		ND		ND	0.230		0.834		0.296		0.143	
endrin		BDL		BDL		BDL		BDL		ND		BDL		BDL
aldrin		ND		ND		BDL		BDL		BDL		BDL		BDL
endosulfan I		BDL		BDL		BDL	3.676		3.941		3.468		1.800	
endosulfan II	0.115			BDL	0.082		0.293		1.181		0.365		0.273	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	277 F-2041	Data Label	278 F-2042	Data Label	279 F-2043	Data Label	281 F-2045	Data Label	282 F-2046	Data Label	283 F-2047	Data Label	284 F-2048	Data Label
LIPID PERCENT (%)	1.04		1.04		5.81		1.73		6.15		1.35		11.08	
EXTRACTION MASS (wet wt/g)	2.078		2.022		2.054		2.044667		2.011		2.079		2.07	
SURROGATE RECOVERY (%)														
PCB 14	100		99		90		99		105		101		125	
PCB 65	93		87		83		96		95		99		97	
PCB 166	91		85		84		93		92		96		99	
Concentrations (ng/g wet wt)														
TOTAL PCBs	326.1		64.7		154.8		179.8		254.4		111.4		1589.6	
TOTAL DDXs	69.5		32.0		97.9		87.9		182.3		54.9		658.7	
TOTAL CHLORDANES	34.4		4.2		22.1		13.1		40.1		9.7		444.4	
1	0.236		0.470			ND		ND		BDL		ND		ND
3		ND		ND		BDL		BDL		BDL		ND		ND
4+10		BDL	0.550			BDL		BDL		BDL		BDL	0.340	
7		BDL		BDL		BDL		BDL		BDL		BDL		BDL
6		ND	0.250			BDL		BDL		BDL		ND		BDL
8+5		ND		ND	0.374			BDL	0.375			ND	0.883	
19	0.051			BDL		BDL		BDL	0.034			BDL	0.179	
12+13		ND		ND		BDL		BDL	0.016			ND	0.019	
18		BDL	0.210		0.564		0.322		0.776		0.150		0.482	
17	0.056			ND	0.164		0.139		0.204		0.060		0.232	
24+27		BDL		ND		BDL		BDL		BDL		BDL		BDL
16+32	0.441			BDL	0.668		0.289		0.629		0.141		1.218	
29		BDL		BDL		ND		BDL		BDL		BDL		BDL
26	0.487		0.054		0.041		0.122		0.072		0.133		2.967	
25		BDL		BDL		BDL		BDL		BDL		BDL	0.303	
31+28	2.724		0.155		2.765		1.573		4.097		1.159		16.494	
53+33+21		BDL		BDL	0.459		0.221		0.641		0.238			ND
22	2.155		0.221		1.287		0.850		2.171		0.445		11.880	
45	0.158		0.036		0.257		0.197		0.368		0.114		0.590	
46	0.234		0.044		0.038			BDL		ND	0.093		0.359	
52	7.914		0.723		3.558		2.554		5.293		1.709		62.417	
49	3.365		0.766		2.266		1.703		4.170		1.177		15.824	
47	9.674			BDL	1.591		1.491		3.378			BDL	81.230	
48	0.886		0.940		0.514		0.424		0.596		0.552		5.084	
44	4.432		0.368		2.975		2.032		4.491		1.240		26.862	
37+42	2.408		0.129		1.631		1.074		1.677		0.754		18.860	
41+71	4.089			BDL	2.151		1.261		3.189		0.866		36.235	
40	0.444		0.073		0.697		0.383		0.379		0.221		2.400	
100	0.914		0.035			ND	0.120			ND	0.127		6.254	
63	0.537		0.066		0.082		0.247		0.151		0.193		4.024	
74	3.782		0.500		1.791		1.806		3.401		1.142		30.166	
70+76	0.863		0.639		4.751		3.152		8.082		2.429		5.508	
66+95	14.509		1.258		4.906		4.333		7.702		3.223		111.884	
91	0.956		0.124		0.618		0.511		0.951		0.356		5.997	
56+60	3.118		2.393		8.434		7.573		12.997		4.834		23.986	
101	5.078		1.927		5.350		5.633		8.177		3.678		40.099	
99	6.837		0.940		2.232		2.728		4.267		1.664		51.152	
83	0.354		0.109		0.374		0.367		0.609		0.236		3.643	
97	1.356		0.473		1.383		1.450		0.918		0.935		8.969	
87+81	3.055		0.804		2.785		2.832		4.975		1.783		24.565	
85	3.198		0.418		1.523		1.610		2.626		0.928		17.733	
136	0.323		0.047		0.576		0.343		0.883		0.292		3.025	
77+110	12.931		1.852		7.674		7.123		13.856		4.472		92.727	
82	0.415		0.097		0.704		0.604		0.854		0.397		3.123	
151	1.027		0.705		2.254		2.535		3.932		1.596		10.714	
135+144	0.658		0.348		1.491		1.374		2.592		0.907		6.342	
107	1.082		0.261		0.586		0.784		1.096		0.483		6.056	
149	5.850		1.830		5.772		5.679		9.106		3.768		39.378	
118	10.598		1.715		3.598		4.793		6.939		2.741		51.621	
131	0.108		0.015		0.072		0.060		0.137		0.047		0.812	
146	5.533		1.240		1.974		3.043		3.663		1.878		21.210	
153+132+105	46.828		8.916		17.239		22.952		29.976		14.013		158.923	
141	0.508		0.074		0.807		0.540		1.344		0.419		4.543	
137+176	1.218		0.261		0.654		0.855		1.275		0.618		5.758	
163+138	33.341		6.328		12.260		16.939		21.988		9.819		123.717	
158	5.131		0.908		1.511		2.314		2.810		1.400		21.420	
129+178	2.780		0.529		1.108		1.558		2.066		1.023		11.472	
187+182	11.307		2.866		4.257		6.595		7.256		4.016		37.843	
183	6.733		1.581		2.519		3.839		4.007		2.461		23.665	
128	3.141		0.539		1.018		1.456		1.875		0.872		13.072	
185	0.195		0.212		0.381		0.492		0.586		0.319		1.951	
174	1.871		0.606		2.349		2.442		3.787		1.522		17.228	
177	4.104		0.528		1.913		2.117		3.196		1.276		15.670	
202+171	5.240		0.981		1.712		2.531		2.733		1.557		19.277	
157+200	1.593		0.337		0.422		0.667		0.949		0.401		5.935	
172+197	2.371		0.628		0.822		1.472		1.527		0.837		8.522	
180	23.121		5.379		7.741		13.265		12.881		7.668		84.509	
193	2.636		0.662		0.728		1.311		1.397		0.778		9.375	
191	0.536		0.153		0.209		0.300		0.356		0.243		1.786	
199	0.063		0.025		0.117		0.073		0.177		0.071		0.484	
170+190	14.219		3.302		5.239		8.011		8.324		4.667		52.866	
201	8.340		1.740		2.710		4.124		4.069		2.542		25.632	
203+196	10.974		2.390		3.251		5.266		4.638		3.264		33.943	
189	1.051		0.278		0.559		0.711		0.886		0.494		3.811	
208+195	3.479		1.066		1.694		2.469		2.301		1.527		19.911	
207	0.522		0.073		0.103		0.168		0.138		0.099		1.398	
194	4.123		0.866		1.190		2.037		1.745		1.209		13.809	
205	0.257		0.077		0.078		0.143		0.119		0.123		0.789	
206	5.993		0.621		0.939		1.387		1.156		0.845		15.156	
209	1.561		0.090		0.126		0.205		0.174		0.118		3.402	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	277 F-2041	Data Label	278 F-2042	Data Label	279 F-2043	Data Label	281 F-2045	Data Label	282 F-2046	Data Label	283 F-2047	Data Label	284 F-2048	Data Label
ORGANOCHLORINE PESTICIDES														
opDDE	2.082		0.363		2.674		1.937		3.868		1.397		26.532	
ppDDE	46.151		16.044		49.594		58.199		112.184		33.163		376.530	
op ddt	8.330		1.956		5.313		5.207		9.142		3.738		95.474	
pp ddt	0.600		0.596		0.976		0.805		0.909		0.592		4.538	
o,p ddd	0.666		4.233		10.683		4.579		11.938		3.594		6.115	
p,p ddd	11.670		8.831		28.654		17.128		44.222		12.455		149.638	
Total DDXs	69.540		32.013		97.895		87.854		182.263		54.939		658.728	
alpha BHC		BDL		BDL		BDL		BDL	0.244			BDL	0.486	
beta BHC		BDL		BDL		BDL		BDL		ND		ND		BDL
delta BHC	0.076		0.187		0.117			BDL		BDL		BDL		ND
lindane	0.175			ND	0.329			BDL		ND		ND	4.656	
heptaclor	1.309			BDL	0.627		0.157		0.873		0.149		4.478	
heptachlor epoxide	2.587			ND	1.556		0.613		3.674		0.412		32.222	
oxychlordane	1.847		0.432		1.932		1.555		4.157		1.149		36.932	
gamma chlordane	4.001		0.584		6.244		1.731		7.901		1.291		48.049	
alpha chlordane	9.907		0.750		6.346		2.951		11.204		2.388		132.576	
cis nonachlor		ND	0.615		0.222			ND	0.863			ND	14.561	
trans nonachlor	14.733		1.829		5.183		6.113		11.434		4.287		175.579	
Total Chlordanes	34.384		4.209		22.110		13.119		40.106		9.676		444.397	
dieldrin	0.249			ND	0.056			BDL	0.433		0.090		20.545	
endrin		BDL	0.092			BDL		BDL		ND		ND	4.140	
aldrin		BDL		BDL	0.213			BDL	0.502			BDL	2.077	
endosulfan I		ND		ND		ND		ND		ND		ND		ND
endosulfan II	1.686		0.095		0.212		0.332		0.578		0.263		24.281	

BDL - Below Detection Limit
ND - Not Detected

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	285 F-2049	Data Label	286 F-2050	Data Label	287 F-2051	Data Label	378 F-2068	Data Label
LIPID PERCENT (%)	2.29		0.77		4.79		3.55	
EXTRACTION MASS (wet wt/g)	2.045		2.086		2.001		2.0095	
SURROGATE RECOVERY (%)								
PCB 14	108		101		105		104	
PCB 65	94		100		93		99	
PCB 166	95		97		91		96	
Concentrations (ng/g wet wt)								
TOTAL PCBs	766.1		224.5		386.1		139.8	
TOTAL DDXs	249.4		41.1		421.2		42.4	
TOTAL CHLORDANES	161.1		28.0		51.5		35.8	
1		BDL		ND		ND		ND
3		ND		ND		ND		BDL
4+10	0.347		0.089			BDL		BDL
7	0.037			BDL		ND		ND
6	0.148		0.063		0.042			BDL
8+5	2.098		0.402		0.273		0.242	
19	0.615		0.210		0.032			BDL
12+13		ND		ND	0.021			BDL
18	4.418		1.500		1.040		0.227	
17	3.499		0.843		0.235		0.080	
24+27	1.126		0.382			BDL		BDL
16+32	6.745		2.103		0.806		0.253	
29		BDL		BDL		BDL		BDL
26	3.175		0.831		0.238		0.132	
25	1.439		0.515		0.276			BDL
31+28	21.069		5.197		5.084		3.983	
53+33+21	2.215		1.116		0.596		0.615	
22	6.162		1.698		2.253		1.928	
45	1.290		0.422		0.737		0.171	
46	0.707		0.276		0.041		0.035	
52	22.854		6.693		7.694		4.645	
49	22.467		5.944		5.046		3.581	
47	33.738		7.791		3.890			BDL
48	2.312		0.959		0.990		0.284	
44	20.516		4.920		6.370		3.894	
37+42	11.314		2.662		3.450		1.070	
41+71	16.242		3.490		4.378		2.052	
40	3.457		0.757		1.187		0.666	
100	2.853		0.426			ND		ND
63	1.839		0.423		0.497		0.204	
74	15.095		2.983		4.649		2.268	
70+76	23.272		5.031		9.919		5.264	
66+95	60.990		7.819		10.205		5.424	
91	4.170		1.069		1.299		0.759	
56+60	19.457		4.736		19.172		3.897	
101	22.927		7.393		12.570		6.260	
99	14.597		3.688		5.429		3.113	
83	1.373		0.321		1.106		0.377	
97	6.639		1.948		3.417		1.766	
87+81	11.706		3.192		6.723		3.230	
85	6.078		1.832		4.379		0.839	
136	1.846		0.526		1.177		0.390	
77+110	28.895		9.620		16.843		8.989	
82	2.430		0.642		1.450		0.690	
151	8.372		2.106		5.275		1.841	
135+144	4.688		1.294		3.292		1.233	
107	3.015		0.815		1.562		0.666	
149	19.653		6.107		13.483		4.977	
118	18.039		5.793		10.099		5.119	
131	0.287		0.075		0.202		0.085	
146	7.357		2.633		5.468		1.881	
153+132+105	63.209		24.245		46.290		15.058	
141	2.900		0.634		1.975		0.521	
137+176	2.427		0.595		1.511		0.634	
163+138	45.917		15.696		33.176		12.274	
158	6.783		2.066		4.240		1.620	
129+178	4.612		0.593		3.385		0.609	
187+182	17.066		5.831		11.814		2.913	
183	8.988		3.179		6.865		1.335	
128	3.861		1.260		2.783		1.255	
185	1.381		0.438		0.832		0.240	
174	8.324		2.083		5.670		1.198	
177	6.788		1.274		5.492		1.164	
202+171	6.773		0.933		4.760		0.507	
157+200	2.303		0.842		1.364		0.389	
172+197	3.250		1.259		2.586		0.534	
180	33.698		12.975		22.428		4.452	
193	3.866		1.092		2.641		0.625	
191	0.717		0.288		0.716		0.110	
199	0.477		0.143		0.323		0.087	
170+190	21.270		7.020		13.980		3.417	
201	10.624		3.808		7.668		1.782	
203+196	13.719		6.028		9.128		2.047	
189	1.762		0.833		1.765		0.391	
208+195	8.286		3.560		4.773		1.338	
207	0.521		0.354		0.313		0.101	
194	5.653		2.735		3.448		0.819	
205	0.387		0.163		0.221		0.090	
206	5.516		3.919		2.340		0.900	
209	1.489		1.409		0.581		0.276	

Appendix II.ii. Cont'd. Summary of PCB and OCP Concentrations

CHEM ID Fish-number	285 F-2049	Data Label	286 F-2050	Data Label	287 F-2051	Data Label	378 F-2068	Data Label
ORGANOCHLORINE PESTICIDES								
opDDE	12.515		2.929		6.298		3.139	
ppDDE	136.128		19.580		304.450		23.596	
op ddt	27.020		5.017		11.851		8.290	
pp ddt	0.856			BDL	11.742			BDL
o,p ddd	12.079		2.985		20.530		1.103	
p,p ddd	61.008		10.599		67.382		6.226	
Total DDXs	249.406		41.110		421.233		42.354	
alpha BHC	0.244			BDL	0.205			BDL
beta BHC		BDL		BDL		BDL		BDL
delta BHC	0.076		0.155		0.148		0.109	
lindane	0.835		0.225			ND		BDL
heptaclor	16.683		3.588		0.835		0.472	
heplachlor epoxide	8.512		1.332		1.658		4.109	
oxychlordane	6.254		0.913		3.253		2.806	
gamma chlordane	38.428		5.853		9.467		7.583	
alpha chlordane	58.561		9.402		11.981		10.762	
cis nonachlor		ND		ND	9.940			BDL
trans nonachlor	52.639		6.929		14.336		9.666	
Total Chlordanes	181.068		28.015		51.451		35.781	
dieldrin	3.920		0.379		0.524		1.063	
endrin	0.185			ND		ND		BDL
aldrin	0.579			BDL		BDL	0.328	
endosulfan 1		ND		ND		ND	0.670	
endosulfan II	1.359		0.285		0.705		0.638	

BDL - Below Detection Limit
ND - Not Detected

APPENDIX II.iii.

INDIVIDUAL SAMPLE DATA ORGANIC CONTAMINANTS

Furans

Appendix II.iii. Individual Sample Data Organic Contaminants: furans. Samples below detection limit for a contaminant are shown as 0.00.

St.	Sp.	Fish Anal #	Total Length cm	% solid	% Lipid	Total Furans dry	2,3,7,8-TCDF	1,2,3,7,8-PeCDF	2,3,4,7,8-PeCDF	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDF	2,3,4,6,7,8-HxCDF	1,2,3,7,8,9-HxCDF	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	OCDF	Total Furans wet
							(ng/g dry weight)										(ng/g wet weight)
Passaic River at Dundee Lake (PRDL)																	
	American eel																
		F-2484	34.5	30.8	43.6	1.54	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
		F-2485	45.3	23.8	18.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2485	45.3	23.8	18.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2486	56.0	22.1	11.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2486	56.0	22.1	11.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2482	51.0	29.5	32.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2487	61.5	30.5	31.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2487	61.5	30.5	31.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	common carp																
		F-2481	58.2	26.5	19.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2480	55.0	26.2	24.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2479	54.7	22.1	9.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2478	53.2	15.0	19.0	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	9.91
		F-2483	62.4	25.7	20.7	3.02	0.00	0.00	3.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.74
	largemouth bass																
		F-2475	37.5	19.0	1.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2476	25.1	22.8	1.7	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	2.86
		F-2477	30.8	22.7	2.4	1.44	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.36
		F-2474	26.6	21.5	2.1	2.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.75	12.79
		F-2473	28.5	22.4	1.9	3.43	0.00	3.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.31
Passaic River at Garfield (PRG)																	
	American eel																
		F-2500	49.0	20.4	5.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2500	49.0	20.4	5.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2499	48.7	22.0	5.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2499	48.7	22.0	5.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2501	68.7	24.1	18.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2501	68.7	24.1	18.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

APPENDIX II.iv.

INDIVIDUAL SAMPLE DATA ORGANIC CONTAMINANTS

Dioxins

Apppendix II.iv. Individual sample data organic contaminants: dioxins. Samples with non-detection of a contaminant are shown as 0.00.

St.	Sp.	Fish Anal #	LTL	% solid	% Lipid	Total Dioxin dry	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	Total dioxins wet (ng/g wet wt.)
						(ng/g dry weight)								
Passaic River at Dundee Lake (PRDL)														
	American eel													
		F-2484	34.5	30.8	43.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2485	45.3	23.8	18.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2485	45.3	23.8	18.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2486	56.0	22.1	11.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2486	56.0	22.1	11.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2482	51.0	29.5	32.8	9.17	0.00	0.00	0.00	0.00	0.00	0.00	9.17	31.04
		F-2487	61.5	30.5	31.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2487	61.5	30.5	31.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	common carp													
		F-2481	58.2	26.5	19.9	17.92	0.00	0.00	0.00	0.00	0.00	4.59	13.33	67.55
		F-2480	55.0	26.2	24.2	23.17	0.00	0.00	0.00	0.00	0.00	9.71	13.46	88.29
		F-2479	54.7	22.1	9.8	15.05	0.00	0.00	0.00	0.00	0.00	0.00	15.05	68.18
		F-2478	53.2	15.0	19.0	23.16	0.00	0.00	0.00	0.00	0.00	6.85	16.31	154.37
		F-2483	62.4	25.7	20.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	largemouth bass													
		F-2475	37.5	19.0	1.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2476	25.1	22.8	1.7	4.64	0.00	0.00	0.00	0.00	0.00	1.21	3.43	20.31
		F-2477	30.8	22.7	2.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2474	26.6	21.5	2.1	0.85	0.00	0.85	0.00	0.00	0.00	0.00	0.00	3.97
		F-2473	28.5	22.4	1.9	3.25	1.58	0.00	0.00	0.00	0.00	1.67	0.00	14.52
Passaic River at Garfield (PRG)														
	American eel													
		F-2500	49.0	20.4	5.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2500	49.0	20.4	5.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2499	48.7	22.0	5.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2499	48.7	22.0	5.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2501	68.7	24.1	18.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		F-2501	68.7	24.1	18.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Apppendix II.iv. (cont.) Individual sample data organic contaminants: dioxins. 0.00 indicates samples below detection limit or non-detect.

St. Sp. Fish Anal #	LTL	% solid	% Lipid	Total Dioxin dry	2,3,7,8-TCDD	1,2,3,7,8-PeCDD	1,2,3,4,7,8-HxCDD	1,2,3,6,7,8-HxCDD	1,2,3,7,8,9-HxCDD	1,2,3,4,6,7,8-HpCDD	OCDD	Total dioxins wet (ng/g wet wt.)
							(ng/g dry weight)					
white sucker												
F-2496	46.5	15.0	9.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2502	42.9	20.3	6.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2502	42.9	20.3	6.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2494	40.6	19.8	5.6	3.12	0.00	0.00	0.00	0.00	0.00	0.00	3.12	15.79
common carp												
F-2498	62.4	22.8	15.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2498	62.4	22.8	15.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2497	59.5	23.6	17.6	24.00	20.90	0.00	0.00	0.00	0.00	0.00	3.10	101.86
F-2497	59.5	23.6	17.6	24.00	20.90	0.00	0.00	0.00	0.00	0.00	3.10	101.86
F-2495	60.8	22.5	10.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
channel catfish												
F-2492	50.3	22.6	12.7	1.43	0.00	0.00	1.43	0.00	0.00	0.00	0.00	6.31
F-2493	47.0	21.8	16.0	8.83	0.00	0.00	0.00	0.00	0.00	0.00	8.83	40.53
striped bass												
F-2491	54.6	19.9	4.6	93.16	93.16	0.00	0.00	0.00	0.00	0.00	0.00	467.58
F-2489	56.6	21.6	2.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2489	56.6	21.6	2.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F-2490	48.8	21.7	2.8	48.14	48.14	0.00	0.00	0.00	0.00	0.00	0.00	221.93
F-2490	48.8	21.7	2.8	48.14	48.14	0.00	0.00	0.00	0.00	0.00	0.00	221.93
F-2488	49.0	26.2	7.8	3.10	0.00	0.00	0.00	0.00	0.00	0.00	3.10	11.80
F-2488	49.0	26.2	7.8	3.10	0.00	0.00	0.00	0.00	0.00	0.00	3.10	11.80

APPENDIX III

Hg Quality Assurance Summary

Appendix III.
NJ Toxics Hg Quality Assurance Summary

Runs from 11/7/03 to 3/25/04

SRM Name >>	DORM 2	Tort	SRM 1946
Cert Conc (ug/g)	4.64 ± 0.26	0.27 ± 0.06	0.433 ± 0.009
	dry wt	dry wt	wet wt

Run 1 QC Summary	11/7/2003							Averages
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	91.3	95.7	94.6	91.7	95.7			93.8
Spike Rec	96.6	101.4	101.1	93.3	99.6	98.5	102.4	99.0
	RPDs	RPDs	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	13	3	3	0.0	0.0	0.0	0.0	2.7

Run 2 QC Summary	12/19/2003					Averages
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	93.1	91.4	99.8	93.1		94.4
Spike Rec	93.3	96.7	103.0	99.0	97.3	97.9
	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	6.3	1.4	2.6	3.7	8.6	4.5

Run 3 QC Summary	12/22/2003			Averages
	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	100.5	99.0	95.0	98.2
Spike Rec	101.0	98.0	95	98.0
	RPDs	RPDs	RPDs	
Duplicate	1.6	20	17	12.9

Run 4 QC Summary	3/8/2004					Averages
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Tort (SRM)	*138.0*	*133.0*	*137.0*	*121.0*	113.0	128.4
Dorm (SRM)	92.6	94.0				93.3
Spike Rec	100.0	101.0	100.0	100.0	104.0	101.0
	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	1.3	2.1	11.3	0.5	0.1	3.1

Appendix III. Cont'd

Run 5 QC Summary	3/19/2004					
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Tort (SRM)	105.9	112.2	116.9	104.9		110.0
Dorm (SRM)	91.3	87.0	86.5			88.3
SRM 1946	97.0	94.0				95.5
Spike Rec	97.0	95.0	95.0	96.0	95.0	95.6
	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	0.3	6.9	4.8	4.6	1.3	

Run 6 QC Summary	3/24/2004			
	% Recovery	% Recovery	% Recovery	
Tort (SRM)	101.5			101.5
SRM 1946	95.9	96.3	97.2	96.5
Spike Rec	98.0	95.0	100.0	97.7
	RPDs	RPDs	RPDs	
Duplicate	42.2	7.7	5.4	18.4

Run 7 Summary	3/25/2004						
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Tort (SRM)	101.6						101.6
SRM 1946	96.2	97.6	97.2	95.7	101.3	97.4	97.6
Spike Rec	100.0	109.0	108	109	109	110	107.5
	RPDs	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	17.4	0.1	0.7	0.6	0.3		3.8

APPENDIX IV

Proposed risk-based consumption advisories for PCBs (ppb = ng/g wet weight) in fish developed by the NJ Risk Assessment sub-committee of the Interagency toxics in biota committee.

Appendix IV. Proposed risk-based consumption advisories for PCBs (ppb = ng/g wet weight) in fish developed by the NJ Risk Assessment sub-committee of the Interagency toxics in biota committee.

Consumption Frequency	Cancer Risk	
	1×10^{-5}	1×10^{-4}
Unlimited (based on daily)	**<1.5**	<15
Weekly	**1.5 - 11**	15-110
Monthly	11-47	110-470
Once per 3 months	47-140	470-1400
Yearly*	**140-560**	1400-5600
Do not eat (based on greater than yearly)	**>560**	>5600

Boldface: Protective of high risk group for developmental/reproductive endpoints

* Different levels might be required for some endpoints.

APPENDIX V.i.

QA/QC Report

NJ Fish Tissue Analysis for the Evaluation of Spatial Trends and Human Health Impacts

Quality Assurance/Quality Control Summary

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The following report is a modification of the Quality Assurance/Quality Control summary prepared for finalization of the data. The original report was approved on April 4, 2004, by Robin Davis, Quality Assurance Officer for the project. The version presented here contains textual changes for clarity and updates of table references to conform with the final report; it does not contain any substantive changes. The original report is maintained on file at the Academy of Natural Sciences of Philadelphia.

The following report summarizes the results of the chemical analyses performed for the NJDEP project entitled "New Jersey Routine Monitoring Program for Fish". This report also summarizes the results of the quality assurance and control (QA/QC) measures that were followed for analyses for mercury, polychlorinated biphenyls (PCBs), organochlorinated pesticides (OCPs), and dioxin in fish tissue. Table 1 outlines the specific analytes measured in this study while Appendices I & II provide contaminant information for all fish samples analyzed during this study. Finally, Appendix Vii includes the results from dioxin analyses by the Geochemical and Environmental Research Group (GERG) at Texas A&M and the associated QA/QC report.

I. Mercury

a) Extractions and Analyses:
Fish homogenate were digested using 10 mL nitric acid with approximately 0.7g to 1.0 gram in a CEM MDS 2100 microwave digestion system. Carefully cleaned Teflon vessels were used for all digestions. Mercury analysis was subsequently accomplished on a Perkin Elmer FIMMS 400 Cold Vapor AA following manufacturers specifications.

b) Analytical Quality Assurance:
The PE FIMMS 400 was calibrated using working standard dilutions of Certipur Stock Standard (1000µg/L) from 0.2 to 20.0 µg/L. Calibration blanks, working stock standards and instrument duplicates were analyzed to insure instrument performance and accuracy throughout the sample run. Sample blanks, duplicates, spikes (1.0 ng Hg), and several Standard Reference Materials were digested with the samples to insure adequate digestion recoveries. The QA samples were run at a 10 to 15% level throughout the study. The samples were digested in seven runs from 2003 to early 2004.

The SRMs used were NRC (National Research Council) DORM-2, NRC TORT-2 and NIST (National Institute of Standards and Technology) SRM 1946. Certified values of the SRMs are shown in Appendix III and Appendix V Table 2. These SRMs were chosen to be within the range of expected concentrations in unknown samples, based on previous data. Percent recovery for DORM-2 ranged from 87 to 101% with an average recovery of 94 ± 4%. TORT-2 recoveries ranged from 102 to117% with an average recovery of 108 ± 6%. Due to the use of low sample weight for TORT-2 used for one of the seven runs, the data were excluded due to high sample recoveries (121-138%). SRM 1946 recoveries ranged from 94 to 101% with an average recovery of 97 ± 2%. A summary of the quality control data are shown in Appendix III.

Intercalibration verification samples (i.e., duplicate/spike samples and continuing calibration standards) were all 96-117% of the actual concentration except for the 0.2 µg/L standard, which showed a broader range of recovery (85-137%) due to its proximity to the detection limits of the instrument. The relative percent difference (RPD) for instrument duplicates were < 1, while RPDs for sample duplicates ranged from 0 to13, excluding those samples with concentrations of less than 0.06 ug/g wet wt. Finally, sample spikes (1 ug spikes) were analyzed and recoveries ranged between 93 and 110% of added concentrations. The method detection limit (MDL) based on the digestion blanks and the 0.2 ug/L and 0.5 ug/L standards ranged from 0.017 to 0.029 ug/g wet wt. All samples were above the MDL, with only 18 out of 342 less than twice the average detection limit (0.023 ug/g wet wt).

The final data are shown in Appendix I.

II. Polychlorinated Biphenyls and Organochlorine Pesticides:

a) Extractions and Analyses:

Homogenized fish samples were stored frozen until extraction. Samples were thawed and 2 g of the homogenate was sub-sampled using a stainless steel spatula. Approximately 30 g of Na_2SO_4 (previously baked at 450° C for four hours) was added to the sub-sample to eliminate water. The dried sample was placed into a Soxhlet extractor (using DCM rinsed glass wool as filter) with ca. 200 mL dichloromethane (DCM) for a minimum of 18 hours. The extracts were sub-sampled for gravimetric lipid determination. For this, a known volume of extract (1mL) was transferred to a pre weighed aluminum pan. The samples were placed into a fume hood and allowed to evaporate for at least 12 hours. The residue remaining (lipid) was weighed and percent lipid was calculated.

Lipids were removed from sample extracts by gel permeation chromatography (GPC) using DCM as the mobile phase. The collected fraction containing analytes was concentrated by roto-evaporation and an N_2 stream. Solid-liquid chromatography using florisil was done as an additional clean-up step. Using this technique, PCBs (as well as heptachlor, nonachlors, and DDEs) were eluted from the chromatographic column containing florisil using petroleum ether (F1 fraction). The remaining organochlorine pesticides were eluted using 50:50 petroleum ether and dichloromethane (F2 fraction).

Congener-specific PCBs and organochlorine pesticides (Table 1 of this Appendix) were analyzed using a Hewlett Packard 5890 gas chromatograph equipped with a ^{63}Ni electron capture detector and a 5% phenylmethyl silicon capillary column. The identification and quantification of PCB congeners followed the '610 Method' (Swackhamer, 1987) in which the identities and concentrations of each congener in a mixed Aroclor standard (25:18:18 mixture of Aroclors 1232, 1248 and 1262) were determined by calibration with individual PCB congener standards. Congener identities in the sample extracts were based on their chromatographic retention times relative to the internal standards added. In cases where two or more congeners could not be chromatographically resolved, the combined concentrations were reported (Table 1). Organochlorine pesticides (OCPs; Table 1) were identified and quantified based on comparisons (retention times and peak areas) with a known calibration standard prepared from individual compounds.

b) Analytical Quality Assurance:

Surrogate Recoveries: Analyte loss through analytical manipulations was assessed by the addition of surrogate PCB congeners 14, 65 and 166 prior to extraction by Soxhlet apparatus. These surrogates were not industrially prepared and therefore are not present in the environment. Average recoveries of congeners 14, 65 and 166 were 107 ± 13%, 91 ± 8% and 95 ± 13% (calculated by averaging the recoveries of all analyzed samples shown in Appendix II). Due to the relatively high surrogate recoveries and the low standard deviations, no reported values for PCB and OCP concentrations in this study were corrected for analyte loss.

Detection Limits: Matrix blanks (12) were generated to monitor possible laboratory contamination and to calculate the detection limits for PCBs and OCPs. Each matrix blank, consisting of approximately 30 g of clean Na_2SO_4, was analyzed using the same procedures as the samples. Average surrogate recoveries for these blanks were 89%, 87% and 88% for PCBs 14, 65 and 166, respectively (Appendix II). Chromatograms of most blanks were void of significant peaks suggesting that little contamination through laboratory exposure occurred.

The detection limits for PCBs and OCPs were calculated as the mass plus three times the standard deviation of the mass. The matrix blank-based detection limits for PCBs and OCPs ranged from 0.01 to 2.17 ng (Table 4). Based on 12 matrix blanks, the detection limit for total PCBs (the sum of all quantified PCB congeners) was 6.62 ng.

Analytical Accuracy: National Institute for Standards and Technology (NIST) standard reference materials (SRM 1974B, Organics in Mussel Tissue; SRM 1946, Lake Superior Fish Tissue) were used to evaluate extraction efficiency and analytical accuracy (Tables 5 and 6, respectively). For SRM 1974B, PCB congener recoveries ranged from 56% (congener 101) to 193% (congener 18). Although the concentrations for some PCB congeners were well above or below the NIST certified values, the majority (61%) fell within 30% (Tables 5 and 6). For SRM 1946, PCB congener recoveries ranged from 46% (congeners 66+95) to 848% (congener 201) (Table 6). In this case, the variation from the certified values was greater than observed in SRM1974, however the majority (65%) fell within 30%.

Concentrations for OCPs were also assessed using both SRM 1974B and SRM 1946. In SRM

1974 B, some of the OCPs (trans-nonchlor, o,p-DDE, heptachlor, cis-nonchlor, and p,p-DDT) had relatively high recoveries (> 300%). However, a reasonable explanation for such an occurrence is due to very low values as compared to the minimum detection limits (MDL) for each OCP. For instance, NIST reports a value of 0.212 µg/kg (wet-mass basis) for heptachlor, while PCER reports a value of 3.139 ng/g, giving a recovery of 1480%. NIST's reported value is very close to the MDL for heptachlor (0.121 ng), so that accurate recoveries are difficult to determine. Other OCPs in this SRM had recoveries between 42% (alpha chlordane) and 124% (o,p-DDD).

OCP values recoveries for SRM 1946 generally ranged from 73% (p,p-DDD) to 140% (lindane). Some recoveries were above 200 percent (heptachlor epoxide (218%), o,p-DDE (511%) and o,p-DDT (424%). Values this high usually indicate one of two things: a problem with the concentration value assigned for that analyte in the calibration standard or a problem with the ability to resolve that analyte without interference (from PCB congeners or other unidentifiable compounds) using the analytical instrumentation. Original standard concentrations were verified through preparation of new analyte standards. Therefore, high recoveries for certain analytes are most likely attributable to interfering components of the fish matrices.

Analytical Precision: To assess precision of the organic contaminant analyses, sample duplicates of randomly selected samples were performed at a frequency of 10% (Tables 7 and 8). In addition to duplicate analysis, random triplicate analyses were completed on three different samples: F-9454, F-0272, and F-0281 (Table 8). The mean RPD for t-PCBs was 3 ± 2 (Tables 7-9). The mean RPD for F2 duplicates (most of the OCPs) was 12 ± 8 (Table 9). Duplicate analyses revealed exceptional precision. The mean RPD for triplicate analyses for total PCBs was 5 ± 3 (Table 9). The mean RPD for F2 triplicates was 11 ± 0.3 (Table 9). Again, these data reveal an exceptional level of precision within replicate analyses of fish samples, for all organic analytes.

Additional Quality Assurance: Additions of known volumes of calibration standards to matrix blanks, or 'spiked samples', were used to further evaluate quality assurance of the analytical procedure. Analytes were quantified and resulting masses were compared to the masses initially spiked into the matrix prior to extraction. For most PCB congeners, recoveries ranged from 41 % (congener 24/27) to 75 % (congener 187/182) (Table 10). Some congeners had recoveries that fell below 40% (congeners 29, 87/81, 158, and 209), while others exceeded 130% (congeners 41/47, 172/197, and 193). The sum of these 'outlier' congeners represent <9% of the total mass in most fish tissues. Recoveries that are above 130% reflect the difficulty in quantifying congeners whose masses in spiked standards (and in actual samples) are so low.

All organic contaminant data are shown in Appendix II.

III. Dioxins

Dioxin analysis for 30 fish was completed by GERG, Texas A & M. The most commonly detected dioxin compound was OCDD (octachlorinated dibenzo-p-dioxin), followed by 1,2,3,4,6,7,8-Hp CDD. Although OCDD was frequently detected, the highest concentrations

were found to be from 2,3,7,8-TCDD (tetrachlorinated dibenzo-p-dioxin). A narrative highlighting the QA/QC results, composed by GERG, appears in Appendix Vii.

References

Swackhamer, D.L. 1987. Quality Assurance Plan for Green Bay Mass Balance Study - PCBs and Dieldrin. U.S. Environmental Protection Agency, Great Lakes National Program Office.

APPENDIX V.ii.

GERG Dioxin QA/QC Narrative

Academy of Natural Sciences
Case Narrative: Dioxin/Furan

I. Background

This report contains the dioxin/furan results of the analyses of 18 tissue samples from QC batch DX0451 and 12 samples from QC batch DX0452. These samples were part of sample delivery group (SDG) CA735. The sample QC batch DX0451 was extracted on 10/29/02 and analyzed on 12/03/02. The sample QC batch DX0452 was extracted on 11/04/02 and analyzed on 11/21/02.

II. Analytical Results/Methodology

The samples were extracted and analyzed following the procedures contained in GERG SOP 9719 and GERG SOP 9722. The analyte concentrations were determined using labeled surrogates added to the sample prior to extraction.

III. Quality Control

Calibrations

The analytes are calculated using an average response factor based on the form:

$$RRF\ (n) = \frac{Ax\ *\ Cqs}{Aqs\ *\ Cx}$$

$$RRF\ (m) = \frac{Aqs\ *\ Cis}{Ais\ *\ Cqs}$$

where:

Ax = sum of the integrated ion abundance's of the quantitation ions for unlabeled PCDDs and PCDFs,

Aqs = sum of the integrated ion abundance's of the quantitation ions for the labeled quantitation standards,

Ais = sum of the integrated ion abundance's of the quantitation ions for the labeled internal standards,

Cx = concentration of the unlabeled PCDD and/or PCDF analyte in the calibration solution (pg/mL),

Cqs = concentration of the $^{13}C_{12}$-labeled quantitation standard in the calibration solution (100 pg/mL), and

Calibration data used in the quantitation of detected analytes met the calibration criteria; no deviations beyond the control limits were observed. The average percent deviation was less than 15%, and no analyte had a percent deviation greater than 25% deviation.

Example Calculations

The concentration of the target analytes and the recovery of the $^{13}C_{12}$-labeled quantitation standards are calculated using the following equations:

$$Cx = \frac{Ax * Cqs}{Aqs * \overline{RRF(n)}}$$

$$\% \text{ Recovery} = \frac{Ax * Cis * 100}{Ais * Cqs * \overline{RRF(m)}}$$

where:

Ax = sum of the integrated ion abundance's of the quantitation ions for unlabeled PCDDs and PCDFs,

Aqs = sum of the integrated ion abundance's of the quantitation ions for the $^{13}C_{12}$-labeled quantitation standards,

Ais = sum of the integrated ion abundance's of the quantitation ions for the $^{13}C_{12}$-labeled internal standards,

Cx = concentration of the unlabeled PCDDs and PCDFs isomers in pg/µL

Cqs = concentration of the $^{13}C_{12}$-labeled quantitation standard in the calibration solution (100 pg/µL),

Cis = concentration of the $^{13}C_{12}$-labeled internal standard in the calibration solution (100 pg/µL),

$\overline{RRF(n)}$ = Mean relative response factor for the unlabeled target analyte relative to its $^{13}C_{12}$-labeled quantitation standard [RRF(n), with n = 1 to 17], and

$\overline{RRF(m)}$ = Mean relative response factor for $^{13}C_{12}$-labeled quantitation standard relative to its $^{13}C_{12}$-labeled internal standard [RRF(m), with m = 1 to 15].

The sample concentration is calculated using the equation:

$$\text{Concentration} = x * df / wt$$

where:

Concentration = the concentration of the analyte (ng/g or ng/L);

x = amount of the analyte as found from solving the quadratic equation;

df = dilution factor;

wt = the sample weight in grams or volume in L.

Laboratory Qualifiers

All of the analytical data have been qualified based on the most recent method detection limits determined. Concentrations that were less than the LOQ adjusted for sample sizes are qualified "L" and those analytes not detected are qualified "ND". Concentrations that exceeded the calibration limits are qualified "EC". The concentrations that are determined by analyses of a diluted aliquot are qualified "D". If interference is encountered with the quantification of an analyte due to high concentration of another analyte, the concentration is qualified "I" to denote this interference.

Analytical Difficulties

DX0451

The procedural blank contained no analytes greater than the LOQ. All surrogates recoveries were acceptable. No further action was taken. The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were acceptable for all analytes No further action was taken. Concentrations of analytes were acceptable in NRCC CARP-2 with the exception of 1,2,3,7,8 PeCDF which was slightly high. This analyte was not detected above the LOQ in any samples. No further action was taken. No further variances or difficulties were observed.

DX0452

The procedural blank contained no analytes greater than the LOQ. All surrogates recoveries were acceptable with the exception of 13C-1,2,3,6,7,8-HxCDD (137.7%). This analyte was not detected above the LOQ in any samples. No further action was taken. The matrix spike (MS) and matrix spike duplicate (MSD) recoveries were acceptable for all analytes No further action was taken. Concentrations of analytes were acceptable in NRCC CARP-2. No further action was taken. No further variances or difficulties were observed.

IV. Discussion

The dioxin/furan concentrations for this set of samples were low with TCDF detected in 2 of 30 samples and TCDD detected in 3 of 30 samples. None of the other 2,3,7,8-dioxin/furans were detected.

Reviewed and approved: Terry L. Wade 11/21/03

Terry L. Wade, Ph.D. Date

Deputy Director, Environmental Sciences

APPENDIX V.

Tables 1 - 10

Appendix V. Table 1. List of Analytes for Project

POLYCHLORINATED BIPHENYLS		ORGANOCHLORINE PESTICIDES	MERCURY
1	85	opDDE	
3	136	ppDDE	
4+10	77+110	op ddt	
7	82	pp ddt	
6	151	o,p ddd	
8+5	135+144	p,p ddd	
19	107	alpha BHC	
12+13	149	beta BHC	
18	118	delta BHC	
17	131	lindane	
24+27	146	heptaclor	
16+32	153+132+105	heptachlor epoxide	
29	141	oxychlordane	
26	137+176	gamma chlordane	
25	163+138	alpha chlordane	
31+28	158	cis nonachlor	
53+33+21	129+178	trans nonachlor	
22	187+182	dieldrin	
45	183	endrin	
46	128	aldrin	
52	185	endosulfan 1	
49	174	endosulfan II	
47	177		
48	202+171		
44	157+200		
37+42	172+197		
41+71	180		
40	193		
100	191		
63	199		
74	170+190		
70+76	201		
66+95	203+196		
91	189		
56+60	208+195		
101	207		
99	194		
83	205		
97	206		
87+81	209		

APPENDIX V. TABLE 2: SRM Certified Concentrations

SRM Name	DORM 2	TORT 2	SRM 1946
Cert Conc (µg/g)	4.64 ± 0.26	0.27 ± 0.06	0.433 ± 0.009
Conc. Basis	dry wt	dry wt	wet wt

Appendix V Table 3. (Duplicate of Appendix III)
NJ Toxics Hg Quality Assurance Summary

Runs from 11/7/03 to 3/25/04

SRM Name >>	DORM 2	Tort	SRM 1946
Cert Conc (ug/g	4.64 ± 0.26	0.27 ± 0.06	0.433 ± 0.009
	dry wt	dry wt	wet wt

Run 1 QC Summary	11/7/2003							Averages
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	91.3	95.7	94.6	91.7	95.7			93.8
Spike Rec	96.6	101.4	101.1	93.3	99.6	98.5	102.4	99.0
	RPDs	RPDs	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	13	3	3	0.0	0.0	0.0	0.0	2.7

Run 2 QC Summary	12/19/2003					
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	93.1	91.4	99.8	93.1		94.4
Spike Rec	93.3	96.7	103.0	99.0	97.3	97.9
	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	6.3	1.4	2.6	3.7	8.6	4.5

Run 3 QC Summary	12/22/2003			
	% Recovery	% Recovery	% Recovery	
Dorm (SRM)	100.5	99.0	95.0	98.2
Spike Rec	101.0	98.0	95	98.0
	RPDs	RPDs	RPDs	
Duplicate	1.6	20	17	12.9

Run 4 QC Summary	3/8/2004					
	% Recovery	% Recovery	% Recovery	% Recovery	% Recovery	
Tort (SRM)	*138.0*	*133.0*	*137.0*	*121.0*	113.0	128.4
Dorm (SRM)	92.6	94.0				93.3
Spike Rec	100.0	101.0	100.0	100.0	104.0	101.0
	RPDs	RPDs	RPDs	RPDs	RPDs	
Duplicate	1.3	2.1	11.3	0.5	0.1	3.1

Appendix V. Table 3 Cont'd.

Run 5 QC Summary	3/19/2004					
	% Recovery	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	
Tort (SRM)	105.9	112.2	116.9	104.9		110.0
Dorm (SRM)	91.3	87.0	86.5			88.3
SRM 1946	97.0	94.0				95.5
Spike Rec	97.0	95.0	95.0	96.0	95.0	95.6
	RPDs	**RPDs**	**RPDs**	**RPDs**	**RPDs**	
Duplicate	0.3	6.9	4.8	4.6	1.3	

Run 6 QC Summary	3/24/2004			
	% Recovery	**% Recovery**	**% Recovery**	
Tort (SRM)	101.5			101.5
SRM 1946	95.9	96.3	97.2	96.5
Spike Rec	98.0	95.0	100.0	97.7
	RPDs	**RPDs**	**RPDs**	
Duplicate	42.2	7.7	5.4	18.4

Run 7 Summary	3/25/2004						
	% Recovery	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	**% Recovery**	
Tort (SRM)	101.6						101.6
SRM 1946	96.2	97.6	97.2	95.7	101.3	97.4	97.6
Spike Rec	100.0	109.0	108	109	109	110	107.5
	RPDs	**RPDs**	**RPDs**	**RPDs**	**RPDs**	**RPDs**	
Duplicate	17.4	0.1	0.7	0.6	0.3		3.8

APPENDIX V Table 4. Blank-based Limits of Detection for PCB Congeners and Organochlorine Pesticides

BLANKS	11503	12703	13003	20403	50503	51303	80403	81303	81903	82703	90303	90903	Average	Std. Dev	LOD
POLYCHLORINATED BIPHENYLS	ng	ng	ng	ng	ng	ng	ng	ng	ng	ng	ng	ng			
1	0.129	0.137	0.159	0.184	0.017	0.040	0.043	0.215	0.159	0.154	0.183	0.237	0.138	0.070	0.348
3	0.013	0.195	0.285	0.034	0.096	0.079	0.185	0.169	0.203	0.117	0.520	0.149	0.165	0.135	0.571
4+10	0.038	0.052	0.029	0.013	0.026	0.043	0.143	0.027	0.042	0.029	0.051	0.032	0.044	0.033	0.143
7	0.004	0.003	0.009	0.001	0.006	0.009	0.035	0.025	0.024	0.031	0.040	0.037	0.019	0.016	0.063
6	0.020	0.012	0.020	0.035	0.018	0.022	0.039	0.010	0.010	0.011	0.016	0.012	0.019	0.010	0.048
8+5	0.087	0.111	0.134	0.086	0.093	0.079	0.097	0.117	0.105	0.145	0.163	0.204	0.119	0.037	0.230
19	0.023	0.023	0.013	0.031	0.033	0.019	0.046	0.035	0.033	0.026	0.035	0.029	0.029	0.009	0.055
12+13	0.016	0.006	0.017	0.005	0.009	0.022	0.009	0.004	0.005	0.006	0.011	0.012	0.010	0.005	0.028
18	0.032	0.020	0.020	0.026	0.020	0.048	0.027	0.004	0.015	0.071	0.027	0.078	0.032	0.022	0.099
17	0.022	0.018	0.018	0.024	0.027	0.025	0.030	0.027	0.025	0.038	0.025	0.045	0.027	0.008	0.051
24+27	0.008	0.023	0.022	0.002	0.024	0.033	0.235	0.085	0.112	0.045	0.069	0.060	0.060	0.064	0.253
16+32	0.100	0.058	0.036	0.054	0.028	0.052	0.076	0.085	0.090	0.065	0.101	0.079	0.069	0.024	0.140
29	0.014	0.010	0.011	0.011	0.013	0.013	0.092	0.077	0.095	0.077	0.084	0.068	0.047	0.037	0.159
26	0.010	0.012	0.013	0.009	0.021	0.014	0.012	0.015	0.014	0.008	0.029	0.016	0.015	0.006	0.031
25	0.024	0.024	0.020	0.013		0.005	0.307	0.048	0.069	0.075	0.322	0.180	0.101	0.117	0.451
31+28	0.220	0.070	0.069	0.056	0.104	0.097	0.112	0.161	0.165	0.138	0.122	0.149	0.122	0.047	0.264
53+33+21	0.112	0.095	0.055	0.065	0.048	0.049	0.027	0.056	0.067	0.092	0.085	0.077	0.070	0.024	0.142
22	0.169	0.089	0.062	0.075	0.068	0.123	0.129	0.124	0.118	0.073	0.154	0.105	0.107	0.035	0.211
45	0.037	0.029	0.020	0.002	0.010	0.021	0.012	0.011	0.011	0.010	0.020	0.011	0.016	0.010	0.045
46	0.004	0.011	0.012	0.006	0.010	0.016	0.013	0.012	0.021	0.005	0.023	0.025	0.013	0.007	0.034
52	0.099	0.063	0.058	0.075	0.102	0.165	0.035	0.102	0.047	0.078	0.036	0.088	0.081	0.036	0.188
49	0.053	0.040	0.050	0.032	0.053	0.114	0.055	0.100	0.070	0.020	0.055	0.065	0.062	0.025	0.136
47	2.013	0.616	0.210	0.422	0.701	0.840	0.051	0.053	0.037	0.023	0.083	0.019	0.422	0.582	2.168
48	0.119	0.031	0.013	0.031	0.025	0.054	0.026	0.221	0.116	0.184	0.049	0.396	0.105	0.114	0.447
44	0.100	0.061	0.018	0.038	0.032	0.103		0.076	0.090	0.058	0.056	0.073	0.081	0.026	0.141
37+42	0.052	0.048	0.033	0.026	0.036	0.071	0.099	0.062	0.036	0.017	0.036	0.036	0.046	0.022	0.113
41+71	0.064	0.040	0.033	0.030	0.044	0.071	0.111	0.088	0.120	0.059	0.100	0.024	0.065	0.033	0.164
40	0.016	0.015	0.006	0.006	0.009	0.023	0.028	0.024	0.021	0.014	0.024	0.021	0.017	0.007	0.039
100	0.002	0.018	0.011	0.003	0.010	0.015	0.024	0.013	0.021	0.004	0.024	0.030	0.015	0.009	0.042
63	0.019	0.015	0.006	0.006	0.018	0.012	0.026	0.015	0.017	0.009	0.023	0.009	0.015	0.006	0.034
74	0.036	0.036	0.037	0.031	0.035	0.094	0.052	0.085	0.054	0.027	0.060	0.041	0.049	0.021	0.113
70+76	0.109	0.099	0.082	0.056	0.080	0.106	0.107	0.137	0.074	0.088	0.081	0.092	0.091	0.028	0.159
66+95	0.216	0.176	0.094	0.169	0.155	0.317	0.174	0.141	0.063	0.206	0.045	0.185	0.182	0.073	0.381
91	0.008	0.010	0.004	0.008	0.005	0.025	0.007	0.024	0.014	0.011	0.014	0.011	0.012	0.007	0.032
56+60	0.115	0.077	0.027	0.044	0.031	0.109	0.118	0.177	0.153	0.091	0.140	0.109	0.099	0.048	0.242
101	0.054	0.047	0.015	0.041	0.031	0.094	0.031	0.116	0.035	0.051	0.022	0.037	0.048	0.029	0.136
99	0.023	0.022	0.010	0.026	0.020	0.053	0.013	0.060	0.019	0.021	0.025	0.023	0.026	0.015	0.071
83	0.003	0.005	0.004	0.006	0.006	0.016	0.020	0.010	0.009	0.004	0.017	0.010	0.009	0.006	0.025
97	0.022	0.015	0.004	0.014	0.010	0.031	0.015	0.038	0.015	0.020	0.019	0.017	0.018	0.009	0.045
87+81	0.039	0.046	0.047	0.091	0.095	0.108	0.433			0.118		0.110	0.121	0.121	0.494
85	0.005	0.000	0.001	0.001	0.012	0.022	0.023	0.034	0.028	0.012	0.017	0.016	0.015	0.011	0.048
136	0.007	0.006	0.002	0.004	0.004	0.008	0.008	0.013	0.011	0.004	0.018	0.017	0.009	0.005	0.024
77+110	0.102	0.081	0.023	0.057	0.050	0.133	0.070	0.193	0.057	0.080	0.048	0.056	0.081	0.045	0.216
82	0.008	0.008	0.011	0.010	0.005	0.016	0.016	0.013	0.018	0.003	0.023	0.020	0.012	0.006	0.031
151	0.010	0.009	0.003	0.009	0.005	0.025	0.011	0.023	0.024	0.013	0.012	0.026	0.014	0.008	0.038
135+144	0.016	0.016	0.007	0.011	0.014	0.023	0.016	0.021	0.018	0.005	0.018	0.018	0.015	0.005	0.031
107	0.004	0.013	0.006	0.005	0.007	0.020	0.008	0.014	0.016	0.009	0.023	0.015	0.012	0.006	0.030
149	0.068	0.028	0.035	0.050	0.035	0.092	0.021	0.050	0.036	0.031	0.031	0.025	0.045	0.023	0.115
118	0.066	0.032	0.052	0.050	0.038	0.096	0.036	0.094	0.030	0.028	0.015	0.027	0.048	0.026	0.127
131	0.005	0.001	0.001	0.001	0.001	0.005	0.004	0.003	0.002	0.001	0.003	0.002	0.002	0.002	0.007
146	0.020	0.021	0.016	0.018	0.022	0.048	0.021	0.059	0.080	0.009	0.084	0.026	0.036	0.028	0.119
153+132+105	0.144	0.113	0.039	0.126	0.099	0.295	0.169	0.301	0.256	0.124	0.228	0.116	0.167	0.083	0.418
141	0.011	0.004	0.005	0.003	0.007	0.011	0.010	0.008	0.011	0.005	0.009	0.013	0.008	0.003	0.017
137+176	0.043	0.030	0.009	0.027	0.012	0.070	0.027	0.012	0.012	0.002	0.012	0.008	0.022	0.019	0.079
163+138	0.130	0.090	0.028	0.093	0.057	0.194	0.097	0.240	0.065	0.084	0.056	0.104	0.104	0.060	0.283
158	0.029	0.035	0.057	0.009	0.039	0.043	0.105	0.053	0.062	0.019	0.060	0.044	0.046	0.025	0.122
129+178	0.005	0.007	0.003	0.004	0.004	0.011	0.012	0.012	0.027	0.003	0.021	0.010	0.010	0.006	0.033
187+182	0.003	0.003		0.006	0.018	0.059	0.043	0.089	0.039	0.018	0.064	0.020	0.031	0.025	0.105
183	0.012	0.015	0.000	0.015	0.014	0.034	0.034	0.023	0.030	0.011	0.030	0.013	0.019	0.011	0.051
128	0.029	0.020	0.005	0.015	0.012	0.034	0.021	0.021	0.012	0.013	0.017	0.013	0.018	0.008	0.041
185	0.002	0.001	0.000	0.002	0.007	0.006	0.018	0.022	0.015	0.004	0.005	0.020	0.008	0.006	0.032
174	0.022	0.012	0.002	0.009	0.007	0.027	0.009	0.028	0.015	0.009	0.014	0.012	0.014	0.008	0.038
177	0.027	0.011	0.002	0.009	0.007	0.020	0.021	0.025	0.018	0.008	0.035	0.030	0.018	0.010	0.048
202+171	0.006	0.002	0.003	0.010	0.007	0.035	0.025	0.016	0.016	0.007	0.020	0.028	0.015	0.010	0.046
157+200	0.001	0.014	0.005	0.006	0.007	0.019	0.010	0.032	0.024	0.003	0.039		0.015	0.013	0.052
172+197	0.012	0.004	0.016	0.116	0.023	0.107	0.067	0.049	0.048	0.015	0.041	0.019	0.043	0.037	0.154
180	0.049	0.050	0.012	0.070	0.021	0.108	0.027	0.093	0.036	0.035	0.045	0.040	0.048	0.028	0.133

193	0.000	0.006	0.009	0.295	0.013	0.013	0.010	0.068	0.077	0.011	0.078	0.014	0.050	0.083	**0.297**
191	0.008	0.003	0.000	0.023	0.003	0.004	0.004	0.007	0.015	0.005	0.015	0.010	0.008	0.007	**0.028**
199	0.017	0.005	0.003	0.002	0.002	0.009	0.003	0.002	0.006	0.003	0.004	0.005	0.005	0.004	**0.018**
176+190	0.025	0.013	0.004	0.045	0.020	0.058	0.020	0.055	0.077	0.044	0.028	0.056	0.037	0.022	**0.103**
201	0.023	0.012	0.003	0.016	0.015	0.032	0.013	0.039	0.050	0.018	0.014	0.020	0.021	0.013	**0.060**
203+196	0.029	0.020	0.011	0.025	0.026	0.066	0.024	0.065	0.064	0.008	0.018	0.064	0.035	0.023	**0.104**
189	0.000	0.002	0.009	0.018	0.019	0.004	0.008	0.010	0.008	0.003	0.003	0.007	0.008	0.005	**0.025**
208+195	0.009	0.001	0.001	0.030	0.027	0.014	0.007	0.092	0.038	0.005	0.018	0.016	0.024	0.027	**0.106**
207	0.000	0.000	0.001	0.003	0.010	0.006	0.018	0.007	0.012	0.008	0.010	0.007	0.006	0.005	**0.021**
194	0.010	0.003	0.006	0.013	0.014	0.024	0.016	0.033	0.020	0.008	0.030	0.019	0.016	0.009	**0.044**
205	0.001	0.002	0.004	0.009	0.011	0.003	0.005	0.015	0.019	0.005	0.011	0.011	0.008	0.006	**0.025**
208	0.006	0.007	0.007	0.019	0.009	0.028	0.018	0.031	0.040	0.012	0.041	0.020	0.020	0.013	**0.057**
209	0.007	0.007	0.006	0.009	0.009	0.008	0.014	0.005	0.004	0.006	0.004	0.007	0.006	0.003	**0.016**
Total PCB's	5.224	3.201	2.210	3.219	2.872	5.050	4.180	4.755	3.819	3.008	4.277	4.000	3.818	0.936	**6.624**
ORGANOCHLORINE PESTICIDES															
opDDE	0.026	0.029	0.009	0.021	0.012	0.020	0.031	0.078		0.036	0.037	0.037	0.031	0.018	**0.086**
ppDDE				0.015	0.005	0.117		0.159	0.028	0.246		0.022	0.085	0.092	**0.361**
op ddt	0.022	0.026	0.024	0.024	0.040	0.091	0.159	0.198	0.114	0.046	0.067	0.060	0.073	0.056	**0.246**
pp ddt	0.128	0.051	0.015	0.050	0.311	0.286	1.020	0.207	0.177	0.228	0.210	0.217	0.242	0.252	**1.028**
o,p ddd	0.078	0.013	0.005	0.007	0.093	0.028	0.047	0.030	0.054	0.025	0.020	0.029	0.035	0.028	**0.118**
p,p ddd	0.126	0.093	0.031	0.105	0.027	0.238	0.042	0.177	0.068	0.117	0.043	0.061	0.094	0.064	**0.286**
alpha BHC	0.009	0.025	0.009	0.071	0.032	0.022	0.071	0.027	0.023	0.120	0.228	0.281	0.075	0.085	**0.331**
beta BHC	0.023	0.145	0.016	0.138	0.220	0.239	0.018	0.046	0.047	0.035	0.076	0.034	0.086	0.080	**0.325**
delta BHC	0.020	0.004	0.004	0.009	0.027	0.014	0.061	0.023	0.034	0.112	0.052	0.057	0.035	0.032	**0.131**
lindane	0.115	0.057	0.052	0.045	0.089	0.046	0.027	0.084	0.119	0.144	0.151	0.168	0.090	0.048	**0.233**
heptaclor	0.016	0.057	0.064	0.051	0.052	0.075	0.025	0.030	0.043	0.046	0.054	0.064	0.053	0.023	**0.121**
heptachlor epoxide	0.004	0.018	0.012	0.014	0.011	0.010	0.008	0.181	0.196	0.066	0.036	0.031	0.045	0.059	**0.223**
oxychlordane	0.067	0.005	0.007	0.009	0.031	0.152	0.017	0.092	0.057	0.031	0.029	0.026	0.044	0.043	**0.173**
gamma chlordane	0.271	0.233	0.166	0.238	0.053	0.124	0.049	0.521	0.025	0.010	0.037	0.066	0.164	0.152	**0.609**
alpha chlordane	0.125	0.043	0.012	0.084	0.049	0.191	0.021	0.145	0.040	0.033	0.015	0.020	0.065	0.059	**0.241**
cis nonachlor	0.042	0.076	0.058	0.097	0.066	0.049	0.021	0.098	0.136	0.010	0.135	0.066	0.071	0.040	**0.191**
trans nonachlor	0.068	0.173	0.086	0.191	0.062	0.182	0.036	0.247	0.155	0.099	0.023	0.116	0.120	0.069	**0.328**
dieldrin	0.031	0.014	0.021	0.026									0.023	0.007	**0.045**
endrin	0.066	0.010	0.041	0.048	0.031	0.018	0.127	0.052	0.068	0.100	0.061	0.053	0.058	0.034	**0.160**
aldrin	0.292	0.011	0.004	0.064	0.033	0.005	0.083	0.068	0.038	0.029	0.031		0.060	0.081	**0.304**
endosulfan I	0.057	0.060	0.037	0.043	0.062	0.031	0.036	0.168	0.134	0.070	0.069	0.057	0.069	0.041	**0.193**
endosulfan II	0.104	0.046	0.040	0.015	0.034	0.068	0.037	0.035	0.038	0.043	0.052	0.059	0.049	0.025	**0.128**

NOTE: Average Surrogate Recoveries for PCBs were 89, 87, and 88 % for Congeners 14, 65, and 166, respectively

APPENDIX V Table 5. Comparison between PCER and NIST for SRM 1974B- Mussel Tissue

Compound	1974B *trial a* *ng/g*	1974B *trial b* *ng/g*	1974B *trial c* *ng/g*	PCER average *ng/g*	PCER Std Dev SD	NIST value *ng/g*	NIST std. dev SD	% Recovery %
PCB Congeners								
PCB 18	1.729	1.643	1.487	1.620	0.122	0.84	0.13	193
PCB 28+31	9.964	9.091	8.992	9.349	0.535	6.31	0.48	148
PCB 44	5.547	5.524	5.169	5.413	0.212	3.85	0.2	141
PCB 45	0.568	0.616	0.583	0.589	0.025	**0.5**	**0.18**	118
PCB 49	5.255	5.228	4.945	5.142	0.172	5.66	0.23	91
PCB 52	5.344	5.293	4.992	5.210	0.190	6.26	0.37	83
PCB 63	0.555	0.548	0.526	0.543	0.015	**0.46**	**0.14**	118
PCB 66+95	19.373	19.326	18.102	18.934	0.721	12.41	0.73	153
PCB 74	4.740	4.749	4.456	4.649	0.166	3.55	0.23	131
PCB 77+110	10.032	10.220	9.368	9.873	0.448	**10.56**	**0.72**	93
PCB 82	1.025	0.960	0.904	0.963	0.061	1.16	0.14	83
PCB 99	3.835	4.118	3.599	3.851	0.260	5.92	0.27	65
PCB 101	6.124	6.095	5.653	5.957	0.264	10.7	1.1	56
PCB 107	0.798	0.730	0.705	0.744	0.048	1.03	0.12	72
PCB 118	6.178	6.188	6.014	6.127	0.098	10.3	0.4	59
PCB 128	1.255	1.291	1.285	1.277	0.019	1.79	0.12	71
PCB 146	1.759	1.717	1.587	1.688	0.090	1.92	0.16	88
PCB 149	4.795	4.617	4.624	4.679	0.101	7.01	0.28	67
PCB 151	1.442	1.428	1.346	1.405	0.052	1.86	0.16	76
PCB 153+132+105	14.343	14.240	13.664	14.082	0.366	18.73	1.23	75
PCB 158	0.693	0.708	0.710	0.704	0.009	1.00	0.10	70
PCB 163+138	11.215	11.371	10.819	11.135	0.285	**11.22**	**1.45**	99
PCB 180	1.653	1.566	1.482	1.600	0.103	1.17	0.1	137
PCB 183	1.471	1.499	1.386	1.452	0.059	1.25	0.03	116
								100
Organochlorine Pesticides								
alpha chlordane	0.646	0.464	0.596	0.568	0.094	1.36	0.1	42
trans chlordane(gamma)	0.288	0.336	0.137	0.254	0.104	1.14	0.17	22
trans nonachlor	6.404	6.462	6.391	6.419	0.038	1.3	0.14	494
op DDE	2.066	2.049	1.951	2.022	0.062	0.336	0.044	602
pp DDE	4.100	3.906	3.903	3.969	0.113	4.15	0.38	96
op DDD	1.598	1.250	1.193	1.347	0.219	1.09	0.16	124
pp DDD	11.004	13.080	10.014	11.366	1.565	3.34	0.22	340
heptachlor	3.490	2.945	2.981	3.139	0.305	**0.212**	**0.084**	1480
oxychlordane	0.682	0.346	0.299	0.442	0.209	**0.362**	**0.072**	122
dieldrin	1.333	1.076	0.623	1.011	0.360	**0.62**	**0.13**	163
cis-nonachlor	4.023	3.241	3.344	3.536	0.425	**0.64**	**0.16**	552
op, DDT	0.511	0.690	0.474	0.559	0.115	**0.894**	**0.057**	62
pp, DDT	0.000	1.092	2.847	1.313	1.436	**0.396**	**0.096**	332

NOTE: Values in bold denote uncertified NIST values

APPENDIX V Table 6. Comparison between PCER and NIST for SRM 1946-Lake Superior Fish Tissue

Compound	1946 *trial a*	1946 dup *trial b*	1946 trip *trial c*	PCER average	PCER Std Dev	NIST value	NIST std. dev	% Recovery
Wet Weight Basis	*ng/g*	*ng/g*	*ng/g*	*ng/g*	SD	*ng/g*	SD	%
PCB Congeners								
PCB 18	0.97	0.53	1.15	0.89	0.32	**0.84**	**0.11**	105
PCB 31+28	3.48	2.53	5.11	3.71	1.31	**3.46**	**0.44**	107
PCB 44	4.27	3.80	3.91	3.99	0.25	4.66	0.86	86
PCB 49	2.74	2.69	2.60	2.68	0.07	3.8	0.39	70
PCB 52	5.88	5.13	5.26	5.42	0.40	8.1	1	67
PCB 63	4.69	4.54	4.52	4.58	0.09	**1.28**	**0.19**	358
PCB 66+95	10.01	11.70	8.90	10.21	1.41	22.2	3.2	46
PCB 74	5.48	4.76	4.56	4.93	0.48	4.83	0.51	102
PCB 77+110	26.75	22.96	25.44	25.05	1.92	23.127	2.025	108
PCB 99	21.90	19.76	21.58	21.08	1.15	25.6	2.3	82
PCB 101	22.46	20.64	21.07	21.39	0.95	34.6	2.6	62
PCB 107	7.34	6.55	7.00	6.97	0.39	**8.86**	**0.2**	79
PCB 118	28.85	26.80	28.65	28.10	1.13	52.1	1	54
PCB 128	25.98	14.96	23.14	21.36	5.72	22.8	1.9	94
PCB 132+153+105	202.83	192.99	196.09	197.30	5.03	**195.73**	**10.66**	101
PCB 146	27.14	25.24	25.95	26.11	0.96	30.1	3.5	87
PCB 149	22.67	21.27	21.87	21.94	0.70	26.3	1.3	83
PCB 158	11.60	9.81	10.15	10.52	0.95	**7.66**	**0.88**	137
PCB 163+138	136.44	125.98	132.69	131.70	5.30	**146.8**	**13.8**	90
PCB 174	8.81	8.10	8.42	8.45	0.36	**9.3**	**1.3**	91
PCB 180	77.89	73.47	78.10	76.49	2.61	74.4	4	103
PCB 183	24.66	21.93	23.58	23.39	1.38	21.9	2.5	107
PCB 193	11.59	11.84	12.07	11.83	0.24	**5.78**	**0.72**	205
PCB 194	13.14	11.85	12.97	12.65	0.70	13	1.3	97
PCB 201	25.51	22.62	23.89	24.01	1.45	**2.83**	**0.13**	848
PCB 206	8.46	7.40	7.74	7.87	0.54	5.4	0.43	146
PCB 209	0.87	0.71	0.86	0.81	0.09	1.3	0.21	63
Organochlorine Pesticides								
alpha BHC	6.12	5.26	6.72	6.03	0.73	5.72	0.65	105
lindane	1.12	2.45	1.23	1.60	0.73	1.14	0.18	140
Heptachlor Epoxide	12.35	11.69	11.90	11.98	0.33	5.5	0.23	218
Oxychlordane	16.77	17.97	18.64	17.79	0.94	18.9	1.5	94
alpha chlordane	24.74	24.03	25.01	24.60	0.51	32.5	1.8	76
trans chlordane(gamma)	8.96	8.59	8.67	8.74	0.19	8.36	0.91	105
cis nonachlor	8.64	8.85	8.30	8.59	0.28	59.1	3.6	15
trans nonachlor	91.56	91.39	90.81	91.25	0.39	99.6	7.6	92
pp DDE	492.85	470.09	487.50	483.48	11.90	373	48	130
op DDD	1.33	3.10	1.31	1.91	1.03	2.2	0.25	87
pp DDD	12.93	12.93	12.72	12.86	0.12	17.7	2.8	73
pp DDT	40.43	39.94	42.96	41.11	1.62	37.2	3.5	111
op, DDE	5.47	5.44	5.04	5.31	0.24	**1.04**	**0.29**	511
op, DDT	96.39	93.40	93.87	94.55	1.61	**22.3**	**3.2**	424

NOTE: Values in bold denote uncertified NIST values

APPENDIX V Table 7. Results of Duplicate Analysis for Individual PCB Congeners and Organochlorine Pesticides

CHEM ID	9432F1	9432dupF1	average	percent difference
F-number	F-2481	F-2481		
LIPID PERCENT (%)	5.45	5.51	5.48	1
EXTRACTION MASS (g)	2.057	2.052	2.05	0
SURROGATE RECOVERY (%)				
PCB 14	121	125	123	3
PCB 65	96	100	98	4
PCB 166	98	106	102	8
TOTAL PCBs (ng/g dw)	347.9	366.2	357.0	5
TOTAL DDXs (ng/g dw)	86.8	95.6	91.2	10
TOTAL CHLORDANES (ng/g dw)	115.9	118.6	117.3	2
PCB's	ng/g	ng/g	ng/g	
1	0.321	0.250	0.285	25
3	0.725	1.323	1.024	58
4+10	0.222	0.229	0.226	3
7	0.153	0.144	0.148	6
6	0.313	0.322	0.318	3
8+5	2.936	2.842	2.889	3
19	0.086	0.088	0.087	1
12+13	0.107	0.112	0.110	4
18	2.502	2.472	2.487	1
17	1.387	1.383	1.385	0
24+27	0.225	0.243	0.234	8
16+32	2.336	2.325	2.330	0
29	BDL	BDL	BDL	
26	1.454	1.496	1.475	3
25	0.585	0.554	0.569	5
31+28	14.065	15.175	14.620	8
53+33+21	3.046	3.150	3.098	3
22	5.201	5.470	5.336	5
45	1.437	1.579	1.508	9
46	0.120	0.109	0.115	10
52	8.786	8.890	8.838	1
49	8.372	8.586	8.479	3
47	4.557	5.563	5.060	20
48	1.249	1.010	1.130	21
44	8.441	8.716	8.579	3
37+42	3.388	3.418	3.403	1
41+71	8.777	8.913	8.845	2
40	1.066	1.119	1.093	5
100	0.259	0.274	0.266	6
63	0.848	0.827	0.837	2
74	6.310	6.640	6.475	5
70+76	9.762	10.338	10.050	6
66+95	25.813	26.777	26.295	4

(APPENDIX V Table 7 Cont'd.)

PCB's	9432F1 ng/g	9432dupF1 ng/g	average ng/g	percent difference
91	1.710	1.819	1.764	6
56+60	8.791	9.208	8.999	5
101	10.114	10.417	10.265	3
99	6.856	7.398	7.127	8
83	0.576	0.561	0.568	3
97	3.425	3.632	3.528	6
87+81	2.890	3.050	2.970	5
85	1.793	1.949	1.871	8
136	0.713	0.717	0.715	1
77+110	14.172	14.803	14.488	4
82	0.801	0.879	0.840	9
151	2.955	3.173	3.064	7
135+144	1.864	1.881	1.872	1
107	1.663	1.780	1.722	7
149	7.064	7.323	7.194	4
118	10.658	11.251	10.955	5
131	0.176	0.179	0.177	1
146	3.392	3.549	3.471	5
153+132+105	27.888	28.983	28.436	4
141	0.813	0.846	0.830	4
137+176	1.088	1.184	1.136	8
163+138	26.319	27.671	26.995	5
158	1.651	1.784	1.718	8
129+178	1.283	1.436	1.360	11
187+182	9.877	10.312	10.095	4
183	3.873	4.126	4.000	6
128	3.765	4.066	3.916	8
185	0.519	0.604	0.561	15
174	2.366	2.545	2.455	7
177	2.844	3.034	2.939	6
202+171	3.363	3.578	3.471	6
157+200	1.186	1.244	1.215	5
172+197	1.391	1.485	1.438	7
180	15.283	16.765	16.024	9
193	1.606	1.254	1.430	25
191	0.368	0.351	0.360	5
199	0.184	0.209	0.197	13
170+190	10.763	11.796	11.279	9
201	5.873	6.353	6.113	8
203+196	7.220	7.695	7.457	6
189	0.725	0.817	0.771	12
208+195	4.854	5.150	5.002	6
207	0.339	0.335	0.337	1
194	3.218	3.534	3.376	9
205	0.160	0.172	0.166	7
206	4.388	4.672	4.530	6
209	0.232	0.253	0.243	9

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	9432F1 ng/g	9432dupF1 ng/g	average ng/g	percent difference
opDDE	2.691	2.927	2.809	8
ppDDE	32.819	38.280	35.549	15
op ddt	15.646	16.245	15.946	4
pp ddt	BDL	BDL	BDL	
o,p ddd	3.621	4.037	3.829	11
p,p ddd	32.036	34.110	33.073	6
Total DDXs	86.813	95.599	91.206	10
alpha BHC	BDL	BDL	BDL	
beta BHC	1.201	1.016	1.109	17
delta BHC	ND	ND	ND	
lindane	0.570	0.632	0.601	10
heptaclor	1.318	1.778	1.548	30
heptachlor epoxide	6.795	7.480	7.138	10
oxychlordane	7.171	7.881	7.526	9
gamma chlordane	19.362	17.382	18.372	11
alpha chlordane	45.269	44.992	45.131	1
cis nonachlor	4.636	5.014	4.825	8
trans nonachlor	31.340	34.108	32.724	8
Total Chlordanes	115.890	118.635	117.262	2
dieldrin	13.940	14.587	14.264	5
endrin	0.101	0.126	0.113	22
aldrin	1.121	1.435	1.278	25
endosulfan 1	3.311	3.373	3.342	2
endosulfan II	1.474	1.374	1.424	7
average of total OCP's				11

(APPENDIX V Table 7 Cont'd.)

CHEM ID	9461F1	9461Dup	average	percent difference
F-number	F-2502	F-2502		
LIPID PERCENT (%)	1.25	1.15	1.20	9
EXTRACTION MASS (g)	2.001	2.014	2.008	1
SURROGATE RECOVERY (%)				
PCB 14	101	102	101	0
PCB 65	89	87	88	3
PCB 166	96	95	95	1
TOTAL PCBs (ng/g dw)	284.8	269.9	277.3	5
TOTAL DDXs (ng/g dw)	69.5	67.4	68.4	3
TOTAL CHLORDANES (ng/g dw)	56.9	55.4	56.1	3
PCB's	ng/g	ng/g	ng/g	
1	ND	BDL	BDL	
3	0.726	0.430	0.578	51
4+10	BDL	BDL	BDL	
7	BDL	BDL	BDL	
6	0.033	0.031	0.032	6
8+5	0.475	0.456	0.465	4
19	0.113	0.238	0.175	71
12+13	0.197	0.139	0.168	34
18	0.413	0.460	0.436	11
17	0.817	0.857	0.837	5
24+27	BDL	0.168	0.168	
16+32	1.536	1.561	1.549	2
29	BDL	BDL	BDL	
26	0.500	0.514	0.507	3
25	BDL	BDL	BDL	
31+28	4.732	4.505	4.618	5
53+33+21	0.991	1.084	1.037	9
22	1.760	1.786	1.773	1
45	0.276	0.274	0.275	1
46	0.198	0.266	0.232	29
52	0.579	0.598	0.589	3
49	5.783	5.411	5.597	7
47	6.981	6.434	6.708	8
48	1.252	1.045	1.149	18
44	4.953	4.514	4.734	9
37+42	3.793	3.518	3.655	8
41+71	9.761	8.990	9.376	8
40	0.660	0.597	0.628	10
100	0.612	0.679	0.646	10
63	0.641	0.667	0.654	4
74	6.475	6.034	6.254	7
70+76	8.548	7.964	8.256	7
66+95	19.796	18.581	19.188	6

(APPENDIX V Table 7 Cont'd.)

PCB's	9461F1 ng/g	9461Dup ng/g	average ng/g	percent difference
91	1.553	1.530	1.541	2
56+60	9.028	8.363	8.695	8
101	6.516	6.050	6.283	7
99	6.416	6.452	6.434	1
83	0.248	0.209	0.229	17
97	3.077	2.820	2.949	9
87+81	2.319	2.141	2.230	8
85	3.876	3.579	3.728	8
136	0.398	0.376	0.387	6
77+110	15.862	14.613	15.237	8
82	0.985	0.900	0.943	9
151	1.968	1.758	1.863	11
135+144	1.333	1.195	1.264	11
107	1.446	1.312	1.379	10
149	6.468	6.200	6.334	4
118	11.369	10.926	11.147	4
131	0.056	0.058	0.057	5
146	4.007	3.782	3.894	6
153+132+105	29.205	27.821	28.513	5
141	0.536	0.606	0.571	12
137+176	0.774	0.782	0.778	1
163+138	24.969	23.686	24.327	5
158	1.536	1.504	1.520	2
129+178	1.066	1.557	1.312	37
187+182	7.261	6.827	7.044	6
183	3.600	3.370	3.485	7
128	2.558	2.395	2.477	7
185	0.381	0.406	0.394	6
174	1.643	1.623	1.633	1
177	1.506	1.514	1.510	1
202+171	1.460	1.447	1.454	1
157+200	1.137	1.117	1.127	2
172+197	3.965	3.797	3.881	4
180	16.025	15.492	15.758	3
193	3.491	3.064	3.277	13
191	0.669	0.466	0.567	36
199	0.096	0.096	0.096	0
170+190	8.761	8.247	8.504	6
201	3.340	3.097	3.219	8
203+196	4.604	4.211	4.408	9
189	0.636	0.690	0.663	8
208+195	2.373	2.409	2.391	2
207	0.134	0.178	0.156	28
194	1.698	1.549	1.623	9
205	0.132	0.143	0.138	8
206	1.670	1.640	1.655	2
209	0.074	0.070	0.072	5

(APPENDIX V Table 7 Cont'd.)

	9461F1	9461Dup	average	percent difference
ORGANOCHLORINE PESTICIDES	ng/g	ng/g	ng/g	
opDDE	1.925	1.894	1.910	2
ppDDE	42.891	41.493	42.192	3
op ddt	8.079	7.905	7.992	2
pp ddt	1.004	0.933	0.969	7
o,p ddd	1.745	1.728	1.737	1
p,p ddd	13.811	13.461	13.636	3
Total DDXs	69.456	67.415	68.436	3
alpha BHC	BDL	BDL	BDL	
beta BHC	BDL	BDL	BDL	
delta BHC	BDL	BDL	BDL	
lindane	0.182	0.151	0.166	18
heptaclor	4.049	4.386	4.218	8
heptachlor epoxide	1.552	1.495	1.523	4
oxychlordane	3.527	3.512	3.519	0
gamma chlordane	3.951	3.876	3.914	2
alpha chlordane	11.498	11.562	11.530	1
cis nonachlor	7.055	6.455	6.755	9
trans nonachlor	25.237	24.126	24.681	5
Total Chlordanes	56.868	55.412	56.140	3
dieldrin	3.870	3.634	3.752	6
endrin	BDL	BDL	BDL	
aldrin	BDL	BDL	BDL	
endosulfan I	3.061	2.829	2.945	8
endosulfan II	0.428	0.355	0.391	18
average of total OCP's				6

(APPENDIX V Table 7 Cont'd.)

CHEM ID	9471F1	9471DupF1	average	percent difference
F-number	F-2512	F-2512		
LIPID PERCENT (%)	0.77	0.63	0.70	19
EXTRACTION MASS (g)	2.016	2.002	2.009	1
SURROGATE RECOVERY (%)				
PCB 14	111	117	114	5
PCB 65	80	89	84	11
PCB 166	93	102	98	9
TOTAL PCBs (ng/g dw)	69.2	72.2	70.7	4
TOTAL DDXs (ng/g dw)	19.1	19.1	19.1	0
TOTAL CHLORDANES (ng/g dw)	20.6	20.9	20.8	1
PCB's	ng/g	ng/g	ng/g	
1	BDL	BDL	BDL	
3	0.382	0.354	0.368	8
4+10	BDL	BDL	BDL	
7	BDL	BDL	BDL	
6	0.278	BDL	BDL	
8+5	0.292	0.282	0.287	4
19	0.039	0.045	0.042	14
12+13	0.143	0.024	0.084	143
18	0.472	0.416	0.444	13
17	0.239	0.286	0.263	18
24+27	0.262	BDL	BDL	
16+32	0.427	0.510	0.468	18
29	BDL	BDL	BDL	
26	0.191	0.224	0.207	16
25	0.425	0.351	0.388	19
31+28	1.730	1.827	1.779	5
53+33+21	0.359	0.678	0.519	62
22	0.875	0.916	0.895	5
45	0.102	0.119	0.111	16
46	0.051	0.058	0.055	12
52	1.652	1.754	1.703	6
49	1.248	1.383	1.315	10
47	1.270	1.388	1.329	9
48	0.868	BDL	BDL	
44	1.155	1.255	1.205	8
37+42	0.732	0.762	0.747	4
41+71	1.734	1.891	1.813	9
40	0.163	0.162	0.162	0
100	0.088	0.119	0.103	30
63	0.130	0.165	0.147	24
74	1.092	1.238	1.165	12
70+76	1.687	1.868	1.777	10
66+95	5.203	5.506	5.354	6

(APPENDIX V Table 7 Cont'd.)

PCB's	9471F1 ng/g	9471DupF1 ng/g	average ng/g	percent difference
91	0.392	0.332	0.362	17
56+60	1.766	1.938	1.852	9
101	2.224	2.438	2.331	9
99	1.618	1.582	1.600	2
83	0.082	0.084	0.083	3
97	0.645	0.698	0.672	8
87+81	0.528	0.593	0.560	12
85	0.867	0.905	0.886	4
136	0.106	0.117	0.111	10
77+110	3.377	3.672	3.524	8
82	0.211	0.230	0.220	9
151	0.570	0.640	0.605	11
135+144	0.344	0.385	0.365	11
107	0.238	0.256	0.247	7
149	1.876	1.984	1.930	6
118	2.603	2.775	2.689	6
131	0.021	0.021	0.021	0
146	0.844	0.902	0.873	7
153+132+105	6.955	7.293	7.124	5
141	0.119	0.104	0.111	14
137+176	0.220	0.201	0.211	9
163+138	5.870	6.249	6.059	6
158	0.941	0.990	0.965	5
129+178	0.234	0.273	0.253	15
187+182	1.857	1.931	1.894	4
183	0.780	0.841	0.811	7
128	0.696	0.751	0.724	8
185	0.098	0.113	0.105	15
174	0.474	0.510	0.492	7
177	0.406	0.421	0.414	4
202+171	0.368	0.382	0.375	4
157+200	0.245	0.268	0.256	9
172+197	0.227	0.245	0.236	8
180	2.580	2.707	2.644	5
193	0.191	BDL	BDL	
191	0.047	0.057	0.052	18
199	0.013	0.016	0.015	17
170+190	1.733	1.959	1.846	12
201	0.827	0.866	0.847	5
203+196	1.035	1.144	1.089	10
189	0.109	0.138	0.124	24
208+195	0.591	0.635	0.613	7
207	0.025	0.029	0.027	13
194	0.472	0.452	0.462	4
205	0.029	0.035	0.032	20
206	0.437	0.467	0.452	7
209	0.021	0.022	0.022	7

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	9471F1 ng/g	9471DupF1 ng/g	average ng/g	percent difference
opDDE	0.565	0.547	0.556	3
ppDDE	5.431	6.323	5.877	15
op ddt	5.840	5.382	5.611	8
pp ddt	0.654	0.644	0.649	2
o,p ddd	0.962	1.040	1.001	8
p,p ddd	5.601	5.171	5.386	8
Total DDXs	19.053	19.107	19.080	0
alpha BHC	ND	ND	ND	
beta BHC	1.154	0.778	0.966	39
delta BHC	0.279	BDL	BDL	
lindane	0.229	BDL	BDL	
heptaclor	0.394	0.478	0.436	19
heptachlor epoxide	1.663	1.595	1.629	4
oxychlordane	3.138	2.852	2.995	10
gamma chlordane	2.129	2.407	2.268	12
alpha chlordane	5.747	5.888	5.817	2
cis nonachlor	0.812	0.719	0.766	12
trans nonachlor	6.749	6.971	6.860	3
Total Chlordanes	20.633	20.911	20.772	1
dieldrin	2.162	2.021	2.091	7
endrin	0.193	BDL	BDL	
aldrin	BDL	BDL	BDL	
endosulfan 1	3.326	3.377	3.351	2
endosulfan II	0.663	0.632	0.648	5
average of total OCP's				9

(APPENDIX V Table 7 Cont'd.)

CHEM ID	9543R F1	9543dup F1	average	percent difference
F-number	F-2522	F-2522		
LIPID PERCENT (%)	4.93	5.29	5.11	7
EXTRACTION MASS (g)	2.106	2.026	2.066	4
SURROGATE RECOVERY (%)				
PCB 14	134	122	128	9
PCB 65	86	78	82	9
PCB 166	116	104	110	11
TOTAL PCBs (ng/g dw)	1275.0	1245.3	1260.1	2
TOTAL DDXs (ng/g dw)	275.9	279.5	277.7	1
TOTAL CHLORDANES (ng/g dw)	119.4	127.8	123.6	7
PCB's	ng/g	ng/g	ng/g	
1	0.320	0.509	0.414	46
3	1.000	2.298	1.649	79
4+10	0.424	0.394	0.409	7
7	0.138	0.115	0.127	18
6	0.464	0.435	0.449	6
8+5	5.159	5.080	5.119	2
19	0.357	0.373	0.365	4
12+13	ND	0.069	ND	
18	11.824	11.343	11.583	4
17	6.584	6.260	6.422	5
24+27	1.006	0.983	0.995	2
16+32	13.264	12.863	13.063	3
29	BDL	BDL	BDL	
26	4.774	4.458	4.616	7
25	1.997	1.673	1.835	18
31+28	48.764	44.429	46.597	9
53+33+21	13.737	13.100	13.419	5
22	15.603	15.063	15.333	4
45	2.797	2.511	2.654	11
46	0.374	0.383	0.378	2
52	28.510	27.127	27.819	5
49	29.029	28.560	28.795	2
47	22.563	24.913	23.738	10
48	6.926	4.900	5.913	34
44	33.257	31.801	32.529	4
37+42	16.948	15.971	16.460	6
41+71	42.385	40.765	41.575	4
40	6.121	6.390	6.255	4
100	1.196	1.264	1.230	5
63	2.755	2.542	2.648	8
74	27.065	26.064	26.564	4
70+76	31.381	30.284	30.833	4
66+95	97.950	94.080	96.015	4

(APPENDIX V Table 7 Cont'd.)

PCB's	9543R F1 ng/g	9543dup F1 ng/g	average ng/g	percent difference
91	5.555	5.301	5.428	5
56+60	39.435	38.840	39.138	2
101	31.424	29.620	30.522	6
99	21.173	20.930	21.051	1
83	1.977	1.942	1.960	2
97	10.571	10.054	10.313	5
87+81	ND	7.205	ND	
85	9.398	9.256	9.327	2
136	2.492	2.362	2.427	5
77+110	47.550	45.715	46.633	4
82	3.803	4.019	3.911	6
151	10.804	10.256	10.530	5
135+144	6.327	6.287	6.307	1
107	4.276	4.382	4.329	2
149	29.026	28.130	28.578	3
118	35.912	35.156	35.534	2
131	0.373	0.391	0.382	5
146	13.604	13.233	13.418	3
153+132+105	103.181	99.831	101.506	3
141	3.380	3.187	3.284	6
137+176	3.282	3.258	3.270	1
163+138	83.629	81.287	82.458	3
158	11.869	12.165	12.017	2
129+178	4.852	5.052	4.952	4
187+182	38.770	37.764	38.267	3
183	16.650	16.459	16.555	1
128	8.275	8.466	8.371	2
185	2.530	2.444	2.487	3
174	12.604	12.330	12.467	2
177	9.435	8.996	9.215	5
202+171	11.315	11.065	11.190	2
157+200	4.133	3.818	3.975	8
172+197	4.730	4.494	4.612	5
180	67.352	67.963	67.657	1
193	5.490	5.733	5.611	4
191	0.999	1.011	1.005	1
199	0.806	0.824	0.815	2
170+190	44.544	43.038	43.791	3
201	18.975	18.106	18.540	5
203+196	26.682	25.907	26.295	3
189	2.527	2.716	2.621	7
208+195	15.234	14.651	14.942	4
207	0.578	0.624	0.601	8
194	13.734	13.187	13.460	4
205	0.473	0.500	0.486	6
206	10.195	9.995	10.095	2
209	0.361	0.332	0.347	8

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	9543R F1 ng/g	9543dup F1 ng/g	average ng/g	percent difference
opDDE	10.457	10.649	10.553	2
ppDDE	166.719	163.616	165.167	2
op ddt	18.368	20.001	19.184	9
pp ddt	1.197	1.118	1.157	7
o,p ddd	18.937	21.566	20.252	13
p,p ddd	60.203	62.576	61.389	4
Total DDXs	275.881	279.526	277.703	1
alpha BHC	0.222	0.398	0.310	57
beta BHC	4.686	4.514	4.600	4
delta BHC	0.354	0.290	0.322	20
lindane	0.353	0.412	0.383	15
heptaclor	10.759	10.270	10.515	5
heptachlor epoxide	NQ	NQ	NQ	
oxychlordane	NQ	NQ	NQ	
gamma chlordane	30.393	32.042	31.217	5
alpha chlordane	40.192	45.960	43.076	13
cis nonachlor	8.870	9.492	9.181	7
trans nonachlor	29.209	30.035	29.622	3
Total Chlordanes	119.422	127.799	123.610	7
dieldrin	11.968	13.620	12.794	13
endrin	0.424	0.584	0.504	32
aldrin	BDL	BDL	BDL	
endosulfan I	2.570	2.975	2.773	15
endosulfan II	0.911	0.618	0.764	38
average of total OCP's				14

(APPENDIX V Table 7 Cont'd.)

CHEM ID	9544-F1	9544dup-F1	average	percent difference
F-number	F-2523	F-2523		
LIPID PERCENT (%)	3.89	3.90	3.89	0
EXTRACTION MASS (g)	1.994	1.958	1.976	2
SURROGATE RECOVERY (%)				
PCB 14	111	112	112	1
PCB 65	93	93	93	0
PCB 166	100	98	99	2
TOTAL PCBs (ng/g dw)	880.8	867.6	874.2	2
TOTAL DDXs (ng/g dw)	177.6	182.4	180.0	3
TOTAL CHLORDANES (ng/g dw)	211.0	219.1	215.1	4
PCB's	ng/g	ng/g	ng/g	
1	0.220	0.322	0.271	38
3	1.197	0.843	1.020	35
4+10	0.321	0.319	0.320	1
7	0.070	0.063	0.067	11
6	0.170	0.197	0.183	15
8+5	2.642	2.477	2.560	6
19	0.347	0.319	0.333	8
12+13	0.149	0.083	0.116	57
18	7.321	7.448	7.384	2
17	3.627	3.493	3.560	4
24+27	0.490	0.581	0.535	17
16+32	8.030	7.803	7.916	3
29	BDL	BDL	BDL	
26	2.784	2.697	2.740	3
25	0.778	0.901	0.839	15
31+28	23.003	21.793	22.398	5
53+33+21	7.482	4.488	5.985	50
22	10.641	10.311	10.476	3
45	5.528	7.109	6.318	25
46	0.404	0.332	0.368	20
52	21.009	21.148	21.078	1
49	19.812	20.529	20.170	4
47	ND	6.029	ND	
48	5.997	4.690	5.343	24
44	24.920	24.894	24.907	0
37+42	11.651	12.089	11.870	4
41+71	27.581	27.901	27.741	1
40	4.797	4.581	4.689	5
100	2.190	1.774	1.982	21
63	1.922	1.937	1.930	1
74	15.308	15.584	15.446	2
70+76	18.748	19.221	18.985	2
66+95	64.034	65.292	64.663	2

(APPENDIX V Table 7 Cont'd.)

PCB's	9544-F1 ng/g	9544dup-F1 ng/g	average ng/g	percent difference
91	5.121	5.028	5.075	2
56+60	30.349	29.439	29.894	3
101	21.332	21.411	21.372	0
99	13.117	13.868	13.493	6
83	1.530	1.534	1.532	0
97	7.703	7.684	7.694	0
87+81	5.588	5.487	5.538	2
85	32.166	18.318	25.242	55
136	1.755	1.815	1.785	3
77+110	36.517	36.659	36.588	0
82	2.709	2.663	2.686	2
151	7.505	7.496	7.500	0
135+144	4.686	4.727	4.707	1
107	2.693	2.810	2.751	4
149	22.277	22.561	22.419	1
118	22.873	22.928	22.901	0
131	0.485	0.458	0.472	6
146	9.378	9.555	9.466	2
153+132+105	67.299	67.596	67.447	0
141	2.603	2.633	2.618	1
137+176	0.544	0.754	0.649	32
163+138	58.380	58.253	58.316	0
158	8.322	7.985	8.154	4
129+178	1.798	3.339	2.568	60
187+182	24.856	24.422	24.639	2
183	11.362	11.021	11.192	3
128	8.181	7.690	7.936	6
185	1.873	1.736	1.805	8
174	9.473	9.556	9.515	1
177	6.610	6.661	6.636	1
202+171	8.294	8.298	8.296	0
157+200	2.760	2.801	2.780	1
172+197	3.538	3.552	3.545	0
180	41.138	39.581	40.360	4
193	4.119	4.780	4.449	15
191	1.102	0.955	1.028	14
199	0.667	0.616	0.642	8
170+190	28.659	27.882	28.270	3
201	14.195	13.983	14.089	2
203+196	19.487	19.046	19.267	2
189	1.832	1.747	1.789	5
208+195	12.119	11.575	11.847	5
207	0.858	0.737	0.797	15
194	8.985	8.448	8.717	6
205	0.628	0.495	0.562	24
206	9.905	9.516	9.711	4
209	0.266	0.253	0.259	5

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	9544-F1 ng/g	9544dup-F1 ng/g	average ng/g	percent difference
opDDE	ND	ND	ND	
ppDDE	43.098	47.939	45.519	11
op ddt	31.837	32.220	32.029	1
pp ddt	1.124	1.568	1.346	33
o,p ddd	17.172	16.816	16.994	2
p,p ddd	84.334	83.868	84.101	1
Total DDXs	177.565	182.411	179.988	3
alpha BHC	BDL	BDL	BDL	
beta BHC	1.951	1.906	1.928	2
delta BHC	BDL	BDL	BDL	
lindane	0.215	0.245	0.230	13
heptaclor	5.384	5.646	5.515	5
heptachlor epoxide	6.949	6.860	6.904	1
oxychlordane	7.291	7.403	7.347	2
gamma chlordane	42.393	42.576	42.485	0
alpha chlordane	66.885	76.597	71.741	14
cis nonachlor	8.040	7.911	7.975	2
trans nonachlor	74.068	72.155	73.112	3
Total Chlordanes	211.010	219.149	215.080	4
dieldrin	15.918	15.397	15.658	3
endrin	0.337	0.406	0.372	19
aldrin	0.362	0.362	0.362	0
endosulfan I	1.836	1.662	1.749	10
endosulfan II	1.812	1.857	1.834	2
average of total OCP's				6

(APPENDIX V Table 7 Cont'd.)

CHEM ID	0238-F1	0238dup-F1	average	percent difference
F-number	F-2402	F-2402		
LIPID PERCENT (%)	0.97	0.80	0.89	19
EXTRACTION MASS (g)	2.016	2.070	2.043	3
SURROGATE RECOVERY (%)				
PCB 14	95	107	101	11
PCB 65	90	96	93	7
PCB 166	94	100	97	6
TOTAL PCBs (ng/g dw)	47.5	46.7	47.1	2
TOTAL DDXs (ng/g dw)	5.2	4.7	4.9	11
TOTAL CHLORDANES (ng/g dw)	8.2	8.0	8.1	3
PCB's	ng/g	ng/g	ng/g	
1	BDL	BDL	BDL	
3	1.155	BDL	BDL	
4+10	BDL	BDL	BDL	
7	BDL	BDL	BDL	
6	0.029	BDL	BDL	
8+5	0.151	0.140	0.146	8
19	BDL	0.030	BDL	
12+13	0.139	0.064	0.101	74
18	BDL	BDL	BDL	
17	0.090	0.029	0.059	102
24+27	BDL	BDL	BDL	
16+32	BDL	BDL	BDL	
29	BDL	BDL	BDL	
26	0.022	0.031	0.027	36
25	BDL	BDL	BDL	
31+28	0.327	0.322	0.325	2
53+33+21	0.088	0.091	0.089	3
22	0.225	0.253	0.239	11
45	0.032	0.029	0.030	9
46	0.035	0.031	0.033	13
52	0.664	0.678	0.671	2
49	0.525	0.556	0.540	6
47	BDL	BDL	BDL	
48	BDL	0.327	BDL	
44	0.322	0.333	0.328	3
37+42	0.257	0.269	0.263	5
41+71	0.659	0.601	0.630	9
40	0.072	0.067	0.069	8
100	0.110	0.118	0.114	7
63	0.072	0.075	0.074	4
74	0.705	0.666	0.686	6
70+76	0.608	0.619	0.613	2
66+95	2.527	2.528	2.527	0

(APPENDIX V Table 7 Cont'd.)

PCB's	0238-F1 ng/g	0238dup-F1 ng/g	average ng/g	percent difference
91	0.203	0.208	0.206	2
56+60	0.737	0.755	0.746	2
101	1.724	1.743	1.733	1
99	1.202	1.194	1.198	1
83	0.061	0.062	0.061	3
97	0.457	0.476	0.466	4
87+81	0.362	0.379	0.371	5
85	1.378	1.418	1.398	3
136	0.031	0.040	0.036	25
77+110	1.953	1.893	1.923	3
82	0.097	0.112	0.105	15
151	0.346	0.390	0.368	12
135+144	0.085	0.138	0.112	47
107	0.218	0.227	0.222	4
149	1.570	1.551	1.561	1
118	2.030	2.045	2.037	1
131	0.043	0.032	0.038	28
146	0.902	0.945	0.923	5
153+132+105	6.312	6.289	6.301	0
141	0.074	0.058	0.066	25
137+176	BDL	BDL	BDL	
163+138	5.174	5.154	5.164	0
158	0.698	0.648	0.673	7
129+178	0.180	0.206	0.193	13
187+182	1.381	1.357	1.369	2
183	0.627	0.588	0.607	6
128	0.833	0.808	0.820	3
185	0.080	0.072	0.076	10
174	0.360	0.346	0.353	4
177	0.285	0.275	0.280	3
202+171	0.360	0.341	0.350	5
157+200	0.181	0.171	0.176	5
172+197	0.222	0.213	0.217	4
180	1.790	1.717	1.754	4
193	3.106	3.308	3.207	6
191	0.047	0.041	0.044	12
199	BDL	BDL	BDL	
170+190	1.233	1.293	1.263	5
201	0.564	0.551	0.557	2
203+196	0.688	0.690	0.689	0
189	0.091	0.105	0.098	15
208+195	0.386	0.445	0.415	14
207	0.030	0.060	0.045	66
194	0.242	0.237	0.240	2
205	0.042	0.018	0.030	80
206	0.270	0.260	0.265	4
209	0.014	0.015	0.014	9

(APPENDIX V Table 7 Cont'd.)

	0238-F1	0238dup-F1	average	percent difference
ORGANOCHLORINE PESTICIDES	ng/g	ng/g	ng/g	
opDDE	ND	ND	ND	
ppDDE	1.356	1.181	1.268	14
op ddt	3.068	2.762	2.915	10
pp ddt	BDL	BDL	BDL	
o,p ddd	BDL	BDL	BDL	
p,p ddd	0.758	0.713	0.736	6
Total DDXs	5.182	4.656	4.919	11
alpha BHC	BDL	BDL	BDL	
beta BHC	0.533	0.471	0.502	12
delta BHC	BDL	BDL	BDL	
lindane	BDL	BDL	BDL	
heptaclor	BDL	0.113	BDL	
heptachlor epoxide	0.200	0.195	0.197	3
oxychlordane	0.988	0.901	0.945	9
gamma chlordane	BDL	BDL	BDL	
alpha chlordane	0.510	0.459	0.485	11
cis nonachlor	0.786	0.729	0.758	8
trans nonachlor	5.753	5.572	5.662	3
Total Chlordanes	8.238	7.969	8.103	3
dieldrin	0.064	0.034	0.049	61
endrin	BDL	BDL	BDL	
aldrin	BDL	BDL	BDL	
endosulfan I	0.378	0.339	0.358	11
endosulfan II	0.207	0.185	0.196	11
average of total OCP's				13

(APPENDIX V Table 7 Cont'd.)

CHEM ID	0248-F1	0248dup-F1	average	percent difference
F-number	F-2412	F-2412		
LIPID PERCENT (%)	0.40	0.30	0.35	31
EXTRACTION MASS (g)	2.007	2.059	2.033	3
SURROGATE RECOVERY (%)				
PCB 14	75	95	85	23
PCB 65	69	88	79	24
PCB 166	68	87	78	24
TOTAL PCBs (ng/g dw)	36.5	34.4	35.4	6
TOTAL DDXs (ng/g dw)	24.3	48.2	36.3	66
TOTAL CHLORDANES (ng/g dw)	14.0	12.7	13.3	9
PCB's	ng/g	ng/g	ng/g	
1	BDL	BDL	BDL	
3	BDL	BDL	BDL	
4+10	BDL	0.089	BDL	
7	BDL	BDL	BDL	
6	BDL	BDL	BDL	
8+5	0.549	0.536	0.543	2
19	0.039	BDL	BDL	
12+13	BDL	ND	BDL	
18	0.173	0.196	0.185	13
17	0.114	0.112	0.113	2
24+27	BDL	0.165	BDL	
16+32	0.193	0.187	0.190	3
29	BDL	BDL	BDL	
26	0.078	0.069	0.073	12
25	BDL	BDL	BDL	
31+28	0.514	0.457	0.486	12
53+33+21	0.106	0.161	0.134	41
22	0.463	0.516	0.490	11
45	0.085	0.095	0.090	11
46	0.066	0.070	0.068	5
52	0.831	0.757	0.794	9
49	0.776	0.728	0.752	6
47	BDL	BDL	BDL	
48	BDL	0.244	BDL	
44	0.581	0.592	0.586	2
37+42	0.359	0.373	0.366	4
41+71	0.456	0.446	0.451	2
40	0.119	0.112	0.115	6
100	0.042	0.038	0.040	10
63	0.064	0.053	0.059	19
74	0.536	0.506	0.521	6
70+76	0.718	0.651	0.684	10
66+95	2.496	2.484	2.490	0

(APPENDIX V Table 7 Cont'd.)

PCB's	0248-F1 ng/g	0248dup-F1 ng/g	average ng/g	percent difference
91	0.300	0.272	0.286	10
56+60	1.330	1.247	1.288	6
101	1.397	1.254	1.325	11
99	0.863	0.829	0.846	4
83	0.227	0.194	0.211	16
97	0.416	0.363	0.390	14
87+81	0.771	0.797	0.784	3
85	0.507	0.448	0.477	12
136	0.068	0.065	0.066	5
77+110	1.821	1.653	1.737	10
82	0.121	0.124	0.123	2
151	0.374	0.336	0.355	11
135+144	0.232	0.212	0.222	9
107	0.156	0.148	0.152	5
149	1.360	1.218	1.289	11
118	1.377	1.206	1.291	13
131	0.022	0.023	0.022	3
146	0.541	0.472	0.506	14
153+132+105	4.049	3.625	3.837	11
141	0.054	0.055	0.054	2
137+176	0.094	0.141	0.117	41
163+138	3.210	2.912	3.061	10
158	0.468	0.486	0.477	4
129+178	0.114	0.139	0.127	20
187+182	0.987	0.914	0.950	8
183	0.447	0.420	0.434	6
128	0.411	0.394	0.403	4
185	0.064	0.060	0.062	5
174	0.265	0.250	0.258	6
177	0.205	0.178	0.191	15
202+171	0.242	0.207	0.225	16
157+200	ND	ND	ND	
172+197	0.101	0.140	0.121	32
180	1.237	1.052	1.144	16
193	BDL	BDL	BDL	
191	0.042	BDL	BDL	
199	0.024	0.013	0.018	62
170+190	0.921	0.835	0.878	10
201	0.529	0.474	0.501	11
203+196	0.663	0.589	0.626	12
189	0.074	0.077	0.075	4
208+195	0.355	0.330	0.342	7
207	0.035	0.021	0.028	50
194	0.232	0.180	0.206	25
205	0.014	BDL	BDL	
206	0.290	0.280	0.285	4
209	0.136	0.113	0.124	18

	0248-F1	0248dup-F1	average	percent difference
ORGANOCHLORINE PESTICIDES	ng/g	ng/g	ng/g	
opDDE	0.909	0.906	0.907	0
ppDDE	7.941	7.445	7.693	6
op ddt	10.553	26.796	18.674	87
pp ddt	0.732	2.011	1.372	93
o,p ddd	0.751	0.697	0.724	7
p,p ddd	3.464	10.343	6.904	100
Total DDXs	24.349	48.198	36.273	66
alpha BHC	0.579	0.581	0.580	0
beta BHC	0.206	0.225	0.216	9
delta BHC	BDL	0.523	BDL	
lindane	0.491	0.680	0.585	32
heptaclor	0.366	0.356	0.361	3
heptachlor epoxide	1.278	1.288	1.283	1
oxychlordane	1.625	1.426	1.526	13
gamma chlordane	1.374	1.241	1.307	10
alpha chlordane	3.337	2.542	2.939	27
cis nonachlor	ND	0.339	BDL	
trans nonachlor	5.991	5.529	5.760	8
Total Chlordanes	13.971	12.721	13.346	9
dieldrin	0.632	0.578	0.605	9
endrin	BDL	4.903	BDL	
aldrin	BDL	BDL	BDL	
endosulfan I	2.219	1.873	2.046	17
endosulfan II	0.362	4.627	2.494	171
average of total OCP's				33

(APPENDIX V Table 7 Cont'd.)

CHEM ID	0257-F1	0257dup-F1	average	percent difference
F-number	F-2421	F-2421		
LIPID PERCENT (%)	1.55	1.57	1.56	1
EXTRACTION MASS (g)	2.058	2.568	2.313	22
SURROGATE RECOVERY (%)				
PCB 14	105	104	104	1
PCB 65	99	96	98	3
PCB 166	96	95	96	1
TOTAL PCBs (ng/g dw)	704.7	708.3	706.5	1
TOTAL DDXs (ng/g dw)	201.2	206.3	203.7	3
TOTAL CHLORDANES (ng/g dw)	138.8	142.0	140.4	2
PCB's	ng/g	ng/g	ng/g	
1	BDL	BDL	BDL	
3	BDL	0.250	BDL	
4+10	0.394	0.410	0.402	4
7	0.051	0.044	0.048	16
6	0.252	0.256	0.254	2
8+5	2.085	2.108	2.097	1
19	0.736	0.750	0.743	2
12+13	BDL	0.014	BDL	
18	3.751	3.802	3.777	1
17	3.794	3.840	3.817	1
24+27	1.125	1.156	1.140	3
16+32	6.018	6.153	6.085	2
29	BDL	ND	BDL	
26	3.112	3.139	3.125	1
25	2.082	2.159	2.121	4
31+28	20.403	21.174	20.789	4
53+33+21	2.802	3.358	3.080	18
22	7.350	7.738	7.544	5
45	1.522	1.482	1.502	3
46	0.989	1.011	1.000	2
52	19.994	19.976	19.985	0
49	19.605	19.657	19.631	0
47	32.724	33.004	32.864	1
48	3.010	2.810	2.910	7
44	16.495	16.853	16.674	2
37+42	9.592	9.856	9.724	3
41+71	12.267	12.546	12.406	2
40	3.387	3.630	3.509	7
100	5.119	5.204	5.162	2
63	1.858	1.786	1.822	4
74	12.354	12.748	12.551	3
70+76	22.631	22.848	22.740	1
66+95	58.219	58.872	58.545	1

(APPENDIX V Table 7 Cont'd.)

PCB's	0257-F1 ng/g	0257dup-F1 ng/g	average ng/g	percent difference
91	4.538	4.415	4.477	3
56+60	18.375	18.496	18.435	1
101	21.582	21.469	21.526	1
99	12.560	12.837	12.699	2
83	1.167	1.162	1.165	0
97	6.427	6.307	6.367	2
87+81	10.578	10.449	10.513	1
85	6.686	6.757	6.722	1
136	2.117	2.076	2.097	2
77+110	31.778	31.884	31.831	0
82	2.278	2.299	2.289	1
151	10.027	10.011	10.019	0
135+144	5.442	5.406	5.424	1
107	4.015	3.981	3.998	1
149	16.311	16.254	16.283	0
118	14.363	14.449	14.406	1
131	0.302	0.290	0.296	4
146	7.018	6.988	7.003	0
153+132+105	50.573	50.578	50.575	0
141	1.988	1.960	1.974	1
137+176	2.031	1.990	2.010	2
163+138	39.278	39.517	39.398	1
158	6.724	6.739	6.731	0
129+178	4.022	4.004	4.013	0
187+182	13.473	13.379	13.426	1
183	8.896	8.856	8.876	0
128	5.759	5.856	5.807	2
185	1.592	1.347	1.469	17
174	7.007	6.940	6.973	1
177	4.440	4.389	4.415	1
202+171	5.687	5.696	5.692	0
157+200	2.061	1.391	1.726	39
172+197	4.153	3.956	4.055	5
180	32.447	31.708	32.078	2
193	3.891	4.030	3.960	4
191	0.989	0.849	0.919	15
199	0.098	0.083	0.090	17
170+190	20.450	20.867	20.658	2
201	9.218	9.173	9.195	0
203+196	12.641	13.009	12.825	3
189	0.147	0.112	0.129	27
208+195	6.917	6.729	6.823	3
207	0.431	0.363	0.397	17
194	5.546	5.591	5.569	1
205	0.329	0.276	0.302	18
206	4.107	4.316	4.212	5
209	0.472	0.447	0.459	6

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	0257-F1 ng/g	0257dup-F1 ng/g	average ng/g	percent difference
opDDE	11.182	11.632	11.407	4
ppDDE	113.327	116.201	114.764	3
op ddt	26.741	28.026	27.384	5
pp ddt	1.175	0.933	1.054	23
o,p ddd	7.526	6.953	7.239	8
p,p ddd	41.208	42.577	41.892	3
Total DDXs	201.160	206.322	203.741	3
alpha BHC	0.301	0.180	0.241	50
beta BHC	BDL	BDL	BDL	
delta BHC	0.147	0.143	0.145	3
lindane	0.445	0.503	0.474	12
heptaclor	17.446	17.871	17.658	2
heptachlor epoxide	5.240	4.969	5.104	5
oxychlordane	7.421	7.175	7.298	3
gamma chlordane	12.004	12.287	12.145	2
alpha chlordane	32.505	32.129	32.317	1
cis nonachlor	4.212	4.312	4.262	2
trans nonachlor	59.972	63.223	61.598	5
Total Chlordanes	138.800	141.967	140.383	2
dieldrin	2.506	2.348	2.427	7
endrin	BDL	0.127	BDL	
aldrin	0.477	0.407	0.442	16
endosulfan 1	0.382	0.389	0.385	2
endosulfan II	1.541	1.536	1.539	0
average of total OCP's				8

(APPENDIX V Table 7 Cont'd.)

CHEM ID	0378-F1	0378dup-F1	average	percent difference
F-number	F-2068	F-2068		
LIPID PERCENT (%)	3.57	3.53	3.55	1
EXTRACTION MASS (g)	2.01	2.009	2.010	0
SURROGATE RECOVERY (%)				
PCB 14	103	106	104	3
PCB 65	100	99	99	0
PCB 166	95	97	96	2
TOTAL PCBs (ng/g dw)	138.6	140.9	139.8	2
TOTAL DDXs (ng/g dw)	41.5	43.2	42.4	4
TOTAL CHLORDANES (ng/g dw)	35.6	36.0	35.8	1
PCB's	ng/g	ng/g	ng/g	
1	ND	ND	ND	
3	ND	BDL	BDL	
4+10	BDL	BDL	BDL	
7	ND	ND	ND	
6	0.056	ND	BDL	
8+5	0.218	0.265	0.242	20
19	0.047	ND	BDL	
12+13	0.058	BDL	BDL	
18	0.255	0.198	0.227	25
17	0.092	0.067	0.080	32
24+27	BDL	BDL	BDL	
16+32	0.268	0.237	0.253	12
29	BDL	BDL	BDL	
26	0.134	0.130	0.132	3
25	BDL	BDL	BDL	
31+28	3.892	4.074	3.983	5
53+33+21	0.660	0.571	0.615	15
22	1.941	1.915	1.928	1
45	0.170	0.171	0.171	1
46	0.049	0.022	0.035	77
52	4.572	4.719	4.645	3
49	3.471	3.690	3.581	6
47	BDL	BDL	BDL	
48	0.260	0.308	0.284	17
44	3.758	4.031	3.894	7
37+42	0.982	1.158	1.070	16
41+71	2.014	2.091	2.052	4
40	0.531	0.579	0.555	9
100	ND	ND	ND	
63	0.218	0.190	0.204	14
74	2.221	2.314	2.268	4
70+76	5.280	5.248	5.264	1
66+95	5.493	5.355	5.424	3

(APPENDIX V Table 7 Cont'd.)

PCB's	0378-F1 ng/g	0378dup-F1 ng/g	average ng/g	percent difference
91	0.740	0.779	0.759	5
56+60	3.877	3.917	3.897	1
101	6.207	6.312	6.260	2
99	3.135	3.091	3.113	1
83	0.357	0.398	0.377	11
97	1.751	1.781	1.766	2
87+81	3.213	3.248	3.230	1
85	0.909	0.769	0.839	17
136	0.397	0.383	0.390	4
77+110	8.911	9.028	8.969	1
82	0.697	0.682	0.690	2
151	1.844	1.838	1.841	0
135+144	1.259	1.207	1.233	4
107	0.655	0.677	0.666	3
149	4.821	5.133	4.977	6
118	4.978	5.259	5.119	5
131	0.082	0.089	0.085	8
146	1.852	1.909	1.881	3
153+132+105	14.731	15.385	15.058	4
141	0.549	0.493	0.521	11
137+176	0.624	0.644	0.634	3
163+138	12.071	12.478	12.274	3
158	1.621	1.619	1.620	0
129+178	0.624	0.595	0.609	5
187+182	2.802	3.023	2.913	8
183	1.379	1.291	1.335	7
128	1.232	1.279	1.255	4
185	0.237	0.243	0.240	3
174	1.202	1.194	1.198	1
177	1.136	1.191	1.164	5
202+171	0.501	0.512	0.507	2
157+200	0.415	0.363	0.389	13
172+197	0.544	0.524	0.534	4
180	4.458	4.447	4.452	0
193	0.632	0.618	0.625	2
191	0.130	0.090	0.110	37
199	0.095	0.079	0.087	18
170+190	3.410	3.425	3.417	0
201	1.750	1.814	1.782	4
203+196	2.044	2.050	2.047	0
189	0.412	0.371	0.391	11
208+195	1.373	1.302	1.338	5
207	0.114	0.088	0.101	26
194	0.836	0.801	0.819	4
205	0.128	0.052	0.090	85
206	0.936	0.863	0.900	8
209	0.279	0.272	0.276	3

(APPENDIX V Table 7 Cont'd.)

ORGANOCHLORINE PESTICIDES	0378-F1 ng/g	0378dup-F1 ng/g	average ng/g	percent difference
opDDE	3.031	3.247	3.139	7
ppDDE	22.888	24.304	23.596	6
op ddt	8.246	8.334	8.290	1
pp ddt	BDL	BDL	BDL	
o,p ddd	1.160	1.045	1.103	10
p,p ddd	6.218	6.234	6.226	0
Total DDXs	41.544	43.164	42.354	4
alpha BHC	BDL	BDL	BDL	
beta BHC	BDL	BDL	BDL	
delta BHC	0.125	0.092	0.109	30
lindane	ND	BDL	BDL	
heptaclor	0.504	0.441	0.472	13
heptachlor epoxide	4.157	4.062	4.109	2
oxychlordane	2.827	2.785	2.806	2
gamma chlordane	7.793	7.572	7.683	3
alpha chlordane	10.954	10.571	10.762	4
cis nonachlor	ND	0.566	BDL	
trans nonachlor	9.355	9.976	9.666	6
Total Chlordanes	35.590	35.971	35.781	1
dieldrin	1.062	1.065	1.063	0
endrin	BDL	BDL	BDL	
aldrin	0.342	0.315	0.328	8
endosulfan I	0.621	0.718	0.670	15
endosulfan II	0.619	0.657	0.638	6
average of total OCP's				7

BDL - Below Detection Limit
ND - Not Detected

Mean RPD	Std. Dev
12	8

APPENDIX V Table 8. Results of Triplicate Analysis for Individual PCB Congeners and Organochlorine Pesticides

CHEM ID	9454F1	9454dupF1	9454tripF1	Average	Standard Deviation	Relative Standard Deviation
F-number	F-2495	F-2495	F-2495			
LIPID PERCENT (%)	2.13	2.15	2.12	2.13	0.01	1
EXTRACTION MASS (g)	1.988	1.999	2.124	2.04	0.08	4
SURROGATE RECOVERY (%)						
PCB 14	112	122	114	116	5	5
PCB 65	88	98	92	93	5	6
PCB 166	97	107	101	101	5	5
TOTAL PCBs (ng/g dw)	310	339	333	327	15	5
TOTAL DDXs (ng/g dw)	58.9	67.7	67.6	65	5	8
TOTAL CHLORDANES (ng/g dw)	39.6	44.8	45.2	43	3	7
PCBs	ng/g	ng/g	ng/g			
1	0.374	0.215	0.184	0.258	0.102	40
3	0.872	0.399	0.327	0.533	0.296	56
4+10	BDL	BDL	BDL	BDL		
7	BDL	BDL	BDL	BDL		
6	0.049	0.036	0.028	0.038	0.010	27
8+5	0.492	0.498	0.473	0.488	0.013	3
19	0.045	BDL	BDL	BDL		
12+13	0.026	0.016	BDL	BDL		
18	0.728	0.778	0.759	0.755	0.025	3
17	0.312	0.340	0.331	0.327	0.014	4
24+27	BDL	BDL	BDL	BDL		
16+32	0.532	0.583	0.588	0.568	0.031	5
29	BDL	BDL	BDL	BDL		
26	0.472	0.510	0.506	0.496	0.021	4
25	BDL	BDL	BDL	BDL		
31+28	4.954	5.330	5.491	5.258	0.275	5
53+33+21	0.830	0.944	0.884	0.886	0.057	6
22	1.801	1.968	1.970	1.913	0.097	5
45	0.465	0.485	0.493	0.481	0.015	3
46	0.052	0.055	0.057	0.055	0.003	5
52	4.474	4.974	4.854	4.767	0.261	5
49	4.119	4.555	4.472	4.382	0.232	5
47	1.517	1.690	1.522	1.576	0.099	6
48	0.488	0.480	0.445	0.471	0.023	5
44	3.954	4.444	4.179	4.193	0.245	6
37+42	1.450	1.643	0.906	1.333	0.382	29
41+71	4.487	5.196	4.799	4.827	0.356	7
40	0.642	0.729	0.714	0.695	0.047	7
100	0.608	0.629	0.587	0.608	0.021	3
63	0.494	0.576	0.532	0.534	0.041	8
74	4.315	4.849	4.722	4.629	0.279	6
70+76	4.434	5.124	4.791	4.783	0.345	7
66+95	15.133	17.029	16.232	16.131	0.952	6
91	1.092	1.182	1.191	1.155	0.055	5
56+60	5.093	5.562	5.378	5.345	0.236	4
101	7.897	8.791	8.620	8.436	0.474	6
99	7.446	4.895	5.031	5.791	1.435	25
83	0.433	0.504	0.453	0.463	0.037	8
97	2.469	2.737	2.749	2.652	0.159	6
87+81	1.930	2.163	2.151	2.081	0.131	6
85	0.895	1.013	0.955	0.954	0.059	6

(APPENDIX V Table 8 Cont'd)

CHEM ID	9454F1	9454dupF1	9454tripF1	Average	Standard Deviation	Relative Standard Deviation
136	0.367	0.401	0.384	0.384	0.017	4
77+110	12.906	14.441	14.306	13.885	0.850	6
82	0.623	0.739	0.730	0.697	0.065	9
151	1.753	2.025	1.968	1.915	0.144	7
135+144	1.548	1.735	1.691	1.658	0.098	6
107	1.074	1.277	1.228	1.193	0.106	9
149	8.484	9.590	9.251	9.108	0.567	6
118	10.054	10.919	10.772	10.582	0.463	4
131	0.215	0.223	0.231	0.223	0.008	4
146	3.867	4.307	4.181	4.118	0.227	6
153+132+105	34.570	38.213	37.267	36.683	1.890	5
141	0.729	0.804	0.775	0.769	0.037	5
137+176	1.153	1.271	1.273	1.232	0.069	6
163+138	26.909	29.846	29.287	28.681	1.560	5
158	1.707	1.882	1.869	1.819	0.097	5
129+178	2.094	1.626	1.588	1.769	0.282	16
187+182	9.536	10.530	10.314	10.127	0.523	5
183	5.823	6.404	6.308	6.178	0.312	5
128	2.335	2.514	2.514	2.454	0.103	4
185	0.810	0.887	0.854	0.850	0.038	5
174	4.289	4.701	4.664	4.551	0.228	5
177	3.217	3.524	3.489	3.410	0.168	5
202+171	3.480	3.808	3.796	3.695	0.186	5
157+200	1.276	1.431	1.376	1.361	0.078	6
172+197	6.453	7.176	7.021	6.883	0.381	6
180	31.314	33.699	33.814	32.942	1.411	4
193	3.644	4.864	5.029	4.512	0.757	17
191	0.538	0.575	0.632	0.582	0.048	8
199	0.168	0.173	0.183	0.175	0.008	4
170+190	14.572	16.240	16.174	15.662	0.945	6
201	6.350	7.014	6.963	6.776	0.369	5
203+196	9.418	10.424	10.418	10.087	0.579	6
189	0.869	0.957	0.953	0.926	0.050	5
208+195	4.899	5.447	5.476	5.274	0.325	6
207	0.220	0.248	0.257	0.242	0.019	8
194	4.172	4.655	4.663	4.496	0.281	6
205	0.203	0.212	0.229	0.214	0.013	6
206	2.955	3.316	3.284	3.185	0.200	6
209	0.154	0.174	0.171	0.166	0.011	7

(APPENDIX V Table 8 Cont'd)

ORGANOCHLORINE PESTICIDES

CHEM ID	9454F1 ng/g	9454dupF1 ng/g	9454tripF1 ng/g	Average	Standard Deviation	Relative Standard Deviation
opDDE	2.219	2.485	2.423	2.369	0.131	6
ppDDE	42.101	48.229	49.074	46.468	3.805	8
op ddt	4.244	4.885	4.566	4.565	0.321	7
pp ddt	BDL	BDL	BDL	BDL		
o,p ddd	0.682	0.887	0.944	0.838	0.138	16
p,p ddd	9.615	11.228	10.564	10.469	0.811	8
Total DDXs	58.861	67.694	67.571	64.709	5.065	8
alpha BHC	BDL	BDL	BDL	BDL		
beta BHC	0.327	ND	0.511	BDL		
delta BHC	BDL	BDL	BDL	BDL		
lindane	0.320	0.386	0.280	0.328	0.053	16
heptaclor	0.665	0.743	0.755	0.721	0.049	7
heptachlor epoxide	2.077	2.159	2.270	2.169	0.097	4
oxychlordane	0.962	1.217	1.082	1.087	0.127	12
gamma chlordane	3.830	4.492	5.515	4.612	0.849	18
alpha chlordane	1.683	2.333	1.876	1.964	0.334	17
cis nonachlor	9.475	9.906	10.145	9.842	0.339	3
trans nonachlor	20.881	23.987	23.548	22.805	1.681	7
Total Chlordanes	39.572	44.837	45.191	43.200	3.147	7
dieldrin	4.057	4.432	4.658	4.382	0.304	7
endrin	ND	ND	ND	ND		
aldrin	BDL	0.175	BDL	BDL		
endosulfan I	1.554	1.850	2.008	1.804	0.230	13
endosulfan II	0.516	0.730	0.613	0.620	0.107	17
						10

BDL - Below Detection Limit
ND - Not Detected

(APPENDIX V Table 8 Cont'd)

CHEM ID	0272-F1	0272dup-F1	0272trip-F1	Average	Standard Deviation	Relative Standard Deviation
F-number	F-2036	F-2036	F-2036			
LIPID PERCENT (%)	0.52	0.71	0.77	0.669	0.131	20
EXTRACTION MASS (g)	2.032	2.017	2.01	2.020	0.011	1
SURROGATE RECOVERY (%)						
PCB 14	100	99	98	98.822	1.080	1
PCB 65	92	92	98	93.981	3.545	4
PCB 166	84	85	0	56.368	48.820	87
TOTAL PCBs (ng/g dw)	18.5	18.3	19.1	18.616	0.417	2
TOTAL DDXs (ng/g dw)	5.0	5.0	4.1	4.686	0.550	12
TOTAL CHLORDANES (ng/g dw)	1.3	1.6	1.1	1.336	0.257	19
PCBs	ng/g	ng/g	ng/g			
1	ND	ND	ND	ND		
3	ND	ND	ND	ND		
4+10	BDL	BDL	BDL	BDL		
7	BDL	BDL	BDL	BDL		
6	ND	BDL	ND	BDL		
8+5	ND	ND	ND	ND		
19	BDL	0.034	BDL	BDL		
12+13	ND	ND	ND	ND		
18	ND	BDL	ND	BDL		
17	ND	BDL	ND	BDL		
24+27	BDL	BDL	BDL	BDL		
16+32	BDL	BDL	BDL	BDL		
29	BDL	BDL	BDL	BDL		
26	0.048	0.028	BDL	BDL	0.014	
25	BDL	BDL	BDL	BDL		
31+28	0.315	0.342	0.342	0.333	0.016	5
53+33+21	BDL	BDL	BDL	BDL		
22	0.312	0.331	0.226	0.290	0.056	19
45	BDL	ND	BDL	BDL		
46	0.026	ND	BDL	BDL		
52	0.422	0.400	0.475	0.432	0.038	9
49	0.318	0.412	0.365	0.365	0.047	13
47	BDL	BDL	BDL	BDL		
48	BDL	BDL	BDL	BDL		
44	0.240	0.255	0.254	0.250	0.009	4
37+42	0.117	0.133	0.206	0.152	0.047	31
41+71	ND	ND	BDL	BDL		
40	0.042	0.040	0.023	0.035	0.010	30
100	0.052	0.026	BDL	BDL		
63	0.067	0.066	0.029	0.054	0.022	40
74	0.179	0.167	0.185	0.177	0.009	5
70+76	0.515	0.465	0.507	0.496	0.027	5
66+95	1.197	1.212	0.430	0.946	0.447	47
91	0.091	0.084	0.087	0.087	0.003	4
56+60	0.954	0.952	0.985	0.964	0.018	2
101	0.629	0.645	0.703	0.659	0.039	6
99	0.256	0.256	0.288	0.267	0.018	7
83	0.045	0.034	0.028	0.036	0.009	24
97	0.150	0.141	0.172	0.154	0.016	10
87+81	0.515	0.477	0.505	0.499	0.020	4
85	0.195	0.151	0.174	0.173	0.022	13

(APPENDIX V Table 8 Cont'd)

CHEM ID	0272-F1	0272dup-F1	0272trip-F1	Average	Standard Deviation	Relative Standard Deviation
136	0.075	0.062	0.051	0.063	0.012	19
77+110	0.922	0.871	0.944	0.913	0.038	4
82	0.099	0.070	0.064	0.078	0.019	24
151	0.242	0.214	0.265	0.241	0.026	11
135+144	0.131	0.124	0.148	0.135	0.012	9
107	0.079	0.064	0.090	0.078	0.013	17
149	0.638	0.694	0.709	0.680	0.037	6
118	0.434	0.428	0.468	0.443	0.021	5
131	0.014	0.010	0.010	0.012	0.002	19
146	0.285	0.254	0.284	0.274	0.018	6
153+132+105	1.991	1.954	2.207	2.051	0.137	7
141	0.089	0.083	0.094	0.089	0.006	6
137+176	0.103	0.084	0.102	0.096	0.011	11
163+138	1.354	1.347	1.526	1.409	0.101	7
158	0.229	0.194	0.251	0.224	0.029	13
129+178	0.173	0.165	0.159	0.166	0.007	4
187+182	0.527	0.548	0.626	0.567	0.052	9
183	0.308	0.320	0.380	0.336	0.039	11
128	0.121	0.120	0.140	0.127	0.012	9
185	0.080	0.083	0.077	0.080	0.003	3
174	0.174	0.156	0.201	0.177	0.023	13
177	0.188	0.183	0.223	0.198	0.022	11
202+171	0.194	0.184	0.218	0.199	0.018	9
157+200	0.075	0.061	0.082	0.073	0.011	15
172+197	0.100	0.089	0.113	0.100	0.012	12
180	0.759	0.781	0.917	0.819	0.085	10
193	ND	BDL	ND	BDL		
191	0.018	0.018	0.022	0.019	0.002	12
199	0.015	0.016	0.018	0.016	0.002	10
170+190	0.739	0.734	0.805	0.759	0.040	5
201	0.393	0.391	0.474	0.420	0.047	11
203+196	0.486	0.484	0.589	0.519	0.060	12
189	0.103	0.108	0.068	0.093	0.022	23
208+195	0.288	0.300	0.311	0.300	0.012	4
207	0.021	0.029	0.023	0.024	0.004	18
194	0.202	0.203	0.228	0.211	0.015	7
205	0.021	0.018	0.017	0.018	0.002	13
206	0.134	0.134	0.147	0.138	0.007	5
209	0.027	0.031	0.037	0.032	0.005	15

(APPENDIX V Table 8 Cont'd)

ORGANOCHLORINE PESTICIDES

CHEM ID	0272-F1 ng/g	0272dup-F1 ng/g	0272trip-F1 ng/g	Average	Standard Deviation	Relative Standard Deviation
opDDE	0.178	0.208	0.195	0.194	0.015	8
ppDDE	2.546	2.657	1.587	2.263	0.588	26
op ddt	0.506	0.516	0.544	0.522	0.020	4
pp ddt	BDL	BDL	BDL	BDL		
o,p ddd	0.109	BDL	BDL	BDL		
p,p ddd	1.644	1.641	1.726	1.670	0.048	3
Total DDXs	4.983	5.022	4.051	4.686	0.550	12
alpha BHC	BDL	BDL	BDL	BDL		
beta BHC	BDL	BDL	BDL	BDL		
delta BHC	BDL	BDL	BDL	BDL		
lindane	BDL	0.224	ND	BDL		
heptaclor	ND	ND	BDL	BDL		
heptachlor epoxide	0.171	0.131	BDL	BDL	0.028	
oxychlordane	0.284	0.237	0.293	0.271	0.030	11
gamma chlordane	BDL	0.506	BDL	BDL		
alpha chlordane	0.202	0.175	0.270	0.216	0.049	23
cis nonachlor	ND	ND	ND	ND		
trans nonachlor	0.598	0.577	0.567	0.581	0.016	3
Total Chlordanes	1.254	1.625	1.130	1.336	0.257	19
dieldrin	ND	ND	ND	ND		
endrin	BDL	BDL	BDL	BDL		
aldrin	BDL	BDL	BDL	BDL		
endosulfan I	BDL	BDL	BDL	BDL		
endosulfan II	0.092	0.073	0.082	0.082	0.010	12

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BDL - Below Detection Limit
ND - Not Detected

(APPENDIX V Table 8 Cont'd)

CHEM ID	0281-F1	0281dup-F1	0281trip-F1	Average	Standard Deviation	Relative Standard Deviation
F-number	F-2045	F-2045	F-2045			
LIPID PERCENT (%)	1.85	1.74	1.61	1.731	0.122	7
EXTRACTION MASS (g)	2.026	2.092	2.016	2.045	0.041	2
SURROGATE RECOVERY (%)						
PCB 14	98	103	94	98.522	4.688	5
PCB 65	99	99	91	96.314	4.505	5
PCB 166	96	95	88	93.187	4.311	5
TOTAL PCBs (ng/g dw)	192.2	184.9	162.3	179.799	15.586	9
TOTAL DDXs (ng/g dw)	96.3	90.4	76.9	87.854	9.971	11
TOTAL CHLORDANES (ng/g dw)	13.6	13.8	12.0	13.119	0.992	8
PCBs	ng/g	ng/g	ng/g			
1	ND	ND	ND	ND		
3	ND	BDL	BDL	BDL		
4+10	BDL	BDL	BDL	BDL		
7	BDL	BDL	BDL	BDL		
6	ND	BDL	BDL	BDL		
8+5	ND	BDL	ND	BDL		
19	BDL	BDL	BDL	BDL		
12+13	BDL	0.023	BDL	BDL		
18	0.348	0.332	0.285	0.322	0.033	10
17	0.154	0.142	0.122	0.139	0.016	12
24+27	BDL	BDL	BDL	BDL		
16+32	0.293	0.281	0.291	0.289	0.006	2
29	0.088	BDL	BDL	BDL		
26	0.166	0.106	0.093	0.122	0.039	32
25	0.474	BDL	BDL	BDL		
31+28	1.696	1.617	1.405	1.573	0.151	10
53+33+21	0.173	0.264	0.228	0.221	0.046	21
22	0.924	0.939	0.687	0.850	0.142	17
45	0.209	0.215	0.167	0.197	0.026	13
46	0.094	0.035	ND	BDL		
52	2.698	2.666	2.299	2.554	0.222	9
49	1.798	1.743	1.570	1.703	0.119	7
47	1.674	1.469	1.332	1.491	0.172	12
48	0.445	0.436	0.390	0.424	0.030	7
44	2.113	2.124	1.858	2.032	0.150	7
37+42	1.135	0.969	1.118	1.074	0.092	9
41+71	1.481	1.056	1.247	1.261	0.213	17
40	0.401	0.398	0.352	0.383	0.028	7
100	0.115	0.129	0.115	0.120	0.008	6
63	0.244	0.256	0.242	0.247	0.008	3
74	1.939	1.850	1.628	1.806	0.160	9
70+76	3.388	3.218	2.850	3.152	0.275	9
66+95	4.701	4.451	3.847	4.333	0.439	10
91	0.563	0.515	0.454	0.511	0.055	11
56+60	7.979	7.932	6.809	7.573	0.662	9
101	5.979	5.850	5.069	5.633	0.492	9
99	2.923	2.826	2.436	2.728	0.258	9
83	0.390	0.381	0.330	0.367	0.033	9
97	1.547	1.500	1.302	1.450	0.130	9
87+81	3.061	2.886	2.549	2.832	0.260	9
85	1.862	1.521	1.449	1.610	0.221	14

(APPENDIX V Table 8 Cont'd)

CHEM ID	0281-F1	0281dup-F1	0281trip-F1	Average	Standard Deviation	Relative Standard Deviation
136	0.365	0.356	0.309	0.343	0.030	9
77+110	7.726	7.304	6.338	7.123	0.712	10
82	0.635	0.642	0.537	0.604	0.059	10
151	2.752	2.608	2.245	2.535	0.261	10
135+144	1.461	1.419	1.241	1.374	0.117	9
107	0.862	0.793	0.697	0.784	0.083	11
149	5.877	5.900	5.260	5.679	0.363	6
118	5.219	4.896	4.264	4.793	0.486	10
131	0.064	0.064	0.053	0.060	0.006	11
146	3.224	3.149	2.757	3.043	0.251	8
153+132+105	24.141	23.730	20.984	22.952	1.716	7
141	0.551	0.561	0.509	0.540	0.028	5
137+176	0.952	0.864	0.750	0.855	0.102	12
163+138	18.091	17.426	15.299	16.939	1.456	9
158	2.505	2.345	2.090	2.314	0.209	9
129+178	1.604	1.626	1.443	1.558	0.100	6
187+182	6.948	6.878	5.959	6.595	0.552	8
183	4.131	3.956	3.429	3.839	0.365	10
128	1.564	1.489	1.316	1.456	0.127	9
185	0.507	0.492	0.477	0.492	0.015	3
174	2.609	2.511	2.207	2.442	0.210	9
177	2.256	2.190	1.906	2.117	0.186	9
202+171	2.692	2.596	2.303	2.531	0.203	8
157+200	0.690	0.723	0.588	0.667	0.071	11
172+197	1.598	1.500	1.317	1.472	0.142	10
180	14.107	13.704	11.983	13.265	1.128	9
193	1.266	1.532	1.134	1.311	0.203	15
191	0.302	0.320	0.279	0.300	0.020	7
199	0.072	0.073	0.072	0.073	0.001	1
170+190	8.688	8.201	7.143	8.011	0.790	10
201	4.390	4.274	3.708	4.124	0.365	9
203+196	5.644	5.387	4.738	5.256	0.467	9
189	0.784	0.737	0.613	0.711	0.088	12
208+195	2.632	2.513	2.257	2.468	0.192	8
207	0.178	0.170	0.155	0.168	0.012	7
194	2.203	2.068	1.839	2.037	0.184	9
205	0.151	0.159	0.119	0.143	0.021	15
206	1.475	1.420	1.265	1.387	0.109	8
209	0.217	0.204	0.196	0.205	0.011	5

(APPENDIX V Table 8 Cont'd)

ORGANOCHLORINE PESTICIDES

CHEM ID	0281-F1 ng/g	0281dup-F1 ng/g	0281trip-F1 ng/g	Average	Standard Deviation	Relative Standard Deviation
opDDE	2.035	2.057	1.719	1.937	0.189	10
ppDDE	65.445	59.062	50.090	58.199	7.714	13
op ddt	5.266	5.259	5.096	5.207	0.096	2
pp ddt	0.754	0.898	0.764	0.805	0.080	10
o,p ddd	4.580	4.832	4.324	4.579	0.254	6
p,p ddd	18.214	18.310	14.859	17.128	1.965	11
Total DDXs	96.294	90.417	76.852	87.854	9.971	11
alpha BHC	BDL	BDL	BDL	BDL		
beta BHC	BDL	BDL	BDL	BDL		
delta BHC	BDL	BDL	BDL	BDL		
lindane	BDL	ND	ND	BDL		
heptaclor	0.168	0.187	0.115	0.157	0.037	24
heptachlor epoxide	0.480	0.812	0.546	0.613	0.176	29
oxychlordane	1.547	1.509	1.608	1.555	0.050	3
gamma chlordane	1.843	1.915	1.435	1.731	0.259	15
alpha chlordane	3.057	2.987	2.808	2.951	0.129	4
cis nonachlor	ND	ND	ND	ND		
trans nonachlor	6.487	6.385	5.467	6.113	0.562	9
Total Chlordanes	13.582	13.794	11.979	13.119	0.992	8
dieldrin	BDL	BDL	BDL	BDL		
endrin	BDL	BDL	BDL	BDL		
aldrin	BDL	BDL	BDL	BDL		
endosulfan 1	ND	ND	ND	ND		
endosulfan II	0.320	0.344	0.333	0.332	0.012	4

BDL - Below Detection Limit
ND - Not Detected

APPENDIX V Table 9. Summary of Duplicate and Triplicate Results for Total PCBs, DDXs, and Chlordanes

Duplicates

CHEM ID	9432	9432dup	AVG	RPD %
TOTAL PCBs (ng/g)	347.9	366.2	357.0	5
TOTAL DDXs (ng/g)	86.8	95.6	91.2	10
TOTAL CHLORDANES (ng/g)	115.9	118.6	117.3	2

CHEM ID	9461	9461dup	AVG	RPD %
TOTAL PCBs (ng/g)	284.8	269.9	277.3	5
TOTAL DDXs (ng/g)	69.5	67.4	68.4	3
TOTAL CHLORDANES (ng/g)	56.9	55.4	56.1	3

CHEM ID	9471	9471dup	AVG	RPD %
TOTAL PCBs (ng/g)	69.2	72.2	70.7	4
TOTAL DDXs (ng/g)	19.1	19.1	19.1	0
TOTAL CHLORDANES (ng/g)	20.6	20.9	20.8	1

CHEM ID	9543R	9543dup	AVG	RPD %
TOTAL PCBs (ng/g)	1275.0	1245.3	1260.1	2
TOTAL DDXs (ng/g)	275.9	279.5	277.7	1
TOTAL CHLORDANES (ng/g)	119.4	127.8	123.6	7

CHEM ID	9544	9544dup	AVG	RPD %
TOTAL PCBs (ng/g)	880.8	867.6	874.2	2
TOTAL DDXs (ng/g)	177.6	182.4	180.0	3
TOTAL CHLORDANES (ng/g)	211.0	219.1	215.1	4

CHEM ID	238	0238dup	AVG	RPD %
TOTAL PCBs (ng/g)	47.5	46.7	47.1	2
TOTAL DDXs (ng/g)	5.2	4.7	4.9	11
TOTAL CHLORDANES (ng/g)	8.2	8.0	8.1	3

CHEM ID	248	0248dup	AVG	RPD %
TOTAL PCBs (ng/g)	36.504	34.383	35.443	6
TOTAL DDXs (ng/g)	24.349	48.198	36.273	66
TOTAL CHLORDANES (ng/g)	13.971	12.721	13.346	9

CHEM ID	257	0257dup	AVG	RPD %
TOTAL PCBs (ng/g)	704.655	708.314	706.485	1
TOTAL DDXs (ng/g)	201.160	206.322	203.741	3
TOTAL CHLORDANES (ng/g)	138.800	141.967	140.383	2

Appendix V Table 9 cont'd.

CHEM ID	378	0378dup	AVG	RPD %
TOTAL PCBs (ng/g)	138.588	140.936	139.762	2
TOTAL DDXs (ng/g)	41.544	43.164	42.354	4
TOTAL CHLORDANES (ng/g)	35.590	35.971	35.781	1

	Mean RPD	STD DEV
TOTAL PCBs (ng/g)	3	2
TOTAL DDXs (ng/g)	11	21
TOTAL CHLORDANES (ng/g)	4	3

All Units in ng/g wet wt

Triplicates

CHEM ID	9454	9454dup	9454trip	AVG	STD DEV	RSD %
TOTAL PCBs (ng/g)	310.1	339.2	332.8	327.4	15.3	5
TOTAL DDXs (ng/g)	58.9	67.7	67.6	64.7	5.1	8
TOTAL CHLORDANES (ng/g)	39.6	44.8	45.2	43.2	3.1	7

CHEM ID	272	0272dup	0272trip	AVG	STD DEV	RSD %
TOTAL PCBs (ng/g)	18.5	18.3	19.1	18.6	0.4	2
TOTAL DDXs (ng/g)	5.0	5.0	4.1	4.7	0.5	12
TOTAL CHLORDANES (ng/g)	1.3	1.6	1.1	1.3	0.3	19

CHEM ID	281	0281dup	0281trip	AVG	STD DEV	RSD %
TOTAL PCBs (ng/g)	192.2	184.9	162.3	179.8	15.6	9
TOTAL DDXs (ng/g)	96.3	90.4	76.9	87.9	10.0	11
TOTAL CHLORDANES (ng/g)	13.6	13.8	12.0	13.1	1.0	8

	STD DEV	Mean RSD
TOTAL PCBs (ng/g)	3	5
TOTAL DDXs (ng/g)	2	10
TOTAL CHLORDANES (ng/g)	7	11

All Units in ng/g wet wt

APPENDIX V Table 10. Spike Recoveries for PCB Congeners.

Congeners	SPIKE A	SPIKE B	SPIKE C	Average	Std. Dev	Mullins Mixture "610"	% Recovery
	ng	*ng*	*ng*	*ng*		*ng*	
1	22.18	23.49	24.73	23.47	1.28	43	**55**
3	16.02	17.56	16.60	16.73	0.78	26	**64**
4+10	1.32	1.43	1.40	1.38	0.05	2.8	**49**
7	1.22	1.31	1.29	1.27	0.04	2.2	**58**
6	2.36	2.50	2.53	2.46	0.09	4.2	**59**
8+5	26.63	28.52	28.65	27.93	1.13	50	**56**
19	0.58	0.59	0.59	0.59	0.00	1	**59**
12+13	0.51	0.54	0.53	0.53	0.02	0.92	**57**
18	7.05	7.50	7.55	7.37	0.27	13	**57**
17	4.26	4.51	4.46	4.41	0.13	7.4	**60**
24+27	0.34	0.38	0.35	0.36	0.02	0.87	**41**
16+32	7.07	7.55	7.53	7.38	0.27	13.1	**56**
29	0.01	0.01	0.01	0.01	0.00	0.18	**7**
26	1.35	1.43	1.44	1.41	0.05	2.3	**61**
25	0.42	0.43	0.43	0.43	0.01	1	**43**
31+28	24.06	25.95	25.71	25.24	1.03	38	**66**
53+33+21	9.71	10.29	10.28	10.09	0.33	16.7	**60**
22	6.70	7.01	7.11	6.94	0.21	11	**63**
45	1.51	1.61	1.59	1.57	0.05	2.7	**58**
46	0.77	0.81	0.80	0.80	0.02	1.4	**57**
52	6.68	7.08	7.02	6.93	0.21	12	**58**
49	5.44	5.75	5.70	5.63	0.16	9	**63**
47	3.03	3.34	3.37	3.25	0.19	5	**65**
48	2.27	2.52	2.38	2.39	0.13	4	**60**
44	9.25	9.83	9.79	9.62	0.33	15	**64**
37+42	5.56	5.89	5.85	5.77	0.18	8.8	**66**
41+71	11.90	12.65	12.56	12.37	0.41	9.4	**132**
40	1.96	2.08	2.05	2.03	0.06	3.3	**61**
100	0.34	0.33	0.37	0.35	0.02	0.5	**70**
63	0.50	0.52	0.51	0.51	0.01	0.74	**69**
74	4.81	5.17	5.15	5.04	0.20	8.1	**62**
70+76	13.46	14.46	14.36	14.09	0.55	21	**67**
66+95	16.98	18.03	18.22	17.74	0.67	27.2	**65**
91	0.88	0.94	0.92	0.91	0.03	1.4	**65**
56+60	11.80	12.69	12.62	12.37	0.50	18	**69**
101	2.90	3.13	3.11	3.04	0.13	4.8	**63**
99	1.50	1.66	1.60	1.59	0.08	2.3	**69**
83	0.23	0.26	0.26	0.25	0.02	0.36	**69**
97	1.26	1.37	1.39	1.34	0.07	1.9	**70**
87+81	0.96	1.01	1.03	1.00	0.03	3.32	**30**
85	1.36	1.44	1.54	1.45	0.09	2.1	**69**
136	0.83	0.87	0.91	0.87	0.04	1.4	**62**
77+110	4.57	4.93	4.95	4.82	0.21	7.1	**68**
82	0.82	0.87	0.85	0.84	0.03	1.3	**65**
151	3.45	3.72	3.66	3.61	0.14	5.7	**63**
135+144	1.32	1.43	1.40	1.38	0.05	2.2	**63**
107	0.23	0.23	0.22	0.23	0.00	0.33	**69**
149	6.60	6.81	6.83	6.75	0.13	11	**61**
118	2.20	2.14	2.43	2.26	0.15	3.5	**64**
131	0.04	0.04	0.05	0.04	0.00	0.091	**48**
146	0.98	0.98	1.04	1.00	0.03	1.6	**63**
153+132+105	13.27	13.69	14.01	13.66	0.37	21.6	**63**
141	3.05	3.11	3.23	3.13	0.09	5.2	**60**
137+176	0.84	0.88	0.91	0.88	0.03	1.388	**63**

163+138	6.41	6.74	6.84	6.66	0.22	9.8	**68**
158	0.34	0.35	0.35	0.35	0.01	1.2	**29**
129+178	2.11	2.16	2.12	2.13	0.02	3.7	**58**
187+182	10.85	11.38	11.53	11.25	0.36	15	**75**
183	4.63	4.86	4.90	4.80	0.14	7.7	**62**
128	0.26	0.29	0.31	0.29	0.03	0.47	**61**
185	1.35	1.43	1.45	1.41	0.05	2.2	**64**
174	6.80	7.17	7.28	7.09	0.25	11	**64**
177	3.52	3.69	3.74	3.65	0.11	5.7	**64**
202+171	2.39	2.51	2.56	2.48	0.08	3.69	**67**
157+200	1.32	1.45	1.37	1.38	0.07	2.067	**67**
172+197	4.39	4.60	4.50	4.50	0.11	2.14	**210**
180	21.40	22.83	23.05	22.43	0.90	24	**93**
193	3.78	4.09	4.18	4.02	0.21	2.4	**167**
191	0.31	0.32	0.41	0.35	0.05	0.45	**77**
199	0.45	0.48	0.48	0.47	0.02	1	**47**
170+190	7.88	8.36	8.48	8.24	0.31	12.1	**68**
201	9.44	9.97	10.11	9.84	0.36	15	**66**
203+196	10.75	11.42	11.61	11.26	0.45	17	**66**
189	0.22	0.24	0.28	0.25	0.03	0.48	**51**
208+195	4.89	5.23	5.31	5.15	0.22	8.0776	**64**
207	0.28	0.30	0.30	0.29	0.01	0.48	**60**
194	4.46	4.80	4.82	4.69	0.20	6.9	**68**
205	0.23	0.25	0.26	0.25	0.01	0.4	**62**
206	2.77	2.94	2.98	2.90	0.11	4.2	**69**
209	0.02	0.02	0.02	0.02	0.00	0.095	18
						Average Recovery	**65**