In cooperation with the U.S. Air Force Aeronautical System Center, Environmental Management Directorate

Data on Occurrence of Selected Trace Metals, Organochlorines, and Semivolatile Organic Compounds in Edible Fish Tissues From Lake Worth, Fort Worth, Texas, 1999

Open-File Report 02–016

U.S. Department of the Interior
U.S. Geological Survey

Cover:

U.S. Geological Survey boat electrofishing unit. (Photograph by John C. Rosendale, U.S. Geological Survey.)

U.S. Department of the Interior
U.S. Geological Survey

Data on Occurrence of Selected Trace Metals, Organochlorines, and Semivolatile Organic Compounds in Edible Fish Tissues From Lake Worth, Fort Worth, Texas, 1999

By J. Bruce Moring

U.S. GEOLOGICAL SURVEY
Open-File Report 02–016

In cooperation with the U.S. Air Force Aeronautical System Center, Environmental Management Directorate

Austin, Texas
2002

U.S. DEPARTMENT OF THE INTERIOR

Gale A. Norton, Secretary

U.S. GEOLOGICAL SURVEY

Charles G. Groat, Director

Any use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

For additional information write to

District Chief
U.S. Geological Survey
8027 Exchange Dr.
Austin, TX 78754–4733
E-mail: dc_tx@usgs.gov

Copies of this report can be purchased from

U.S. Geological Survey
Branch of Information Services
Box 25286
Denver, CO 80225–0286
E-mail: infoservices@usgs.gov

CONTENTS

Abstract 1
Introduction 1
Sampling and Analytical Approach 3
Fish Collection 3
Field Processing of Fish 3
Data Quality 3
Sampling Tracking and Disposition 3
Washing of Equipment 4
Analyses of Trace Metals and Organic Compounds 4
References 4

FIGURE

1. Map showing Lake Worth, U.S. Air Force Plant 4, and Naval Air Station, Joint Reserve Base, Carswell Field, Fort Worth, Texas 2

TABLES

1. Information by species on individual fish samples collected in Lake Worth for the analysis of contaminants in edible tissues 5
2. Trace metals analyzed in fish fillets from Lake Worth and minimum reporting levels 6
3. Concentrations (wet weight) of selected trace metals in edible fish tissues from Lake Worth 7
4. Concentrations (dry weight) of selected trace metals in edible fish tissues from Lake Worth 11
5. Organochlorine pesticides and polychlorinated biphenyls (PCBs) analyzed in fish fillets from Lake Worth and minimum reporting levels 14
6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth 15
7. Semivolatile organic compounds (SVOCs) analyzed in fish fillets from Lake Worth and minimum reporting levels 23

Data on Occurrence of Selected Trace Metals, Organochlorines, and Semivolatile Organic Compounds in Edible Fish Tissues From Lake Worth, Fort Worth, Texas, 1999

By J. Bruce Moring

Abstract

A public-health assessment conducted for the Texas Department of Health and the Agency for Toxic Substances and Disease Registry concluded that exposure to contaminants through the aquatic food chain is an indeterminate human-health hazard in Lake Worth, Fort Worth, Texas. In 1999, the U.S. Geological Survey, in cooperation with the U.S. Air Force and in collaboration with the Texas Department of Health, collected samples of edible fish tissues from Lake Worth for analysis of selected trace metals, organochlorines, and semivolatile organic compounds to support a human-health risk assessment. Left-side, skin-off fillet samples were collected from 10 individuals each of channel catfish, common carp, freshwater drum (gaspergou), largemouth bass, and white crappie but only from five smallmouth buffalo. The U.S. Geological Survey National Water Quality Laboratory analyzed the samples for 22 trace metals, 40 organochlorine pesticides and polychlorinated biphenyls, and 75 semivolatile organic compounds.

INTRODUCTION

Ground-water contamination of the surficial aquifer has occurred at U.S. Air Force Plant 4 (AFP4) and the adjacent Naval Air Station, Joint Reserve Base, Carswell Field in Fort Worth, Texas (fig. 1). In August 1990, AFP4 was placed on the U.S. Environmental Protection Agency National Priorities List as a Superfund site. A public-health assessment of the Superfund site conducted for the Texas Department of Health (TDH) and Agency for Toxic Substances and Disease Registry (ATSDR) concluded that exposure to contaminants through the aquatic food chain is an indeterminate human-health hazard (Texas Department of Health, 1998). In the 1998 TDH study, elevated concentrations of polychlorinated biphenyls (PCBs) (specifically aroclor mixtures 1254 and 1260), dieldrin, naphthalene, phenanthrene, and benzo(*b*)fluoranthene were found in the tissues of mosquitofish (*Gambusia sp.*) from Lake Worth, which is adjacent to AFP4. However, tissues from fish that are routinely caught in Lake Worth and consumed by the public were not comprehensively analyzed for contaminants. Based on the findings of the 1998 TDH study and the proximity of AFP4 to Lake Worth, the TDH and the ATSDR recommended that edible fish tissues be collected from Lake Worth near the confluence of the lake with Meandering Road Creek for the analysis of trace metals, organochlorines (organochlorine pesticides and PCBs), and semivolatile organic compounds (SVOCs) to determine whether a public-health hazard exists. In 1999, the U.S. Geological Survey (USGS), in cooperation with the U.S. Air Force and in collaboration with TDH, sampled and analyzed edible fish tissues from Lake Worth

The overall objective of the project was to provide the Air Force and the TDH Seafood Safety Division with data and information required to support a human-health risk assessment pertinent to the consumption of edible fish tissue from Lake Worth. The project was limited to the collection of fish from multiple trophic groups that are commonly caught in Lake Worth and consumed by the public. Trophic-group classification places fish and other animals into categories according to modes of feeding such as omnivory, herbivory, and carnivory. This report documents the sampling and analytical approach and presents tabular results of the analyses of edible fish tissues for selected trace metals, organochlorines, and SVOCs.

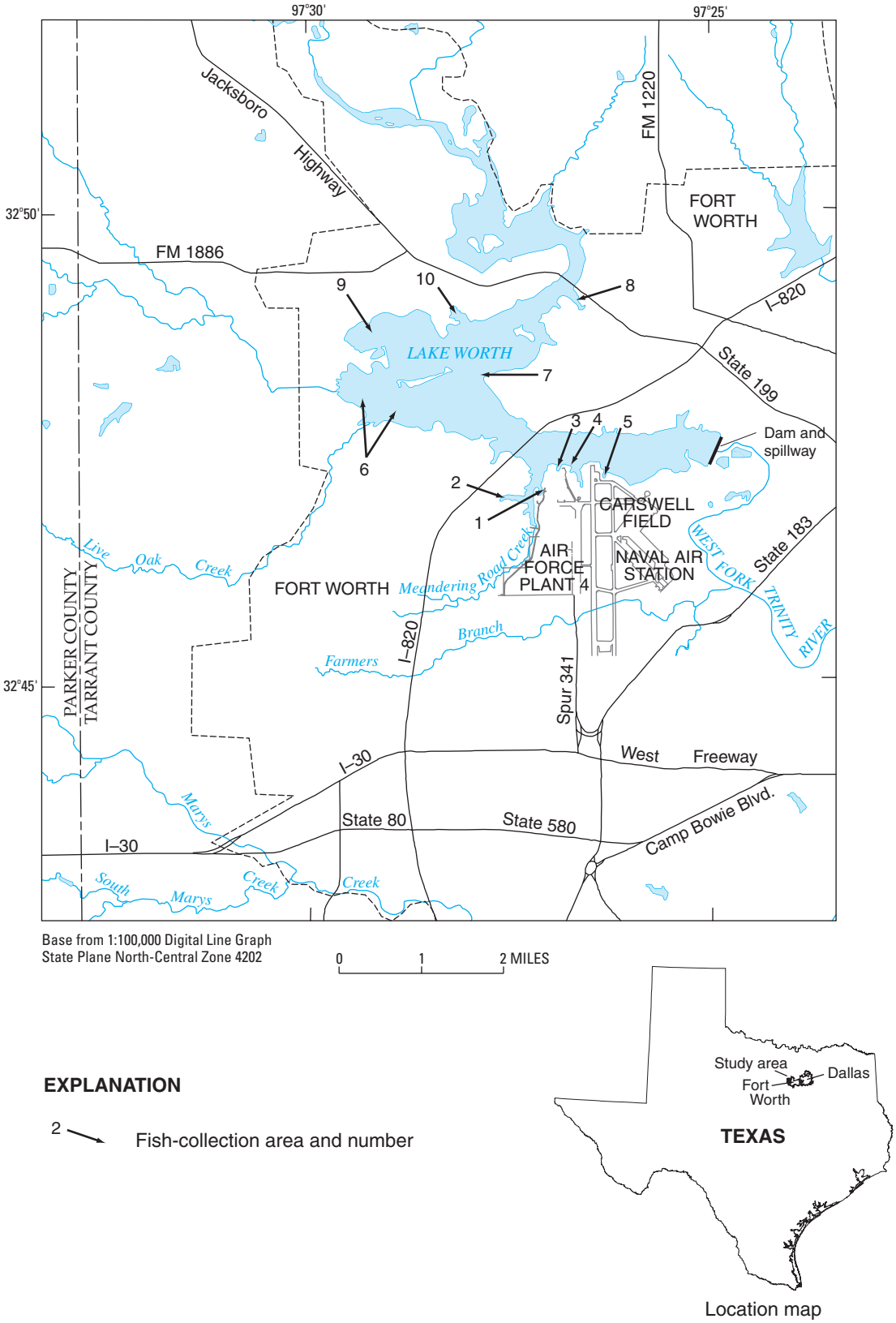

Figure 1. Lake Worth, U.S. Air Force Plant 4, and Naval Air Station, Joint Reserve Base, Carswell Field, Fort Worth, Texas.

SAMPLING AND ANALYTICAL APPROACH

Fish Collection

Fish were collected by boat electrofishing during 1 week in late March and 1 week in late April 1999 from multiple trophic groups that are commonly caught in Lake Worth and consumed by the public. A minimum of 10 individuals per species was targeted for collection. Ten individuals of channel catfish, common carp, freshwater drum (gaspergou), largemouth bass, and white crappie were collected for analysis; only five smallmouth buffalo were obtained because of difficulty in collecting individuals of this species (table 1, at end of report). A minimum of 5 of the 10 individuals per species was targeted for collection in an area of the lake adjacent to AFP4 and the confluence of Meandering Road Creek and Lake Worth (fig. 1, areas 1–5); 34 of 55 fish (62 percent) collected for analysis were from this area. Two to five fish per species were collected in areas of Lake Worth away from AFP4 and the Meandering Road Creek-lake confluence (fig. 1, areas 6–10) to provide a lake-wide set of discrete samples for each species. All collected fish were maintained onsite in aerated holding tanks filled with native water. Each fish was uniquely fin-clipped for later identification and processing.

Field Processing of Fish

Ten fish per species (five for smallmouth buffalo) were processed for analysis. Each fish was rinsed with deionized water, weighed to the nearest gram, and measured to the nearest millimeter for total and standard length. Each fish was then placed left side up on a pre-cleaned Teflon sheet, and a complete left-side, skin-off fillet was removed and placed on the Teflon sheet. A 6-inch pre-cleaned ceramic knife was used to remove the fillet. At the midpoint (in length) of the fillet, a 1-inch-wide sagittal section of the fillet (minimum 10 grams) was excised with the ceramic knife. The sagittally sectioned fillet portion was placed in a 500-milliliter pre-cleaned glass jar and frozen with dry ice onsite pending analysis of the sample for trace metals. The remains of the fillet were placed in a 1-liter pre-cleaned glass jar pending analysis of the sample for organic compounds. Each jar was individually wrapped to prevent breakage and immediately placed on dry ice pending shipment to the USGS National Water Quality Laboratory (NWQL) in Denver, Colo., for analysis.

Data Quality

Review and approval of all phases of the project were obtained from the TDH. The selection of fish species, sample size per species, analytes and analytical reporting levels, and protocols for fish and edible-tissues collection was coordinated with the TDH Seafood Safety Division. Analytical minimum reporting levels were at concentrations that were acceptable and useful to the TDH for human-health risk assessment. The USGS contacted the TDH after sample collection and field processing to confirm that all acceptable species of fish and a sufficient number of individuals per species had been obtained.

All fish collected were at or above the statewide minimum size limit for a particular species set by the Texas Parks and Wildlife Department. The current (1999) minimum catch sizes (total length [head to end of caudal fin]) in Lake Worth are 12 inches for channel catfish, 14 inches for largemouth bass, and 10 inches for white crappie. No size limits have been set by the State for common carp, freshwater drum, or smallmouth buffalo. The largest individuals (standard length [head to base of caudal peduncle] measured to the nearest millimeter) at or above the minimum size limit were processed.

Latitude and longitude for each fish-collection area were recorded using a hand-held global positioning system (GPS) with an accuracy of ±26 meters.

Sampling Tracking and Disposition

A unique sample identifier was assigned to each fish from which a fillet was collected. A field-sample log was used to record unique sample information including the sample identifier, date and time of collection, coordinates of collection area, wet weight of fillet sample portions, sample disposition, and name and initials of the log recorder. A chain-of-custody seal was used to seal each sample jar and shipping container. The field-sample log was adapted to serve as the chain-of-custody form. Each sample jar had a unique label that was completed with information from the field-sample log, labeled with indelible ink, and covered with at least one complete wrap of clear tape around the jar. All sample jars were frozen onsite with dry ice and placed in ice chests or frozen and placed in a chest freezer pending shipment to the NWQL for analysis.

Washing of Equipment

All Teflon sheets, ceramic fillet knives, and sample jars were pre-cleaned with a Liquinox wash, tap water rinse, triple deionized rinse, and acetone rinse before contacting a fillet sample. All ceramic knives and Teflon sheets were rinsed with a 5-percent nitric acid solution prior to the final rinse with deionized water. Washing supplies were taken to the field to allow for onsite washing of equipment between samples. All field personnel wore powderless latex gloves during the filleting process and changed to a new pair of powderless gloves before handling the next fish. All collection nets were triple-rinsed with native lake water before initial use; fish-holding tanks were washed with Liquinox and triple-rinsed with native lake water. All sample jars, in addition to pre-cleaning as described above, were oven-baked for 24 hours at 60 degrees Celsius prior to use.

ANALYSES OF TRACE METALS AND ORGANIC COMPOUNDS

All fillet samples were shipped to the NWQL for analysis. Each sagittally sectioned fillet subsample was analyzed for selected trace metals, and the remains of the fillet were analyzed for selected organochlorines and SVOCs. An aliquot of each sagittally sectioned fillet sample was homogenized and analyzed for 22 trace metals, including the "priority" trace metals arsenic, cadmium, copper, lead, mercury, selenium, and zinc (table 2, at end of report). Samples were prepared for analysis and analyzed according to NWQL Schedule 2200 (Hoffman, 1996). The results of trace metal analyses are presented in tables 3 and 4 (at end of report) by wet weight and dry weight, respectively.

Fillet samples for analysis of organic compounds were prepared according to NWQL Schedule 2101 (Leiker and others, 1995). Extracts were analyzed by gas chromatography with electron-capture negative-ion mass spectrometry (ECNI) for 40 organochlorine pesticides and PCBs (table 5, at end of report). The results of organochlorine pesticide and PCB analyses are listed in table 6 (at end of report). In table 6, estimated concentrations are preceded by an "E." The NWQL uses the "E" code when an analyte has been qualitatively detected, but not all of the criteria for reporting a quantitative result have been met (Childress and others, 1999).

The extracts that were analyzed by ECNI for organochlorine analysis were reanalyzed by gas chromatography with electron ionization mass spectrometry (EI) for 75 SVOCs (table 7, at end of report). All SVOCs analyzed had concentrations less than the minimum reporting level (50 micrograms per kilogram).

REFERENCES

Childress, C.J.O., Foreman, W.T., Conner, B.F., and Maloney, T.J., 1999, New reporting procedures based on long-term method detection levels and some considerations for interpretations of water-quality data provided by the U.S. Geological Survey National Water Quality Laboratory: U.S. Geological Survey Open-File Report 99–193, 19 p.

Hoffman, G.L., 1996, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Preparation procedure for aquatic biological material determined for trace metals: U.S. Geological Survey Open-File Report 96–362, 42 p.

Leiker, T.J., Madsen, J.E., Deacon, J.R., and Foreman, W.T., 1995, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of chlorinated pesticides in aquatic tissue by capillary-column gas chromatography with electron-capture detection: U.S. Geological Survey Open-File Report 94–710, 42 p.

Texas Department of Health, 1998, Public health assessment, U.S. Air Force Plant No. 4 (General Dynamics), Fort Worth, Tarrant County, Texas: Comprehensive Environmental Response, Compensation, and Liability Information System, CERCLIS no. TX7572024605, 37 p.

Table 1. Information by species on individual fish samples collected in Lake Worth for the analysis of contaminants in edible tissues

[mm, millimeters; in., inches; g, grams; lb, pounds; --, none; N/D, not determined]

Species	Sample identifier	Total length		Standard length		Weight		Anomalies	Sex	Collection-area no. (fig. 1)
		(mm)	(in.)	(mm)	(in.)	(g)	(lb)			
Channel catfish	CCF001	425	16.73	336	13.23	750	1.65	--	male	1
Channel catfish	CCF002	470	18.50	372	14.65	939	2.07	--	male	2
Channel catfish	CCF003	419	16.50	328	12.91	614	1.35	--	male	2
Channel catfish	CCF004	424	16.69	337	13.27	640	1.41	--	male	2
Channel catfish	CCF005	589	23.19	485	19.09	1,536	3.39	--	female	5
Channel catfish	CCF006	440	17.32	466	18.35	951	2.10	--	female	5
Channel catfish	CCF007	401	15.79	321	12.64	486	1.07	leeches	female	7
Channel catfish	CCF008	539	21.22	433	17.05	1,346	2.97	--	female	8
Channel catfish	CCF009	576	22.68	464	18.27	1,914	4.22	--	female	8
Channel catfish	CCF0010	434	17.09	350	13.78	684	1.51	--	female	8
Common carp	CC001	600	23.62	466	18.35	3,117	6.87	--	male	1
Common carp	CC003	699	27.52	565	22.24	5,243	11.56	--	female	1
Common carp	CC006	665	26.18	532	20.94	5,319	11.73	--	female	1
Common carp	CC007	591	23.27	472	18.58	3,602	7.94	--	female	1
Common carp	CC008	636	25.04	497	19.57	4,008	8.84	--	female	1
Common carp	CC009	683	26.89	547	21.54	5,489	12.10	--	female	2
Common carp	CC0010	597	23.50	486	19.13	2,670	5.89	--	male	5
Common carp	CC0011	610	24.02	82	3.23	3,057	6.74	--	male	6
Common carp	CC0014	665	26.18	531	20.91	4,366	9.63	--	female	8
Common carp	CC0015	770	30.31	625	24.61	7,711	17.00	--	female	8
Freshwater drum	FWD001	345	13.58	266	10.47	483	1.06	--	female	1
Freshwater drum	FWD002	375	14.76	292	11.50	620	1.37	--	female	1
Freshwater drum	FWD003	384	15.12	302	11.89	596	1.31	--	N/D	1
Freshwater drum	FWD004	338	13.31	259	10.20	478	1.05	--	male	2
Freshwater drum	FWD005	331	13.03	261	10.28	414	.91	--	male	2
Freshwater drum	FWD008	605	23.82	496	19.53	2,517	5.55	nematodes	male	5
Freshwater drum	FWD009	493	19.41	395	15.55	1,720	3.79	--	female	5
Freshwater drum	FWD0010	580	22.83	475	18.70	3,015	6.65	--	female	1
Freshwater drum	FWD0011	590	23.23	491	19.33	2,509	5.53	--	female	8
Freshwater drum	FWD0012	551	21.69	454	17.87	2,847	6.28	--	female	8
Largemouth bass	LMB002	424	16.69	353	13.90	1,129	2.49	lip lesion	male	1
Largemouth bass	LMB005	432	17.01	362	14.25	1,149	2.53	pale liver	male	2
Largemouth bass	LMB006	430	16.93	363	14.29	1,200	2.65	nematodes	female	2
Largemouth bass	LMB007	430	16.93	461	18.15	1,174	2.59	--	male	4
Largemouth bass	LMB008	455	17.91	386	15.20	1,141	2.52	--	female	7
Largemouth bass	LMB009	434	17.09	369	14.53	1,087	2.40	nematodes	male	10
Largemouth bass	LMB0010	439	17.28	369	14.53	1,326	2.92	--	female	9
Largemouth bass	LMB0011	450	17.72	378	14.88	1,205	2.66	nematodes	female	10
Largemouth bass	LMB0012	455	17.91	378	14.88	1,509	3.33	--	female	10
Largemouth bass	LMB0013	503	19.80	422	16.61	2,198	4.85	--	female	1

Table 1. Information by species on individual fish samples collected in Lake Worth for the analysis of contaminants in edible tissues—Continued

Species	Sample identifier	Total length		Standard length		Weight		Anomalies	Sex	Collection-area no. (fig. 1)
		(mm)	(in.)	(mm)	(in.)	(g)	(lb)			
Smallmouth buffalo	SMB001	479	18.86	391	15.39	2,480	5.47	caudal fin erosion	male	4
Smallmouth buffalo	SMB002	885	34.84	700	27.56	11,794	26.00	--	female	7
Smallmouth buffalo	SMB003	501	19.72	393	15.47	2,711	5.98	--	male	8
Smallmouth buffalo	SMB004	516	20.31	415	16.34	2,653	5.85	--	female	1
Smallmouth buffalo	SMB006	654	25.75	334	13.15	4,726	10.42	--	female	1
White crappie	WC001	310	12.20	247	9.72	517	1.14	lesion on body	N/D	2
White crappie	WC002	274	10.79	221	8.70	349	.77	--	N/D	2
White crappie	WC003	313	12.32	246	9.69	466	1.03	fin erosion	N/D	5
White crappie	WC004	271	10.67	21	.83	302	.67	--	male	4
White crappie	WC005	280	11.02	224	8.82	339	.75	--	male	5
White crappie	WC006	303	11.93	245	9.65	437	.96	--	male	7
White crappie	WC007	262	10.31	209	8.23	286	.63	nematodes	male	7
White crappie	WC008	318	12.52	255	10.04	527	1.16	--	female	8
White crappie	WC009	310	12.20	248	9.76	501	1.10	--	female	8
White crappie	WC0010	322	12.68	257	10.12	508	1.12	--	male	8

Table 2. Trace metals analyzed in fish fillets from Lake Worth and minimum reporting levels

[In micrograms per gram dry weight]

Trace metal	Minimum reporting level	Trace metal	Minimum reporting level
Aluminum	1.0	Beryllium	0.1
Barium	.1	Cadmium	.1
Boron	.2	Cobalt	.1
Chromium	.5	Lead	.1
Copper	.5	Molybdenum	.1
Iron	.1	Nickel	.1
Manganese	.1	Selenium	.1
Strontium	.1	Silver	.1
Zinc	.5	Uranium	.1
Antimony	.1	Mercury	.1
Arsenic	.1	Vanadium	.1

Table 3. Concentrations (wet weight) of selected trace metals in edible fish tissues from Lake Worth

[In micrograms per gram wet weight except as noted; <, less than]

Trace metal or water content	Sample identifier						
	CCF001	CCF002	CCF003	CCF004	CCF005	CCF006	CCF007
Aluminum	1.7	2.4	1.7	1.7	1.7	3.8	2.9
Barium	.10	.16	.16	.10	.10	.10	.10
Boron	6.8	7.6	1.9	7.7	1.8	1.4	15
Chromium	.50	.59	.50	.65	.60	.50	.64
Copper	1.2	1.1	1.5	1.2	1.5	1.2	1.3
Iron	8.2	8.8	8.8	14	23	11	8.1
Manganese	.71	.63	.76	.59	.71	.68	.69
Strontium	.67	2.9	2.0	.70	.96	.60	.86
Zinc	25	28	23	23	36	29	27
Antimony	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Arsenic	.40	<.25	<.27	<.28	<.29	.32	<.25
Beryllium	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Cadmium	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Cobalt	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Lead	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Molybdenum	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Nickel	<.20	<.25	<.27	<.28	5.5	<.22	<.25
Selenium	1.4	1.3	1.3	1.5	.86	1.2	1.4
Silver	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Uranium	<.20	<.25	<.27	<.28	<.29	<.22	<.25
Mercury	.08	.13	.11	.15	.04	.09	.08
Vanadium	<.20	.32	.34	.40	<.29	<.22	<.25
Water content (percent)	78.5	80.3	80.2	81.5	85.0	78.0	82.2

Trace metal or water content	Sample identifier						
	CCF008	CCF009	CCF0010	CC001	CC003	CC006	CC007
Aluminum	3.1	1.7	3.5	1.5	1.0	1.9	1.0
Barium	.10	.10	.10	.72	.54	.50	.49
Boron	12	7.0	14	6.0	1.3	11	1.4
Chromium	.58	.53	.53	.54	.59	.50	.69
Copper	1.3	.80	1.1	2.2	2.6	1.7	2.6
Iron	12	12	8.5	50	34	37	54
Manganese	.61	.45	.46	1.1	.98	.70	1.0
Strontium	.88	.53	.63	4.7	5.4	3.8	4.5
Zinc	31	25	30	29	38	22	45
Antimony	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Arsenic	<.23	<.21	<.25	.30	.42	<.19	.29
Beryllium	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Cadmium	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Cobalt	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Lead	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Molybdenum	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Nickel	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Selenium	.91	.92	1.1	1.7	1.8	1.5	1.4
Silver	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Uranium	<.23	<.21	<.25	<.19	<.21	<.19	<.24
Mercury	.12	.32	.09	.18	.23	.21	.35
Vanadium	<.23	<.21	<.25	.29	<.21	.2	<.24
Water content (percent)	78.6	78.7	80.9	78.0	78.6	74.3	78.2

Table 3. Concentrations (wet weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal or water content	Sample identifier						
	CC008	CC009	CC0010	CC0011	CC0014	CC0015	FWD001
Aluminum	1.0	1.0	1.0	12	3.0	1.0	1.0
Barium	.38	.26	.68	.52	1.4	.66	.25
Boron	1.1	5.1	.85	1.0	11	.58	1.6
Chromium	.50	.50	.50	.59	.60	.50	.62
Copper	1.5	2.5	3.7	3.5	2.6	1.1	1.1
Iron	30	45	55	70	88	20	8.3
Manganese	.77	.64	1.0	1.5	1.5	.84	.78
Strontium)	4.5	2.8	6.3	4.4	7.7	5.9	1.1
Zinc	49	30	21	35	41	28	16
Antimony	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Arsenic	.23	.50	.28	<.21	<.28	.43	.41
Beryllium	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Cadmium	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Cobalt	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Lead	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Molybdenum	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Nickel	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Selenium	1.5	1.6	1.6	2.0	2.6	1.3	2.0
Silver	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Uranium	<.19	<.18	<.20	<.21	<.28	<.20	<.30
Mercury	.16	.22	.10	.19	.56	.19	.31
Vanadium	<.19	.27	<.2	.22	<.28	.25	<.3
Water content (percent)	77.9	78.5	78.1	78.7	82.1	74.0	81.0

Trace metal or water content	Sample identifier						
	FWD002	FWD003	FWD004	FWD005	FWD008	FWD009	FWD0010
Aluminum	3.8	2.4	1.3	2.1	1.0	1.2	1.0
Barium	.68	.30	.69	.40	.54	.65	.10
Boron	19	1.4	1.7	8.3	1.6	.81	1.4
Chromium	.76	.72	.80	.76	.75	.62	.50
Copper	1.8	.68	.70	4.1	2.0	.91	.98
Iron	13	15	12	11	23	17	15
Manganese	.98	.80	.92	.91	.36	.68	.30
Strontium)	3.2	1.9	4.0	2.3	2.9	2.8	.31
Zinc	21	19	16	17	23	17	19
Antimony	<.33	<.36	<.35	<.30	<.32	<.26	<.23
Arsenic	.54	<.36	.67	.45	.78	.75	.48
Beryllium	<.33	<.36	<.35	<.30	<.32	<.26	<.23
Cadmium	<.33	<.36	<.35	<.30	<.32	<.26	<.23
Cobalt	<.33	<.36	<.35	<.30	<.32	<.26	<.23
Lead	<.33	<.36	<.35	<.30	<.32	<.26	<.23
Molybdenum	<.33	<.36	<.35	<.3	<.32	<.26	<.23
Nickel	<.33	<.36	<.35	<.3	<.32	<.26	<.23
Selenium	1.9	2.1	1.8	2.0	1.7	1.6	1.2
Silver	<.33	<.36	<.35	<.3	<.32	<.26	<.23
Uranium	<.33	<.36	<.35	<.3	<.32	<.26	<.23
Mercury	.86	.65	.16	.20	.93	.47	.68
Vanadium	<.33	.39	.36	.43	.71	.51	<.23
Water content (percent)	83.2	81.4	80.1	82.2	85.8	80.9	81.8

Table 3. Concentrations (wet weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal or water content	Sample identifier						
	FWD0011	FWD0012	LMB002	LMB005	LMB006	LMB007	LMB008
Aluminum	1.0	2.0	7.6	2.5	2.4	2.8	1.0
Barium	.59	.10	.10	.10	.10	.10	.11
Boron	2.1	8.9	8.1	14	15	14	1.6
Chromium	.50	.50	1.1	.66	.75	.67	.66
Copper	1.4	1.1	1.1	.93	1.2	.89	1.1
Iron	19	9.6	17	10	14	12	15
Manganese	.65	.29	.64	.36	.42	.33	.61
Strontium	3.8	.28	3.3	1.8	3.3	.98	4.7
Zinc	19	12	22	19	21	24	26
Antimony	.65	<.16	<.24	<.25	<.25	<.24	<.28
Arsenic	3.8	.87	.76	.86	.48	<.24	.64
Beryllium	19	<.16	<.24	<.25	<.25	<.24	<.28
Cadmium	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Cobalt	.63	<.16	<.24	<.25	<.25	<.24	<.28
Lead	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Molybdenum	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Nickel	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Selenium	1.3	1.0	1.4	1.5	1.4	.98	1.4
Silver	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Uranium	<.23	<.16	<.24	<.25	<.25	<.24	<.28
Mercury	.29	.50	.42	.55	.94	1.2	.66
Vanadium	.24	.25	<.24	.33	.36	<.24	<.28
Water content (percent)	80.6	72.7	79.7	79.9	81.9	80.4	82.0

Trace metal or water content	Sample identifier						
	LMB009	LMB0010	LMB0011	LMB0012	LMB0013	SMB001	SMB002
Aluminum	2.5	4.6	2.4	1.7	3.0	1.2	1.0
Barium	.10	.10	.10	.10	.10	.88	.58
Boron	14	9.9	9.2	6.4	12	7.3	1.0
Chromium	.63	.66	.62	.62	.54	.50	.50
Copper	.99	.98	1.1	.70	.80	.62	.93
Iron	8.5	13	9.2	10	8.1	6.3	19
Manganese	.37	.44	.30	.29	.22	1.5	1.4
Strontium	2.6	2.1	.93	.56	.26	4.3	7.6
Zinc	20	21	20	16	17	10	14
Antimony	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Arsenic	.79	<.24	.46	.66	.59	.54	.28
Beryllium	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Cadmium	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Cobalt	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Lead	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Molybdenum	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Nickel	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Selenium	1.5	1.5	1.4	1.3	1.7	.79	1.3
Silver	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Uranium	<.23	<.24	<.29	<.23	<.22	<.12	<.16
Mercury	.28	.70	.56	.41	.67	.05	.22
Vanadium	.31	<.24	<.29	.3	.31	.18	.23
Water content (percent)	80.4	81.1	82.6	80.2	79.4	66.0	73.3

Table 3. Concentrations (wet weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal or water content	Sample identifier					
	SMB003	SMB004	SMB006	WC001	WC002	WC003
Aluminum	2.0	1.8	1.0	1.3	1.4	1.0
Barium	.67	.49	.83	.14	.80	.10
Boron	.79	4.0	1.8	1.0	1.1	.96
Chromium	.50	.51	.50	.61	.87	.51
Copper	.57	.89	.75	.69	.50	.50
Iron	6.4	21	9.3	22	8.0	11
Manganese	1.4	.74	1.2	.87	3.0	.56
Strontium	4.8	1.6	3.4	3.2	24	1.8
Zinc	11	20	13	21	16	21
Antimony	<.18	<.26	<.18	<.23	<.27	<.20
Arsenic	.48	.32	.60	1.2	1.0	1.3
Beryllium	<.18	<.26	<.18	<.23	<.27	<.20
Cadmium	<.18	<.26	<.18	<.23	<.27	<.20
Cobalt	<.18	<.26	<.18	<.23	<.27	<.20
Lead	<.18	<.26	<.18	<.23	<.27	<.20
Molybdenum	<.18	<.26	<.18	<.23	<.27	<.20
Nickel	<.18	<.26	<.18	<.23	<.27	<.20
Selenium	.96	1.2	1.3	1.5	1.2	1.3
Silver	<.18	<.26	<.18	<.23	<.27	<.2
Uranium	<.18	<.26	<.18	<.23	<.27	<.2
Mercury	.07	.25	.06	.18	.08	.11
Vanadium	.25	.32	.20	.30	.27	.37
Water content (percent)	70.8	82.0	74.7	79.0	77.1	77.7

Trace metal or water content	Sample identifier						
	WC004	WC005	WC006	WC007	WC008	WC009	WC0010
Aluminum	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Barium	.10	.10	.11	.11	.10	.11	.15
Boron	.95	1.1	.89	.98	1.1	.79	1.1
Chromium	.62	.50	.50	.53	.58	.58	.65
Copper	.50	.50	.55	.50	.50	.50	.95
Iron	14	5.3	11	9.9	7.4	7.7	11
Manganese	.53	.59	.64	.68	.30	.74	.70
Strontium	1.9	1.4	2.6	3.0	.79	2.2	2.7
Zinc	21	18	19	21	18	19	20
Antimony	<.24	<.27	<.24	<.20	<.25	<.22	<.27
Arsenic	.88	1.0	.92	.80	.95	.81	1.0
Beryllium	<.24	<.27	<.24	<.20	<.25	<.22	<.27
Cadmium	<.24	<.27	<.24	<.20	<.25	<.22	<.27
Cobalt	<.24	<.27	<.24	<.20	<.25	<.22	<.27
Lead	<.24	<.27	<.24	<.20	<.25	<.22	<.27
Molybdenum	<.24	<.27	<.24	<.2	<.25	<.22	<.27
Nickel	<.24	<.27	<.24	<.2	<.25	<.22	<.27
Selenium	1.3	1.4	1.4	1.5	1.7	1.5	1.4
Silver	<.24	<.27	<.24	<.2	<.25	<.22	<.27
Uranium	<.24	<.27	<.24	<.2	<.25	<.22	<.27
Mercury	.05	.11	.08	.06	.10	.12	.13
Vanadium	.56	.33	.25	.38	.42	.36	.36
Water content (percent)	78.7	78.6	78.3	78.0	78.4	79.2	80.7

Table 4. Concentrations (dry weight) of selected trace metals in edible fish tissues from Lake Worth

[In micrograms per gram dry weight[1]]

Trace metal	Sample identifier							
	CCF001	CCF002	CCF003	CCF004	CCF005	CCF006	CCF007	CCF008
Aluminum	0.36	0.47	0.33	0.31	0.25	0.84	0.51	0.66
Barium	.02	.03	.03	.02	.02	.02	.02	.02
Boron	1.5	1.5	.37	1.4	.26	.30	2.7	2.7
Chromium	.11	.12	.10	.12	.09	.11	.11	.12
Copper	.27	.21	.29	.22	.23	.27	.23	.28
Iron	1.8	1.7	1.7	2.6	3.5	2.5	1.4	2.6
Manganese	.15	.12	.15	.11	.11	.15	.12	.13
Strontium	.14	.58	.39	.13	.14	.13	.15	.19
Zinc	5.5	5.4	4.5	4.2	5.3	6.5	4.8	6.7
Antimony	.04	.05	.05	.05	.04	.05	.04	.05
Arsenic	.09	.05	.05	.05	.04	.07	.04	.05
Beryllium	.04	.05	.05	.05	.04	.05	.04	.05
Cadmium	.04	.05	.05	.05	.04	.05	.04	.05
Cobalt	.04	.05	.05	.05	.04	.05	.04	.05
Lead	.04	.05	.05	.05	.04	.05	.04	.05
Molybdenum	.04	.05	.05	.05	.04	.05	.04	.05
Nickel	.04	.05	.05	.05	.83	.05	.04	.05
Selenium	.30	.25	.25	.28	.13	.26	.26	.20
Silver	.04	.05	.05	.05	.04	.05	.04	.05
Uranium	.04	.05	.05	.05	.04	.05	.04	.05
Mercury	.02	.03	.02	.03	.01	.02	.01	.03
Vanadium	.04	.06	.07	.07	.04	.05	.04	.05

Trace metal	Sample identifier							
	CCF009	CCF0010	CC001	CC003	CC006	CC007	CC008	CC009
Aluminum	0.36	0.66	0.34	0.22	0.48	0.22	0.22	0.22
Barium	.02	.02	.16	.12	.13	.11	.08	.06
Boron	1.5	2.7	1.3	.29	2.9	.31	.23	1.1
Chromium	.11	.10	.12	.13	.13	.15	.11	.11
Copper	.17	.21	.48	.56	.43	.57	.34	.54
Iron	2.6	1.6	11	7.3	9.6	12	6.6	9.8
Manganese	.10	.09	.25	.21	.18	.22	.17	.14
Strontium	.11	.12	1.0	1.2	.97	.99	1.0	.60
Zinc	5.3	5.7	6.5	8.1	5.7	9.7	11	6.4
Antimony	.04	.05	.04	.04	.05	.05	.04	.04
Arsenic	.04	.05	.07	.09	.05	.06	.05	.11
Beryllium	.04	.05	.04	.04	.05	.05	.04	.04
Cadmium	.04	.05	.04	.04	.05	.05	.04	.04
Cobalt	.04	.05	.04	.04	.05	.05	.04	.04
Lead	.04	.05	.04	.04	.05	.05	.04	.04
Molybdenum	.04	.05	.04	.04	.05	.05	.04	.04
Nickel	.04	.05	.04	.04	.05	.05	.04	.04
Selenium	.20	.21	.38	.38	.40	.31	.34	.34
Silver	.04	.05	.04	.04	.05	.05	.04	.04
Uranium	.04	.05	.04	.04	.05	.05	.04	.04
Mercury	.07	.02	.04	.05	.06	.08	.04	.05
Vanadium	.04	.05	.06	.04	.05	.05	.04	.06

[1] Dry weight = wet weight x (1 – proportion of moisture).

Table 4. Concentrations (dry weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal	Sample identifier							
	CC0010	CC0011	CC0014	CC0015	FWD001	FWD002	FWD003	FWD004
Aluminum	0.22	2.6	0.53	0.26	0.19	0.64	0.44	0.26
Barium	.15	.11	.24	.17	.05	.11	.06	.14
Boron	.19	.22	2.0	.15	.31	3.2	.26	.33
Chromium	.11	.12	.11	.13	.12	.13	.13	.16
Copper	.80	.75	.46	.27	.21	.30	.13	.14
Iron	12	15	16	5.2	1.6	2.2	2.8	2.3
Manganese	.23	.33	.28	.22	.15	.16	.15	.18
Strontium	1.4	.93	1.4	1.5	.20	.54	.36	.79
Zinc	4.6	7.4	7.4	7.4	3.0	3.5	3.6	3.3
Antimony	.04	.04	.05	.05	.06	.06	.07	.07
Arsenic	.06	.04	.05	.11	.08	.09	.07	.13
Beryllium	.04	.04	.05	.05	.06	.06	.07	.07
Cadmium	.04	.04	.05	.05	.06	.06	.07	.07
Cobalt	.04	.04	.05	.05	.06	.06	.07	.07
Lead	.04	.04	.05	.05	.06	.06	.07	.07
Molybdenum	.04	.04	.05	.05	.06	.06	.07	.07
Nickel	.04	.04	.05	.05	.06	.06	.07	.07
Selenium	.35	.42	.46	.35	.37	.32	.39	.36
Silver	.04	.04	.05	.05	.06	.06	.07	.07
Uranium	.04	.04	.05	.05	.06	.06	.07	.07
Mercury	.02	.04	.10	.05	.06	.14	.12	.03
Vanadium	.04	.05	.05	.06	.06	.06	.07	.07

Trace metal	Sample identifier							
	FWD005	FWD008	FWD009	FWD0010	FWD0011	FWD0012	LMB002	LMB005
Aluminum	0.37	0.14	0.24	0.18	0.20	0.55	1.5	0.49
Barium	.07	.08	.12	.02	.11	.03	.02	.02
Boron	1.5	.22	.15	.26	.41	2.4	1.6	2.8
Chromium	.14	.11	.12	.09	.10	.14	.22	.13
Copper	.72	.29	.17	.18	.28	.29	.21	.19
Iron	1.9	3.2	3.3	2.8	3.7	2.6	3.5	2.0
Manganese	.16	.05	.13	.06	.13	.08	.13	.07
Strontium	.40	.42	.53	.06	.74	.08	.66	.36
Zinc	2.9	3.3	3.2	3.5	3.7	3.3	4.4	3.8
Antimony	.05	.05	.05	.04	.13	.04	.05	.05
Arsenic	.08	.11	.14	.09	.74	.24	.15	.17
Beryllium	.05	.05	.05	.04	3.7	.04	.05	.05
Cadmium	.05	.05	.05	.04	.04	.04	.05	.05
Cobalt	.05	.05	.05	.04	.12	.04	.05	.05
Lead	.05	.05	.05	.04	.04	.04	.05	.05
Molybdenum	.05	.05	.05	.04	.04	.04	.05	.05
Nickel	.05	.05	.05	.04	.04	.04	.05	.05
Selenium	.35	.24	.30	.22	.26	.29	.28	.30
Silver	.05	.05	.05	.04	.04	.04	.05	.05
Uranium	.05	.05	.05	.04	.04	.04	.05	.05
Mercury	.04	.13	.09	.12	.06	.14	.09	.11
Vanadium	.08	.10	.10	.04	.05	.07	.05	.07

Table 4. Concentrations (dry weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal	Sample identifier							
	LMB006	LMB007	LMB008	LMB009	LMB0010	LMB0011	LMB0012	LMB0013
Aluminum	0.44	0.54	0.18	0.49	0.86	0.42	0.34	0.61
Barium	.02	.02	.02	.02	.02	.02	.02	.02
Boron	2.7	2.8	.29	2.8	1.9	1.6	1.3	2.4
Chromium	.14	.13	.12	.12	.12	.11	.12	.11
Copper	.21	.18	.19	.20	.18	.20	.14	.17
Iron	2.5	2.4	2.6	1.7	2.5	1.6	2.1	1.7
Manganese	.08	.06	.11	.07	.08	.05	.06	.04
Strontium	.60	.19	.85	.50	.40	.16	.11	.05
Zinc	3.8	4.6	4.7	3.9	4.0	3.4	3.2	3.5
Antimony	.04	.05	.05	.04	.04	.05	.05	.04
Arsenic	.09	.05	.12	.16	.04	.08	.13	.12
Beryllium	.04	.05	.05	.04	.04	.05	.05	.04
Cadmium	.04	.05	.05	.04	.04	.05	.05	.04
Cobalt	.04	.05	.05	.04	.04	.05	.05	.04
Lead	.04	.05	.05	.04	.04	.05	.05	.04
Molybdenum	.04	.05	.05	.04	.04	.05	.05	.04
Nickel	.04	.05	.05	.04	.04	.05	.05	.04
Selenium	.25	.19	.26	.29	.29	.24	.26	.34
Silver	.04	.05	.05	.04	.04	.05	.05	.04
Uranium	.04	.05	.05	.04	.04	.05	.05	.04
Mercury	.17	.24	.12	.05	.13	.10	.08	.14
Vanadium	.06	.05	.05	.06	.04	.05	.06	.06

Trace metal	Sample identifier							
	SMB001	SMB002	SMB003	SMB004	SMB006	WC001	WC002	WC003
Aluminum	0.41	0.27	0.58	0.33	0.25	0.27	0.33	0.22
Barium	.30	.16	.20	.09	.21	.03	.18	.02
Boron	2.5	.27	.23	.73	.45	.21	.25	.22
Chromium	.17	.13	.15	.09	.13	.13	.20	.11
Copper	.21	.25	.17	.16	.19	.14	.12	.11
Iron	2.1	5.0	1.9	3.8	2.3	4.5	1.8	2.4
Manganese	.50	.39	.41	.13	.30	.18	.69	.12
Strontium	1.5	2.0	1.4	.28	.86	.67	5.4	.39
Zinc	3.4	3.7	3.2	3.7	3.4	4.5	3.6	4.6
Antimony	.04	.04	.05	.05	.05	.05	.06	.04
Arsenic	.18	.08	.14	.06	.15	.26	.24	.29
Beryllium	.04	.04	.05	.05	.05	.05	.06	.04
Cadmium	.04	.04	.05	.05	.05	.05	.06	.04
Cobalt	.04	.04	.05	.05	.05	.05	.06	.04
Lead	.04	.04	.05	.05	.05	.05	.06	.04
Molybdenum	.04	.04	.05	.05	.05	.05	.06	.04
Nickel	.04	.04	.05	.05	.05	.05	.06	.04
Selenium	.27	.36	.28	.22	.34	.32	.28	.30
Silver	.04	.04	.05	.05	.05	.05	.06	.04
Uranium	.04	.04	.05	.05	.05	.05	.06	.04
Mercury	.02	.06	.02	.04	.02	.04	.02	.02
Vanadium	.06	.06	.07	.06	.05	.06	.06	.08

Table 4. Concentrations (dry weight) of selected trace metals in edible fish tissues from Lake Worth—Continued

Trace metal	Sample identifier						
	WC004	WC005	WC006	WC007	WC008	WC009	WC0010
Aluminum	0.21	0.21	0.22	0.22	0.22	0.21	0.19
Barium	.02	.02	.02	.02	.02	.02	.03
Boron	.20	.24	.19	.22	.23	.16	.21
Chromium	.13	.11	.11	.12	.12	.12	.13
Copper	.11	.11	.12	.11	.11	.10	.18
Iron	2.9	1.1	2.4	2.2	1.6	1.6	2.0
Manganese	.11	.13	.14	.15	.06	.16	.14
Strontium	.41	.29	.56	.65	.17	.46	.52
Zinc	4.4	3.8	4.0	4.7	3.9	3.9	3.9
Antimony	.05	.06	.05	.04	.05	.05	.05
Arsenic	.19	.21	.20	.18	.20	.17	.20
Beryllium	.05	.06	.05	.04	.05	.05	.05
Cadmium	.05	.06	.05	.04	.05	.05	.05
Cobalt	.05	.06	.05	.04	.05	.05	.05
Lead	.05	.06	.05	.04	.05	.05	.05
Molybdenum	.05	.06	.05	.04	.05	.05	.05
Nickel	.05	.06	.05	.04	.05	.05	.05
Selenium	.28	.30	.31	.34	.38	.31	.27
Silver	.05	.06	.05	.04	.05	.05	.05
Uranium	.05	.06	.05	.04	.05	.05	.05
Mercury	.01	.02	.02	.01	.02	.03	.02
Vanadium	.12	.07	.05	.08	.09	.08	.07

Table 5. Organochlorine pesticides and polychlorinated biphenyls (PCBs) analyzed in fish fillets from Lake Worth and minimum reporting levels

[In micrograms per kilogram wet weight]

Organochlorine pesticide or PCB	Minimum reporting level[1]	Organochlorine pesticide or PCB	Minimum reporting level[1]
Hexachlorocyclopentadiene	5.0	*cis*-Chlordane	5.0
Trifluralin	5.0	*trans*-Nonachlor	5.0
alpha-HCH	5.0	*p,p'*-DDE	5.0
HCB	5.0	Dieldrin	5.0
PCA	5.0	*o,p'*-DDD	5.0
beta-HCH	5.0	Endrin	5.0
gamma-HCH	5.0	Endosulfan II	5.0
delta-HCH	5.0	*p,p'*-DDD	5.0
Chlorothalonil	5.0	*o,p'*-DDT	5.0
Heptachlor	5.0	*cis*-Nonachlor	5.0
Aldrin	5.0	Endrin aldehyde	5.0
Chlorpyrifos	5.0	2,3,4,5-Tetrachloro-4-biphenylol	5.0
DCPA	5.0	Endosulfan sulfate	5.0
Isodrin	5.0	*p,p'*-DDT	5.0
Octachlorostyrene	5.0	Endrin ketone	5.0
Heptachlor epoxide	5.0	Mirex	5.0
Oxychlordane	5.0	PCB 1248	50
trans-Chlordane	5.0	PCB 1254	50
o,p'-DDE	5.0	PCB 1260	50
Endosulfan I	5.0	Toxaphene	200

[1] Minimum reporting level was twice the level listed for some samples (table 6) because of interferences with the target analyte (T.J. Leiker, U.S. Geological Survey, written commun., 2001).

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth

[In micrograms per kilogram wet weight except as noted; <, less than; E, estimated; nd, compound coeluted or analytical standard not available]

Organochlorine pesticide or PCB	Sample identifier							
	CCF001	CCF002	CCF003	CCF004	CCF005	CCF005 duplicate	CCF006	CCF007
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trifluralin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HCB	<5.0	E.31	<5.0	<5.0	E.28	E.14	E.12	<5.0
PCA	E.17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
beta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
delta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorothalonil	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorpyrifos	E.88	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DCPA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isodrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Octachlorostyrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Oxychlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-Chlordane	E.37	1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Chlordane	1.5	1.4	E.97	E.16	<5.0	<5.0	<5.0	<5.0
trans-Nonachlor	1.7	2.6	2.0	E.61	<5.0	<5.0	<5.0	E.97
p,p'-DDE	E7.0	E6.1	E7.3	E5.7	<5.0	<5.0	E4.2	E7.0
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Nonachlor	E1.1	1.4	E1.0	E.33	<5.0	<5.0	<5.0	E.43
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan sulfate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCB1248	<50	<50	<50	<50	<50	<50	<50	<50
PCB1254	204	104	203	145	84	108	115	73
PCB1260	74	<50	97	72	<50	47	<50	35
Toxaphene	<200	<200	<200	<200	<200	<200	<200	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	CCF008	CCF009	CCF0010	CC001	CC003	CC006	CC007	CC008
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trifluralin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HCB	E.31	E.22	E.07	<5.0	<5.0	<5.0	<5.0	<5.0
PCA	<5.0	<5.0	<5.0	<5.0	<5.0	E1.1	<5.0	<5.0
beta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
delta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorothalonil	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorpyrifos	<5.0	<5.0	E.94	<5.0	<5.0	E1.6	<5.0	<5.0
DCPA	<5.0	<5.0	<5.0	1.3	<5.0	<5.0	<5.0	<5.0
Isodrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Octachlorostyrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Oxychlordane	<5.0	<5.0	E.11	E.26	<5.0	E1.6	<5.0	<5.0
trans-Chlordane	1.8	1.2	E1.1	1.6	2.4	6.2	E.73	<5.0
o,p'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Chlordane	2.3	1.8	2.2	2.0	3.2	9.0	E.91	<5.0
trans-Nonachlor	3.6	3.2	4.1	3.4	5.8	16	2.0	<5.0
p,p'-DDE	E14	E22	E8.0	E9.2	E11	E26	<5.0	E5.1
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Nonachlor	2.1	1.8	1.5	1.5	2.5	6.1	E.48	E.08
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan sulfate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCB1248	<50	<50	<50	<50	<50	<50	<50	<50
PCB1254	134	181	204	421	851	1,717	348	84
PCB1260	<50	<50	74	240	313	415	188	41
Toxaphene	<200	<200	<200	<200	<200	<200	<200	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	CC009	CC0010	CC0011	CC0014	CC0014 duplicate	CC0015	FWD001	FWD002
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trifluralin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HCB	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
beta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
delta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorothalonil	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorpyrifos	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DCPA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isodrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Octachlorostyrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Oxychlordane	E.28	<5.0	E.49	<5.0	<5.0	E.38	<5.0	<5.0
trans-Chlordane	E1.0	<5.0	2.3	<5.0	<5.0	1.9	<5.0	<5.0
o,p'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Chlordane	2.0	<5.0	3.2	<5.0	<5.0	3.6	<5.0	<5.0
trans-Nonachlor	4.8	<5.0	5.7	<5.0	<5.0	8.1	<5.0	<5.0
p,p'-DDE	E9.4	<5.0	E6.2	E11	E5.6	14	<5.0	<5.0
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Nonachlor	2.3	<5.0	2.2	<5.0	<5.0	3.2	<5.0	<5.0
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan sulfate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCB1248	<50	<50	<50	<50	<50	<50	<50	<50
PCB1254	328	42	998	68	52	237	<50	33
PCB1260	154	33	304	36	30	88	<50	19
Toxaphene	<200	<200	<200	<200	<200	<200	<200	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	FWD003	FWD004	FWD005	FWD008	FWD009	FWD0010	FWD0011	FWD0012
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trifluralin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
HCB	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
beta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
delta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorothalonil	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorpyrifos	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
DCPA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isodrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Octachlorostyrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Oxychlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
trans-Chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	E.27	<5.0
o,p'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Chlordane	<5.0	<5.0	<5.0	E.13	<5.0	<5.0	2.2	<5.0
trans-Nonachlor	<5.0	E.18	<5.0	1.7	<5.0	E.93	6.5	E.03
p,p'-DDE	<5.0	<5.0	<5.0	E11	<5.0	<5.0	E64	<5.0
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
o,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-Nonachlor	<5.0	<5.0	<5.0	E.88	<5.0	E.08	2.4	<5.0
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endosulfan sulfate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
p,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCB1248	<50	<50	<50	<50	<50	<50	<50	<50
PCB1254	92	41	26	226	<50	38	167	43
PCB1260	56	30	21	105	<50	<50	53	29
Toxaphene	<200	<200	<200	<200	<200	<200	<200	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	FWD0012 duplicate	LMB002	LMB005	LMB006	LMB007	LMB007 duplicate	LMB008	LMB009
Hexachlorocyclopentadiene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Trifluralin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
alpha-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
HCB	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
PCA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
beta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
gamma-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
delta-HCH	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Chlorothalonil	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Heptachlor	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Aldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Chlorpyrifos	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
DCPA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Isodrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Octachlorostyrene	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Heptachlor epoxide	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Oxychlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
trans-Chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan I	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
cis-Chlordane	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
trans-Nonachlor	E.16	E.72	<5.0	1.8	<5.0	<5.0	<10	1.6
p,p'-DDE	<5.0	E1.7	5.4	2.3	1.9	3.3	<10	2.0
Dieldrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endrin	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan II	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
p,p'-DDD	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
cis-Nonachlor	<5.0	.92	<5.0	1.0	<5.0	<5.0	<10	.95
Endrin aldehyde	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan sulfate	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
p,p'-DDT	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endrin ketone	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Mirex	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0
PCB1248	<50	<50	<50	<50	<50	<50	<100	<50
PCB1254	37	113	149	128	62	67	<100	41
PCB1260	30	49	63	95	36	32	<100	20
Toxaphene	<200	<200	<200	<200	<200	<200	<400	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	LMB0010	LMB0011	LMB0012	LMB0013	SMB001	SMB002	SMB002 duplicate	SMB003
Hexachlorocyclopentadiene	<5.0	<10	<10	<10	<10	<10	<10	<10
Trifluralin	<5.0	<10	<10	<10	<10	<10	<10	<10
alpha-HCH	<5.0	<10	<10	<10	<10	<10	<10	<10
HCB	<5.0	<10	<10	<10	<10	<10	<10	<10
PCA	<5.0	<10	<10	<10	E.56	E.05	<10	<10
beta-HCH	<5.0	<10	<10	<10	<10	<10	<10	<10
gamma-HCH	<5.0	<10	<10	<10	<10	<10	<10	<10
delta-HCH	<5.0	<10	<10	<10	<10	<10	<10	<10
Chlorothalonil	<5.0	<10	<10	<10	<10	<10	<10	<10
Heptachlor	<5.0	<10	<10	<10	<10	<10	<10	<10
Aldrin	<5.0	<10	<10	<10	<10	<10	<10	<10
Chlorpyrifos	<5.0	<10	<10	<10	<10	<10	<10	<10
DCPA	<5.0	<10	<10	<10	<10	<10	<10	<10
Isodrin	<5.0	<10	<10	<10	<10	<10	<10	<10
Octachlorostyrene	<5.0	<10	<10	<10	<10	<10	<10	<10
Heptachlor epoxide	<5.0	<10	<10	<10	<10	<10	<10	<10
Oxychlordane	<5.0	<10	<10	<10	<10	<10	<10	<10
trans-Chlordane	<5.0	<10	<10	<10	<10	<10	E.34	<10
o,p'-DDE	<5.0	<10	<10	<10	<10	<10	<10	<10
Endosulfan I	<5.0	<10	<10	<10	<10	<10	<10	<10
cis-Chlordane	<5.0	<10	<10	<10	<10	E.54	E.62	<10
trans-Nonachlor	<5.0	<10	E.79	<10	<10	E3.0	3.5	<10
p,p'-DDE	<5.0	<10	<10	<10	<10	<10	E41	<10
Dieldrin	<5.0	<10	<10	<10	<10	<10	<10	<10
o,p'-DDD	<5.0	<10	<10	<10	<10	<10	<10	<10
Endrin	<5.0	<10	<10	<10	<10	<10	<10	<10
Endosulfan II	<5.0	<10	<10	<10	<10	<10	<10	<10
p,p'-DDD	<5.0	<10	<10	<10	<10	<10	<10	<10
o,p'-DDT	<5.0	<10	<10	<10	<10	<10	<10	<10
cis-Nonachlor	<5.0	<10	<10	<10	<10	3.4	E2.7	<10
Endrin aldehyde	<5.0	<10	<10	<10	<10	<10	<10	<10
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<10	<10	<10	<10	<10	<10	<10
Endosulfan sulfate	<5.0	<10	<10	<10	<10	<10	<10	<10
p,p'-DDT	<5.0	<10	<10	<10	<10	<10	<10	<10
Endrin ketone	<5.0	<10	<10	<10	<10	<10	<10	<10
Mirex	<5.0	<10	<10	<10	<10	<10	<10	<10
PCB1248	<50	<100	<100	<100	<100	<100	<100	<100
PCB1254	<50	<100	<100	<100	<100	667	755	<100
PCB1260	<50	<100	<100	<100	<100	<100	<100	<100
Toxaphene	<200	<400	<400	<400	<400	<400	<400	<400

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	SMB004	SMB006	WC001	WC002	WC003	WC004	WC005	WC006
Hexachlorocyclopentadiene	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Trifluralin	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
alpha-HCH	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
HCB	<10	<10	E.41	E.27	1.8	E.31	<10	6.3
PCA	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
beta-HCH	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
gamma-HCH	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
delta-HCH	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Chlorothalonil	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Heptachlor	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Aldrin	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Chlorpyrifos	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
DCPA	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Isodrin	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Octachlorostyrene	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Heptachlor epoxide	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Oxychlordane	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
trans-Chlordane	E.42	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDE	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan I	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
cis-Chlordane	E.55	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
trans-Nonachlor	E1.2	E1.6	<5.0	<5.0	<5.0	<5.0	<10	<5.0
p,p'-DDE	<10	<10	<5.0	<5.0	<5.0	E5.2	<10	<5.0
Dieldrin	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDD	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endrin	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan II	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
p,p'-DDD	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
o,p'-DDT	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
cis-Nonachlor	E.50	E.47	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endrin aldehyde	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
2,3,4,5-Tetrachloro-4-biphenylol	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endosulfan sulfate	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
p,p'-DDT	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Endrin ketone	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
Mirex	<10	<10	<5.0	<5.0	<5.0	<5.0	<10	<5.0
PCB1248	<100	<100	<50	<50	<50	<50	<100	<50
PCB1254	<100	<100	<50	<50	<50	<50	<100	<50
PCB1260	<100	<100	<50	<50	<50	<50	<100	<50
Toxaphene	<400	<400	<200	<200	<200	<200	<400	<200

Table 6. Concentrations (wet weight) of selected organochlorine pesticides and polychlorinated biphenyls (PCBs) in edible fish tissues from Lake Worth—Continued

Organochlorine pesticide or PCB	Sample identifier							
	WC007	WC008	WC009	WC0010	Set 1 blank	Set 1 spike	Set 2 blank	Set 2 spike
Hexachlorocyclopentadiene	<5.0	<10	<5.0	<10	<5.0	[1]36	<5.0	[1]57
Trifluralin	<5.0	<10	<5.0	<10	<5.0	[1]58	<5.0	[1]63
alpha-HCH	<5.0	<10	<5.0	<10	<5.0	[1]99	<5.0	[1]69
HCB	E.25	<10	1.3	<10	<5.0	[1]86	<5.0	[1]83
PCA	<5.0	<10	<5.0	<10	<5.0	[1]73	<5.0	[1]88
beta-HCH	<5.0	<10	<5.0	<10	<5.0	[1]116	<5.0	[1]111
gamma-HCH	<5.0	<10	<5.0	<10	<5.0	[1]77	<5.0	[1]71
delta-HCH	<5.0	<10	<5.0	<10	<5.0	[1]96	<5.0	[1]92
Chlorothalonil	<5.0	<10	<5.0	<10	<5.0	[1]45	<5.0	[1]72
Heptachlor	<5.0	<10	<5.0	<10	<5.0	[1]64	<5.0	[1]95
Aldrin	<5.0	<10	<5.0	<10	<5.0	[1]86	<5.0	[1]73
Chlorpyrifos	<5.0	<10	<5.0	<10	<5.0	[1]73	<5.0	[1]86
DCPA	<5.0	<10	<5.0	<10	<5.0	[1]76	<5.0	[1]80
Isodrin	<5.0	<10	<5.0	<10	<5.0	[1]85	<5.0	[1]120
Octachlorostyrene	<5.0	<10	<5.0	<10	<5.0	[1]83	<5.0	[1]80
Heptachlor epoxide	<5.0	<10	<5.0	<10	<5.0	[1]82	<5.0	[1]78
Oxychlordane	<5.0	<10	<5.0	<10	<5.0	[1]82	<5.0	[1]73
trans-Chlordane	<5.0	<10	<5.0	<10	<5.0	[1]76	<5.0	[1]84
o,p'-DDE	<5.0	<10	<5.0	<10	<5.0	[1]67	<5.0	nd
Endosulfan I	<5.0	<10	<5.0	<10	<5.0	[1]73	<5.0	[1]75
cis-Chlordane	<5.0	<10	<5.0	<10	<5.0	[1]85	<5.0	[1]88
trans-Nonachlor	<5.0	<10	<5.0	<10	<5.0	[1]78	<5.0	[1]78
p,p'-DDE	<5.0	<10	<5.0	<10	<5.0	[1]77	<5.0	[1]89
Dieldrin	<5.0	<10	<5.0	<10	<5.0	[1]80	<5.0	[1]91
o,p'-DDD	<5.0	<10	<5.0	<10	<5.0	[1]83	<5.0	[1]82
Endrin	<5.0	<10	<5.0	<10	<5.0	[1]80	<5.0	[1]86
Endosulfan II	<5.0	<10	<5.0	<10	<5.0	[1]66	<5.0	[1]76
p,p'-DDD	<5.0	<10	<5.0	<10	<5.0	nd	<5.0	[1]76
o,p'-DDT	<5.0	<10	<5.0	<10	<5.0	[1]41	<5.0	[1]104
cis-Nonachlor	<5.0	<10	<5.0	<10	<5.0	[1]75	<5.0	[1]83
Endrin aldehyde	<5.0	<10	<5.0	<10	<5.0	[1]41	<5.0	[1]48
2,3,4,5-Tetrachloro-4-biphenylol	<5.0	<10	<5.0	<10	<5.0	nd	<5.0	[1]15
Endosulfan sulfate	<5.0	<10	<5.0	<10	<5.0	[1]72	<5.0	[1]88
p,p'-DDT	<5.0	<10	<5.0	<10	<5.0	[1]68	<5.0	nd
Endrin ketone	<5.0	<10	<5.0	<10	<5.0	[1]88	<5.0	[1]76
Mirex	<5.0	<10	<5.0	<10	<5.0	[1]65	<5.0	[1]69
PCB1248	<50	<100	<50	<100	<50	<50	<50	<50
PCB1254	<50	<100	<50	<100	<50	<50	<50	<50
PCB1260	<50	<100	<50	<100	<50	<50	<50	<50
Toxaphene	<200	<400	<200	<400	<200	<200	<200	<200

[1] In percent.

Table 7. Semivolatile organic compounds (SVOCs) analyzed in fish fillets from Lake Worth and minimum reporting levels

[In micrograms per kilogram wet weight]

SVOC	Minimum reporting level	SVOC	Minimum reporting level
Phenol	50.0	4-Chlorophenyl-phenylether	50.0
bis(2-Chloroethyl)ether	50.0	9*H*-Fluorene	50.0
2-Chlorophenol	50.0	4,6-Dinitro-2-methylphenol	50.0
1,3-Dichlorobenzene	50.0	*N*-Nitrosodiphenylamine	50.0
1,4-Dichlorobenzene	50.0	Azobenzene	50.0
1,2-Dichlorobenzene	50.0	4-Bromophenyl-phenylether	50.0
bis(2-Chloroisopropyl)ether	50.0	1-Methyl-9*H*-fluorene	50.0
p-Cresol	50.0	HCB	50.0
N-Nitrosodi-*n*-propylamine	50.0	PCA	50.0
Hexachloroethane	50.0	Dibenzothiophene	50.0
Nitrobenzene	50.0	Pentachlorophenol	50.0
Isophorne	50.0	Pentachloronitrobenzene	50.0
2-Nitrobenzene	50.0	Phenanthrene	50.0
bis(Chloroethoxy)methane	50.0	Anthracene	50.0
3,5-Dimethylphenol	50.0	Acridine	50.0
2,4-Dichlorophenol	50.0	Phenanthridine	50.0
1,2,4-Trichlorobenzene	50.0	9*H*-Carbazole	50.0
Naphthalene	50.0	2-Methylanthracene	50.0
2,4,6-Trimethylphenol	50.0	4,5-Methylphenanthrene	50.0
Dichlorophenol	50.0	1-Methylphenanathrene	50.0
Hexachlorobutadiene	50.0	Di-*n*-butylphthalate	50.0
Quinoline	50.0	Anthraquinone	50.0
Isoquinoline	50.0	Fluoranthene	50.0
4-Chloro-3-methylphenol	50.0	Pyrene	50.0
Hexachlorocyclopentadiene	50.0	1-Methylpyrene	50.0
2,4,6-Trichlorophenol	50.0	Butylbenzylphthalate	50.0
2-Chloronaphthalene	50.0	Benz(*a*)anthracene	50.0
2-Ethylnaphthalene	50.0	Chrysene	50.0
2,6-Dimethylnaphthalene	50.0	Bis(2-ethylhexyl)phthalate	50.0
1,2-Dimethylnaphthalene	50.0	2,2-Biquinoline	50.0
Dimethylphthalate	50.0	Di-*n*-octylphthalate	50.0
Acenaphthylene	50.0	Benzo(*b*)fluoranthene	50.0
Acenaphthene	50.0	Benzo(*k*)fluoranthene	50.0
2,6-Dinitrotoluene	50.0	Benzo(*a*)pyrene	50.0
4-Nitrotoluene	50.0	Indeno(1,2,3-*cd*)pyrene	50.0
2,3,6-Trimethylnaphthalene	50.0	Dibenz(*ah*)anthracene	50.0
Tetrachlorophenol	50.0	Benzo(*ghi*)perylene	50.0
Diethylphthalate	50.0		

District Chief
U.S. Geological Survey
8027 Exchange Dr.
Austin, TX 78754–4733