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Cumberland Bay Sludge Bed – Wilcox Dock
Site # 5-10-017
Removal and Disposal Project
Pre-to Post-Dredging Monitoring
(Volume II of II)
Ten Year Review

Figures

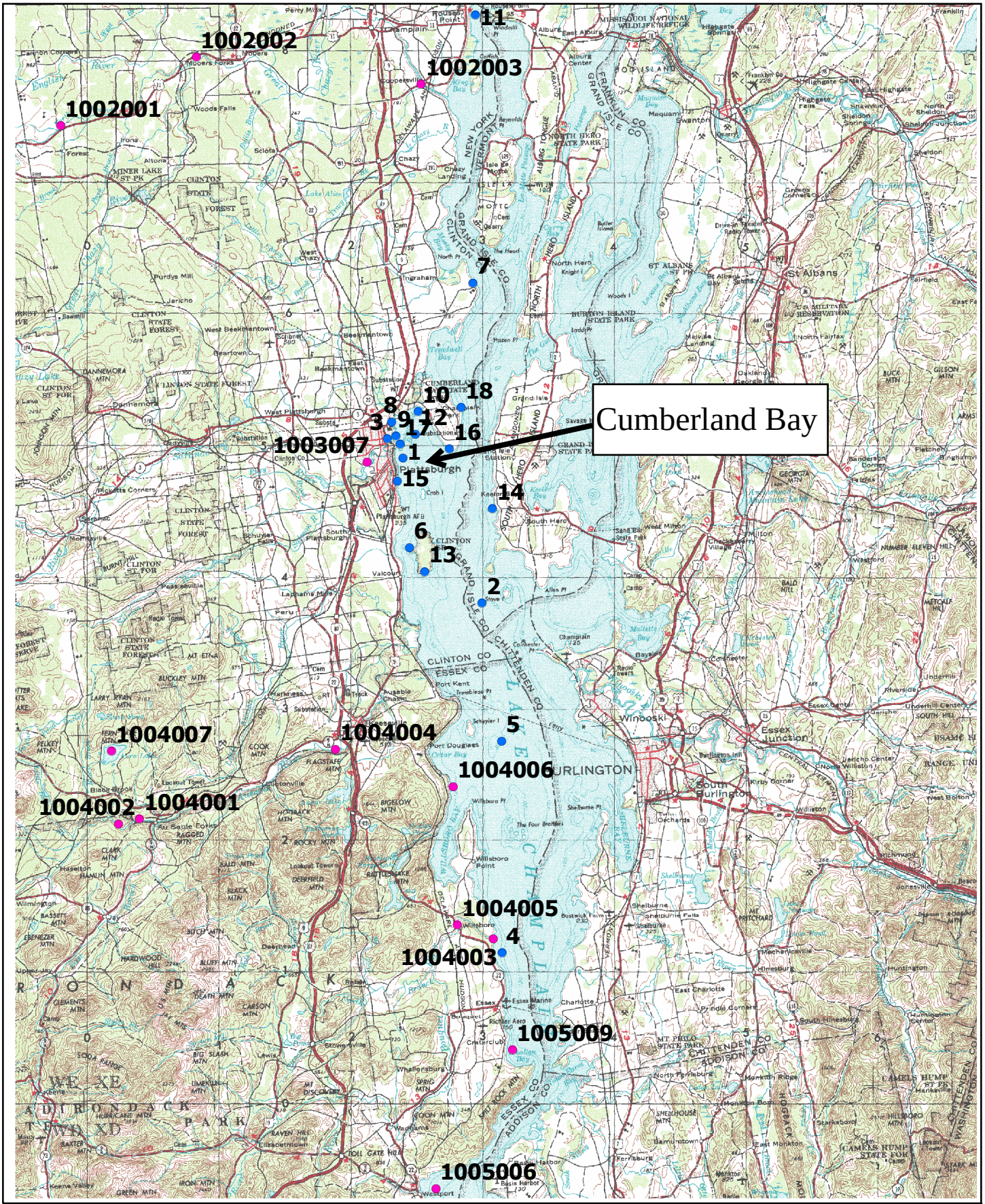


Figure 2-1
PCBs in Fish
Historical Data Collection Points

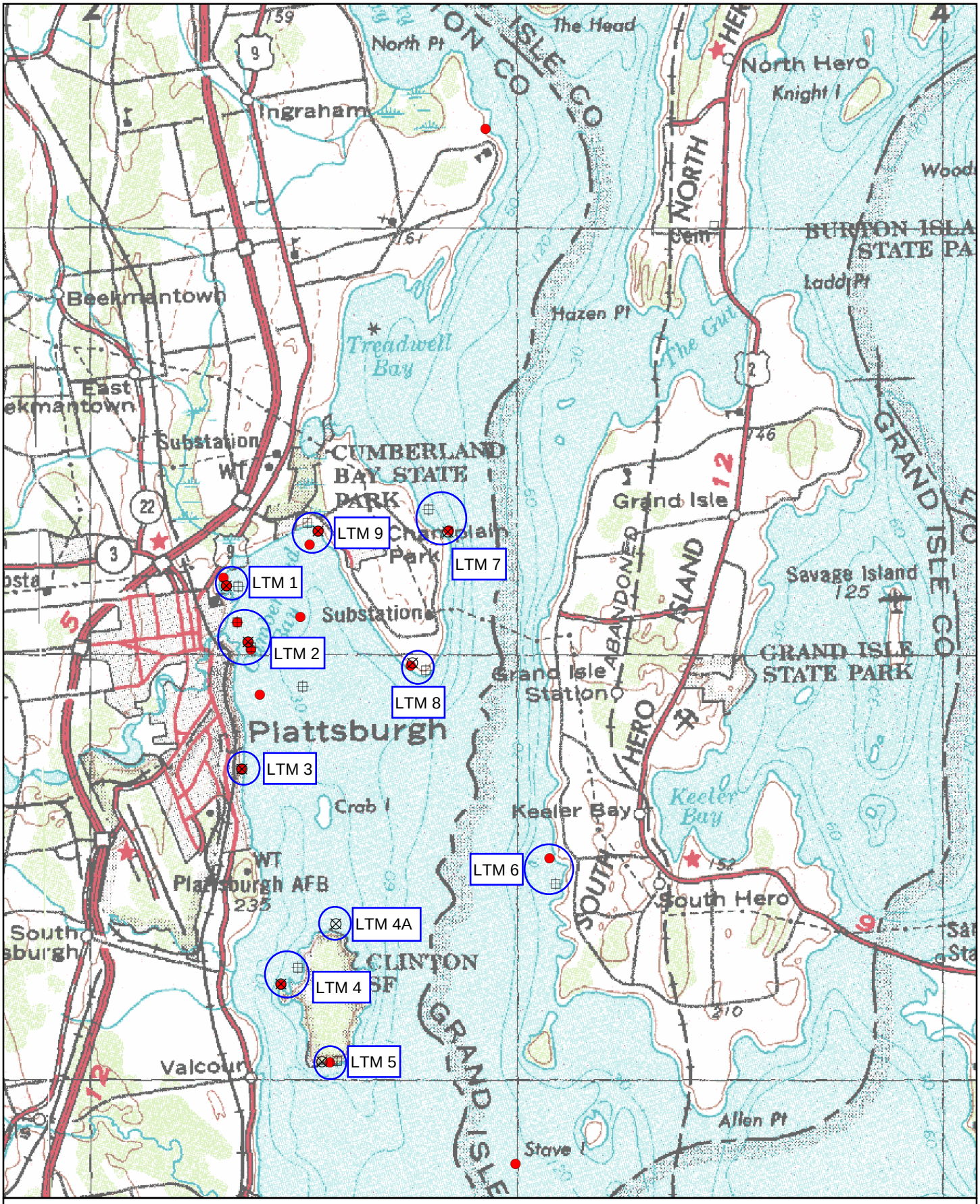
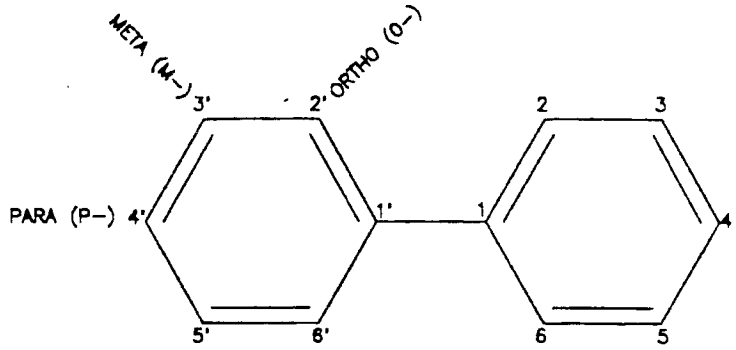


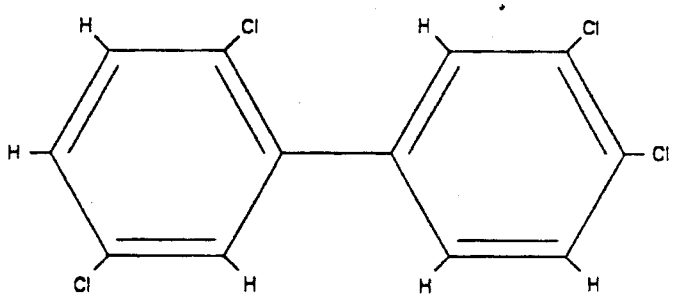
Figure 2-2
Cumberland Bay
Long Term Monitoring Site Locations

Figure 3-1
PCB STRUCTURE AND GROUP

GENERIC STRUCTURE:



PCB CONGENER:



3,4,2',5' tetrachlorobiphenyl

PCB Homolog Group	Number of Congeners
Mono–	3
Di–	12
Tri–	24
Tetra–	42
Penta–	46
Hexa–	42
Hepta–	24
Octa–	12
Nona–	3
Deca–	1
Total Congeners	209

Source: Cairns et al. (1986).

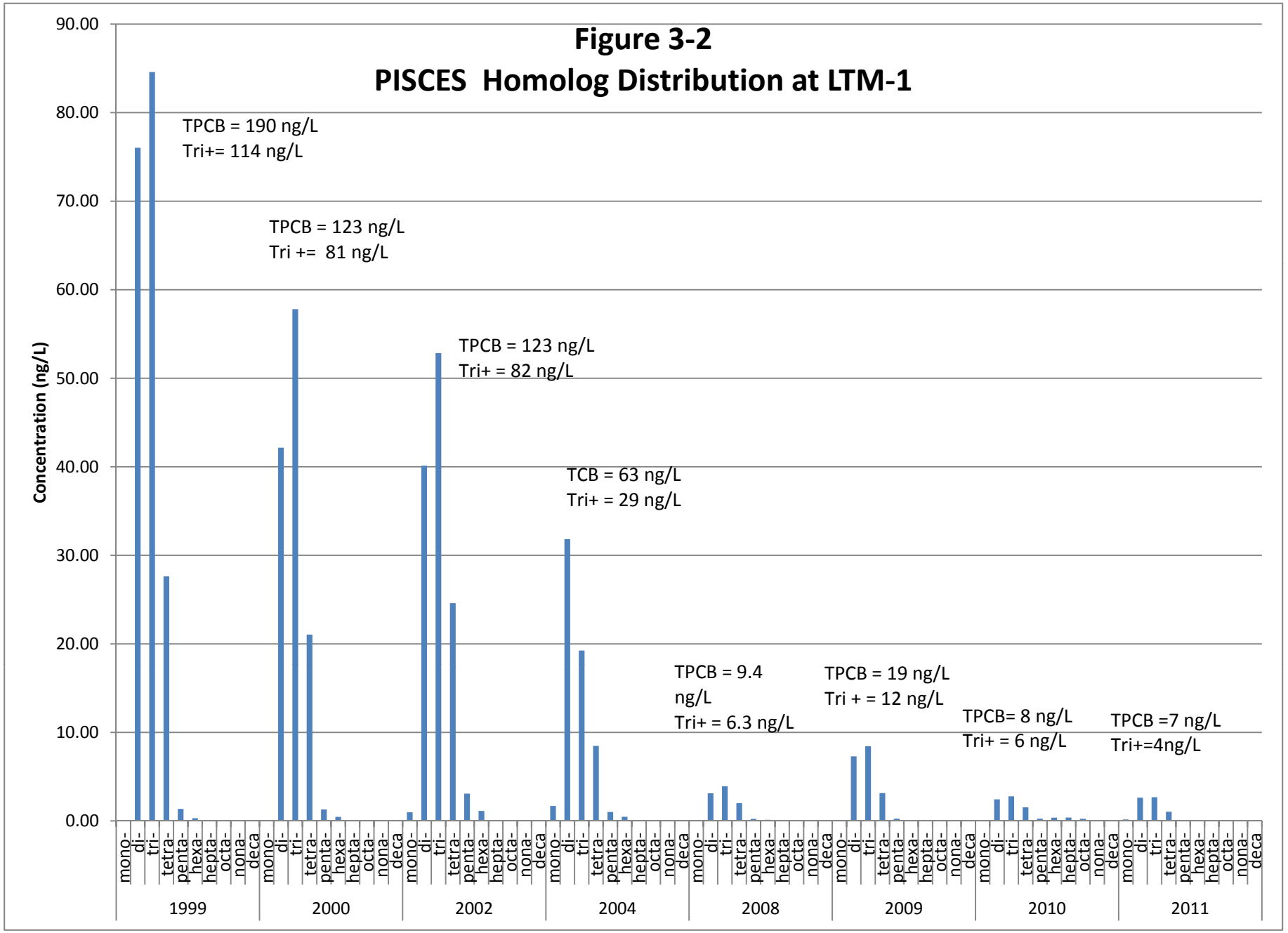


Figure 3-2
PISCES Homolog Distribution at LTM-1
Concentration (ng/L)
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
TPCB = 190 ng/L
Tri+= 114 ng/L
TPCB = 123 ng/L
Tri += 81 ng/L
TPCB = 123 ng/L
Tri+ = 82 ng/L
TCB = 63 ng/L
Tri+ = 29 ng/L
TPCB = 9.4 ng/L
Tri+ = 6.3 ng/L
TPCB = 19 ng/L
Tri + = 12 ng/L
TPCB= 8 ng/L
Tri+ = 6 ng/L
TPCB =7 ng/L
Tri+=4ng/L
mono- di- tri- tetra- penta- hexa- hepta- octa- nona- deca
1999
2000
2002
2004
2008
2009
2010
2011

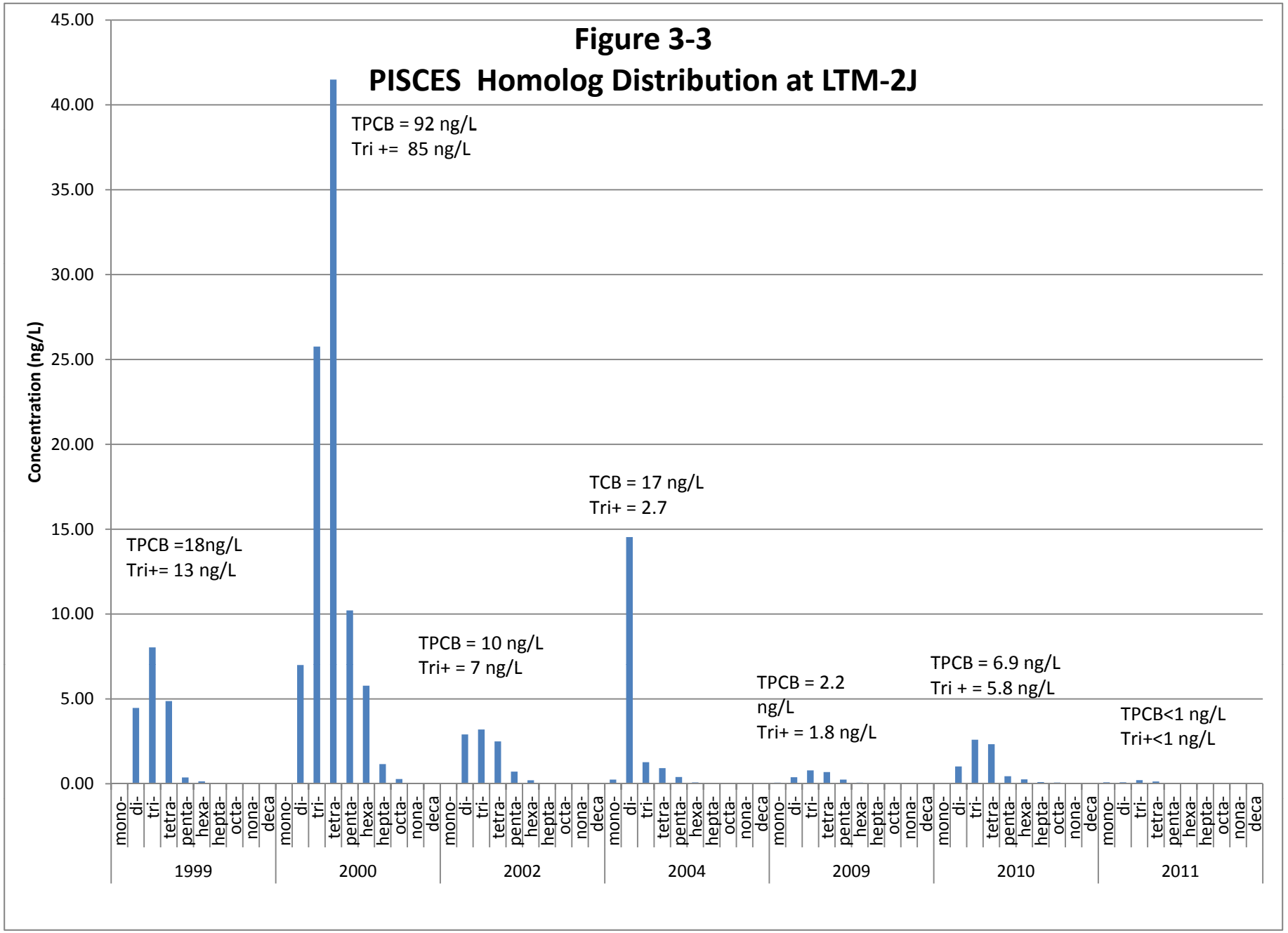


Figure 3-3
PISCES Homolog Distribution at LTM-2J
Concentration (ng/L)
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
TPCB = 92 ng/L
Tri += 85 ng/L
TCB = 17 ng/L
Tri+ = 2.7
TPCB =18ng/L
Tri+= 13 ng/L
TPCB = 10 ng/L
Tri+ = 7 ng/L
TPCB = 2.2
ng/L
Tri+ = 1.8 ng/L
TPCB = 6.9 ng/L
Tri + = 5.8 ng/L
TPCB<1 ng/L
Tri+<1 ng/L
mono- di- tri- tetra- penta- hexa- hepta- octa- nona- deca
1999
2000
2002
2004
2009
2010
2011

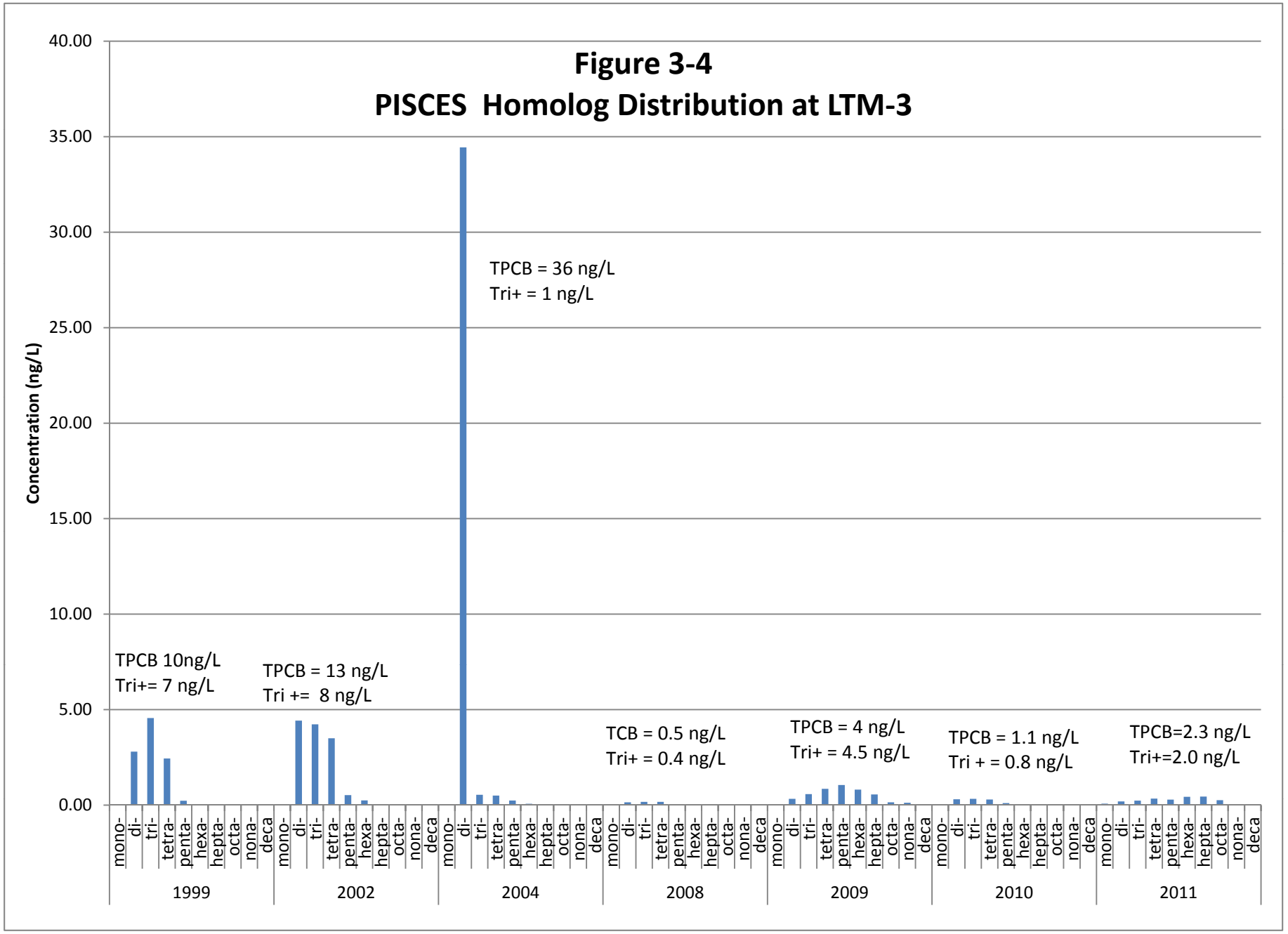


Figure 3-4
PISCES Homolog Distribution at LTM-3
Concentration (ng/L)
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
TPCB 10ng/L
Tri+= 7 ng/L
TPCB = 13 ng/L
Tri += 8 ng/L
TPCB = 36 ng/L
Tri+ = 1 ng/L
TCB = 0.5 ng/L
Tri+ = 0.4 ng/L
TPCB = 4 ng/L
Tri+ = 4.5 ng/L
TPCB = 1.1 ng/L
Tri + = 0.8 ng/L
TPCB=2.3 ng/L
Tri+=2.0 ng/L
mono- di- tri- tetra- penta- hexa- hepta- octa- nona- deca
1999
2002
2004
2008
2009
2010
2011

Figure 3-5
PISCES Homolog Distribution LTM-9

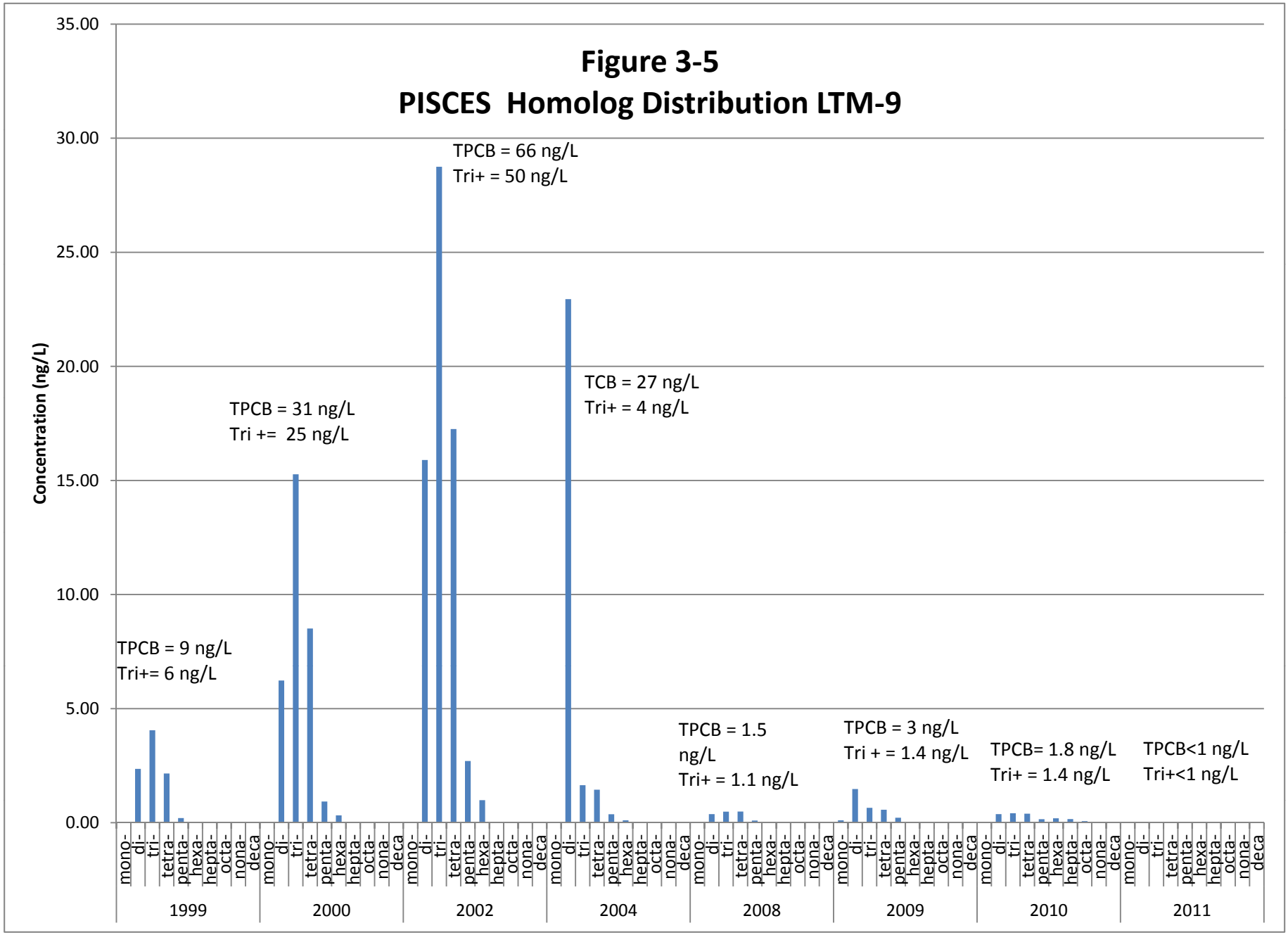


Figure 3-6
Mean Percent Lipid (with 95% Confidence Limits) - Yellow Perch by Year

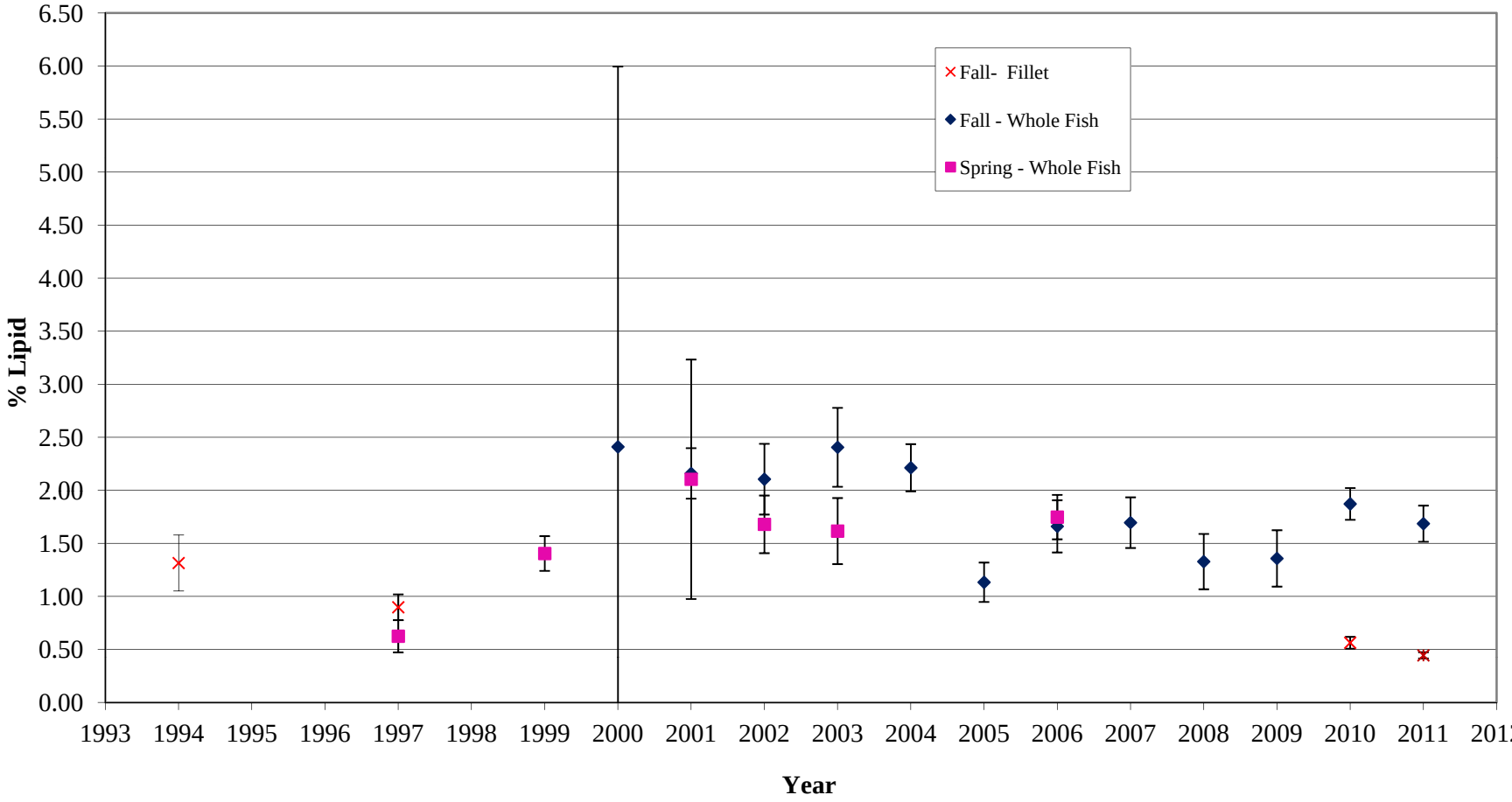


Figure 3-7
Rock Bass
Mean Percent Lipid (with 95% Confidence Limits) - By Year

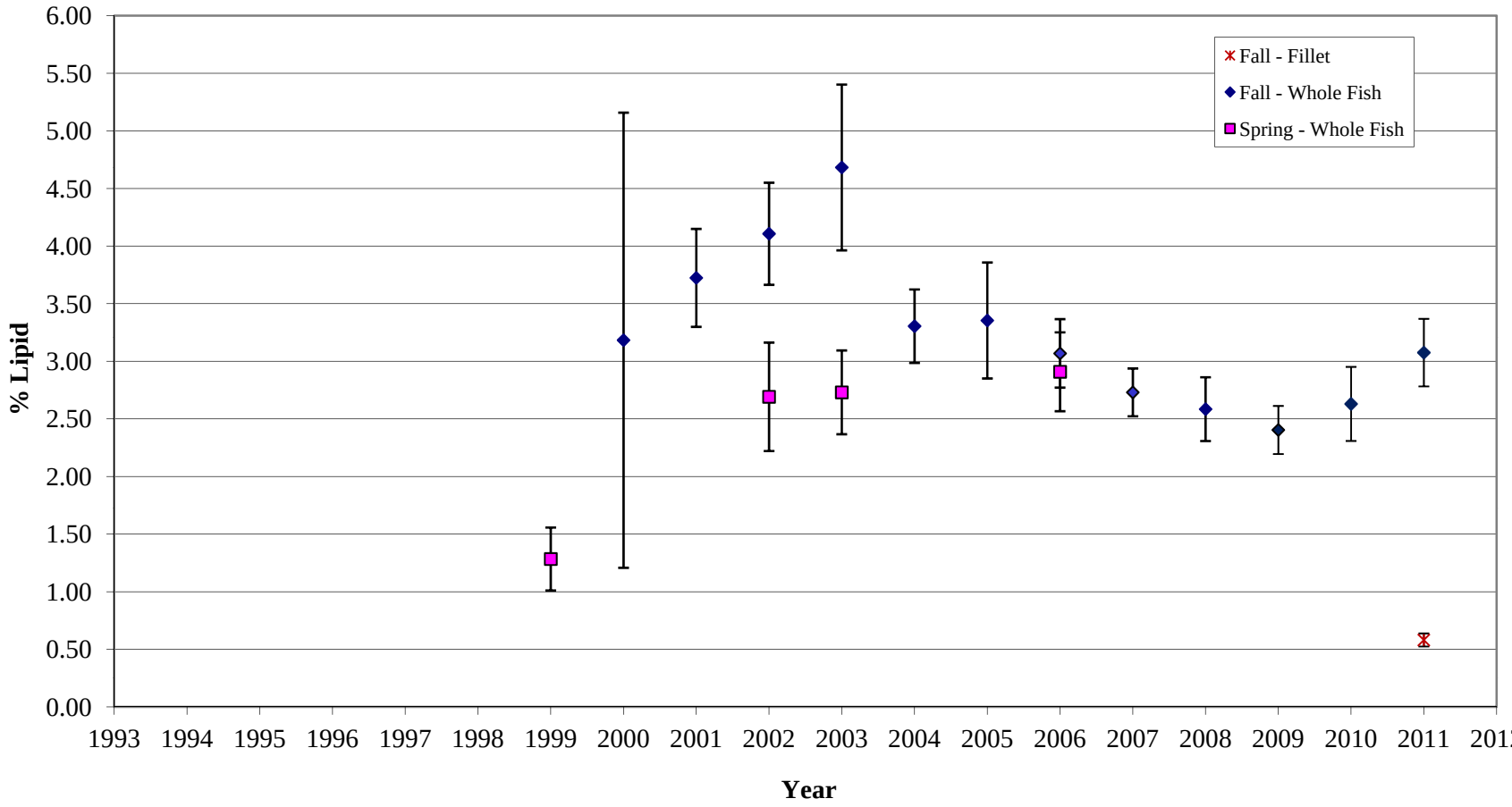


Figure 3-8a
LTM 1
Lipid Normalized PCBs - Yellow Perch

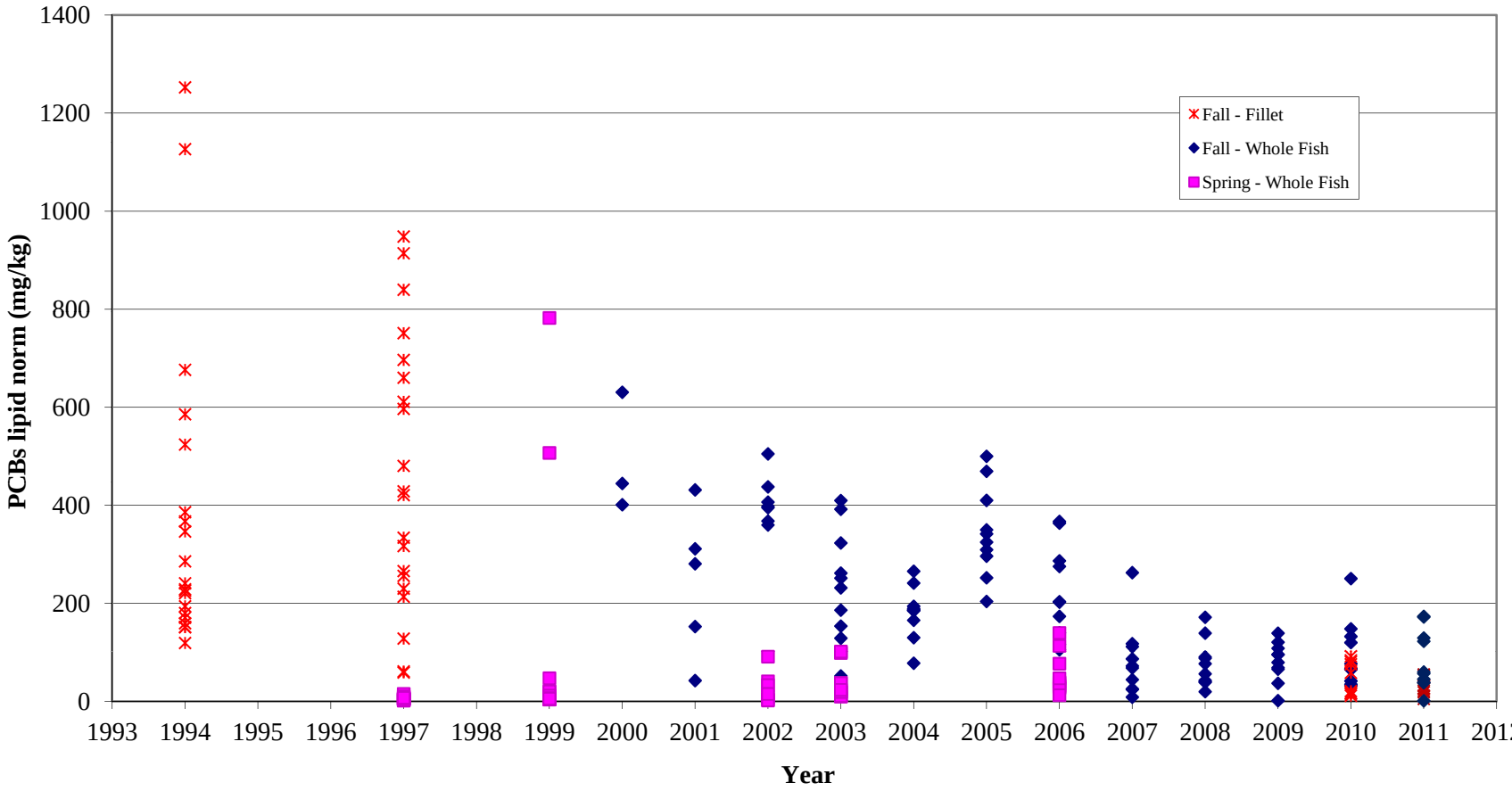


Figure 3-8b
LTM 1
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Yellow Perch

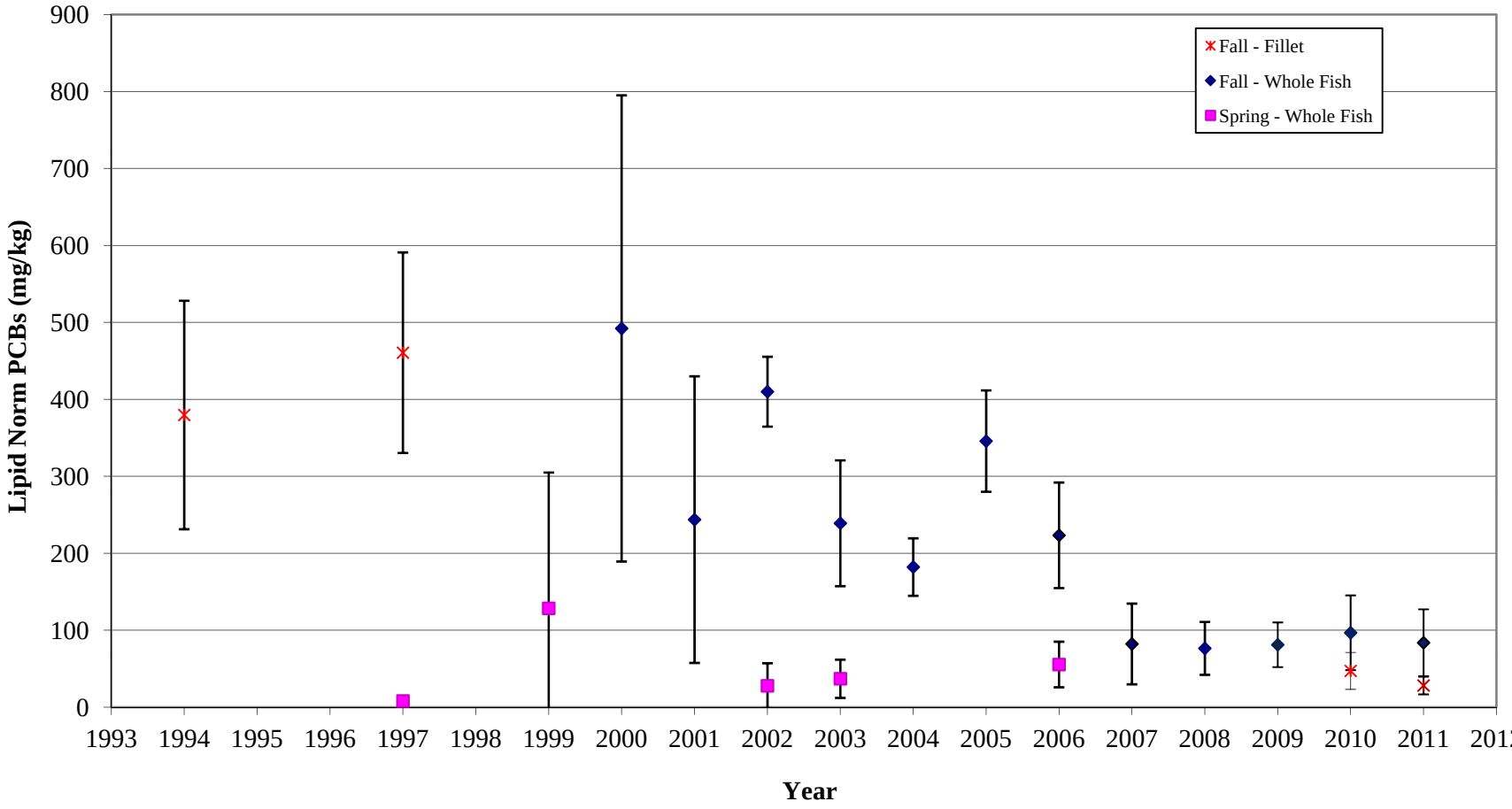


Figure 3-9a
LTM 2 (Mouth of Saranac)
Lipid Normalized PCBs - Yellow Perch

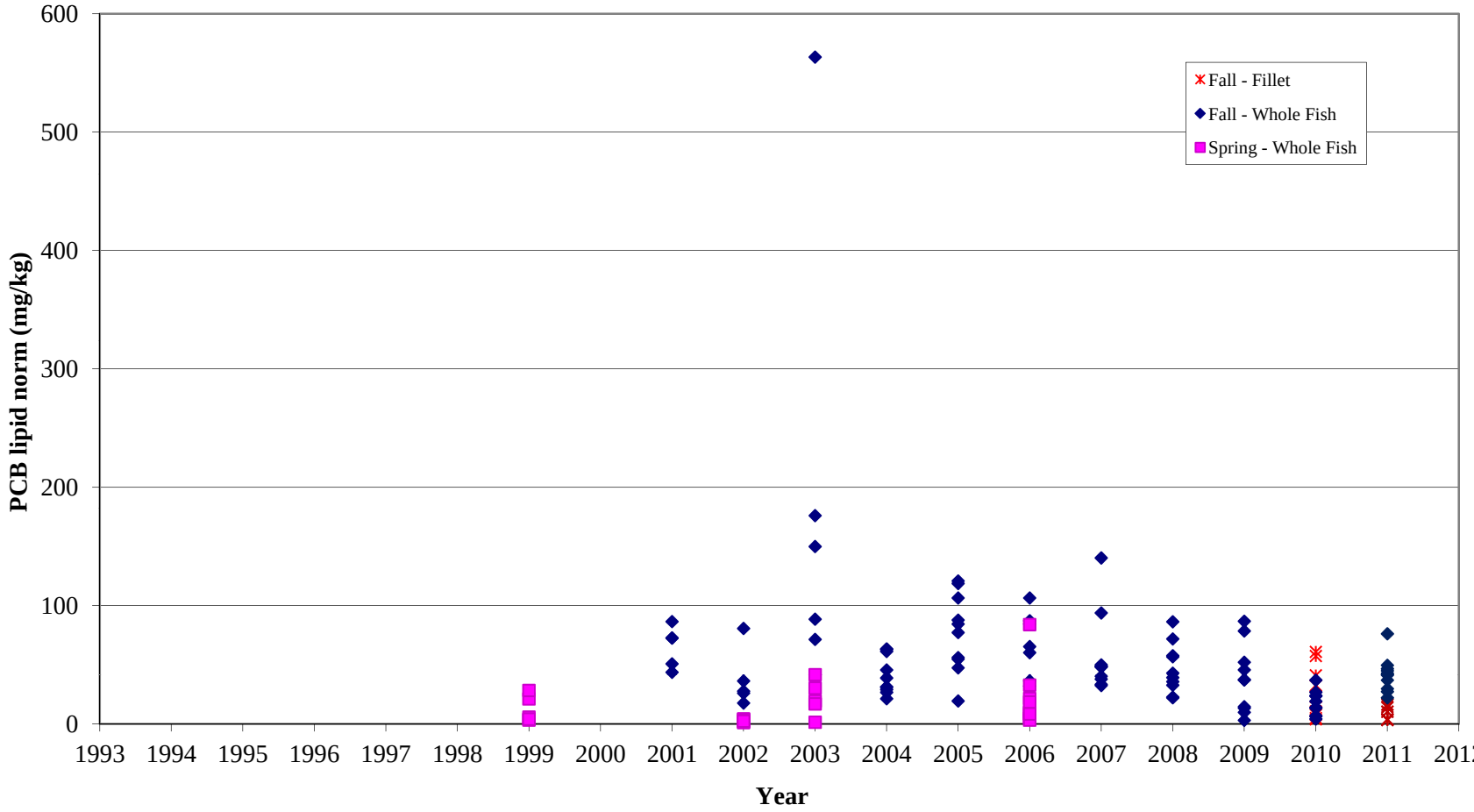


Figure 3-9b
LTM 2 (Mouth of Saranac)
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Yellow Perch

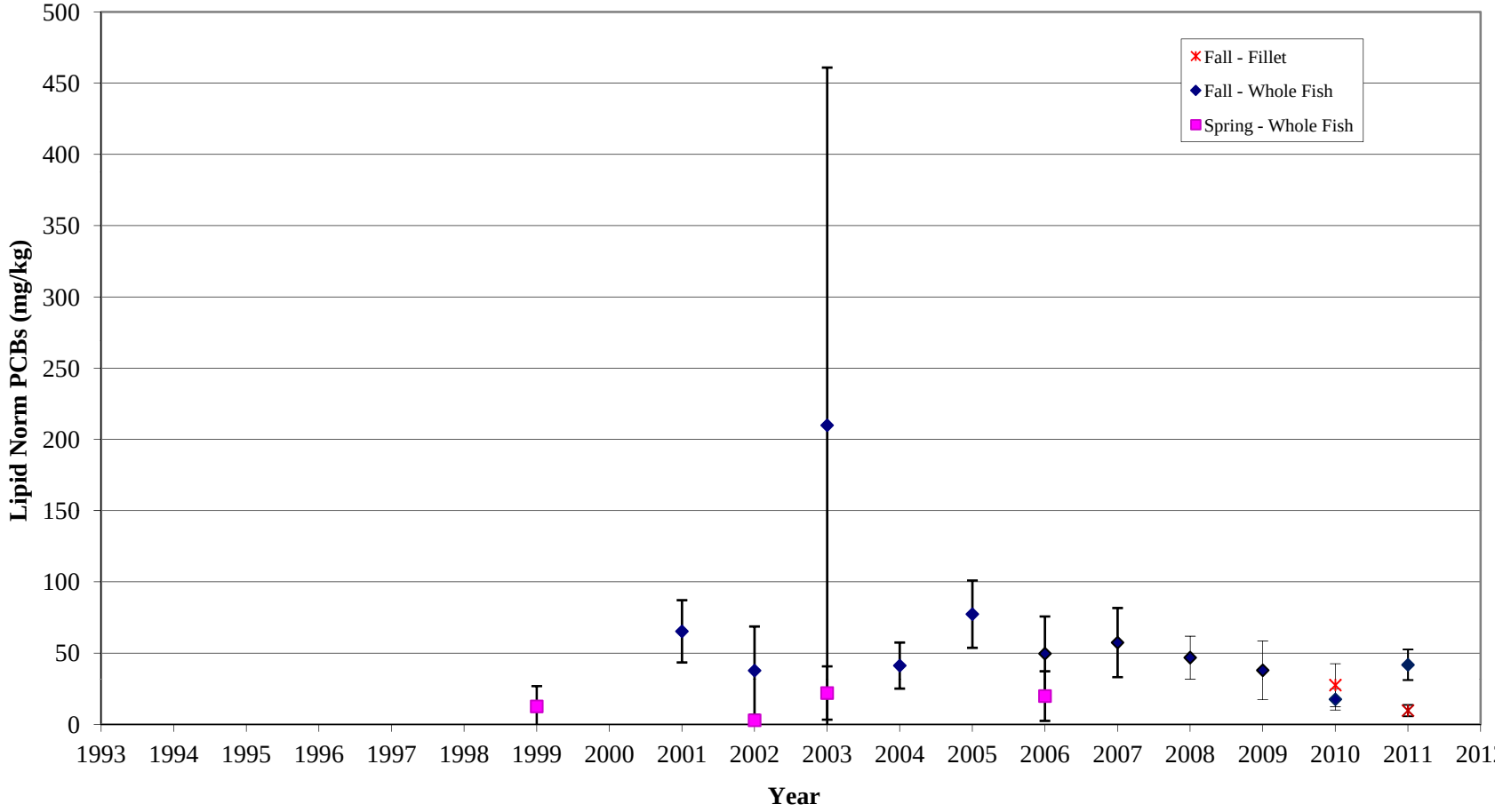


Figure 3-10a
LTM 9
Lipid Normalized PCBs - Yellow Perch

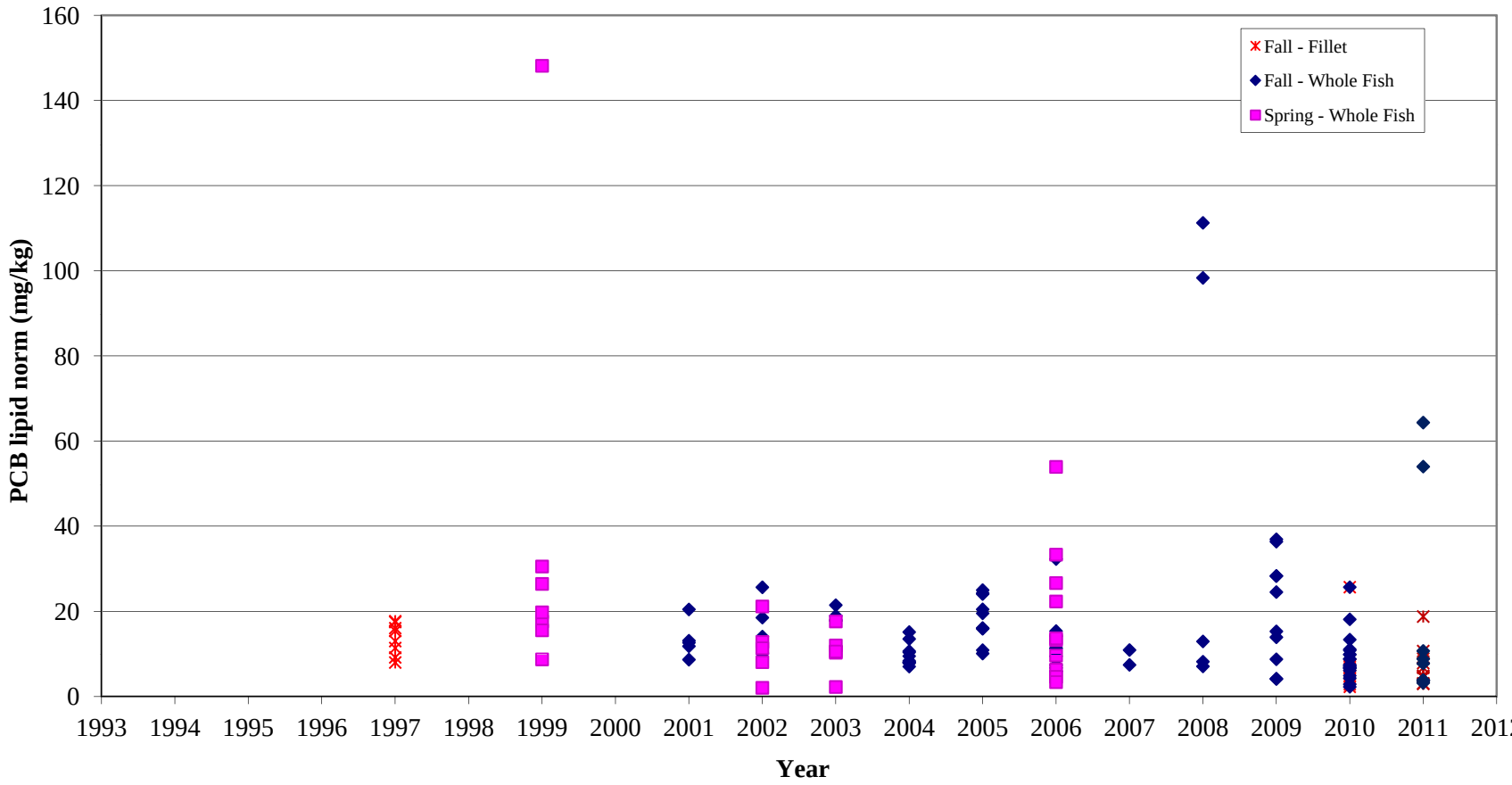


Figure 3-10b
LTM 9
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Yellow Perch

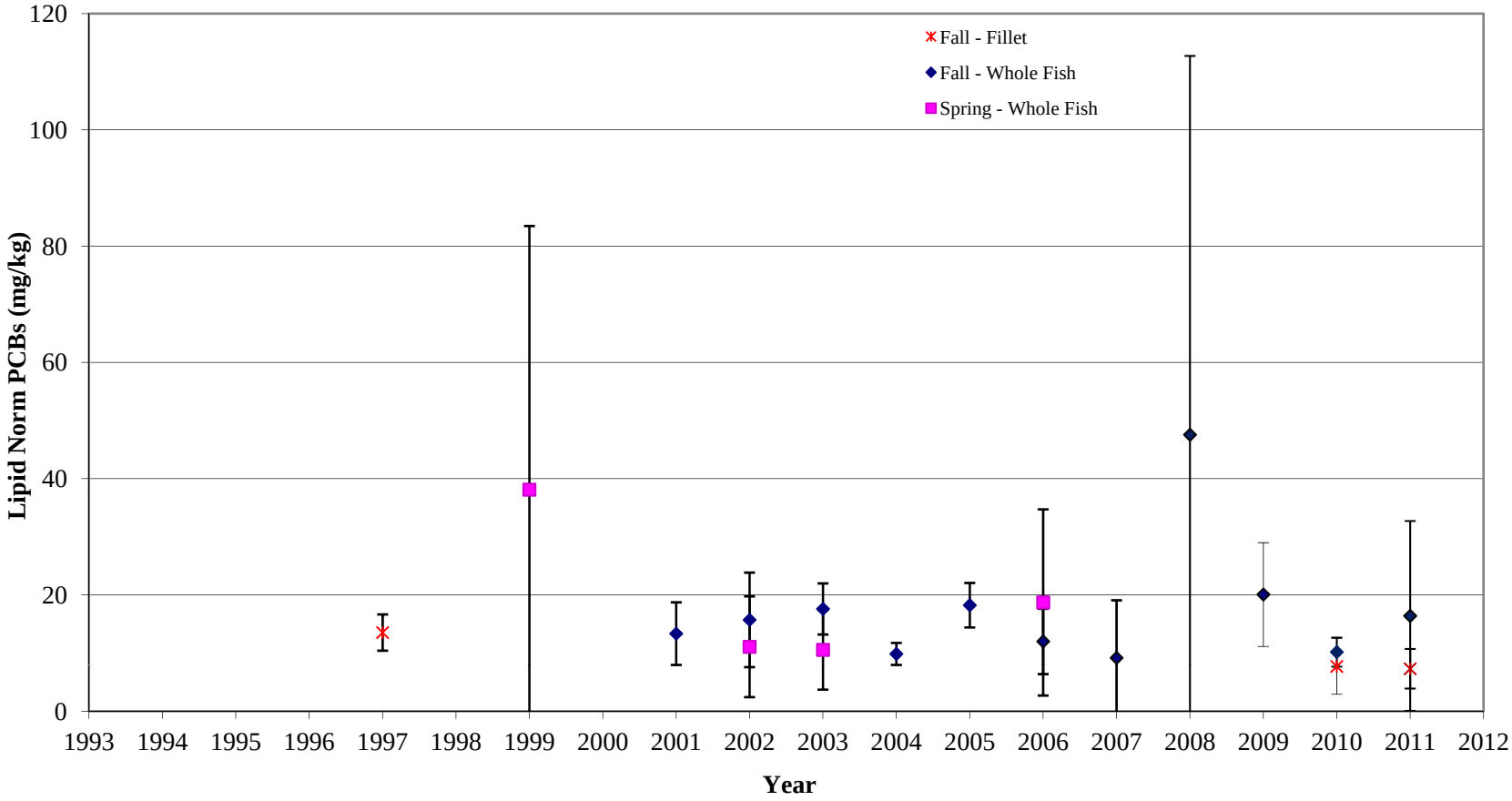


Figure 3-11a
LTM 4-5
Lipid Normalized PCBs - Yellow Perch

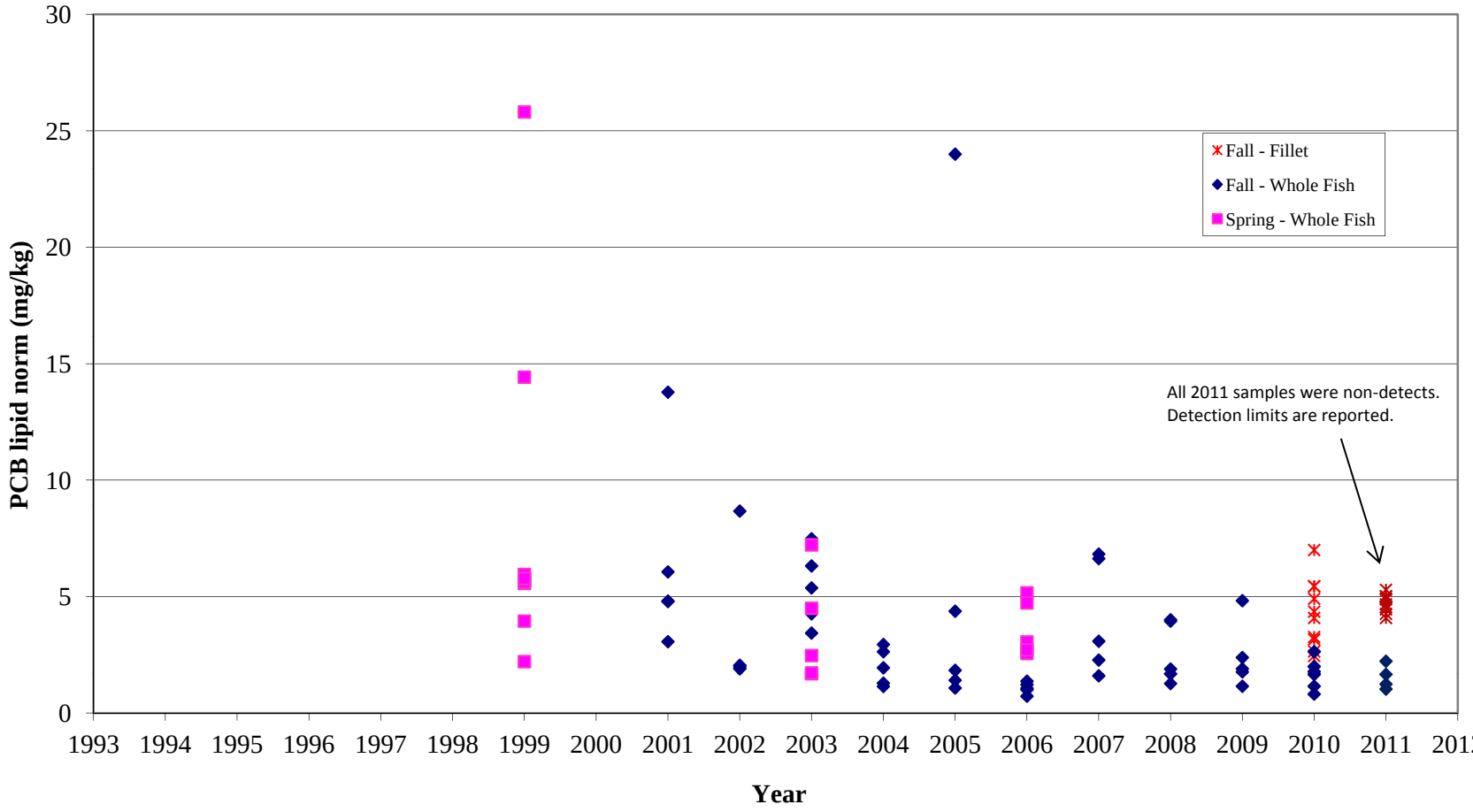


Figure 3-11b
LTM 4-5
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Yellow Perch

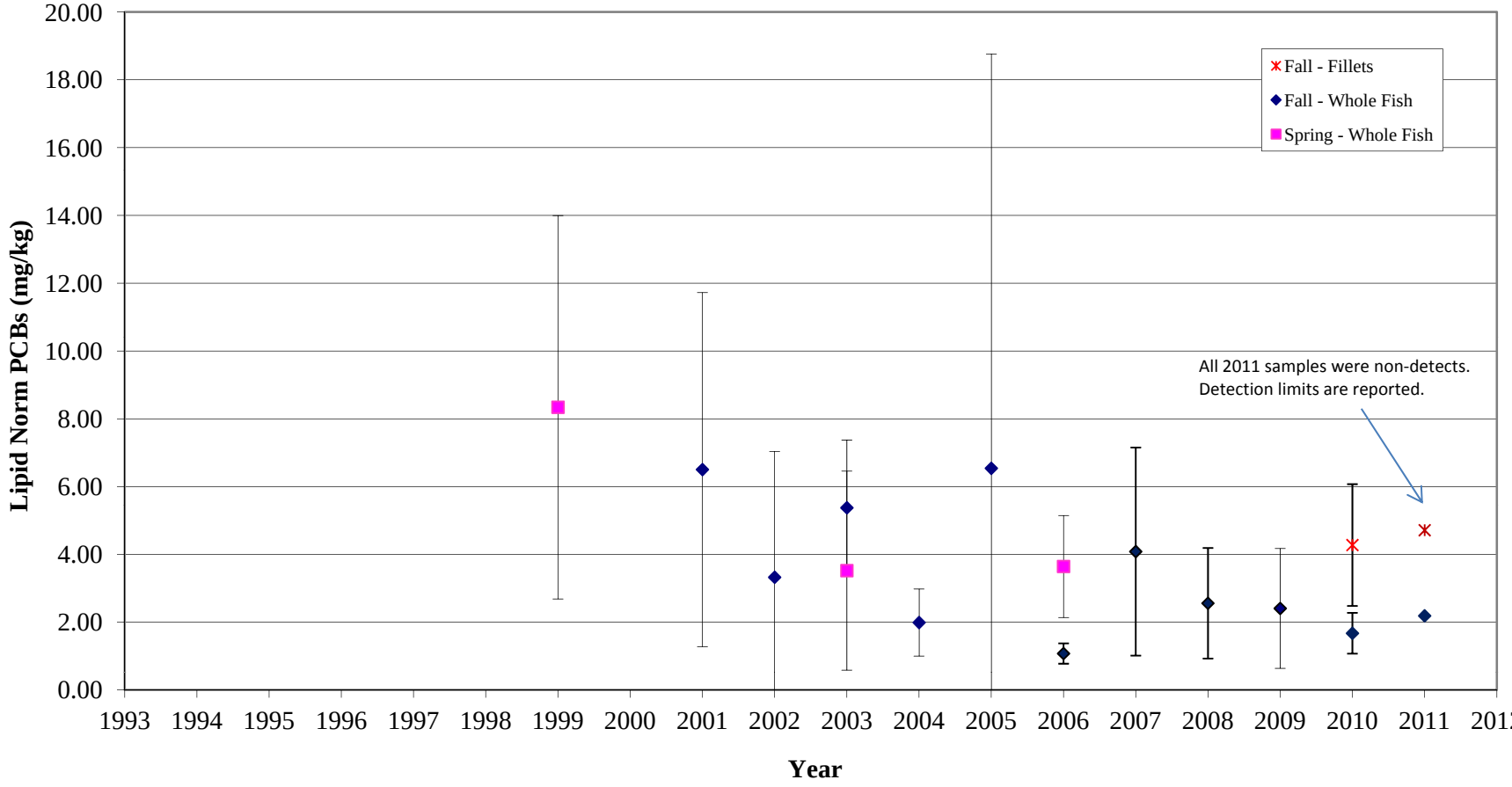


Figure 3-12
2001 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

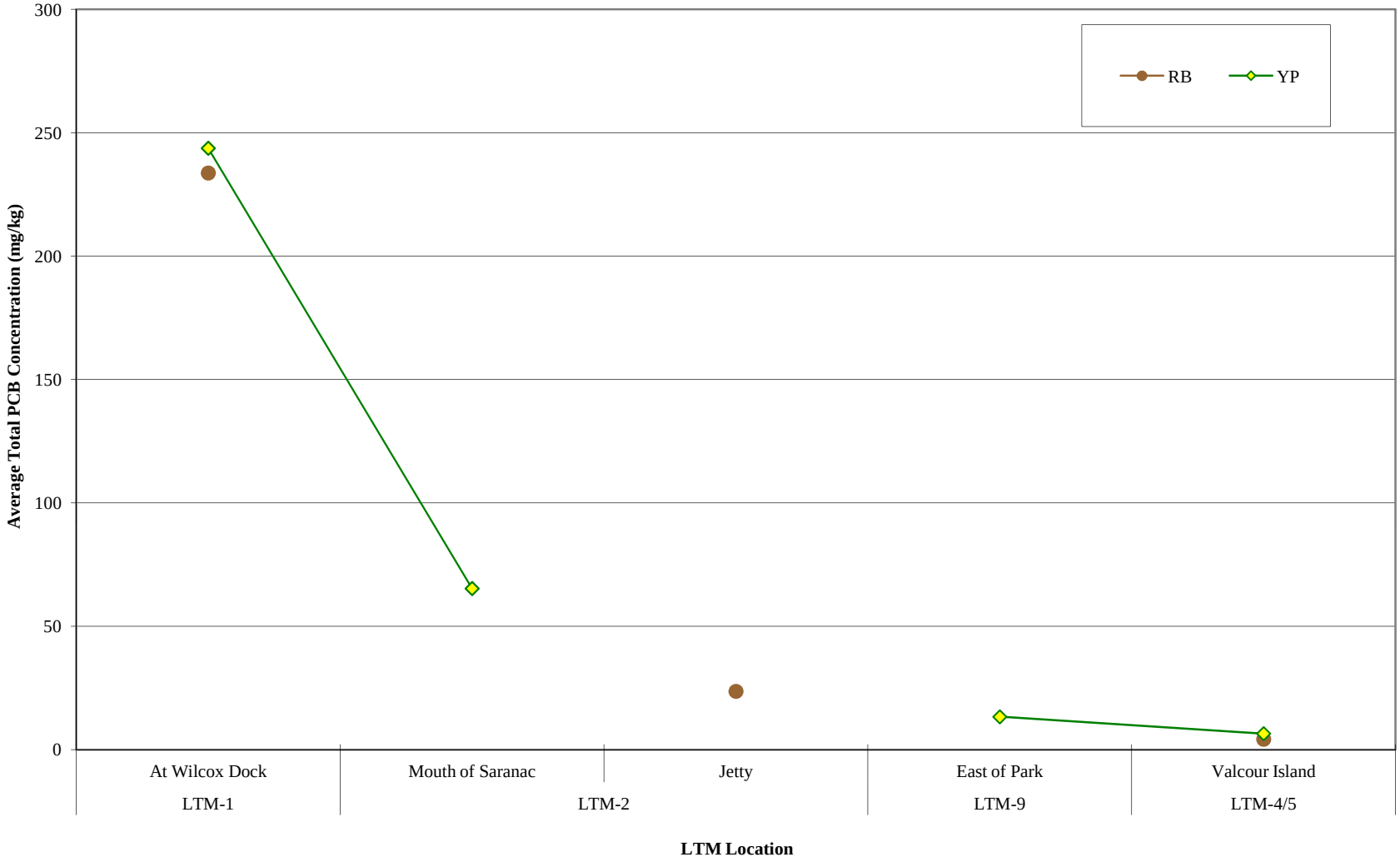


Figure 3-12a
2005 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

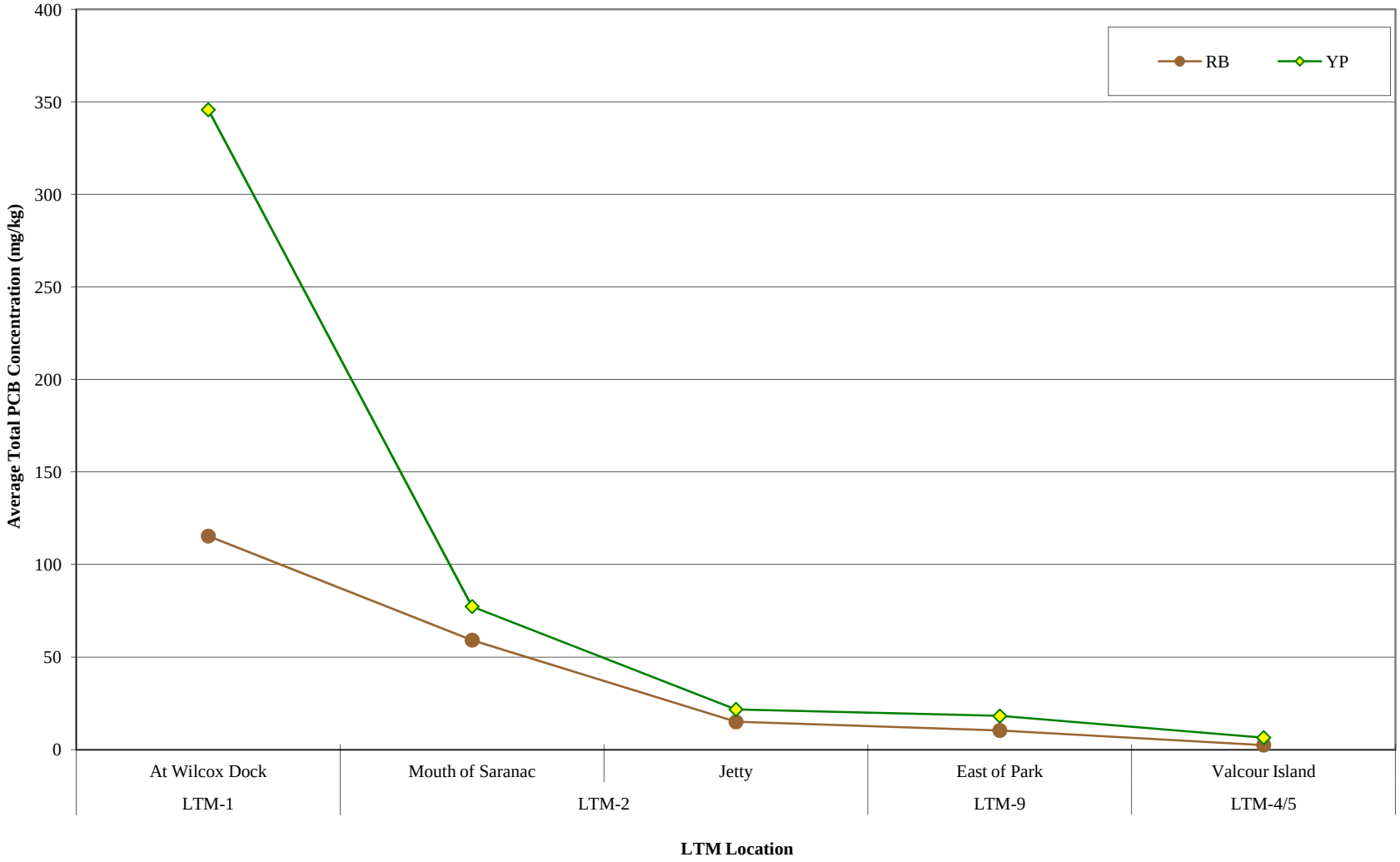


Figure 3-12b
2006 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

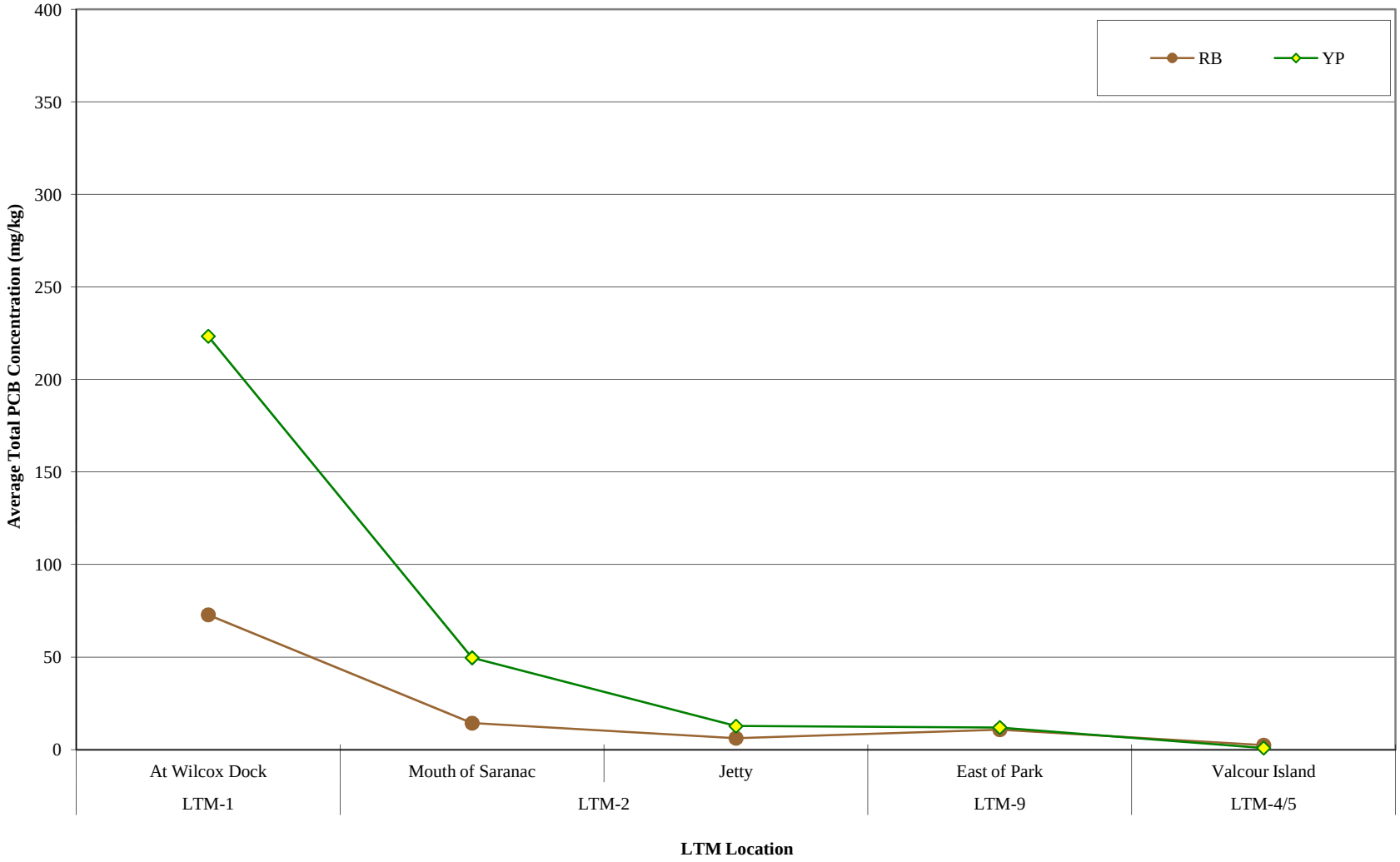


Figure 3-12c
2007 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

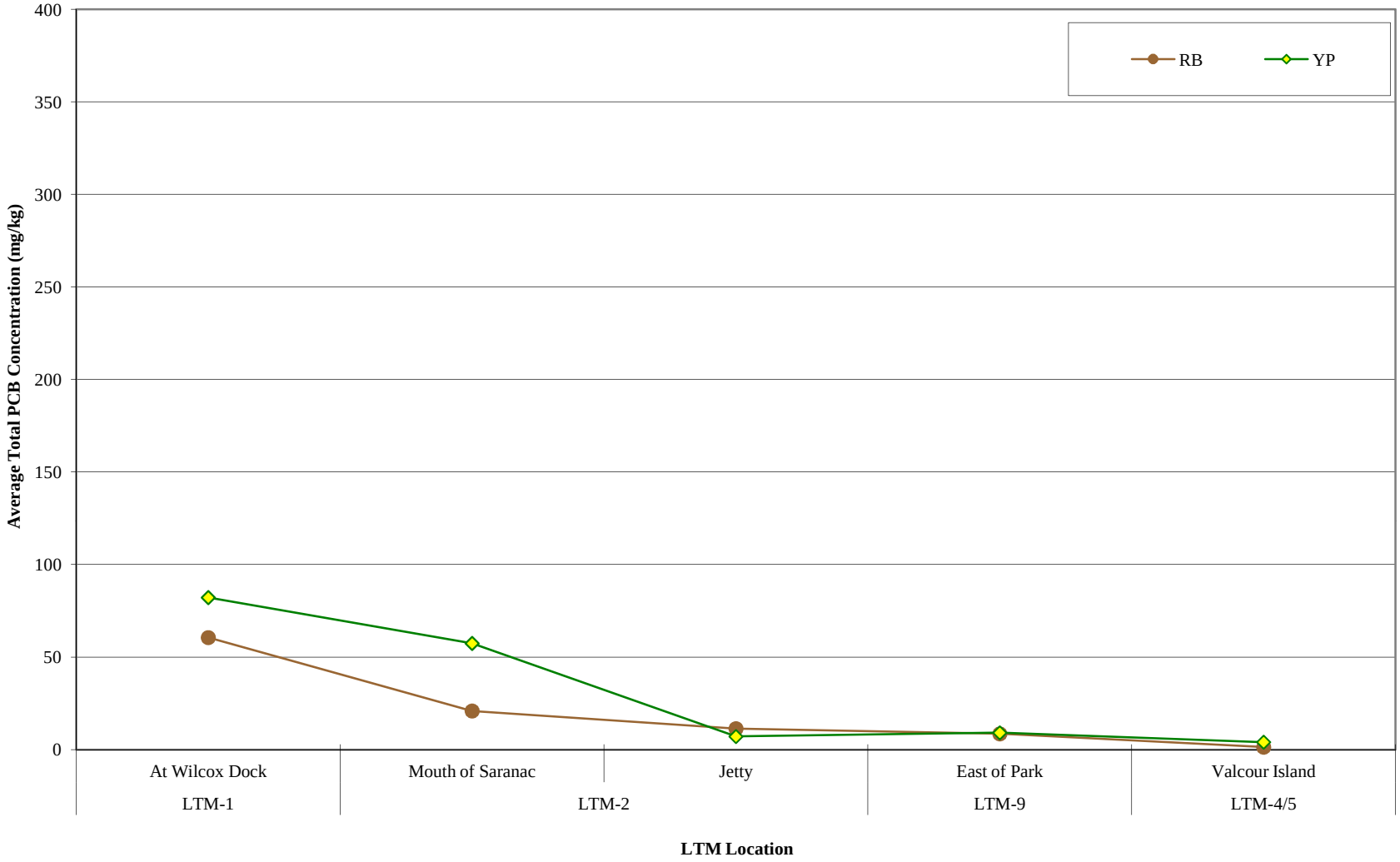


Figure 3-12d
2008 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

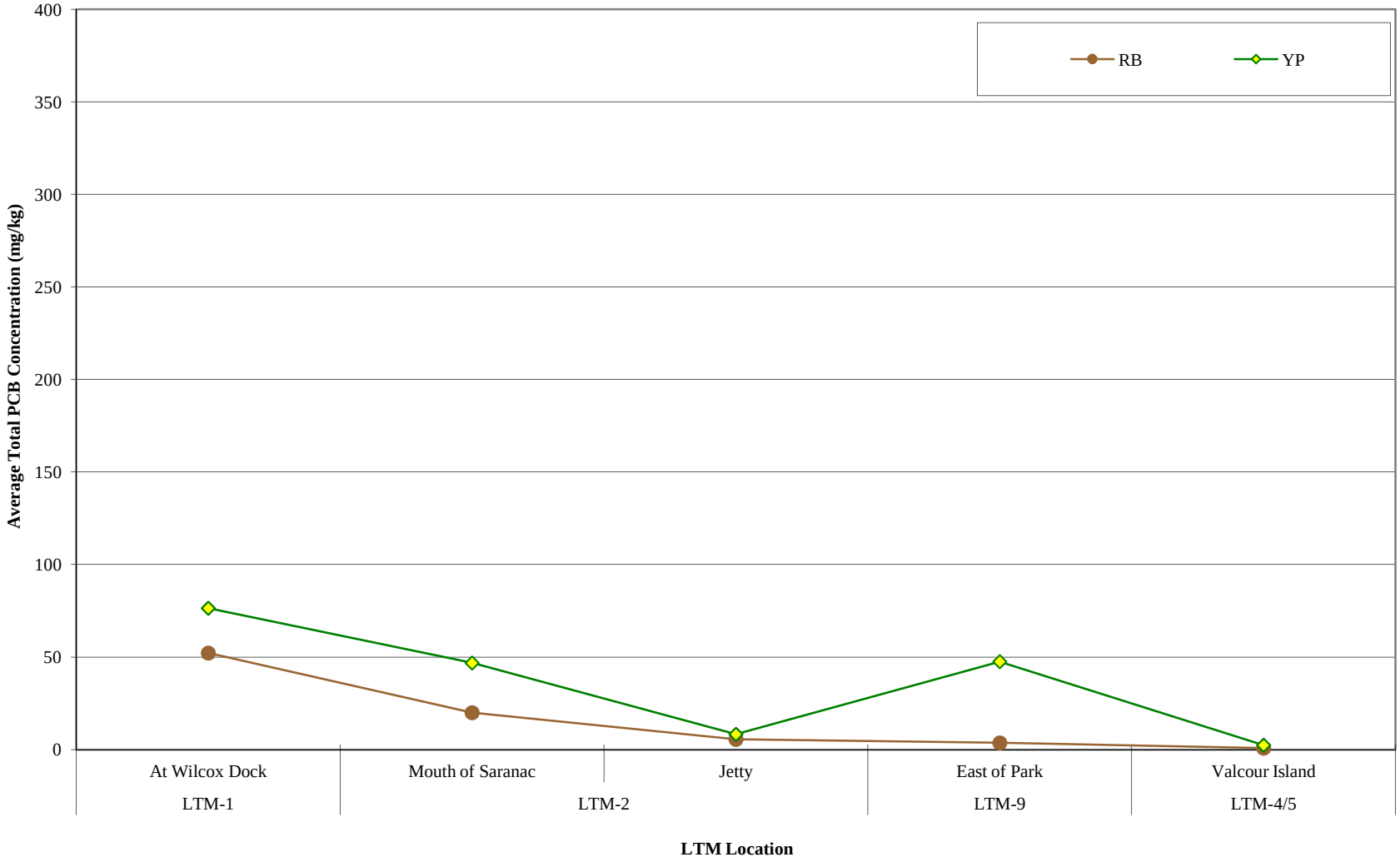


Figure 3-12e
2009 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

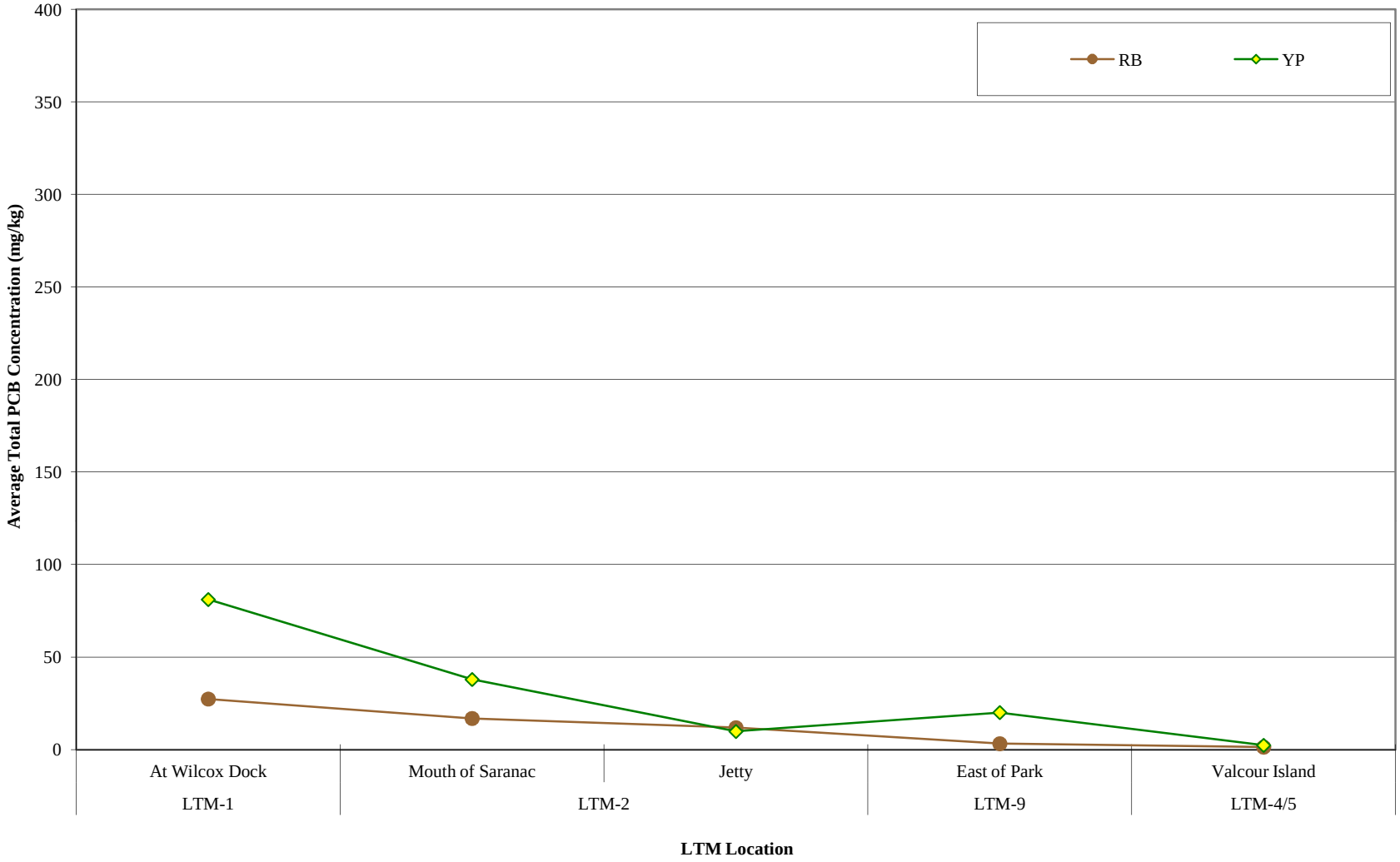


Figure 3-12f
2010 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

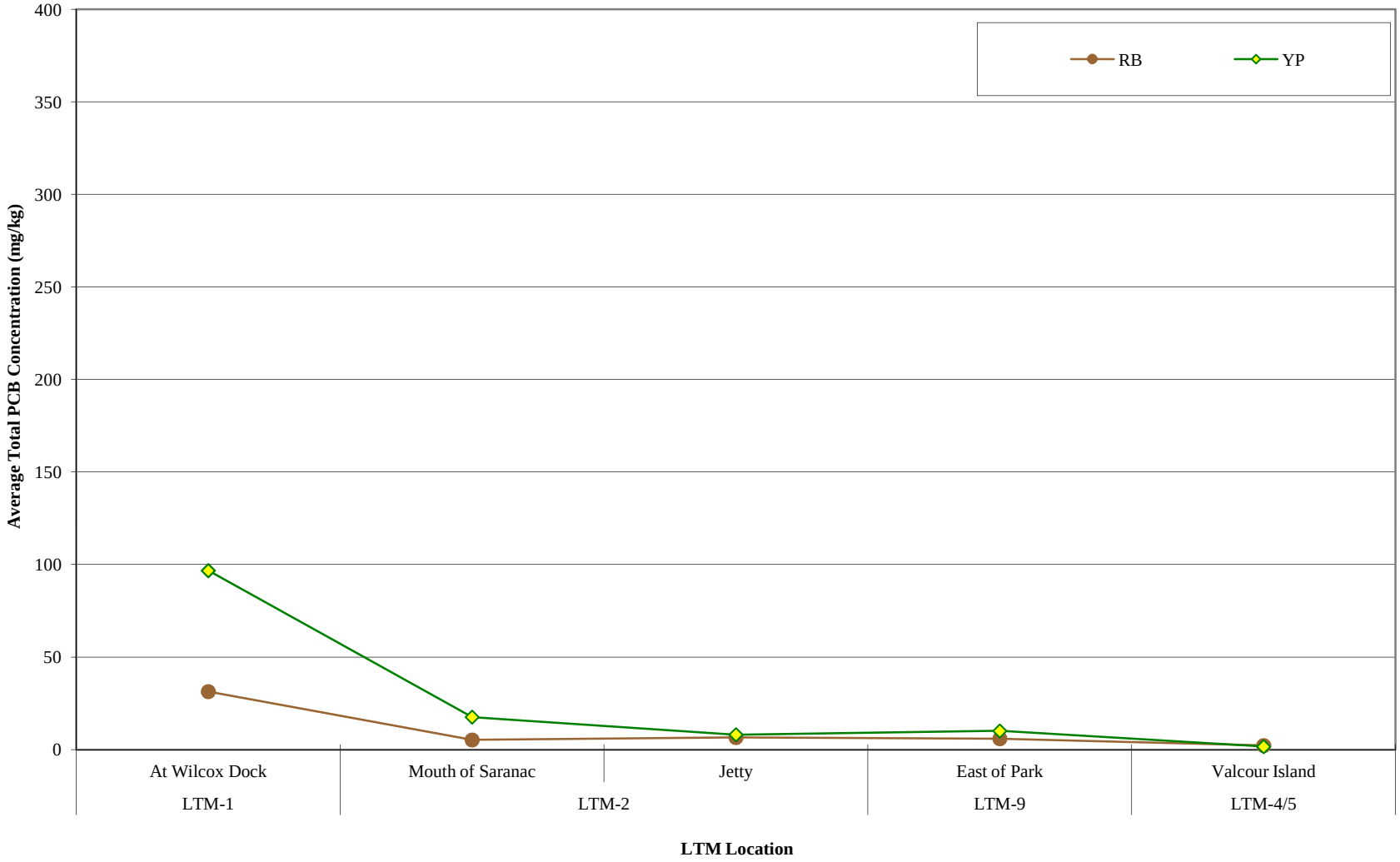


Figure 3-12g
2011 Wilcox Dock - Cumberland Bay - Lake Champlain
Average Lipid Normalized PCB - by Location and Species

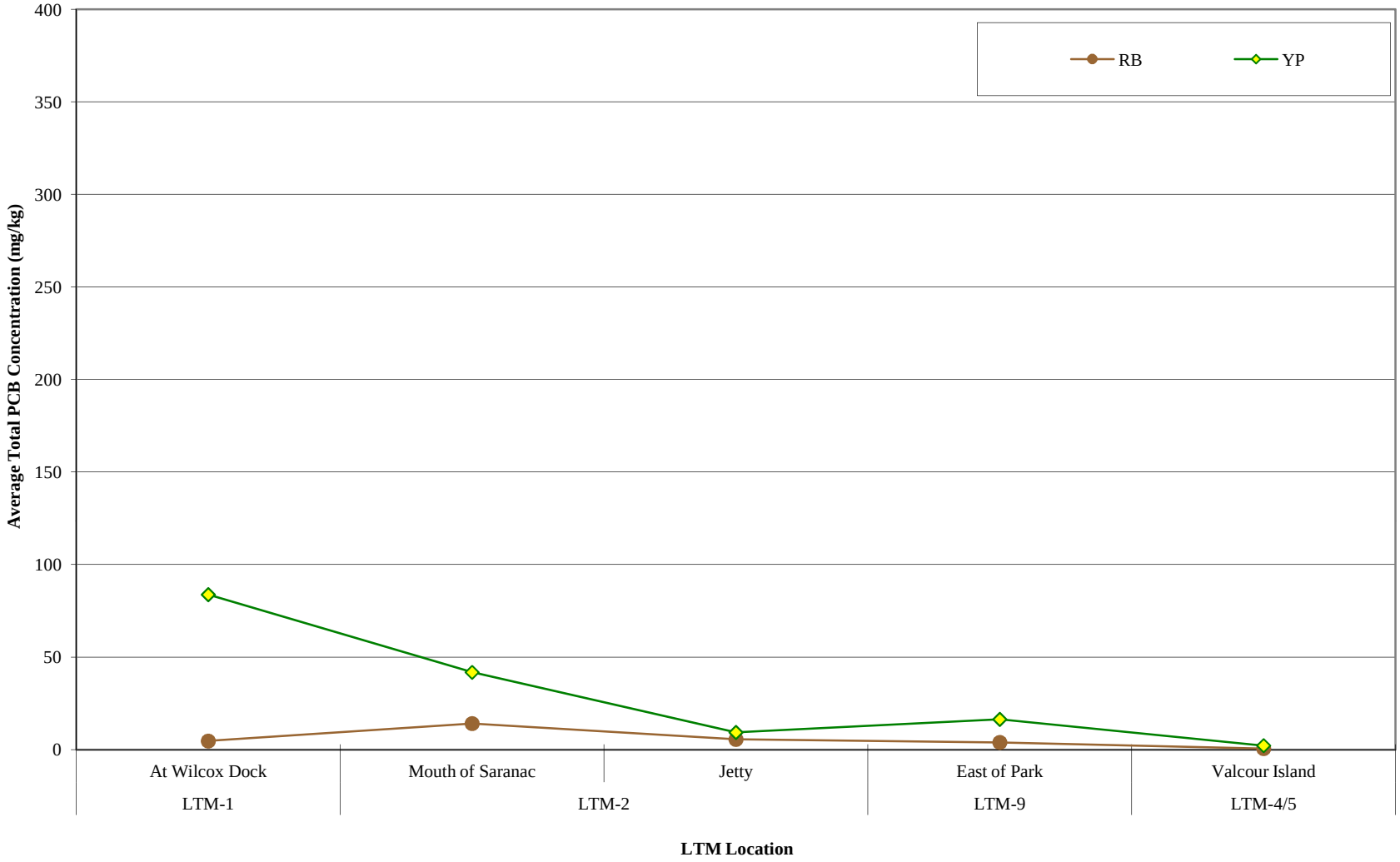


Figure 3-13a
LTM 1
Lipid Normalized PCBs - Rock Bass

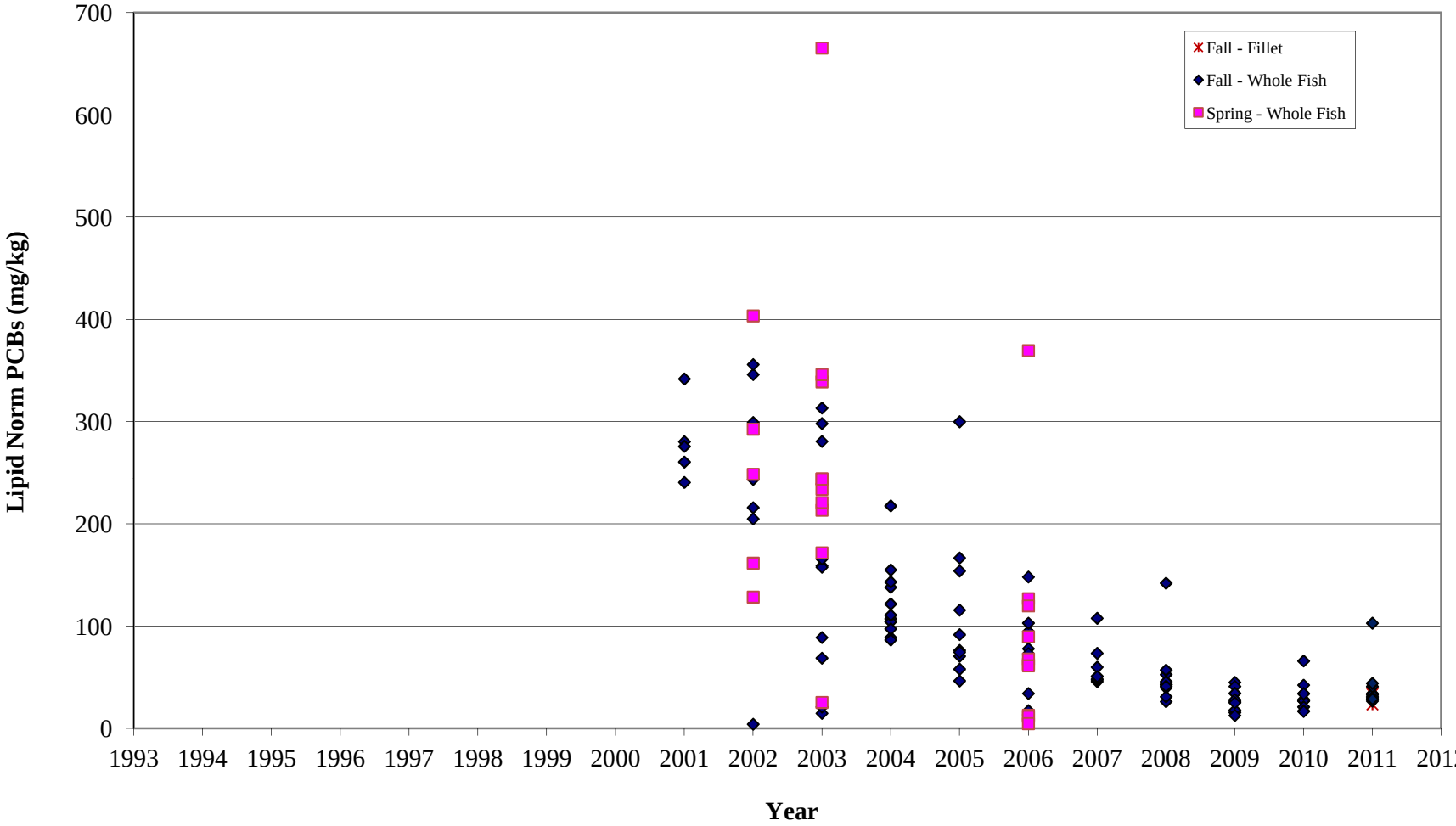


Figure 3-13b
LTM 1
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Rock Bass

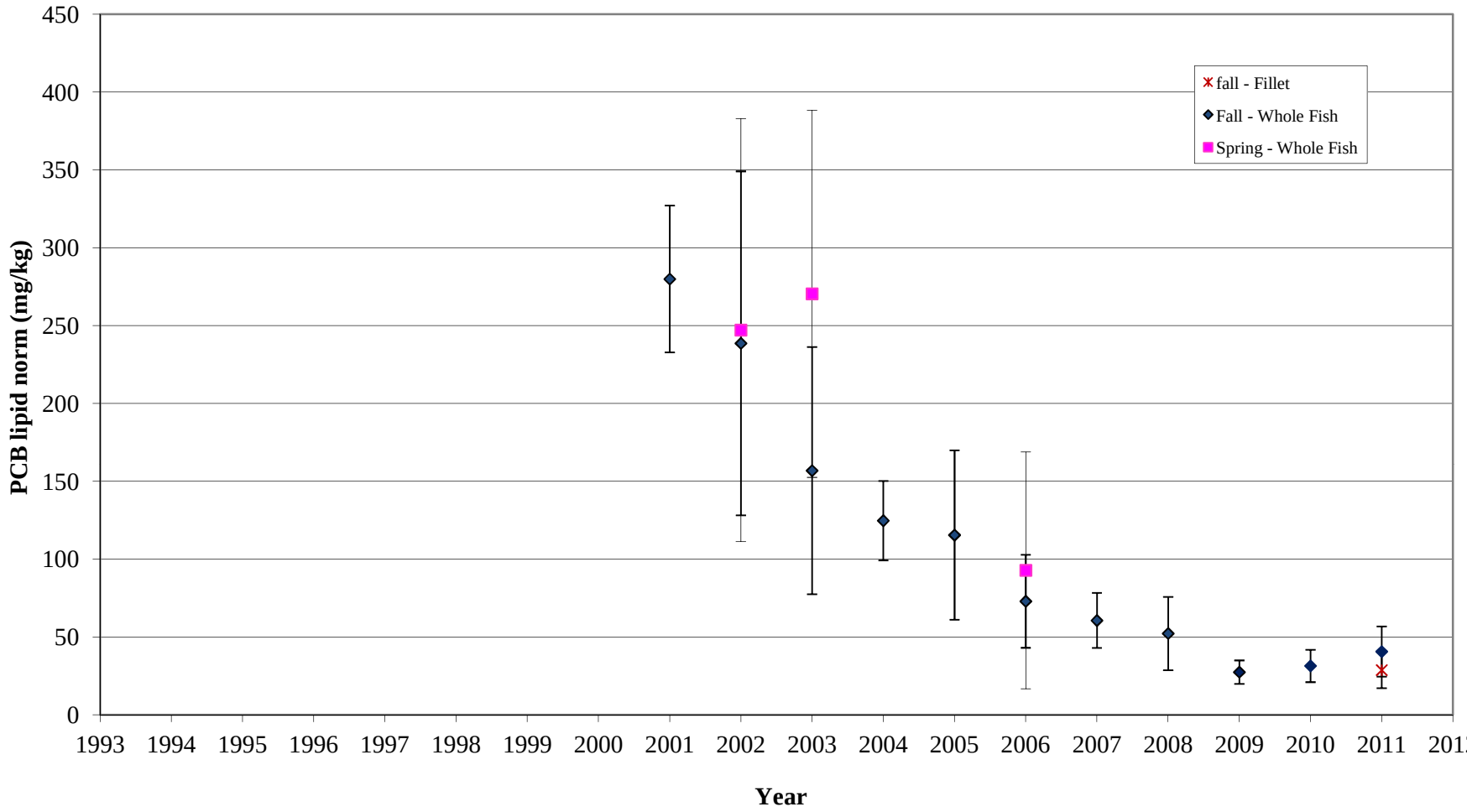


Figure 3-14a
LTM 2 (Jetty)
Lipid Normalized PCBs - Rock Bass

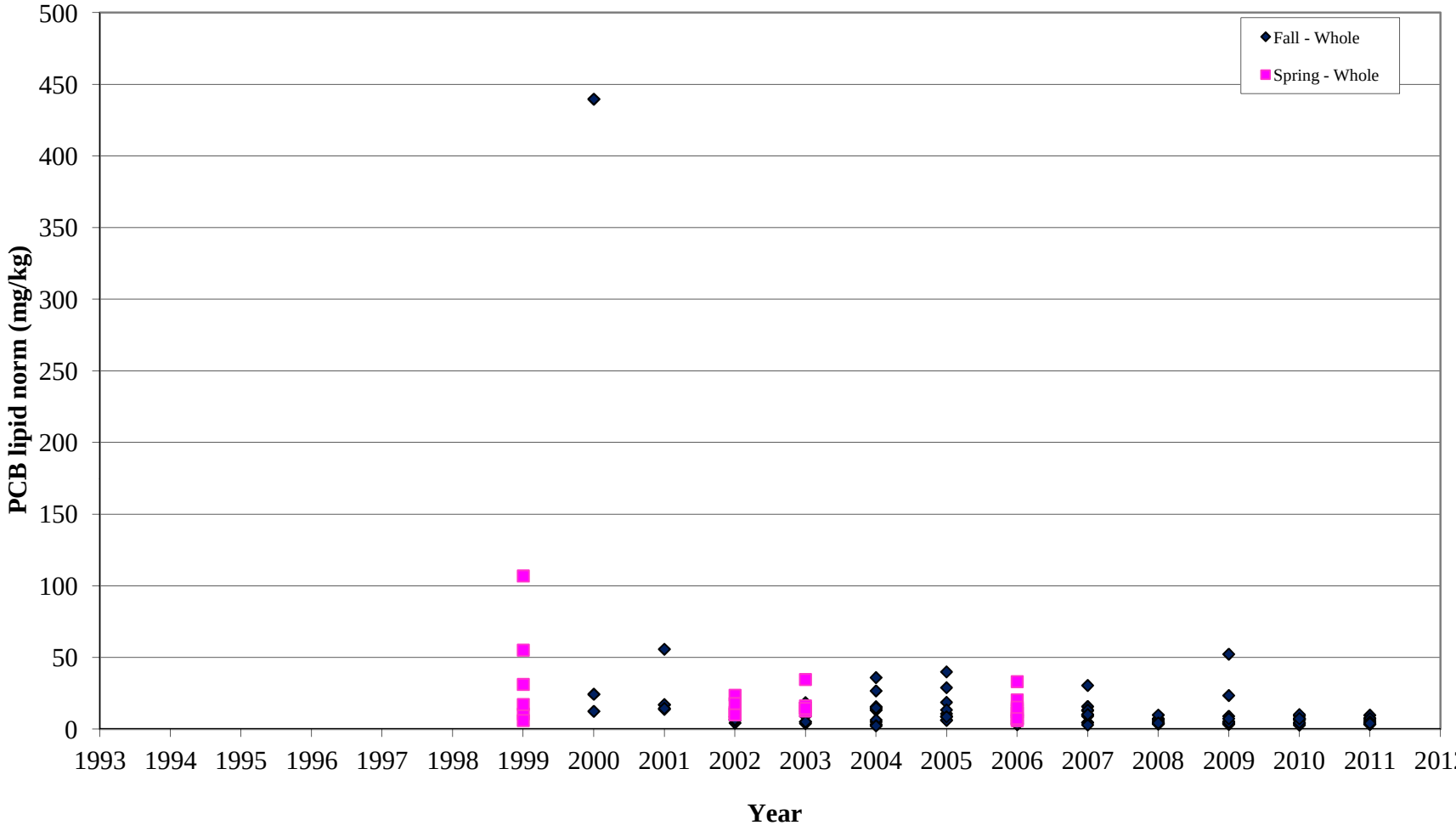


Figure 3-14b
LTM 2 (Jetty)
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Rock Bass

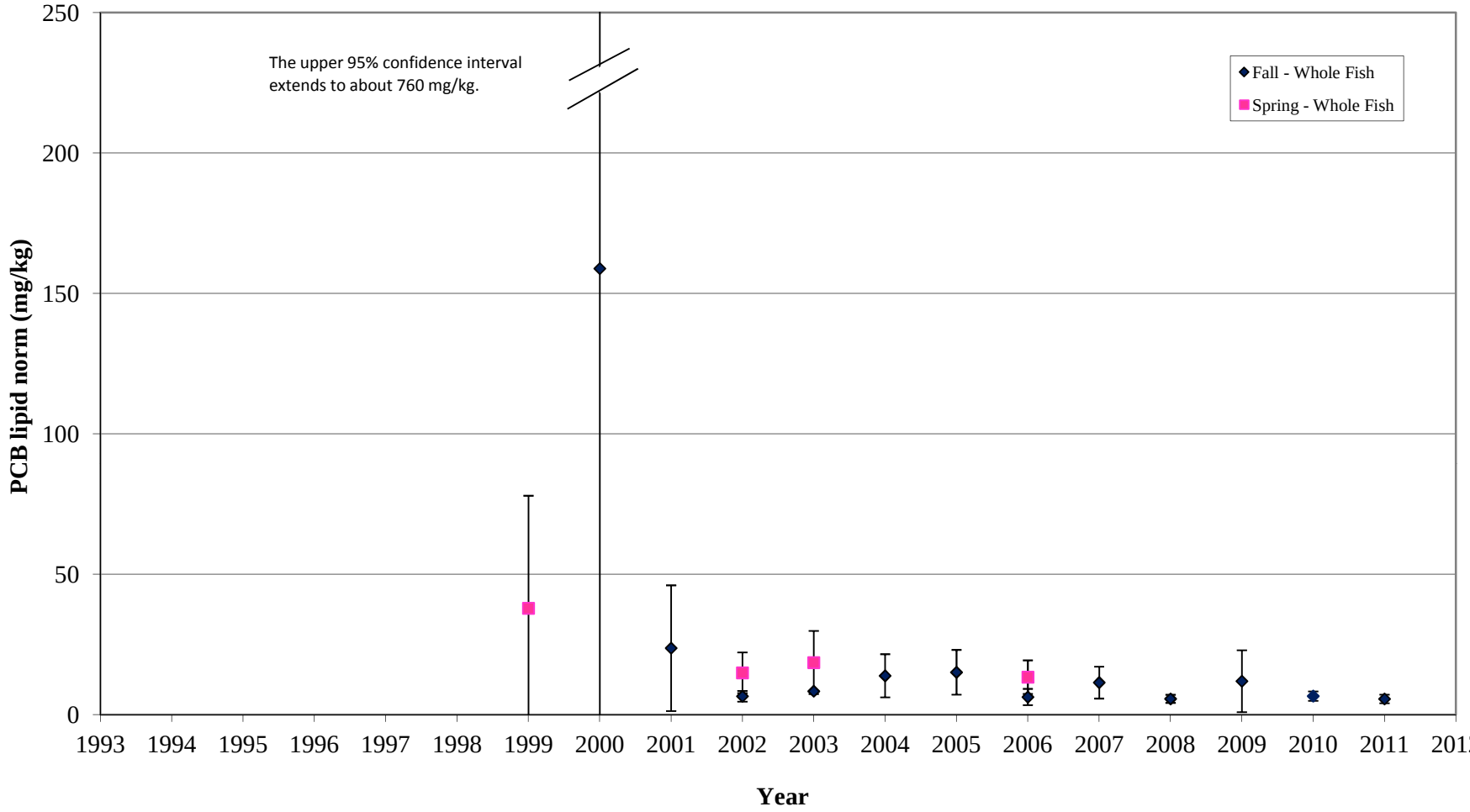


Figure 3-15a
LTM 9
Lipid Normalized PCBs - Rock Bass

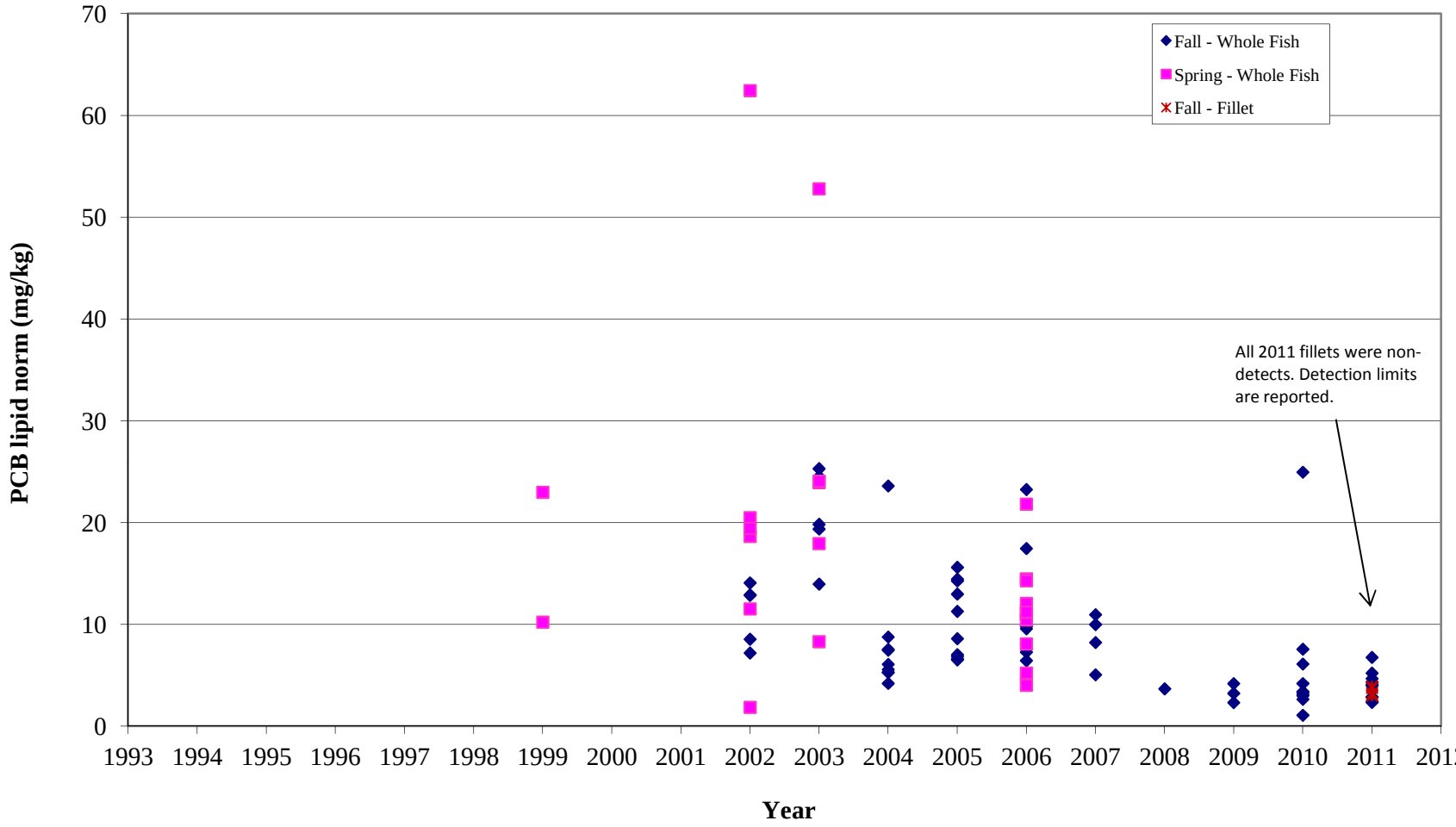


Figure 3-15b
LTM 9
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Rock Bass

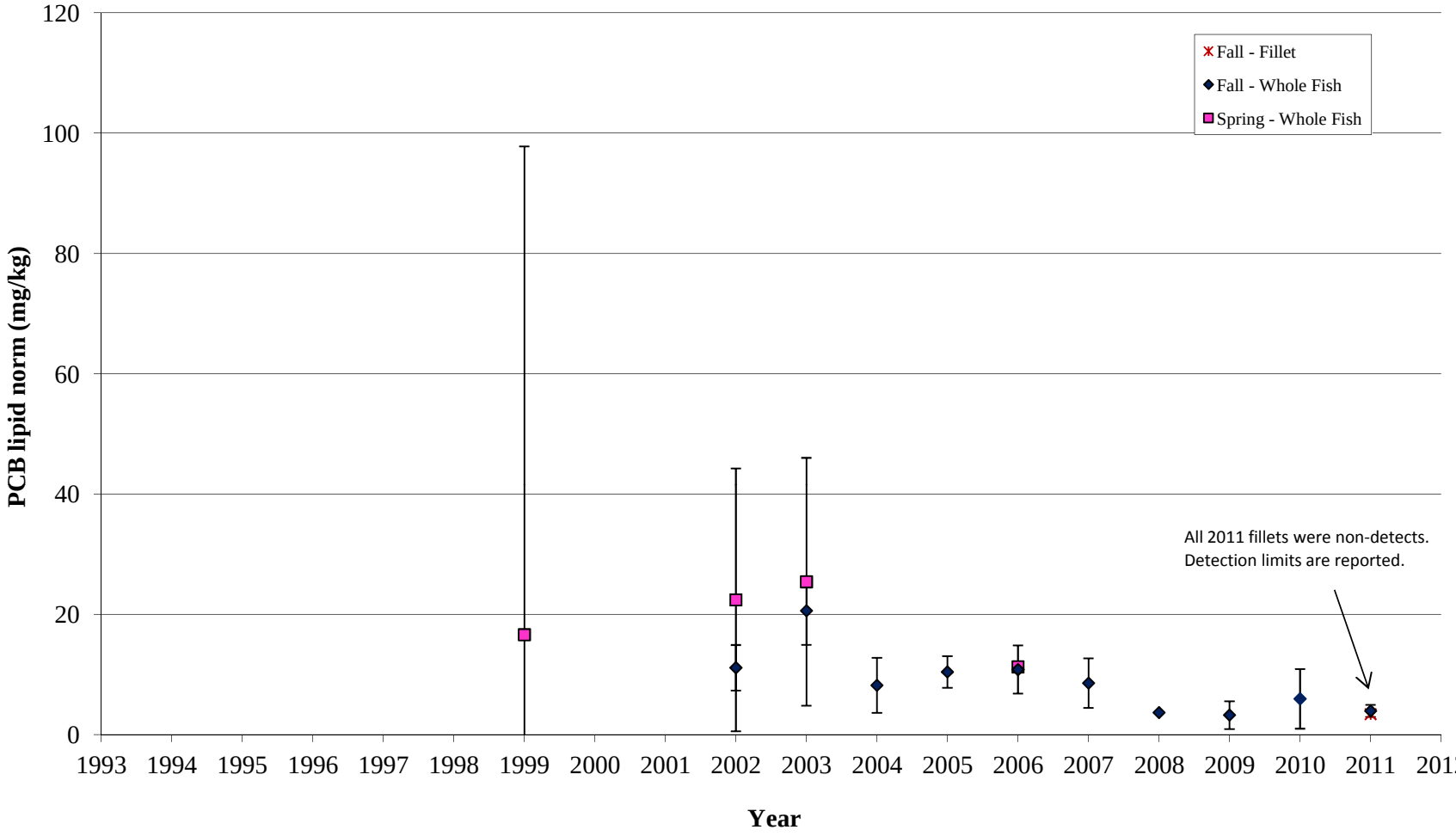


Figure 3-16a
LTM 4-5
Lipid Normalized PCBs - Rock bass

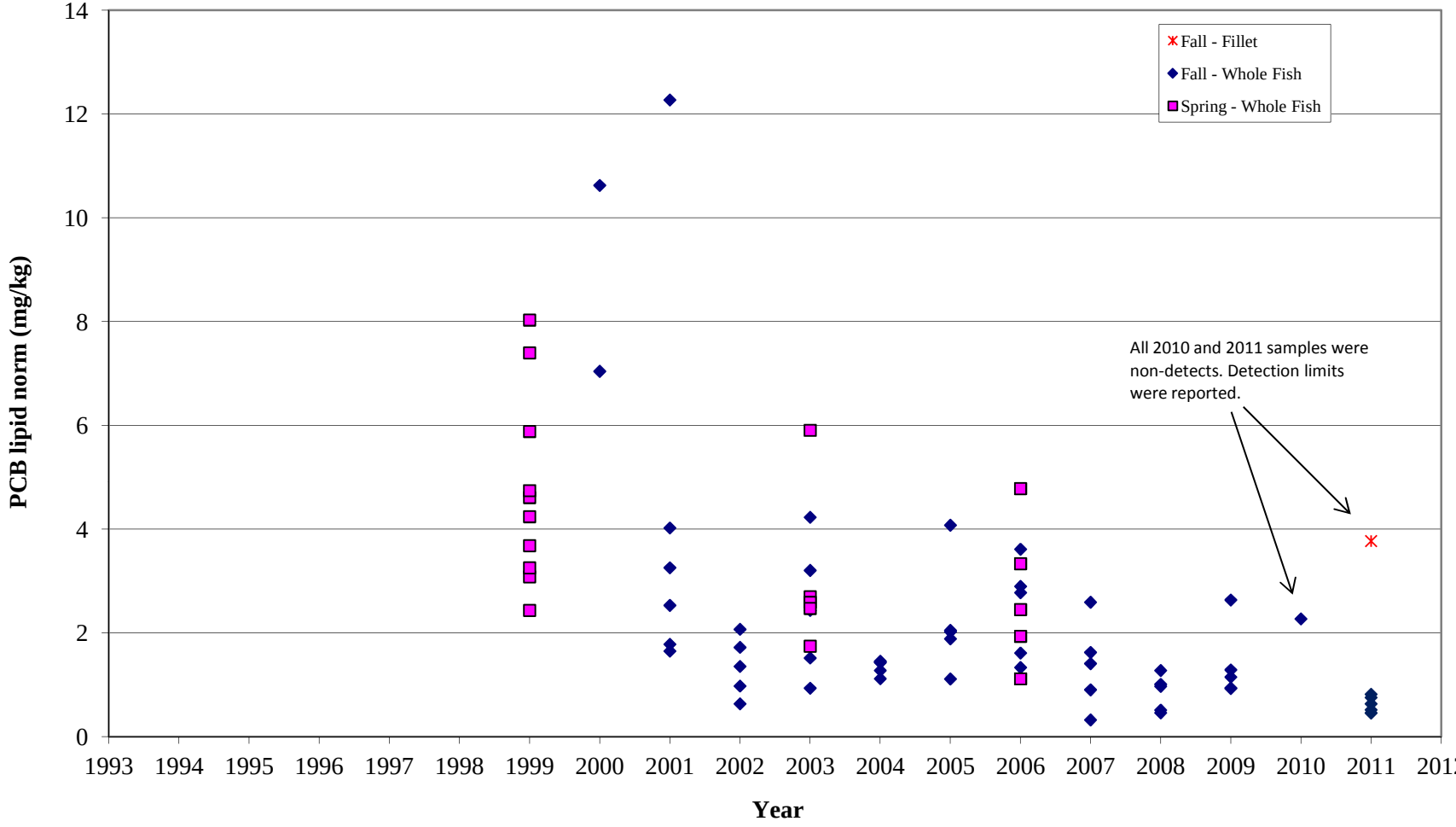


Figure 3-16b
LTM 4-5
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Rock Bass

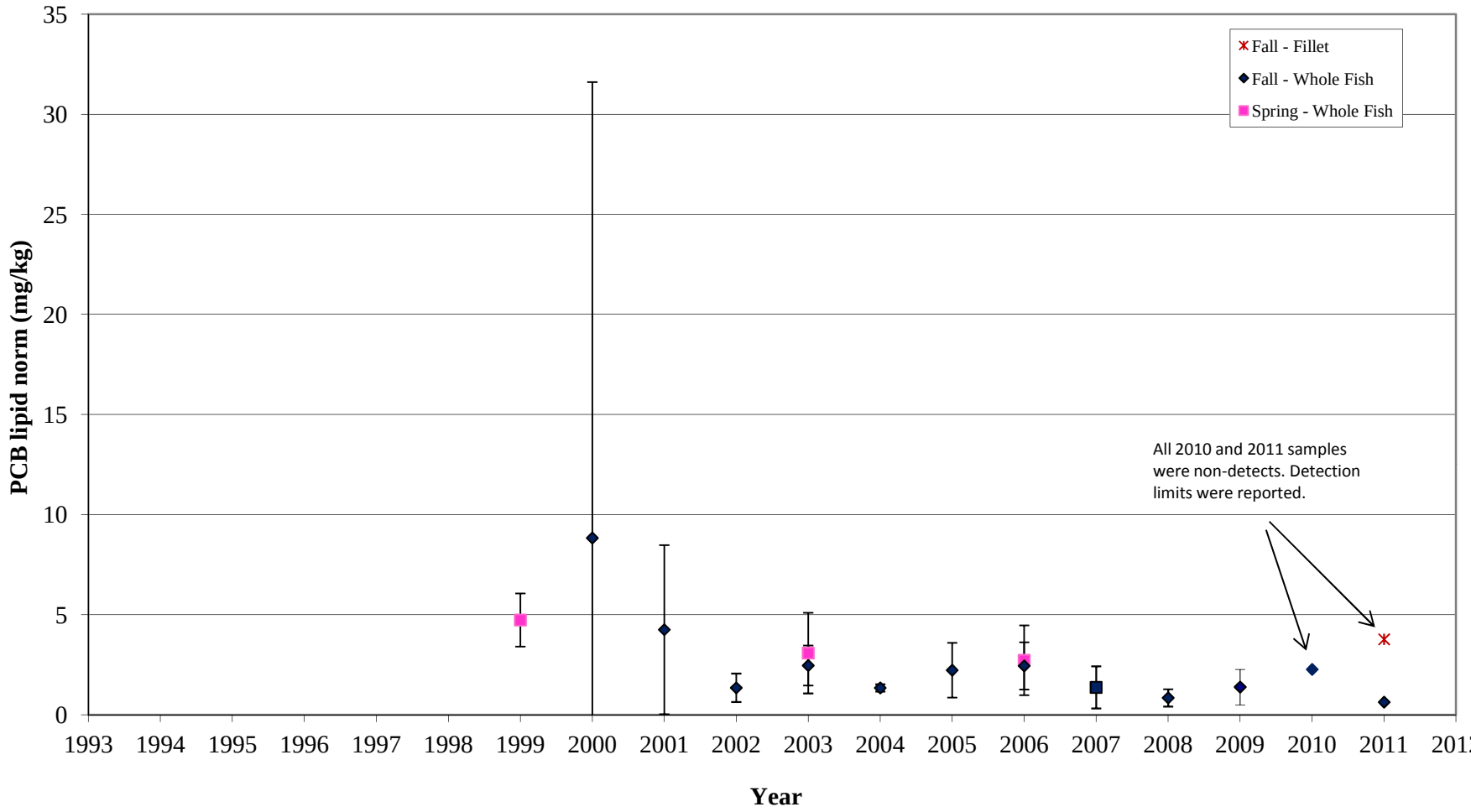


Figure 3-17a
LTM 1
Lipid Normalized PCBs - Brown Bullhead

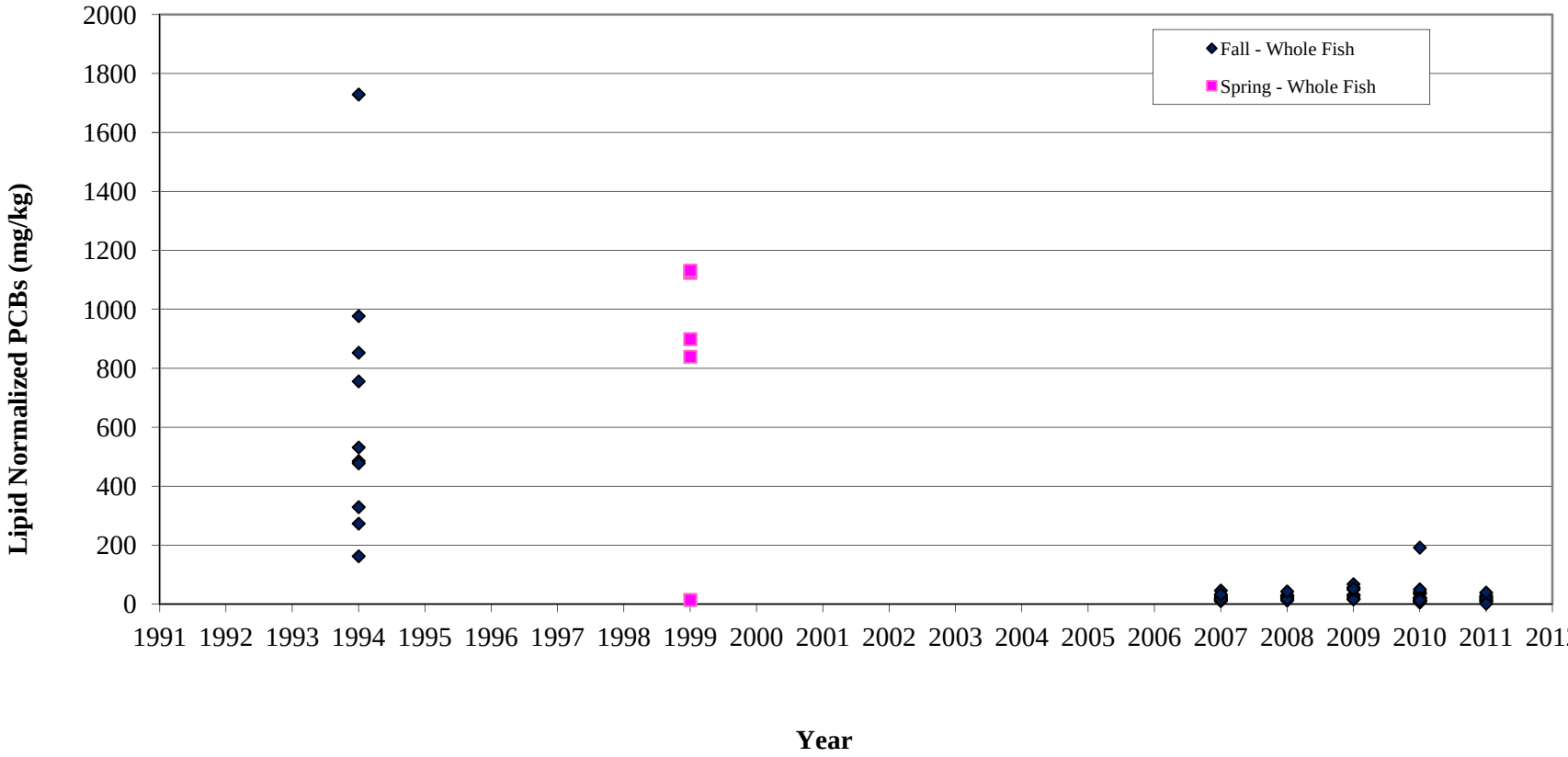


Figure 3-17b
LTM 1
Mean Lipid Normalized PCBs (with 95% Confidence Limits) - Brown Bullhead

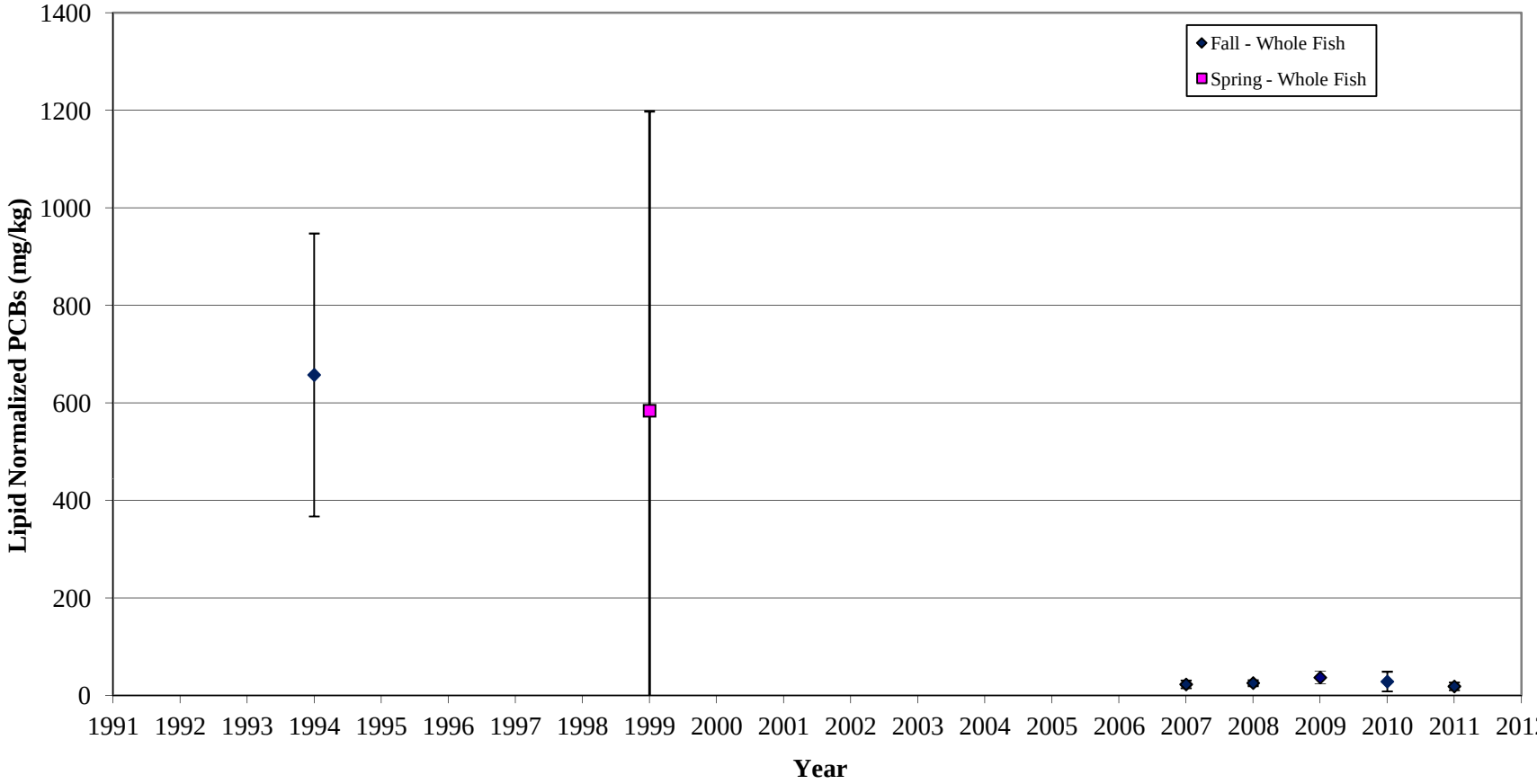


Figure 3-18a
LTM 2 (Mouth of Saranac)
Lipid Normalized PCBs - Brown Bullhead

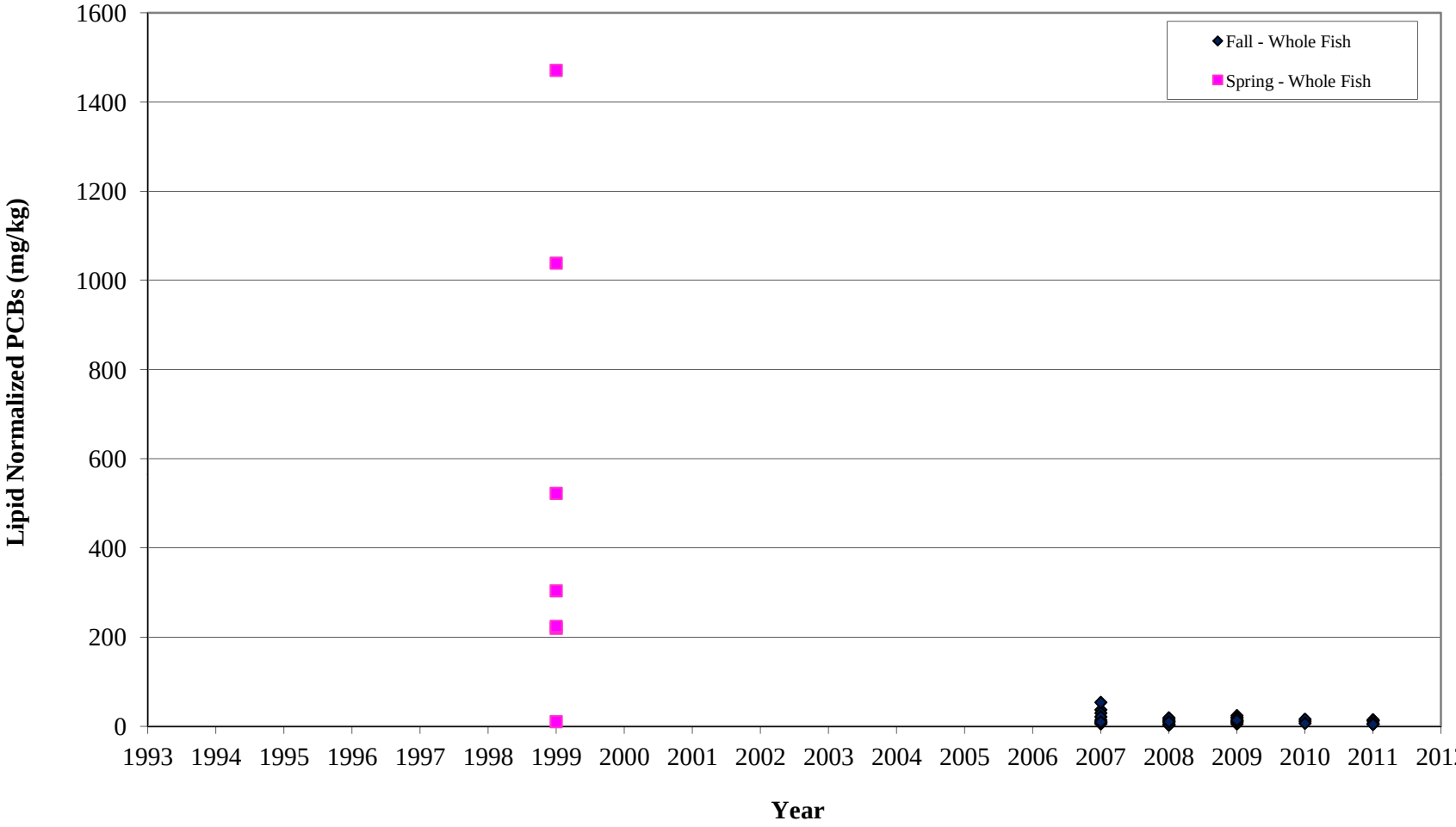


Figure 3-18b
LTM 2 (Mouth of Saranac)
Lipid Normalized PCBs (with 95% Confidence Limits) - Brown Bullhead

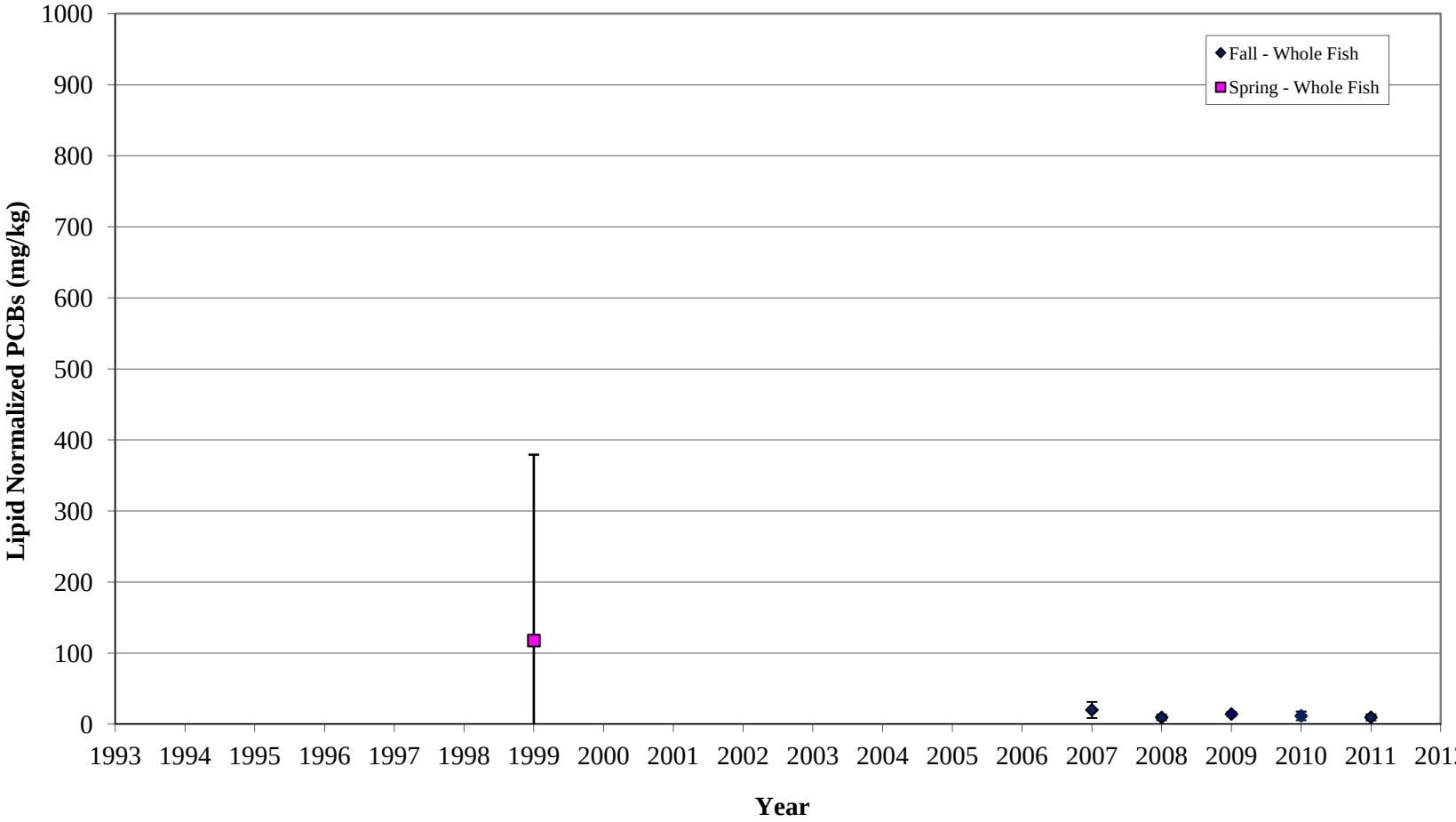


Figure 3-19a
LTM 1
Total PCBs - Yellow Perch

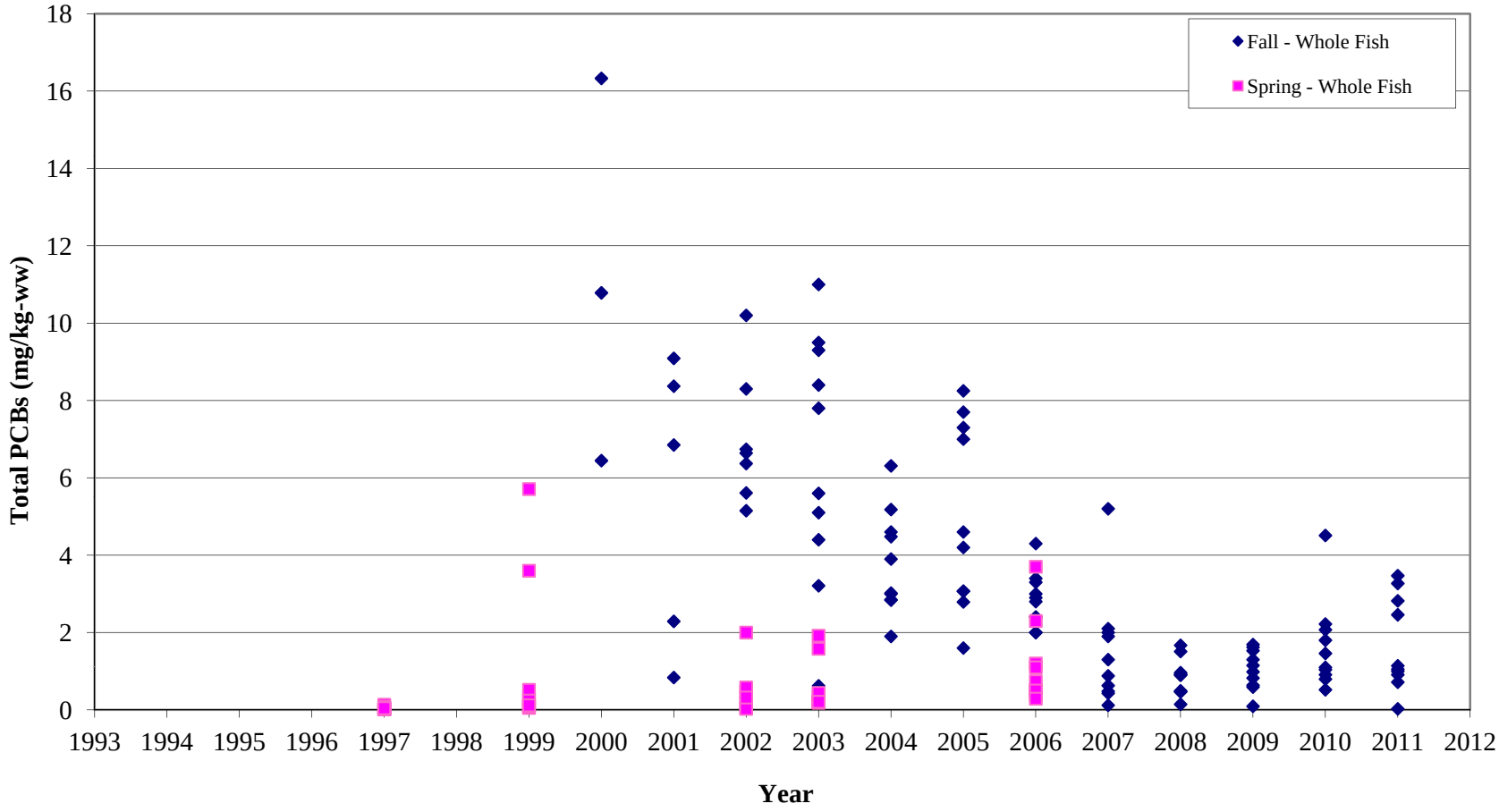


Figure 3-19b
LTM 1
Mean Total PCBs (with 95% Confidence Limits) - Yellow Perch

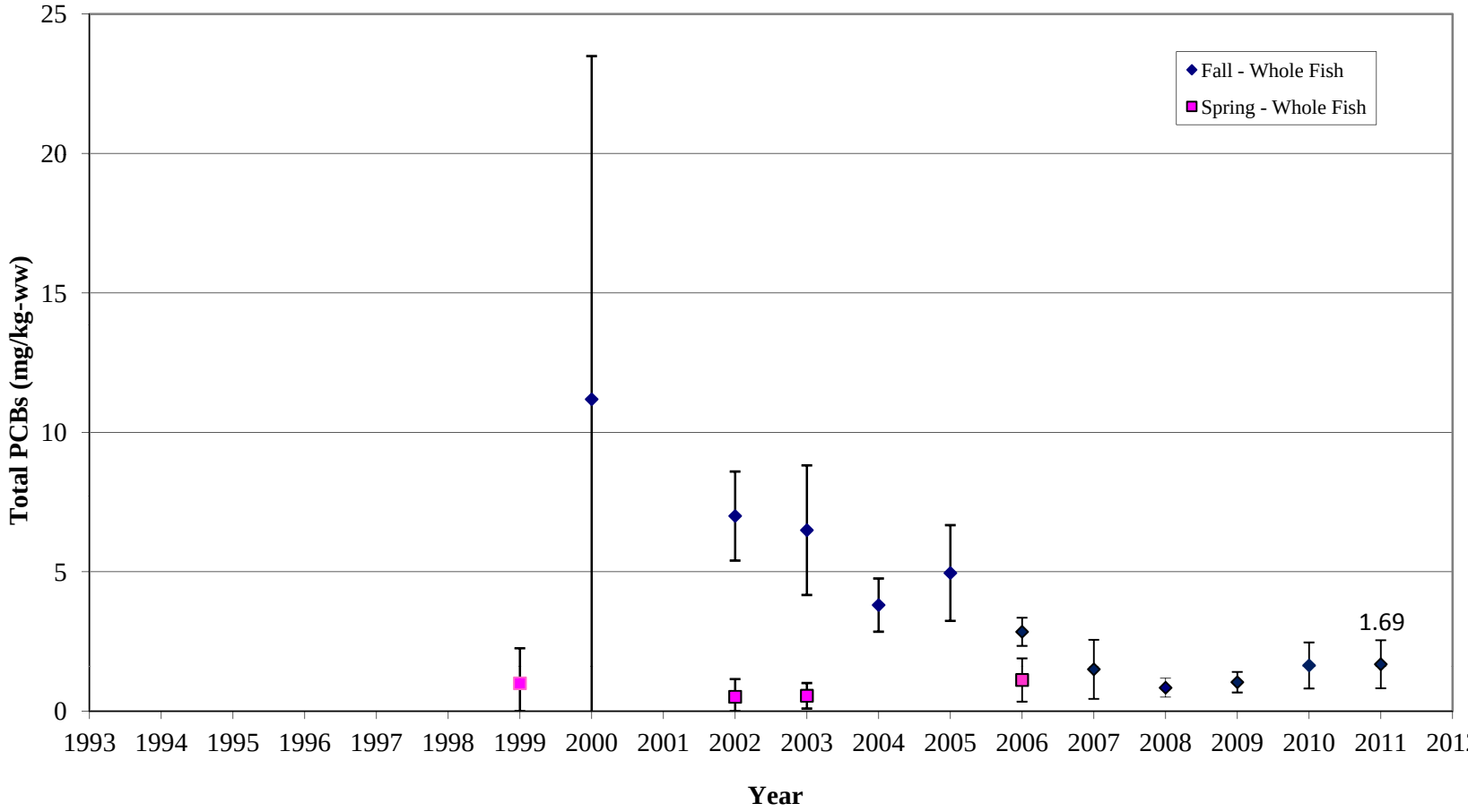


Figure 3-20a
LTM 9
Total PCBs - Yellow Perch

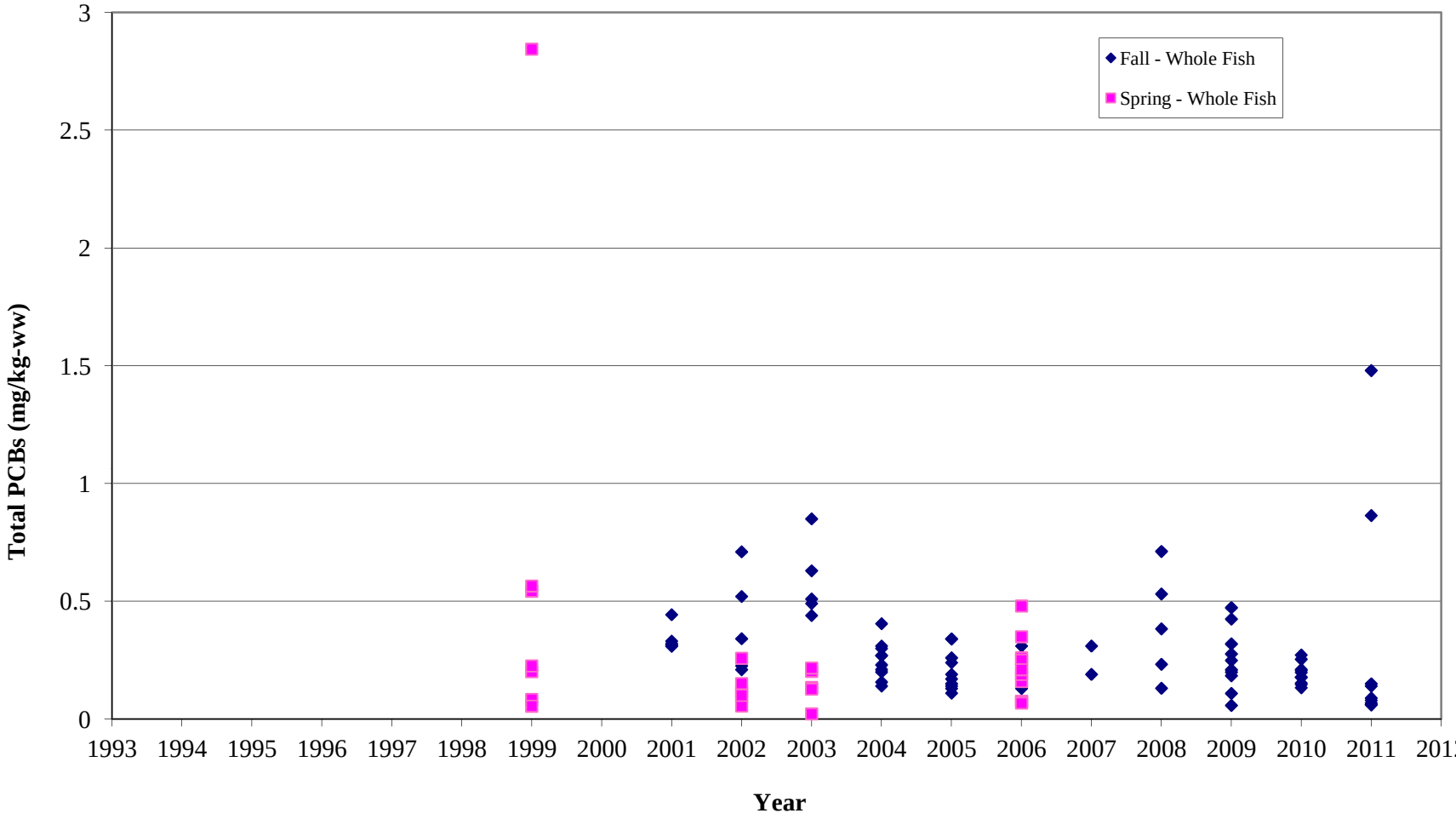


Figure 3-20b
LTM 9
Mean Total PCBs (with 95% Confidence Limits) - Yellow Perch

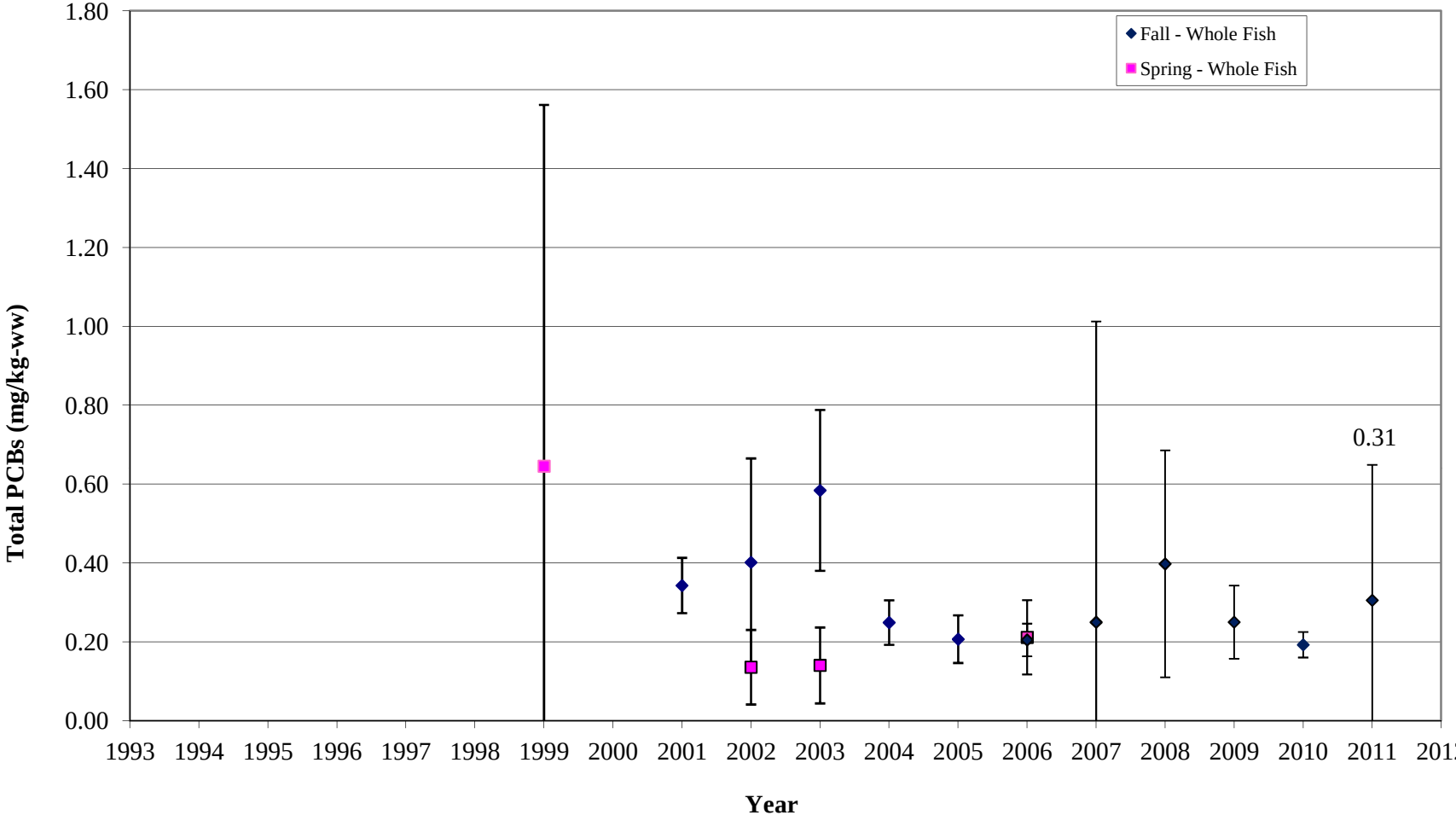


Figure 3-21a
LTM 2 (Mouth of Saranac)
Total PCBs - Yellow Perch

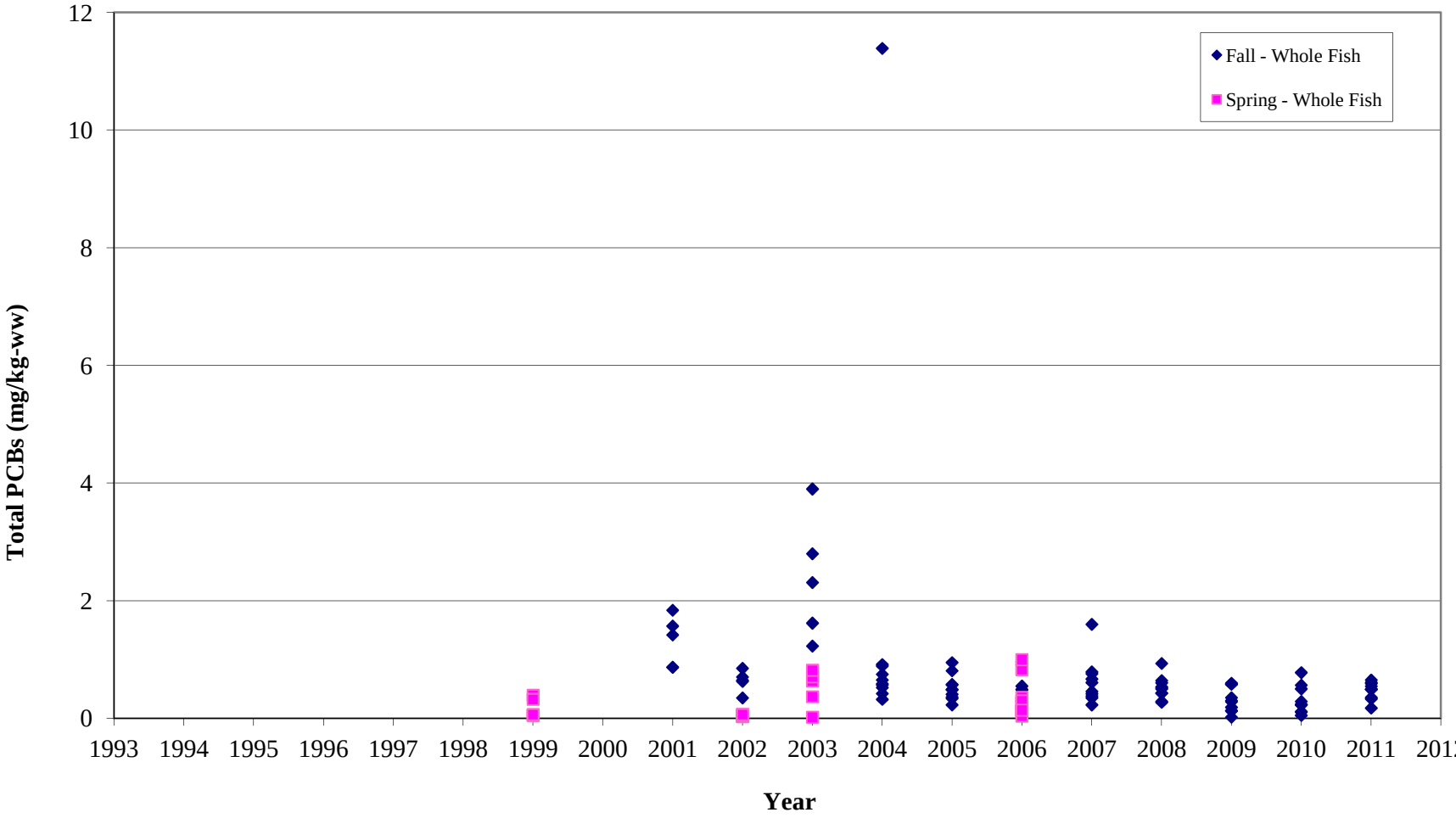


Figure 3-21b
LTM 2 (Mouth of Saranac)
Mean Total PCBs (with 95% Confidence Limits) - Yellow Perch

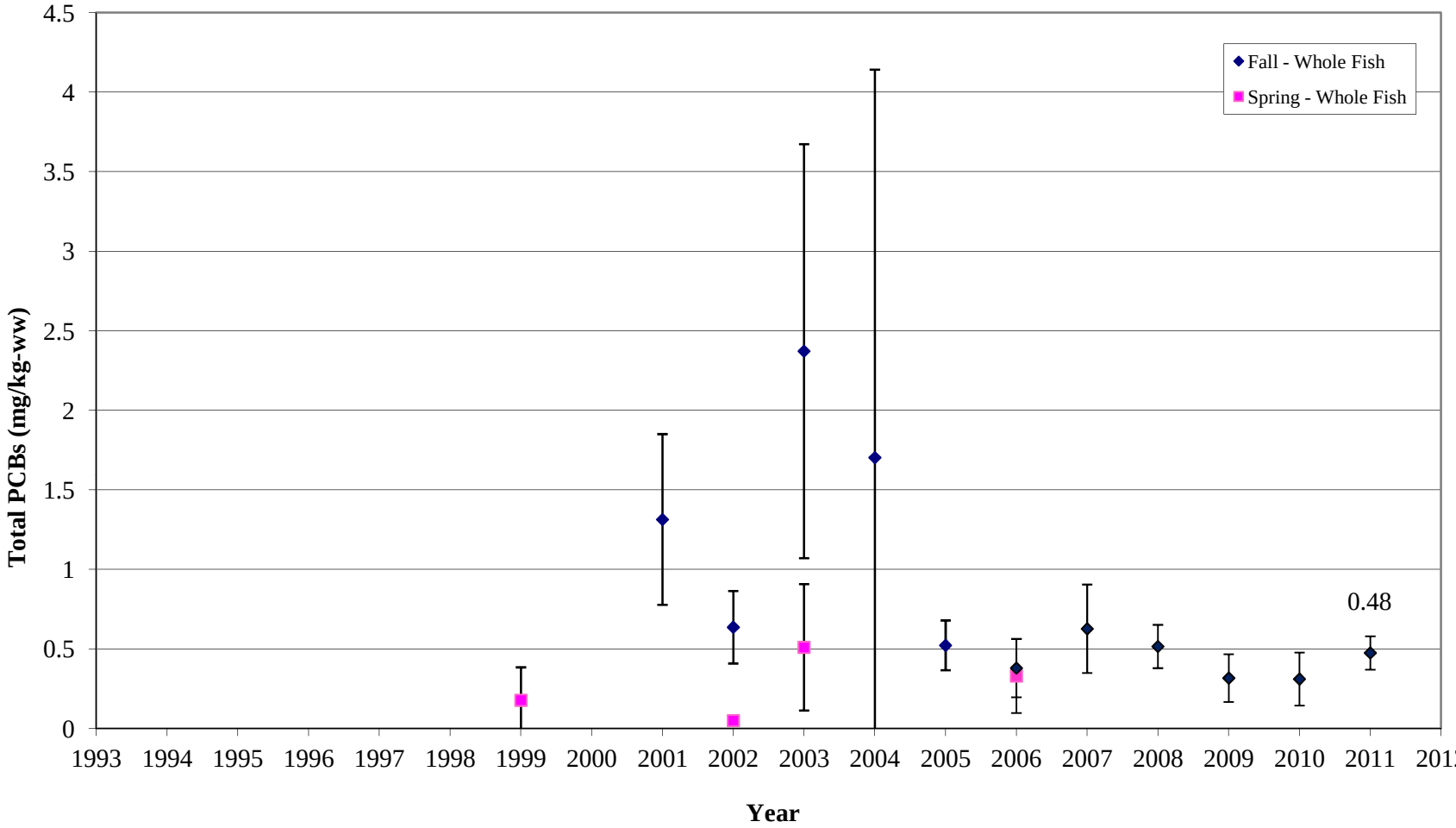


Figure 3-22a
LTM 4-5
Total PCBs - Yellow Perch

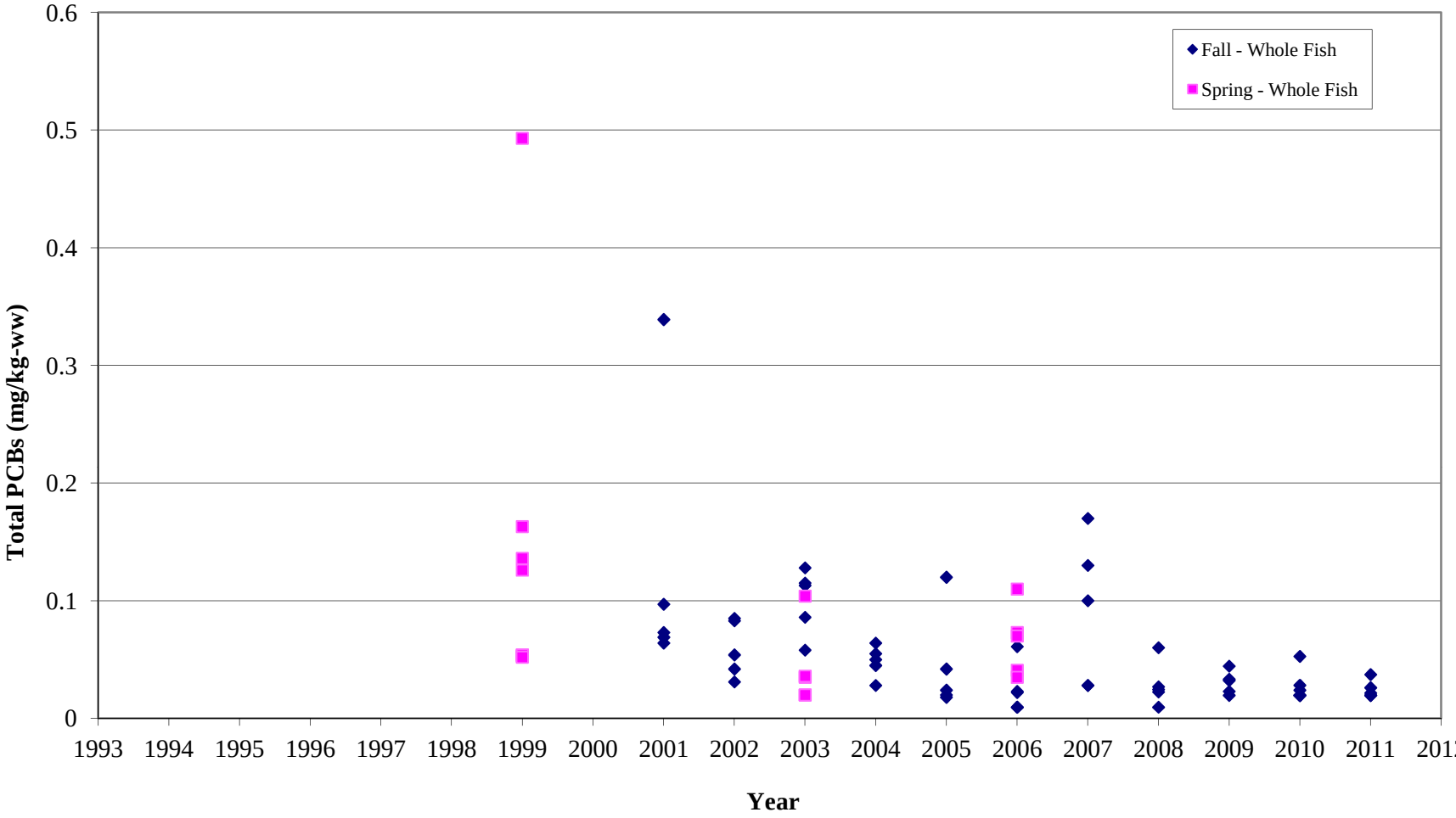


Figure 3-22b
LTM 4-5
Mean Total PCBs (with 95% Confidence Limits) - Yellow Perch

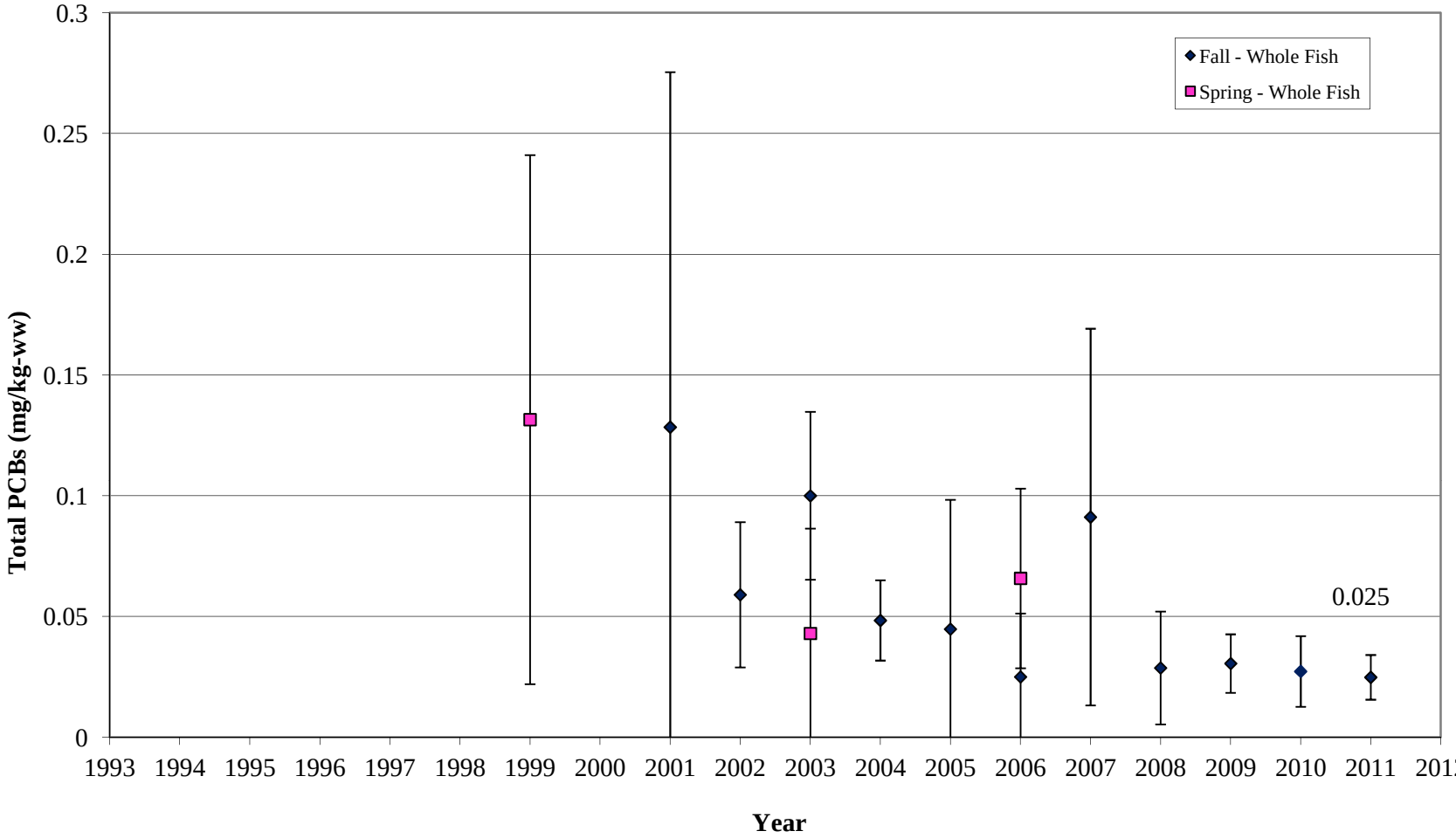


Figure 3-23a
LTM 1
Total PCBs - Rock Bass

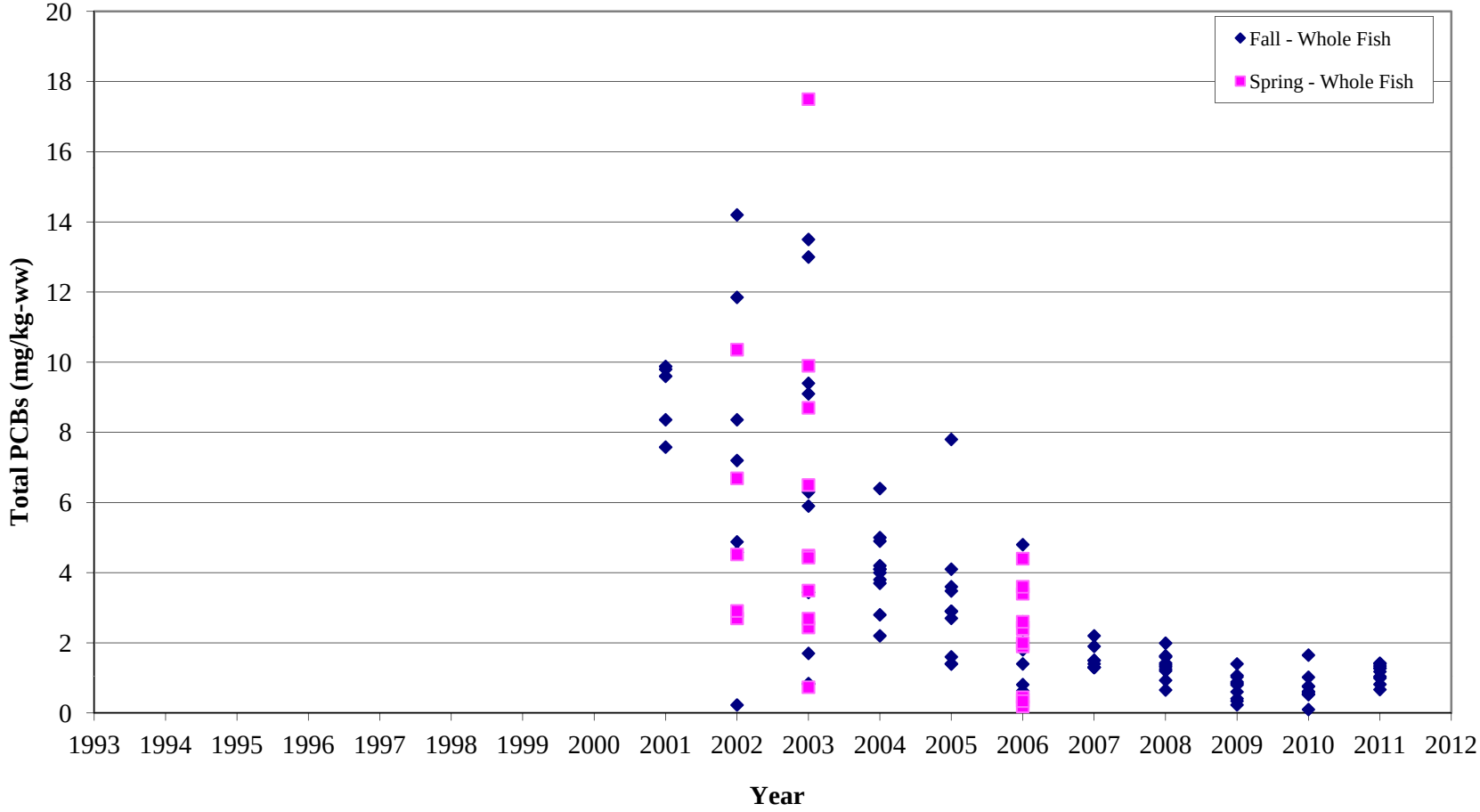


Figure 3-23b
LTM 1
Mean Total PCBs (with 95% Confidence Limits) - Rock Bass

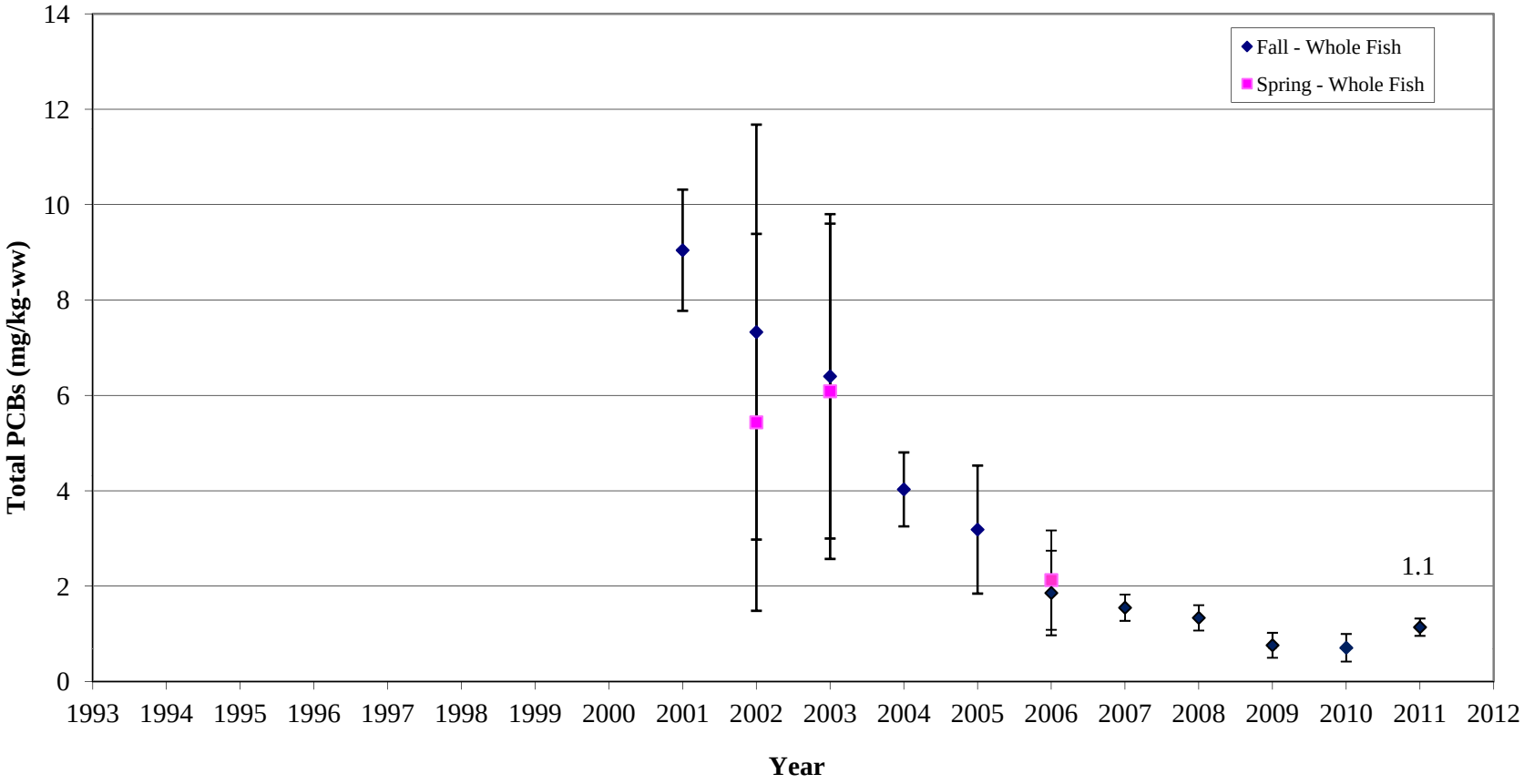


Figure 3-24a
LTM 2 (Jetty)
Total PCBs - Rock Bass

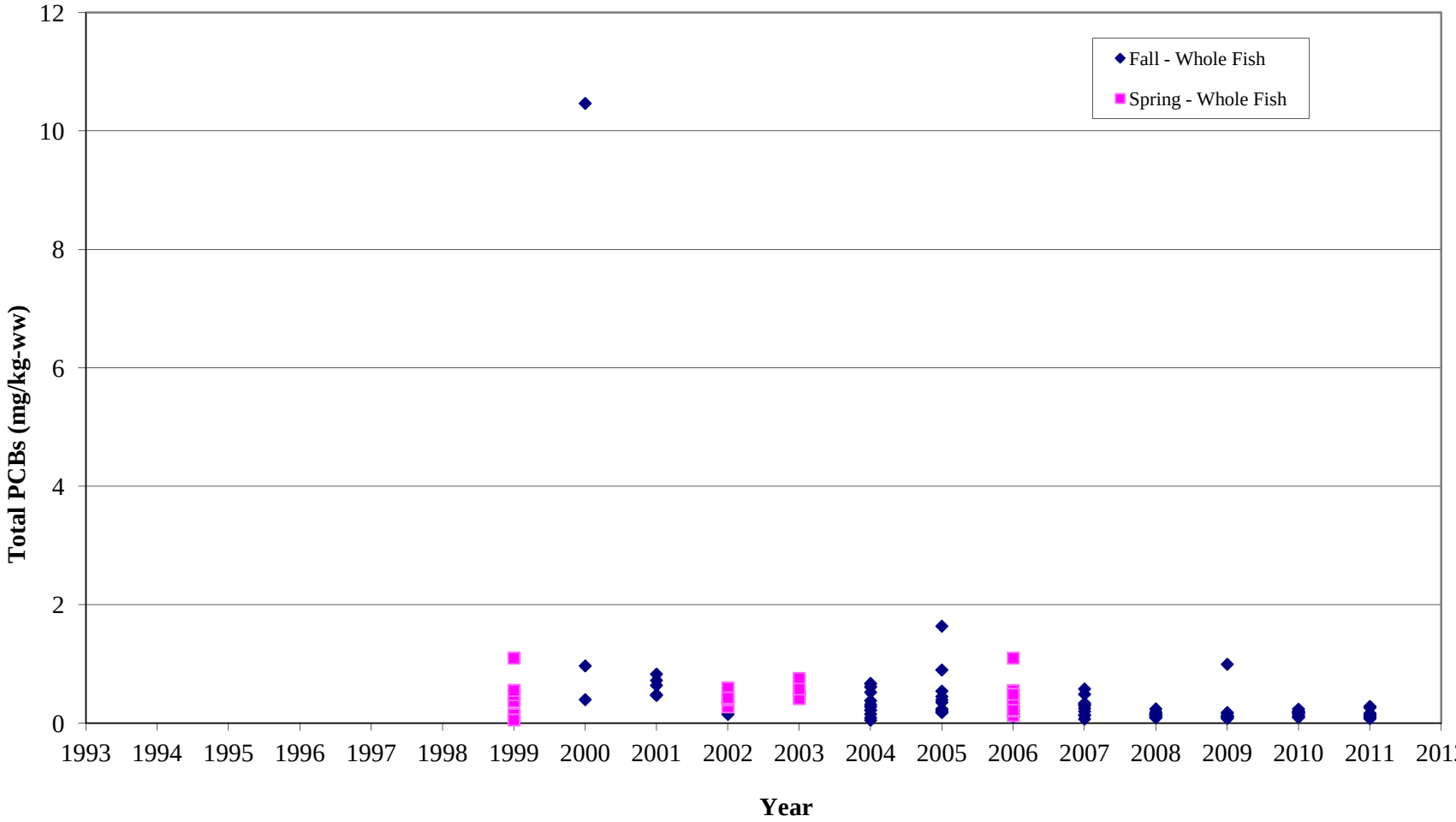


Figure 3-24b
LTM 2 (Jetty)
Mean Total PCBs (with 95% Confidence Limits) - Rock Bass

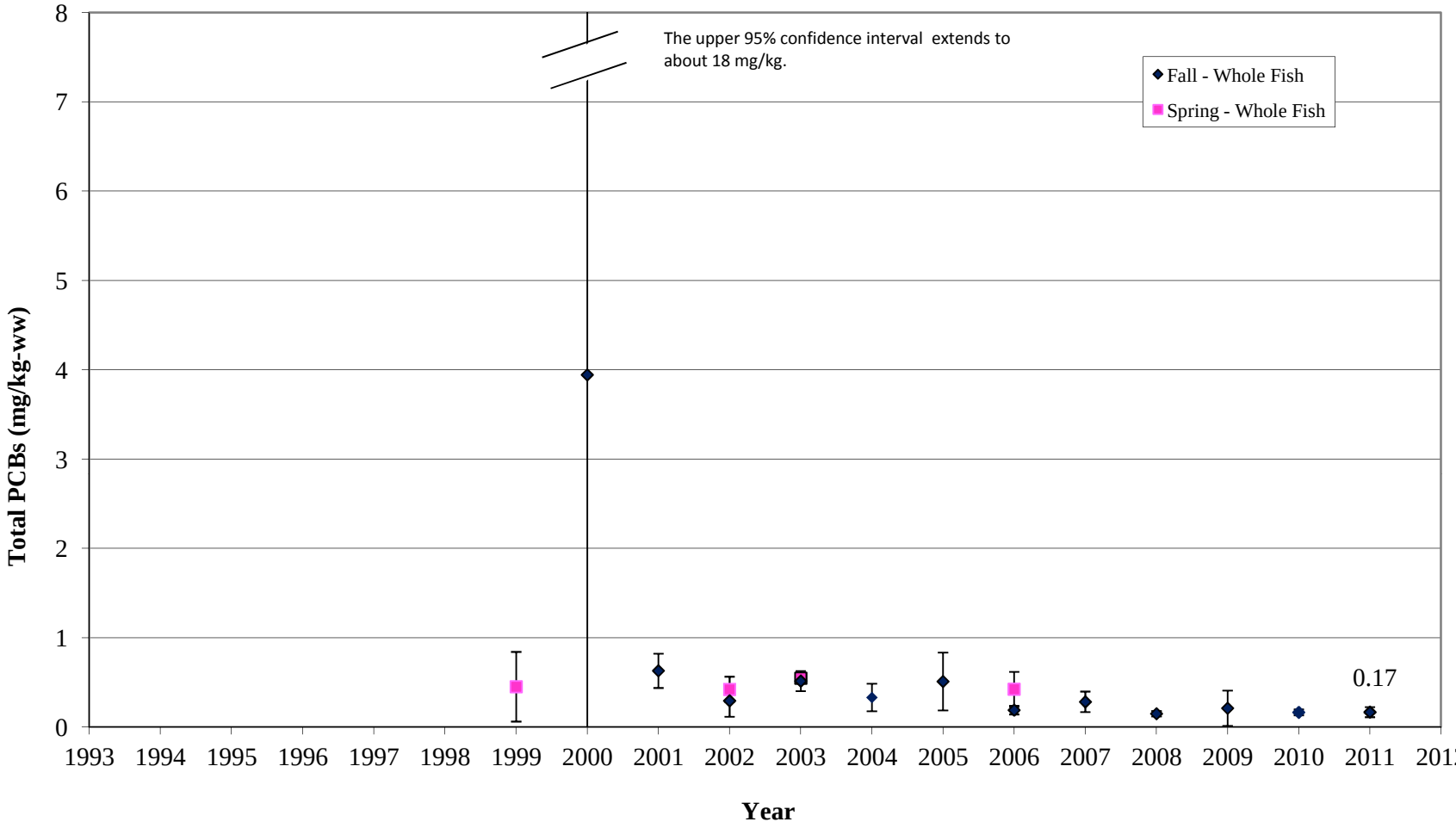


Figure 3-25a
LTM 9
Total PCBs - Rock Bass

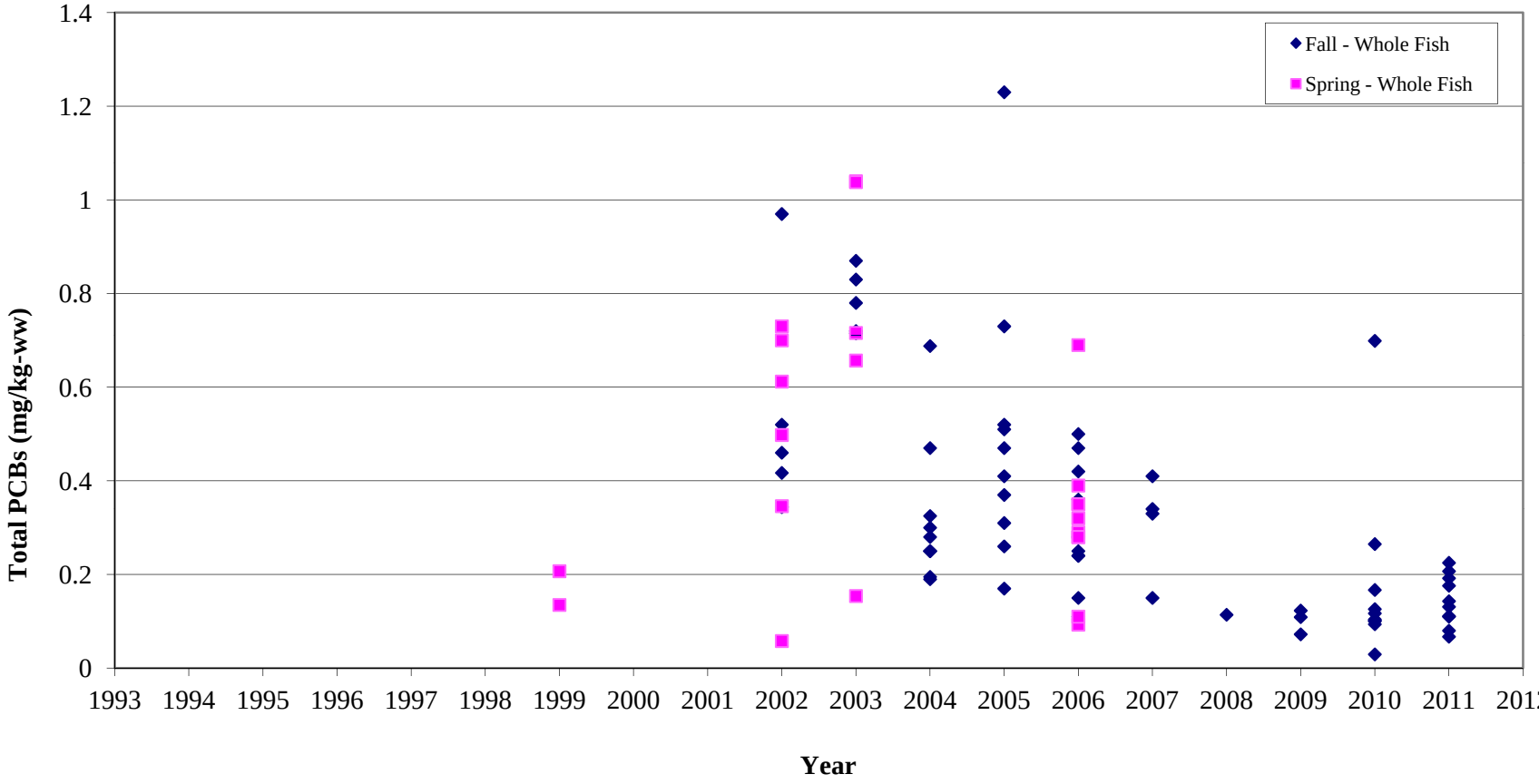


Figure 3-25b
LTM 9
Mean Total PCBs (with 95% Confidence Limits) - Rock Bass

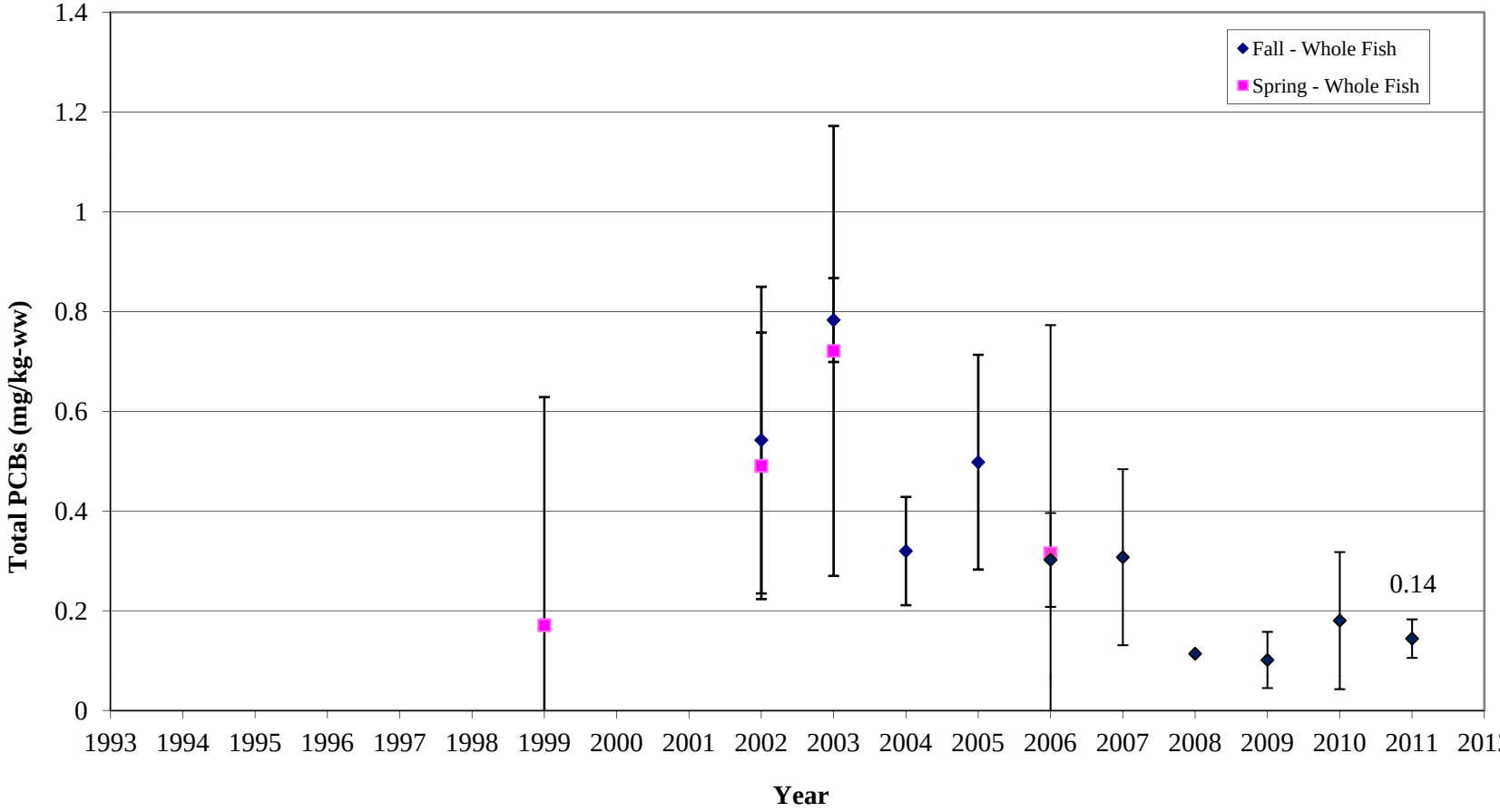


Figure 3-26a
LTM 4-5
Total PCBs - Rock Bass

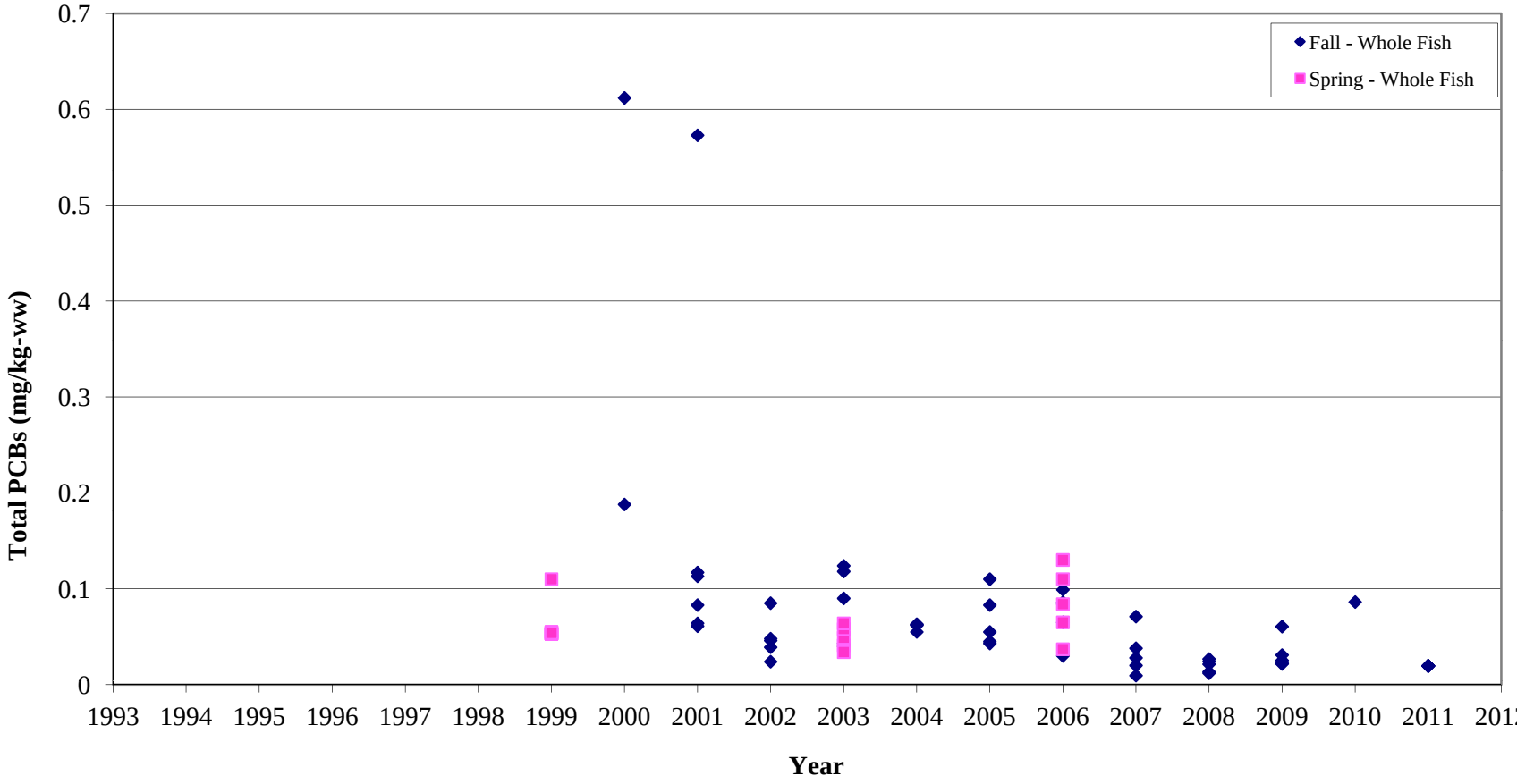


Figure 3-26b
LTM 4-5
Mean Total PCBs (with 95% Confidence Limits) - Rock Bass

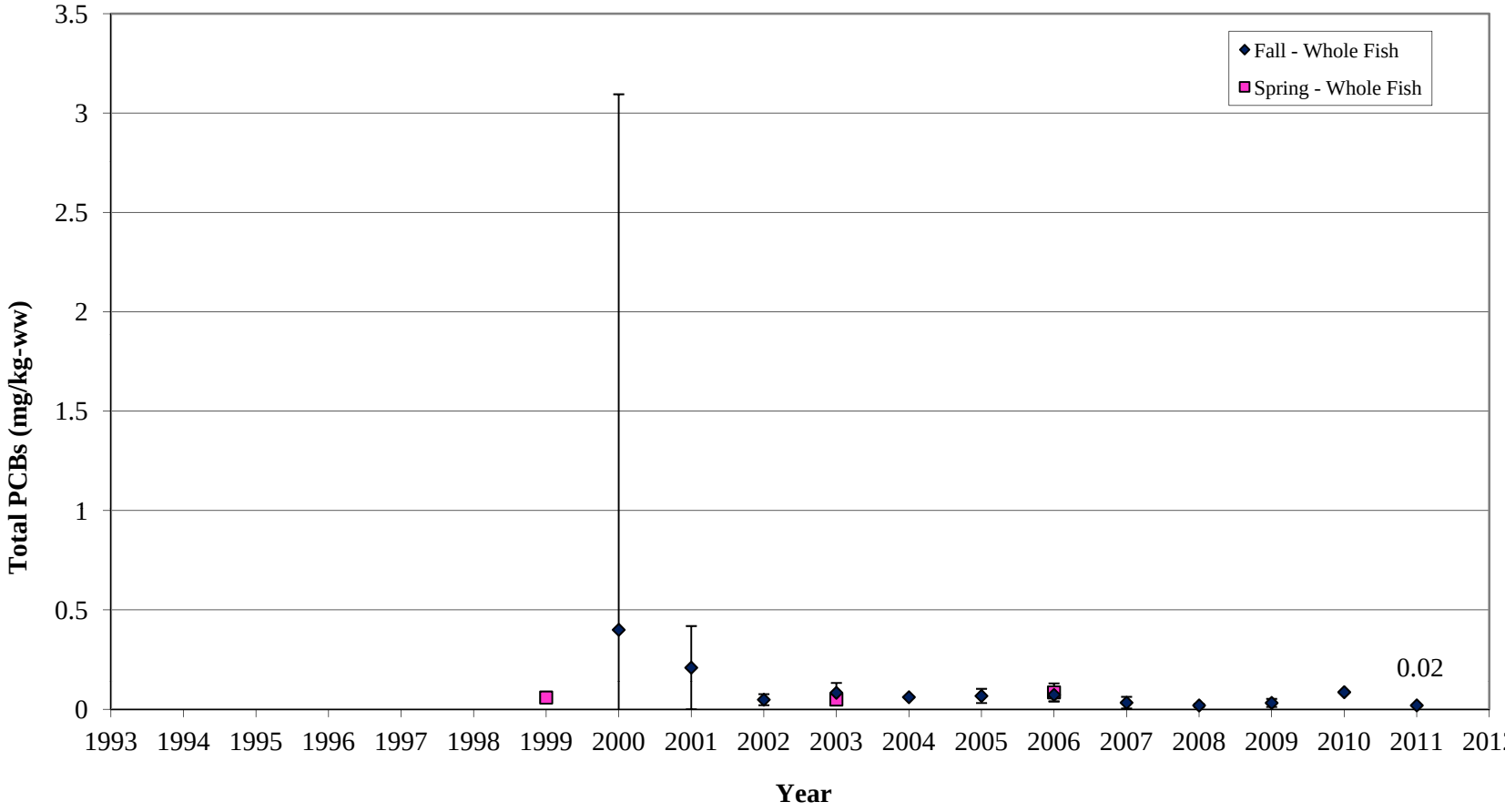


Figure 3-27
Mean Total PCBs (with 95% Confidence Limits) - Yellow Perch Fillets

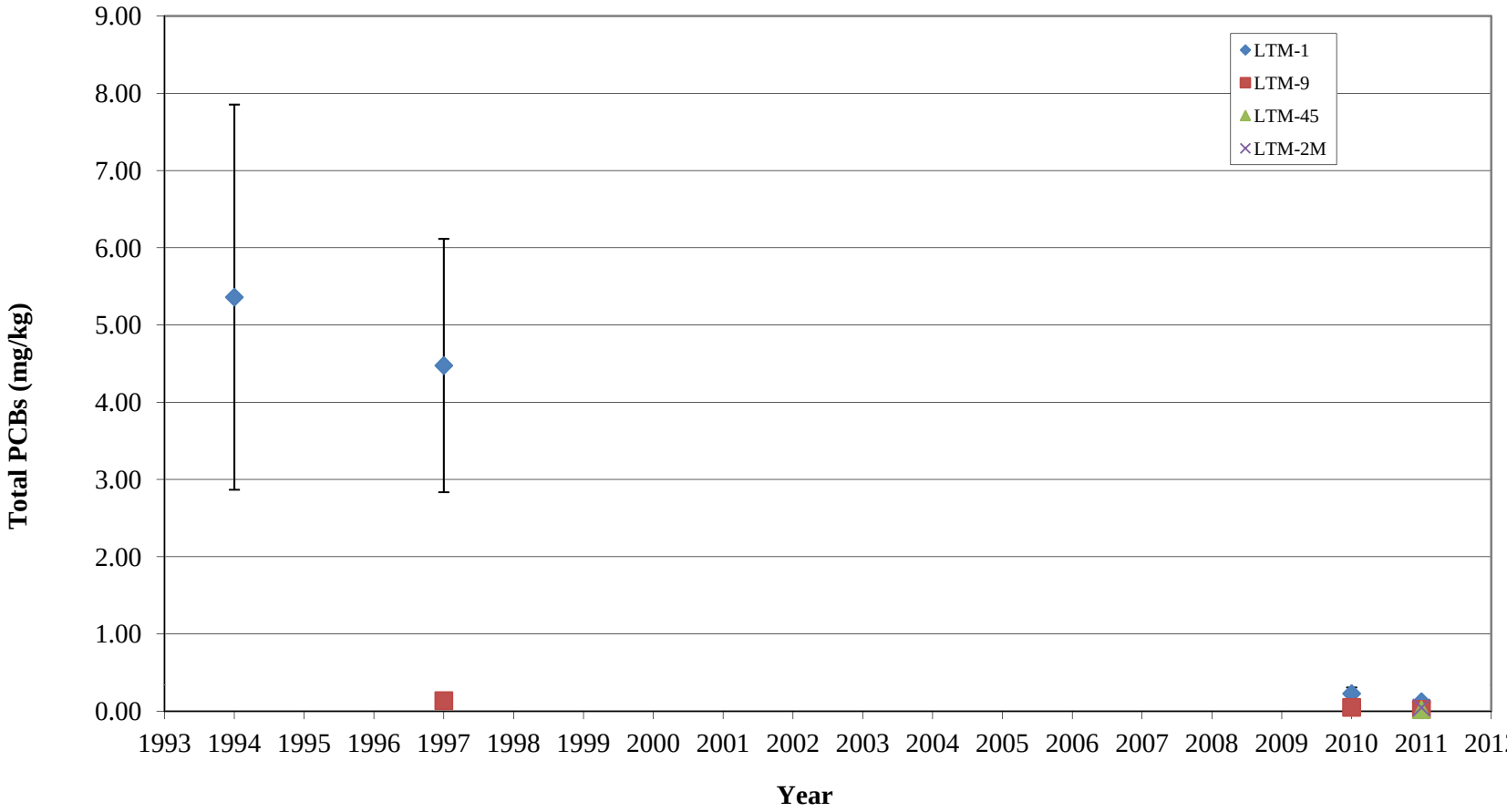


Figure 3-28a
LTM 1
Total PCBs - Brown Bullhead

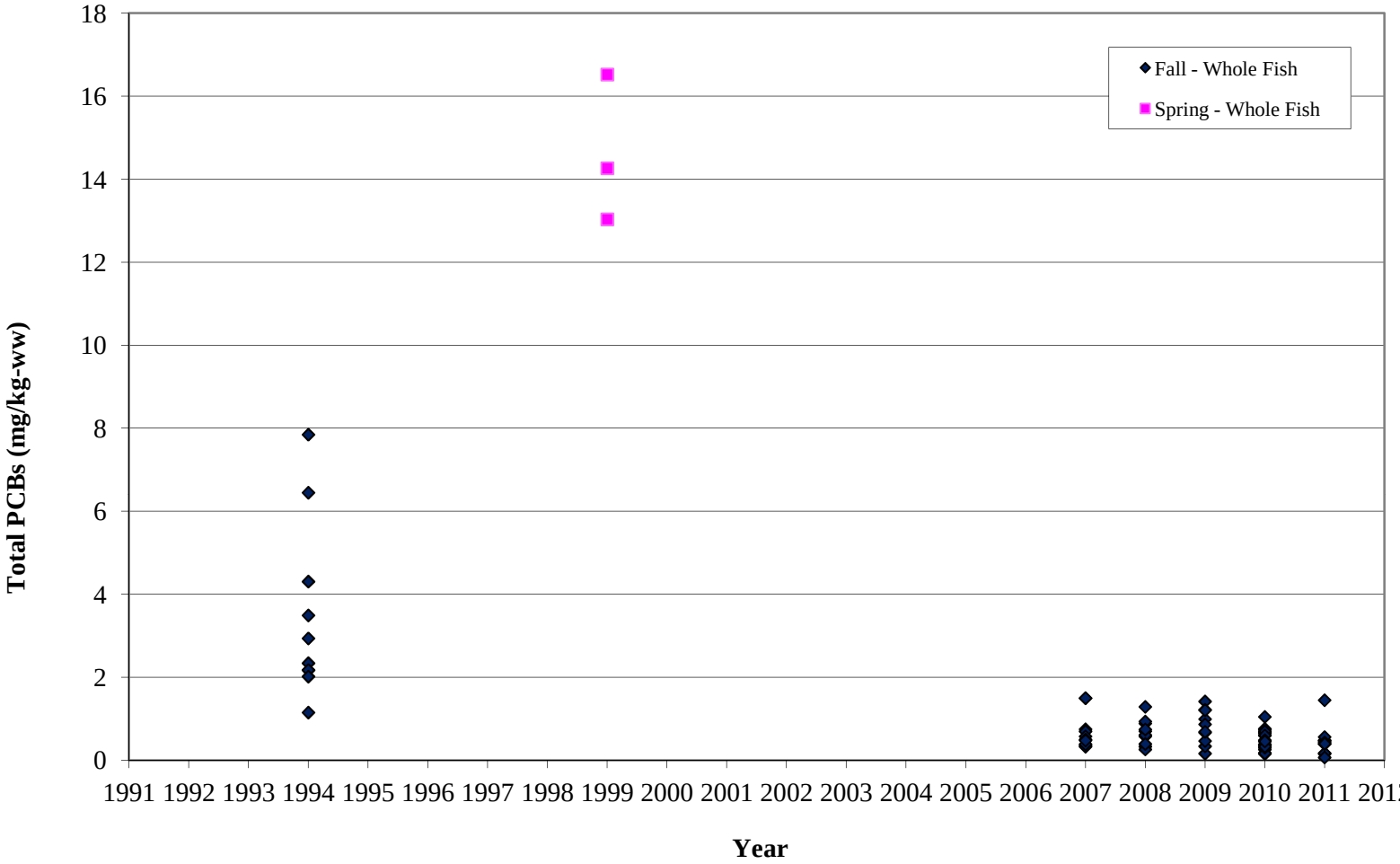


Figure 3-28b
LTM 1
Total PCBs (with 95% Confidence Limits) - Brown Bullhead

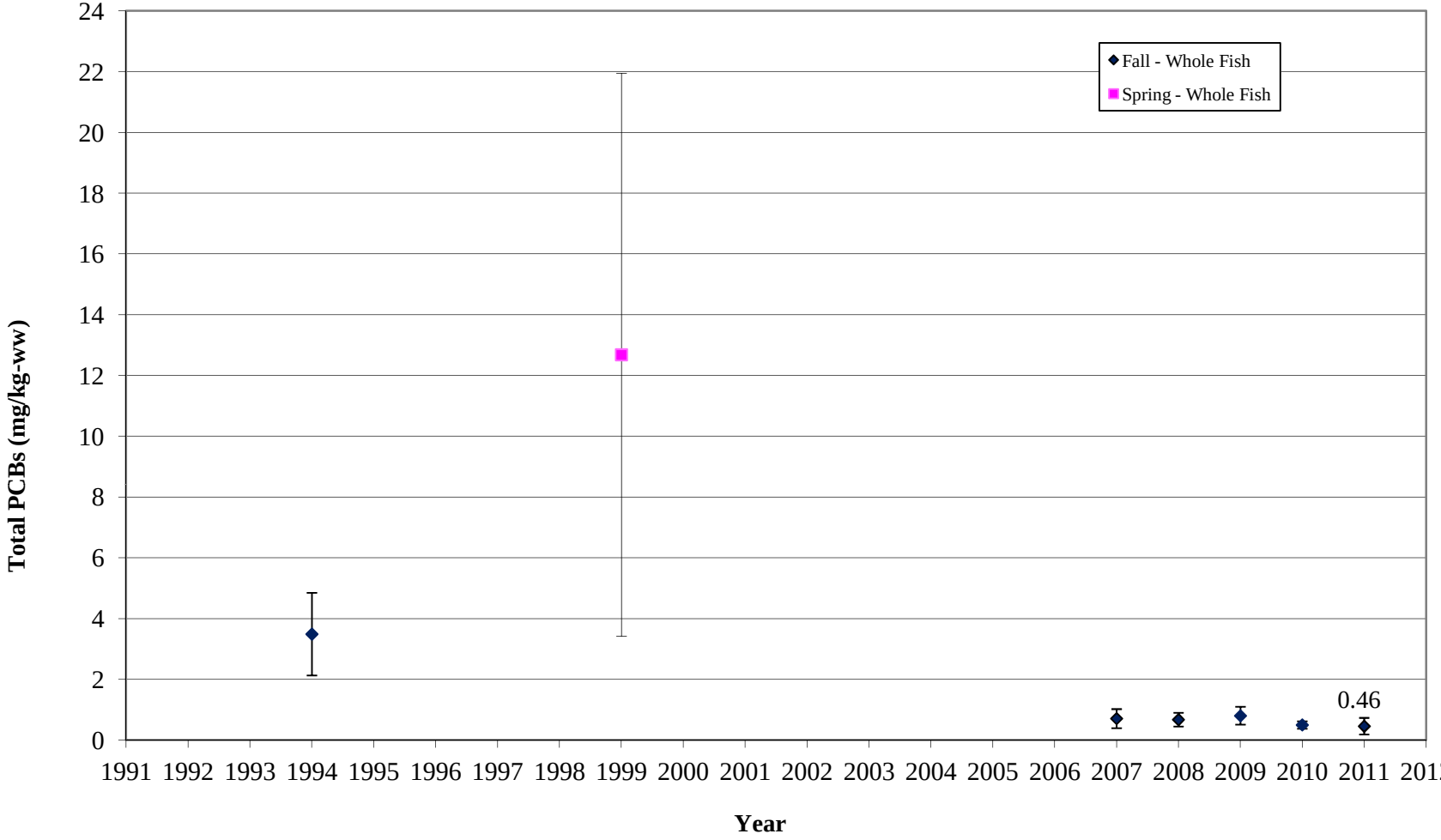


Figure 3-29a
LTM 2 (Mouth of Saranac)
Total PCBs - Brown Bullhead

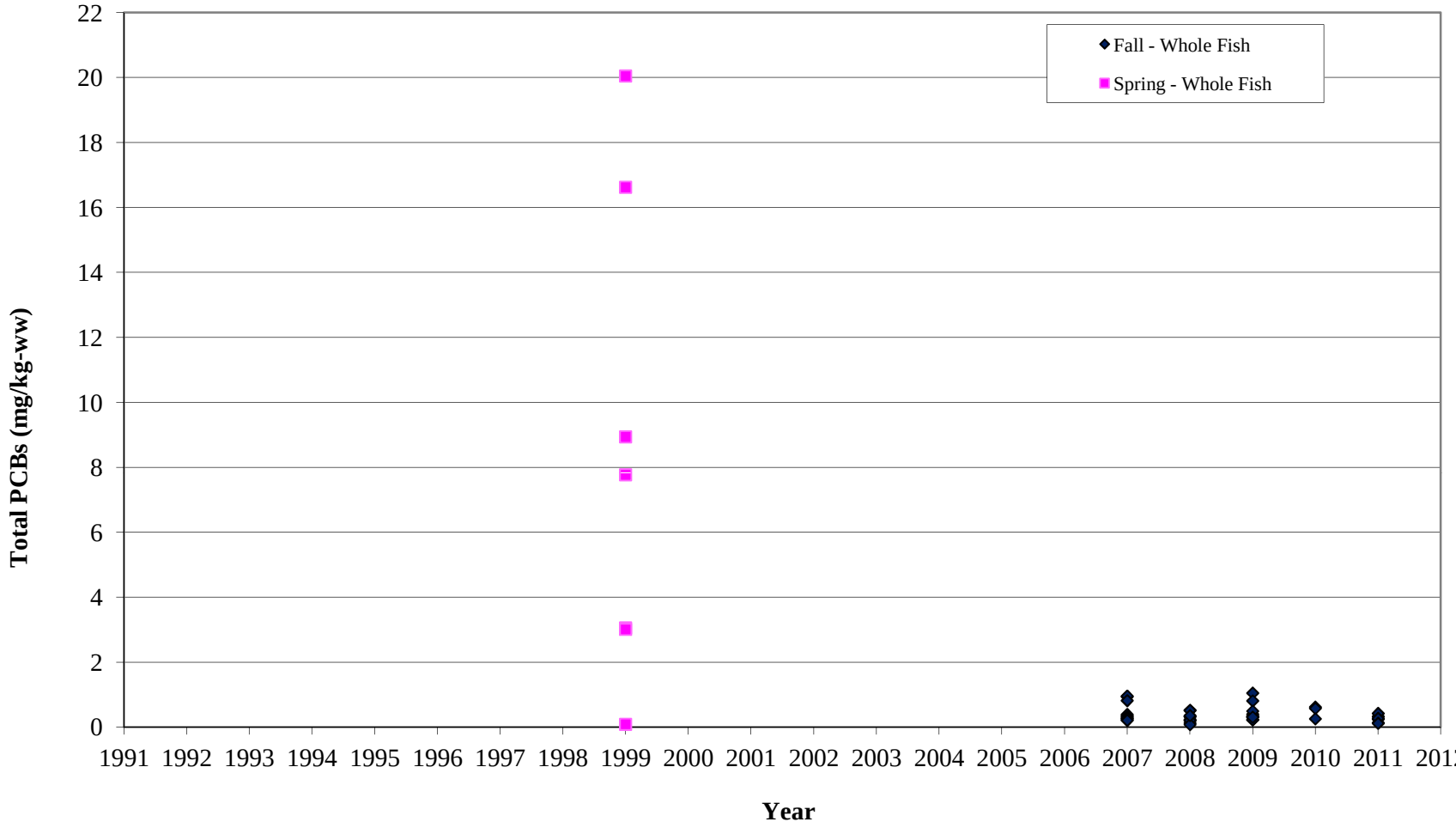


Figure 3-29b
LTM 2 (Mouth of Saranac)
Mean Total PCBs (with 95% Confidence Limits) - Brown Bullhead

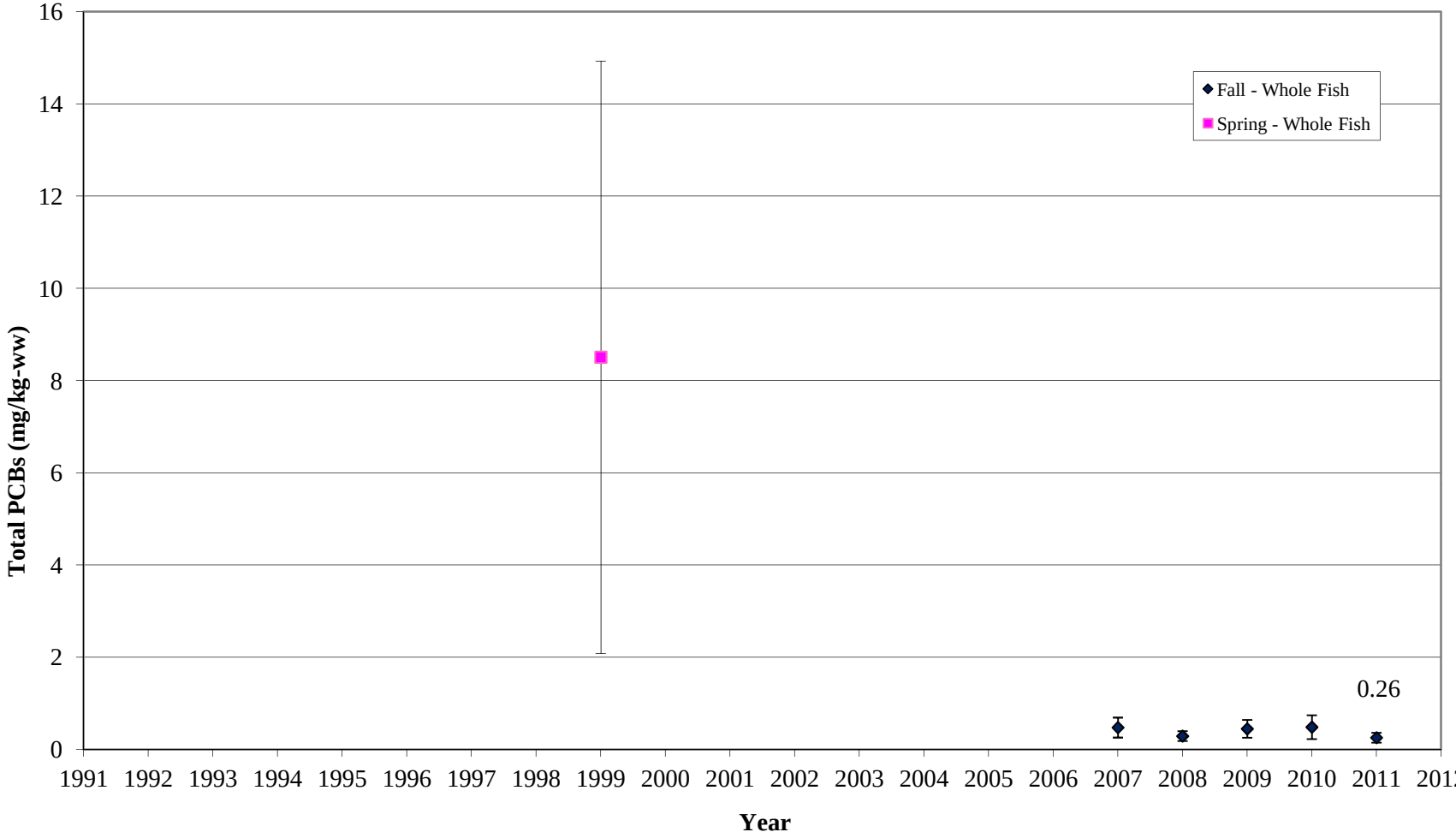


Figure 3-30
Yellow Perch Homolog Distribution at LTM 1 (2007)

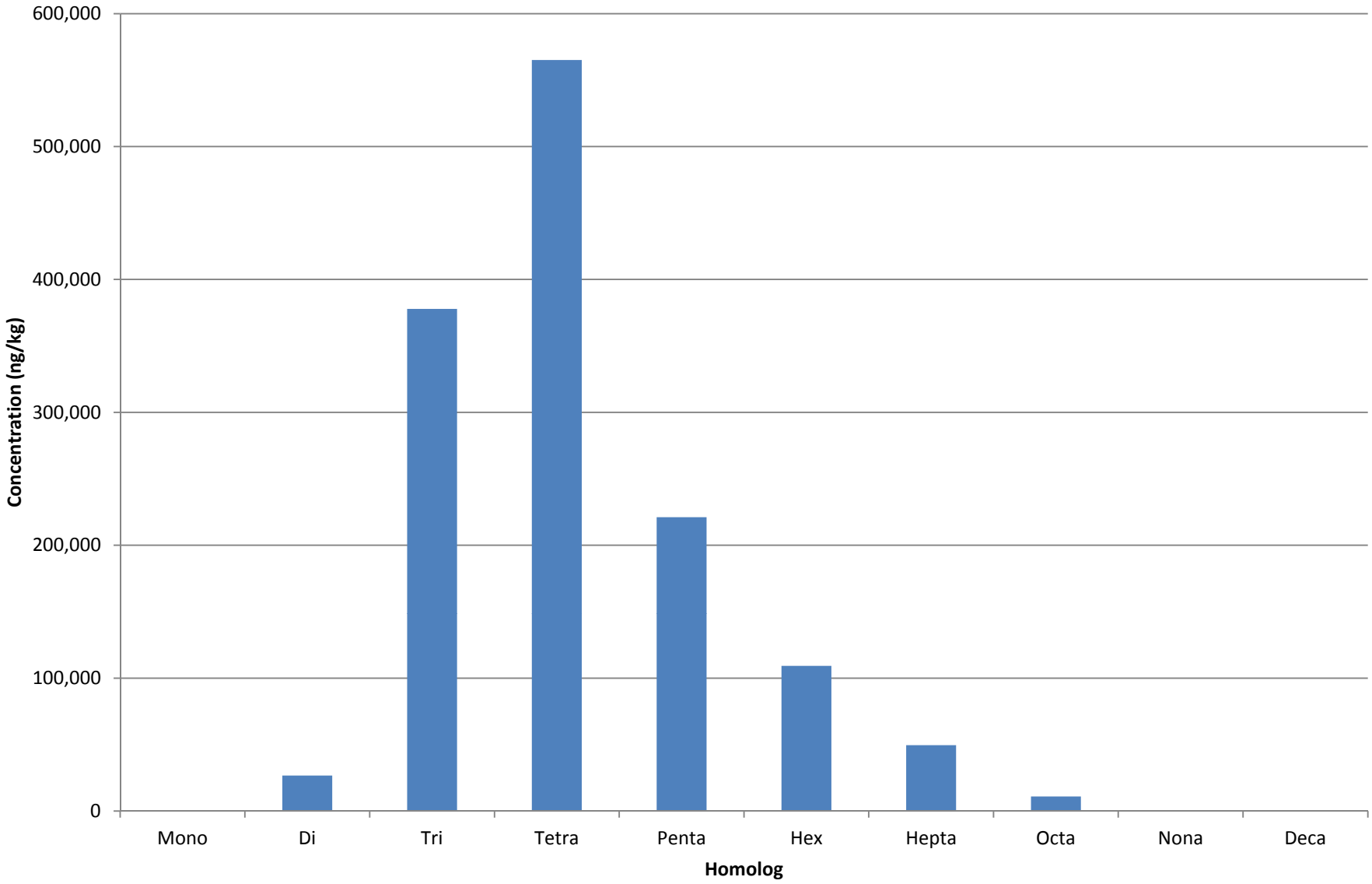


Figure 3-31
Yellow Perch Homolog Distribution at LTM 4-5 (2007)

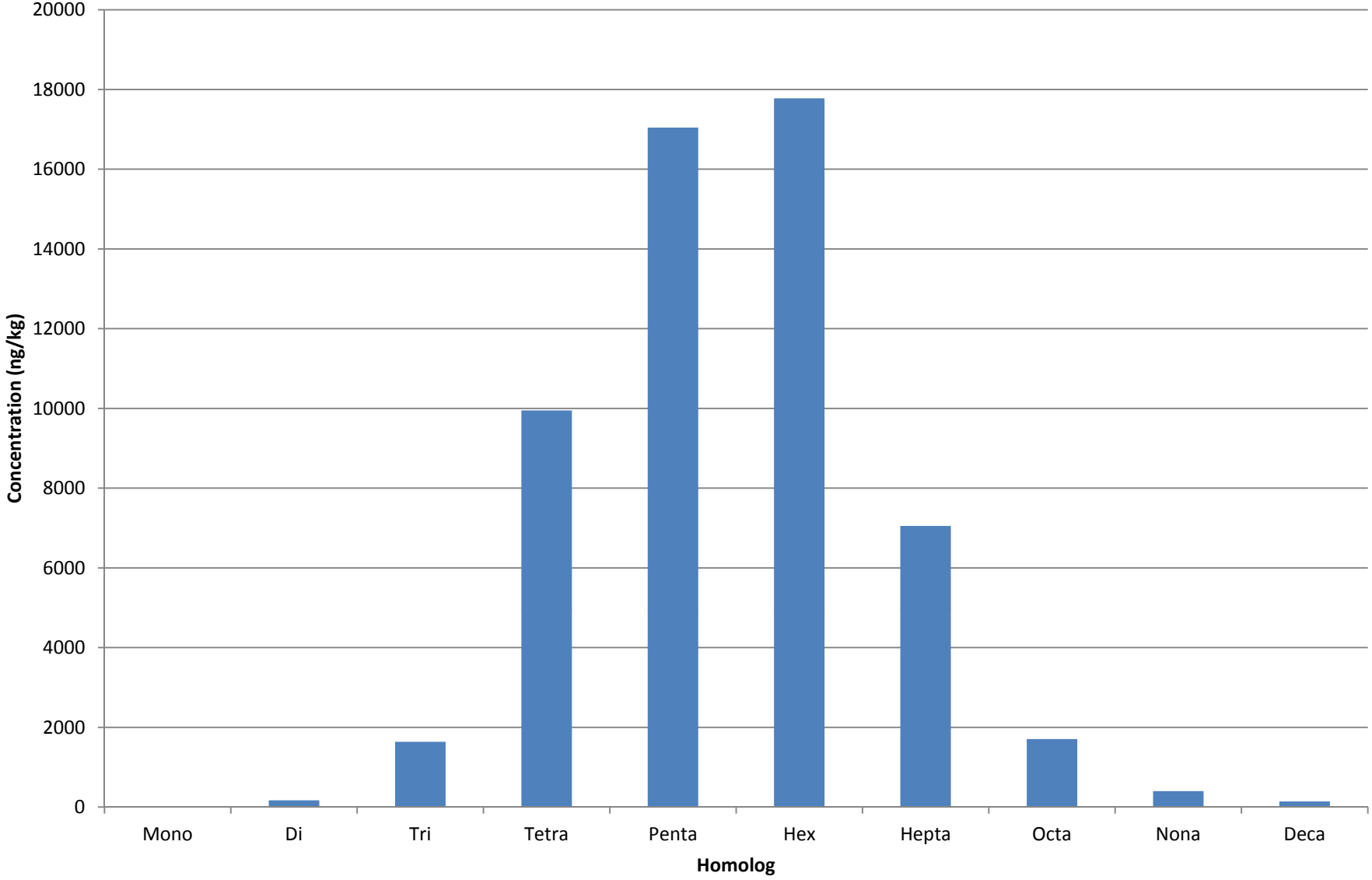


Figure 3-32
Yellow Perch Homolog Distribution at LTM 9 (2007)

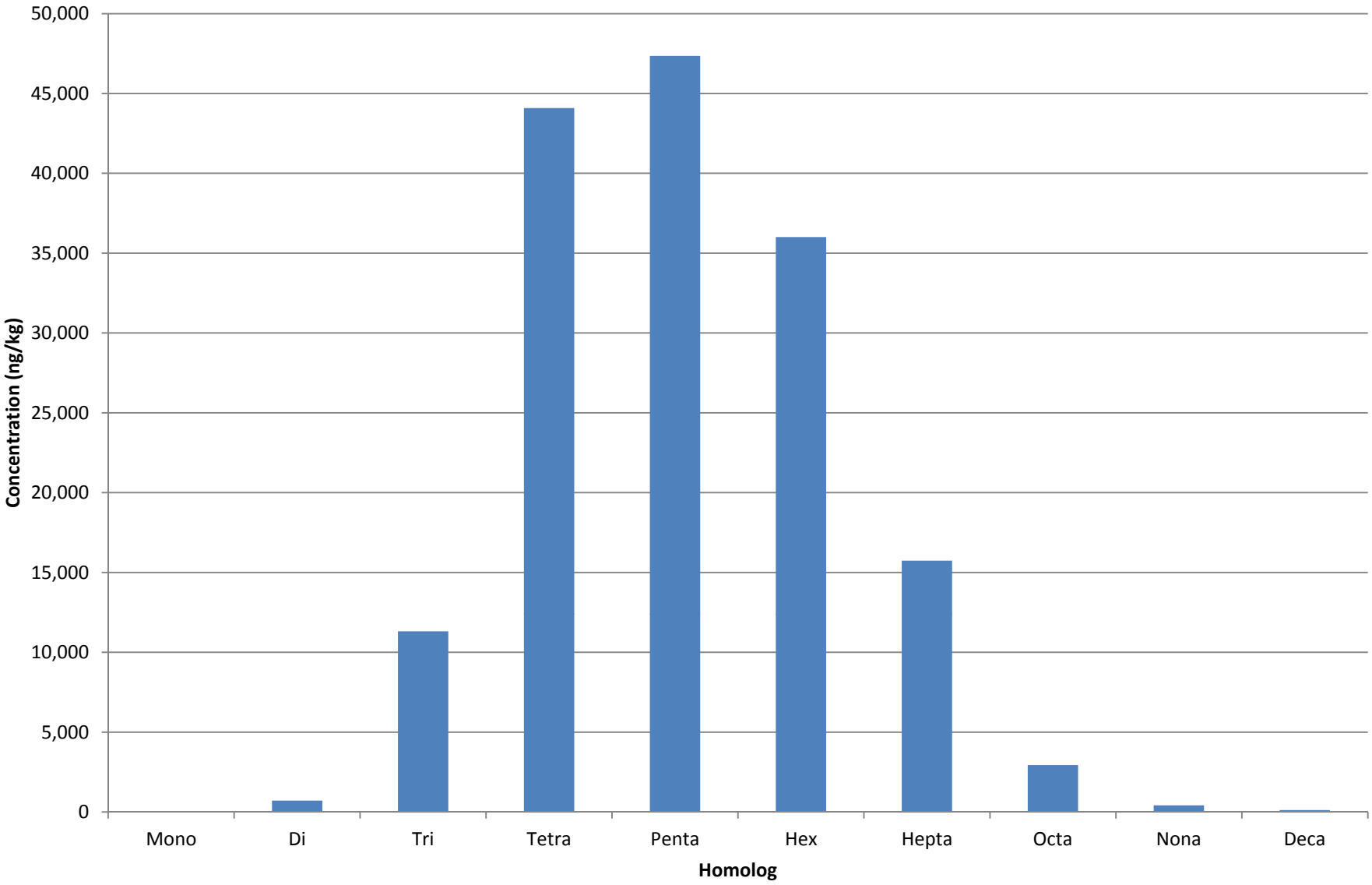


Figure 3-33
Homolog Distribution in Aroclor 1242

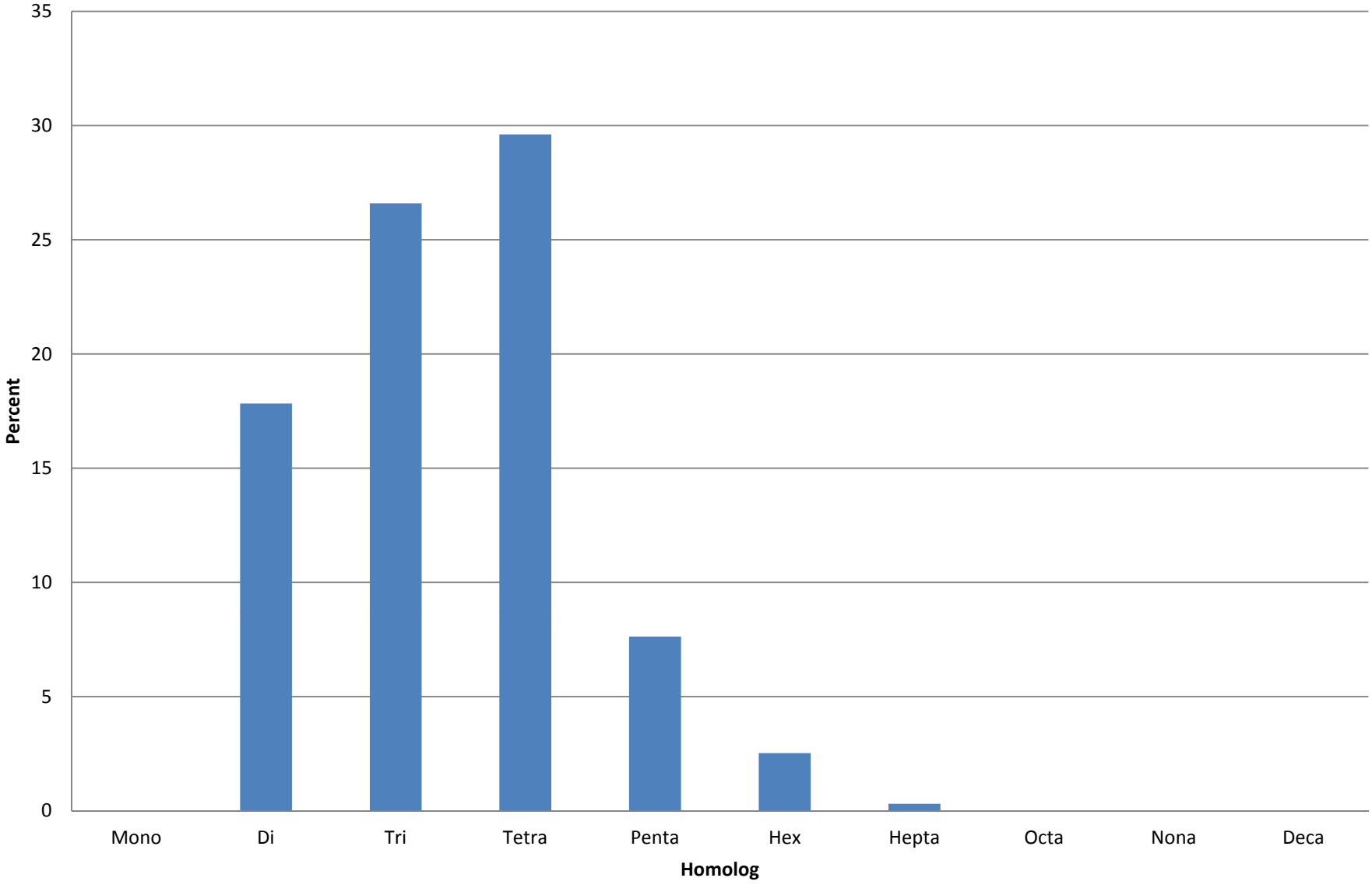


Figure 3-34
Yellow Perch (2007) - LTM 1 vs. LTM 9

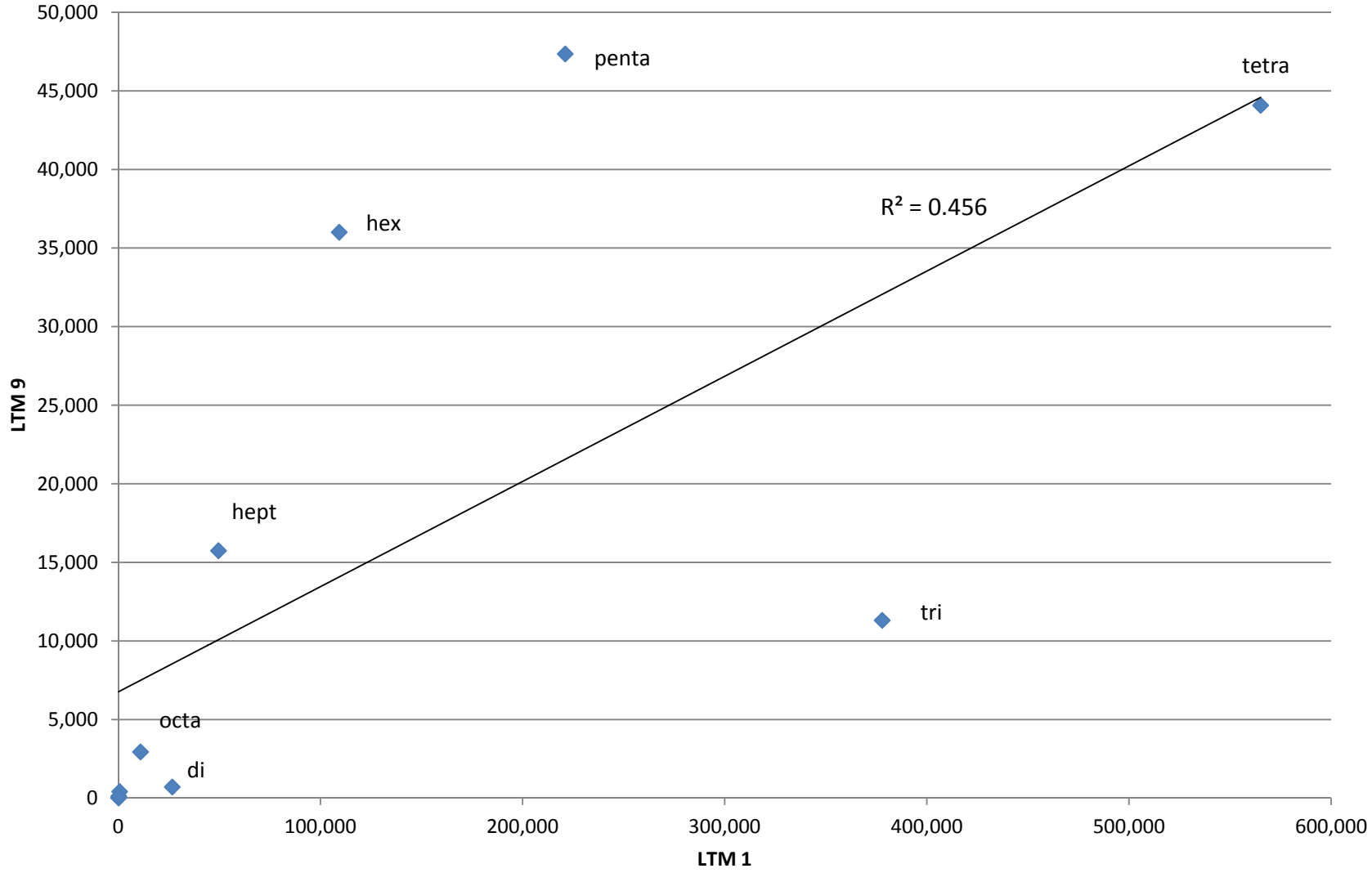


Figure 3-35
Yellow Perch (2007) - LTM 1 vs. LTM 4-5

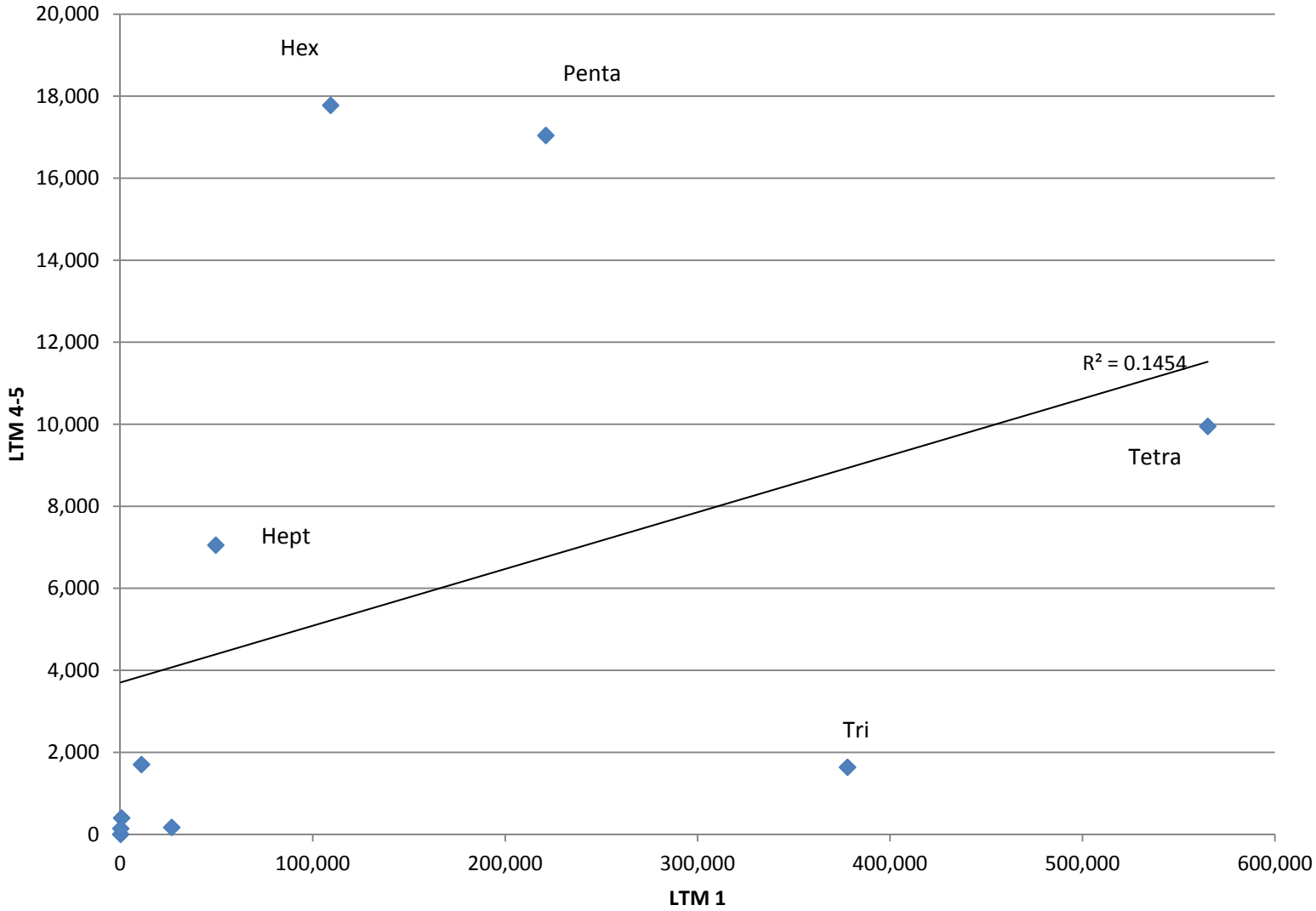


Figure 4-1
total PCB LTM 1 PISCES

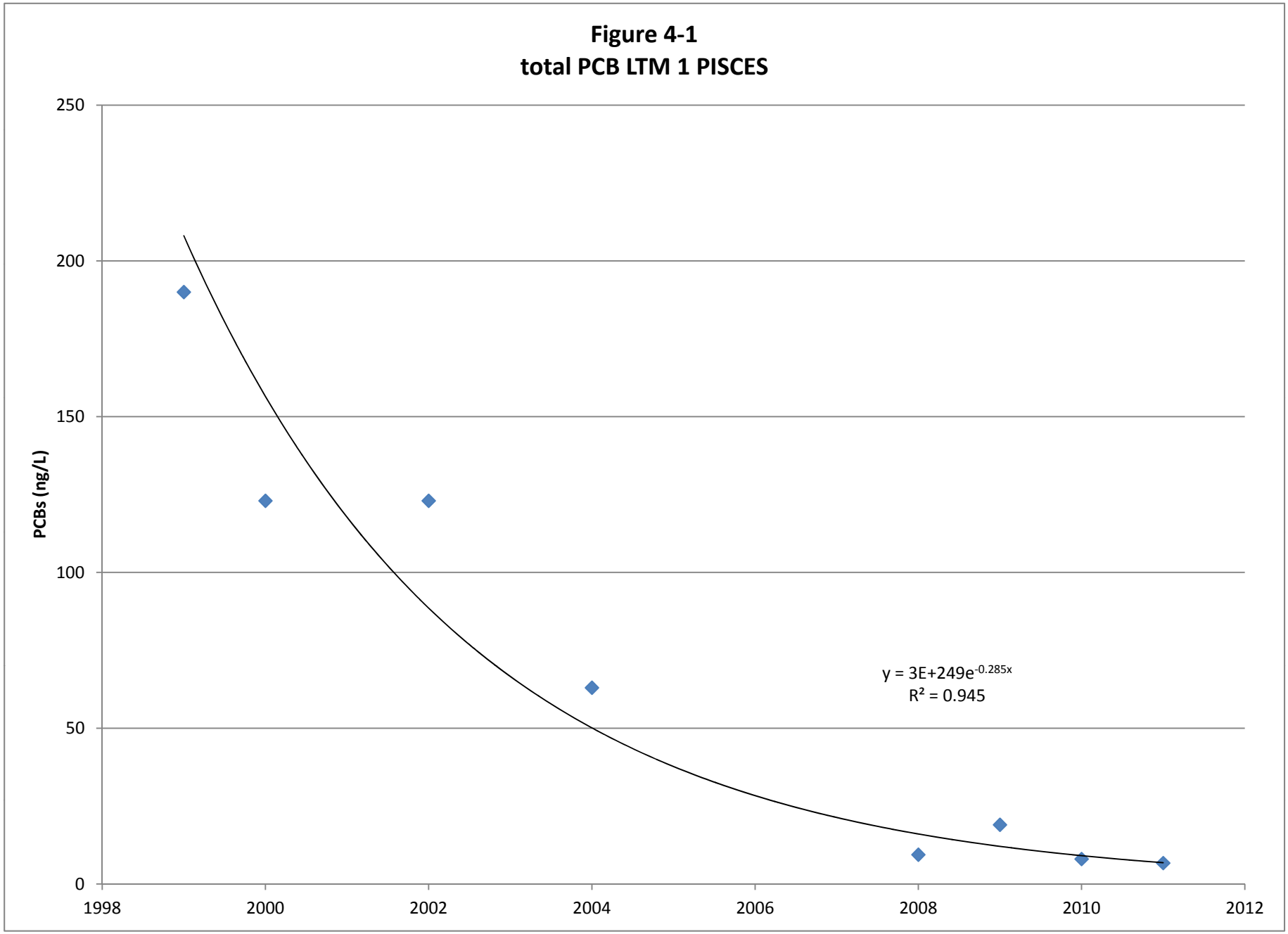


Figure 4-2
Tri +PCB LTM 1 PISCES

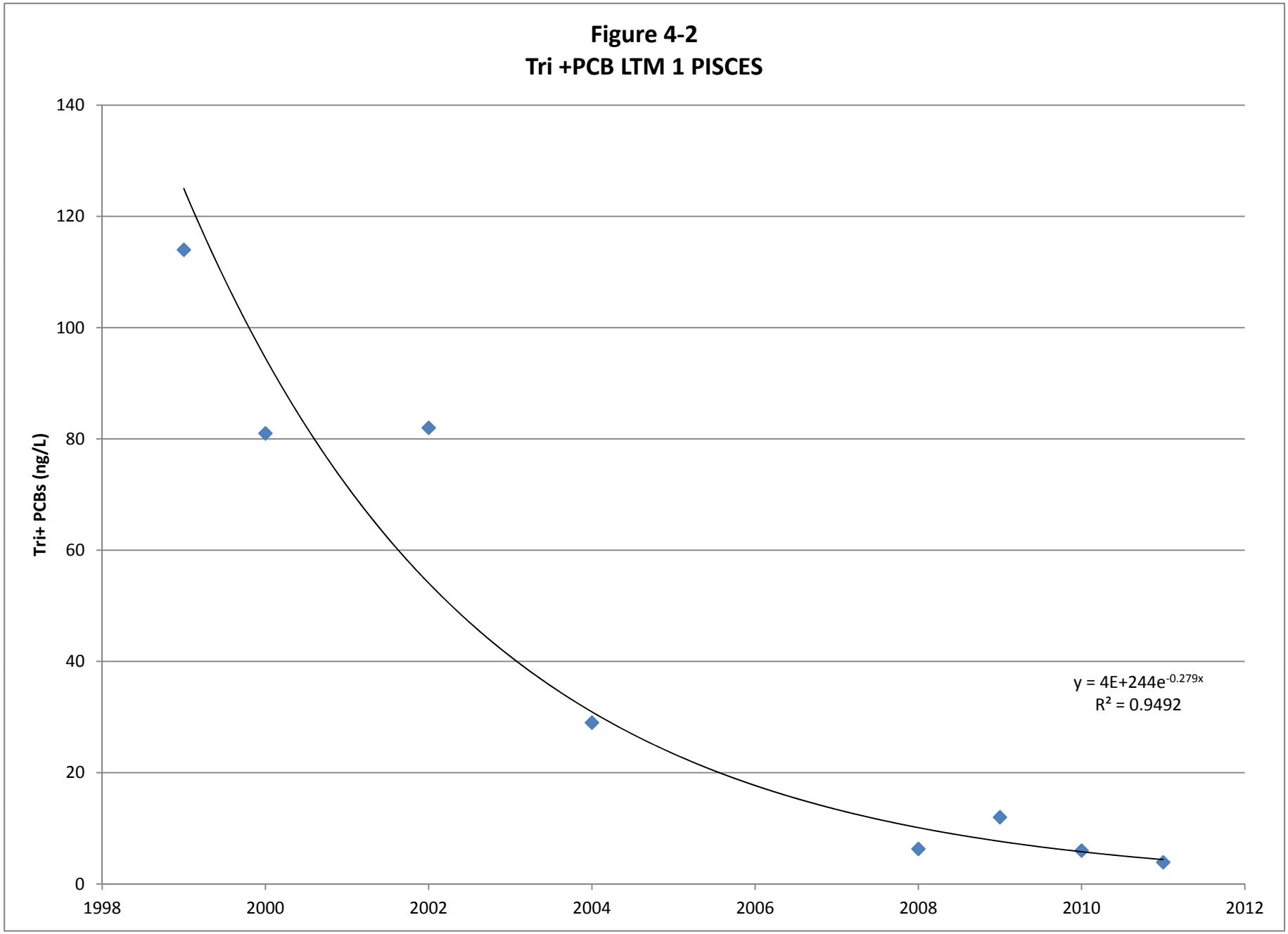


Figure 4-3
Rock Bass Lipid Normalized PCBs at LTM 1

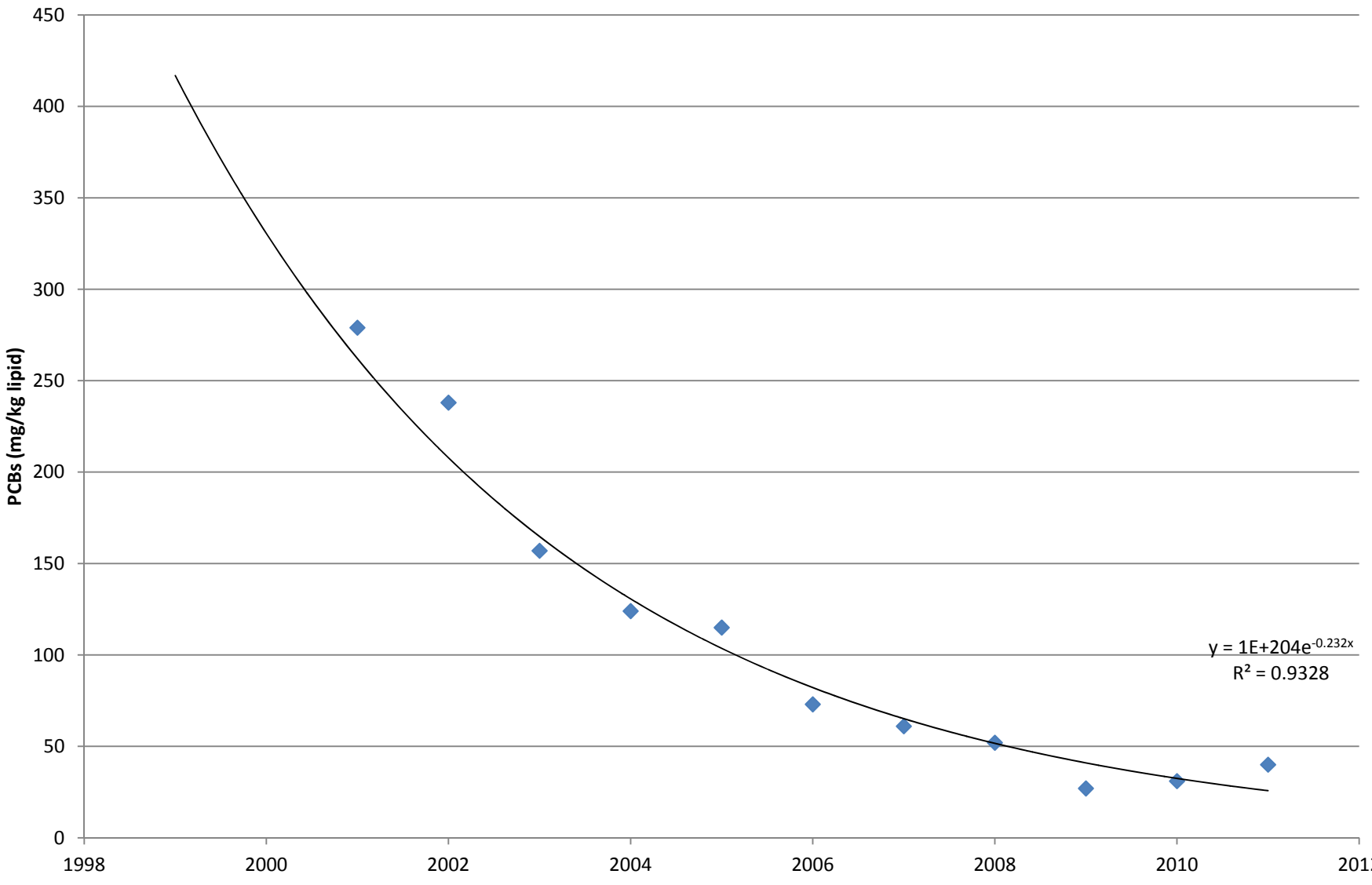
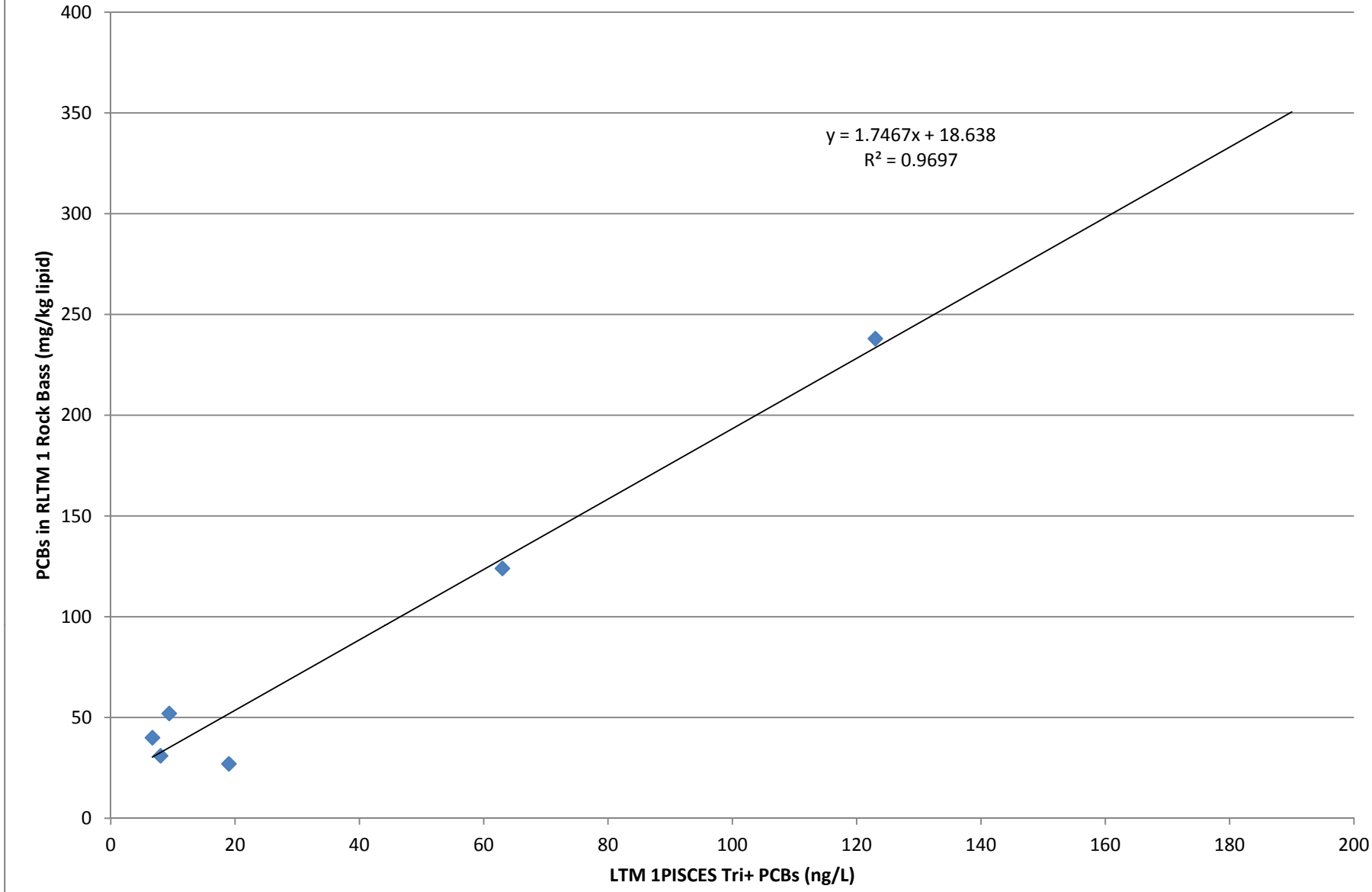


Figure 4-4

LTM 1 PISCES vs Rock Bass PCB



Tables

Table 2-1
Fish Samples By Location
Cumberland Bay PCB Dredging Project Pre- to Post-Dredging Monitoring
1982-2011

Location	Sample Species	Sampling Year																		Species Total
		1982	1985	1992	1994	1997	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
LTM 1	Yellow Perch				20	40	11	3	12	14	20	10	10	20	10	10	10	20	20	230
	American Eel															1	4	4	1	10
	Rock Bass								7	12	20	11	10	20	8	10	10	10	12	130
	Brown Bullhead						5		7						10	10	10	20	10	72
	Largemouth Bass											1	5	6						12
	Smallmouth Bass											3		1						4
	Pumpkinseed Sunfish								10			7	5	10						32
	Yearly Sample Total	0	0	0	20	40	16	3	36	26	40	32	30	57	28	31	34	54	43	490
LTM 2 (Jetty)	Yellow Perch											10	10	18	10	9	10	10	20	97
	Brown Bullhead														4					4
	American Eel													2				1	2	5
	Largemouth Bass													4						4
	Rock Bass						6	3	5	10	10	10	10	20	10	10	10	10	10	124
	Smallmouth Bass											5	5	6						16
	Yearly Sample Total	0	0	0	0	0	6	3	5	10	10	25	25	50	24	19	20	21	32	250
LTM 2 (Mouth of Saranac)	Yellow Perch						5	5		11	10	10	10	20	10	10	10	20	20	141
	American Eel														1			1		2
	Rock Bass											10	10	20	9	4	6	6	11	76
	Largemouth Bass												3	7						10
	Smallmouth Bass											7	2	3						12
	Brown Bullhead						7	1							10	10	10	3	6	47
	Pumpkinseed Sunfish											5	5	10						20
	Yearly Sample Total	0	0	0	0	0	12	6	0	11	10	32	30	60	30	24	26	30	37	308
LTM 3	Yellow Perch						5		5	4	10									24
	Rock Bass						6		5	4	10									25
	Brown Bullhead							7												7
	Yearly Sample Total	0	0	0	0	0	11	7	10	8	20	0	0	0	0	0	0	0	0	56
LTM 4	Yellow Perch						9		5	5	10	5	5	10	5	5	5	16	15	95
	Rock Bass						6		6	5	10	5	5	10	5	5	5	1	6	69
	Brown Bullhead																	1		1
	American Eel		8												1			1	1	11
	Yearly Sample Total	0	8	0	0	0	15	0	11	10	20	10	10	20	11	10	10	19	22	176
LTM 5	Yellow Perch						5	1												6
	Rock Bass						4	2												6
	Yearly Sample Total	0	0	0	0	0	9	3	0	0	0	0	0	0	0	0	0	0	0	12
LTM 6	Yellow Perch						9		5											14
	Yearly Sample Total	0	0	0	0	0	9	0	5	0	0	0	0	0	0	0	0	0	0	14
LTM 7	Yellow Perch						9		5	5	5									24
	Rock Bass						1		2	5	10									18
	Yearly Sample Total	0	0	0	0	0	10	0	7	10	15	0	0	0	0	0	0	0	0	42
LTM 8	Yellow Perch						5													5
	Yearly Sample Total	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
LTM 9	Yellow Perch					8	7		5	10	10	10	10	20	2	5	10	20	20	137
	American Eel																	4	4	8
	Rock Bass						2			11	10	10	10	20	4	1	3	10	15	96
	Yearly Sample Total	0	0	0	0	8	9	0	5	21	20	20	20	40	6	6	13	34	39	241
DB12	Yellow Perch	1																		1
	American Eel		8																	8
	Brown Bullhead	2		12																14
	Common Carp			5																5
	Largemouth Bass			2																2
	Yearly Sample Total	3	8	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30
DB14	Yellow Perch	8																		8
	Largemouth Bass	16																		16
	Yearly Sample Total	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24

Table 2-2
PISCES Samples By Location
Cumberland Bay PCB Dredging Project Pre- to Post-Dredging Monitoring
1999-2004

LTM Location	Sample Year								Total Samples
	1999	2000	2002	2004	2008	2009	2010	2011	
LTM 1	1	2	2	1	2	2	2	2	14
LTM 2 (Mouth of Saranac)	2	2	2	2		2	2	1	8
LTM 3	2		2	2	2	2	2	2	14
LTM 4	2								2
LTM 4a	2			2					4
LTM 5	2								2
LTM 7	2		2						4
LTM 8	2		2						4
LTM 9	2	2	2	2	2	1	2	2	15

Table 2-3
Water Samples By Location
Cumberland Bay PCB Dredging Project Pre- to Post-Dredging Monitoring
1996-2004

Location	Sample Type	1996	1997	1998	1999	2000	2001	2002	2003	2004	Sample Total
LTW 1	Water	2	3			4	2	2	4	8	25
	Filter									3	3
	Yearly Sample Total	2	3	0	0	4	2	2	4	11	28
LTW 2 (Jetty)	Water						2		3	2	7
	Net							1			1
	Yearly Sample Total	0	0	0	0	0	2	1	3	2	8
LTW 2 (Mouth of Saranac)	Water									1	1
	Yearly Sample Total	0	0	0	0	0	0	0	0	1	1
LTW 3	Water						2		2	1	5
	Yearly Sample Total	0	0	0	0	0	2	0	2	1	5
LTM 4	Water						2		2		4
	Yearly Sample Total	0	0	0	0	0	2	0	2	0	4
LTW 5	Water						2			1	3
	Yearly Sample Total	0	0	0	0	0	2	0	0	1	3
LTW 6	Water						2				2
	Yearly Sample Total	0	0	0	0	0	2	0	0	0	2
LTW 7	Water						2		2		4
	Yearly Sample Total	0	0	0	0	0	2	0	2	0	4
LTW 8	Water	2	2	2		4	2	1			13
	Yearly Sample Total	2	2	2	0	4	2	1	0	0	13
LTM 9	Water	2	3	2		4	3	1	2	3	20
	Net							1			1
	Yearly Sample Total	2	3	2	0	4	3	2	2	3	21
MP4S	Water	4	2	4		4	4	2	4		24
	Yearly Sample Total	4	2	4	0	4	4	2	4	0	24
MP4D	Water		3	2							5
	Yearly Sample Total	0	3	2	0	0	0	0	0	0	5

Table 3-1
Aroclor Mixtures

PCB Homologue Group	Percentage of Group within Aroclor Mixture				
	Aroclor Mixture				
	1016	1221	1242	1254	1260
Biphenyl	<0.1	11	<0.1	<0.1	--
Monochlorobiphenyl	1	51	1	<0.1	--
Dichlorobiphenyl	20	32	16	0.5	--
Trichlorobiphenyl	57	4	49	1	--
Tetrachlorobiphenyl	21	2	25	21	1
Pentachlorobiphenyl	1	<0.5	8	48	12
Hexachlorobiphenyl	<0.1	--	1	23	38
Heptachlorobiphenyl	--	--	<0.1	6	41
Octachlorobiphenyl	--	--	--	--	8
Nonachlorobiphenyl	--	--	--	--	--
Decachlorobiphenyl	--	--	--	--	--

Source: USEPA, "Environmental Transport and Transformation of Polychlorinated Biphenyls." EPA 560/5-83-025. Office of Pesticides and Toxic Substances. Washington, DC (1983).

Appendix I

Fish Collection and Preparation Procedures

FISH COLLECTION PROCEDURES

A. Following data are to be taken on *each* fish collected:

1. Date collected;

2. Species identification (please be explicit enough to enable assigning genus and species);

3. Total length (nearest mm or smallest sub-unit on measuring instrument) and weight (nearest g or smallest sub-unit of weight or weighing instrument). Take all measures as soon as possible with calibrated, protected instruments (e.g. from wind and upsets) and prior to freezing;

4. Method of collection (gill net, hook and line, etc.);

5. Sample location (Waterway and nearest prominent identifiable landmark);

6. Sex – fish may be cut enough to allow sexing, but do not eviscerate; and

7. Tag number (each specimen to be individually tagged with jaw tag).

Record length and weight as soon as possible after collection and before freezing. Other data are recorded in the field upon collection. An age determination of each fish is optional, but if done, it is recorded in the appropriate "Age" column.

The original of all collection record and continuity of evidence forms shall accompany delivery of fish to the lab. A copy shall be directed to Larry Skinner or Ron Sloan. *All necessary forms will be supplied by the Bureau of Environmental Protection.*

Please submit photocopies of topographic maps or good quality navigation charts indicating sampling locations. These records are of immense help to us (and hopefully you) in providing documented location records which are not dependent on memory and/or same collection crew. In addition, they may be helpful for contaminant source trackdown and control efforts of the Department.

B. Each fish to be wrapped in a plastic bag. *The Bureau of Environmental Protection will supply the bags.*

C. Groups of fish, by species, to be placed in one large plastic bag per sampling location. *The Bureau of Environmental Protection will supply the larger bags.*

D. Do not eviscerate.

E. All fish must be kept at a temperature below 45°F immediately following data processing. As soon as possible, freeze at 0°F ± 10°F. Due to occasional freezer failures, daily freezer temperature logs are required.

F. Prior to any delivery of fish, coordinate delivery with, and send copies of the collection records, continuity of evidence forms, and freezer temperature logs, to:

Larry Skinner or Ron Sloan
Bureau of Environmental Protection
Room 530
50 Wolf Road
Albany, New York 12233-4756
Telephone: (518) 457-1769

Samples will then be directed to:

The analytical facility and personnel
noted on specific project descriptions.

Notice of Warranty

By signature to the chain of custody (reverse), the signator warrants that the information provided is truthful and accurate to the best of his/her ability. The signator affirms that he/she is willing to testify to those facts provided and the circumstances surrounding same. Nothing in this warranty or chain of custody negates responsibility or liability of the signators for the truthfulness and accuracy of the statements provided.

Handling Instructions

On day of collection, collector(s) name(s), address(es), date, geographic location of capture (attach a copy of topographic map or navigation chart), species, number kept of each species, and description of capture vicinity (proper noun, if possible) along with name of town and county must be indicated on reverse.

Retain organisms in manila tagged plastic bags to avoid mixing capture locations. Note appropriate information on each bag tag.

Keep samples as cool as possible. Put on ice if fish cannot be frozen within12 hours. If fish are held more than 24 hours without freezing, they will not be retained or analyzed.

Initial recipient (either DEC or designated agent) of samples from collector(s) is responsible for obtaining and recording information on the collection record forms which will accompany the chain of custody. This person will seal the container using packing tape and writing his signature, time and date across the tape onto the container with indelible marker. Any time a seal is broken, for whatever purpose, the incident must be recorded on the Chain of Custody (reason, time and date) in the purpose of transfer block container then is resealed using new tape and rewriting signature, with time and date.

Fish Preparation Procedures for Contaminant Analysis

Background

New York State Department of Environmental Conservation (DEC) conducts studies requiring chemical analysis on fish tissues. Routine monitoring and surveillance studies develop data on contaminants in fish for several reasons:

1. To identify sources of environmental contamination;

2. To identify the geographic extent of environmental contamination;

3. To identify temporal trends of contaminants in fish and wildlife; and

4. To provide information regarding human consumption advisories.

Chemical analyses of edible fish flesh have been determined to be the most appropriate analyses for satisfying all of these objectives. The following methodology has been developed in order to standardize the tissues under analysis and to adequately represent the contaminant levels of fish flesh. The methodology is slightly modified from the U.S. Food and Drug Administration procedures. The portion of edible flesh analyzed will be referred to as the standard fillet unless otherwise noted. For some species, the procedure is modified as indicated below.

Procedures for Standard Filleting

1. Remove scales from fish. Do not remove the skin.

2. Make a cut along the ventral midline of the fish from the vent to the base of the jaw.

3. Make diagonal cut from base of cranium following just behind gill to the ventral side just behind pectoral fin.

4. Remove the flesh and ribcage from one-half of the fish by cutting from the cranium along the spine and dorsal rays to the caudal fin. The ribs should remain on the fillet.

5. Score the skin and homogenize the entire fillet.

Modifications to Standard Fillet

Four modifications of the standard fillet procedure are designed to account for variations in fish size or known preferred preparation methods of the fish for human consumption.

1. Some fish are too small to fillet by the above procedure. Fish less than approximately 6 inches long and rainbow smelt are prepared by cutting the head off from behind the pectoral fin and eviscerating the fish. Ensure that the belly flap is retained on the carcass to be analyzed. When this modification is used, it should be noted when reporting analytical results.

2. Some species are generally eaten by skinning the fish. The skin from these species is also relatively difficult to homogenize in the sample. Hence, for the following list of species, the fish is first skinned prior to filleting:

Brown bullhead	White catfish
Yellow bullhead	Channel catfish
Atlantic sturgeon	Lake sturgeon
Black bullhead	

3. American eel are analyzed by removing the head, skin, and viscera, filleting is not attempted.

4. Forage fish and young-of-year are analyzed whole. This category is considered to be less than 150 mm (6 inches).

Appendix II

Collection and Custody Forms

82-14-61(2/84)

Fish and Wildlife Collection Record
New York State Department of Environmental Conservation
Division of Fish, Wildlife, and Marine Resources

From region _____ for _____ Toxic Substance Monitoring Program
By collector(s) _____ using _____ collection method.
Specimens preserved by _____ method.
Fill in appropriate blanks as completely as possible.

For Lab Use Only Lab Entry No.	Collection or Tag No.	Species	Date Taken	Location	Age	Sex and/or Reprod. Condit.	Length ( )	Weight ( )	Remarks

CHAIN OF CUSTODY

New York State
Department of Environmental Conservation

I, _____ , of _____ have collected the following on
(Print Name) (Print Address)
_____ , 199_ from _____ in the _____ County.
Item(s): _____

_____

_____

said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection. The sample(s) were placed in the custody of a representative of the New York Department of Environmental Conservation on _____, 199_.

_____ _____
Signature Date

I, _____, have received the above mentioned sample(s) on the date specified and have assigned identification number(s) _____ to the sample(s). I have recorded pertinent data for the sample(s) on the attached collection records. The sample(s) remained in my custody until subsequently transferred, prepared or shipped at times and dates as attested to below.

_____ _____
Signature Date

Second Recipient (Print Name)	Time & Date	Purpose of Transfer
Signature	Unit	
Third Recipient (Print Name)	Time & Date	Purpose of Transfer
Signature	Unit	
Fourth Recipient (Print Name)	Time & Date	Purpose of Transfer
Signature	Unit	
Received in Laboratory by (Print Name)	Time & Date	
Signature	Unit	
Logged in by (Print Name)	Time & Date	Accession Numbers:
Signature	Unit	