

BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by region

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Zone	N	TEQ (ppt)						
		Mean	S.E.	Median	75th %ile	95th %ile	Min.	Max.
Overall	946	22.8	0.8	18.8	27.5	56.3	3.2	207.4
M/S FP	251	25.4	1.1	21.9	31.3	50.7	4.6	207.4
M/S Near FP	197	24.4	1.4	21.2	30.8	59.2	4.1	144.3
M/S Out FP	199	25.8	1.7	20.1	31.6	59.6	4	104.9
M/S Plume	48	20.6	2.2	16.3	20.1	59.9	3.2	75.4
Jackson/Calhoun	251	20.3	0.8	17.7	23.6	44	4.6	101.5

M/S: Midland/Saginaw

FP: Floodplain

SAS program: Get_table1_figure1.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by region

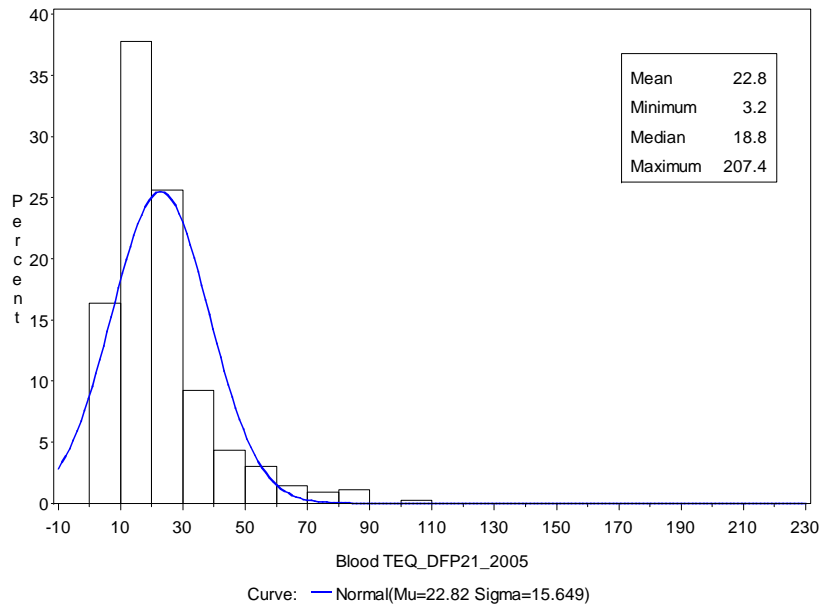
Number of Participants: 946

Sample Type: blood (lipid adjusted)

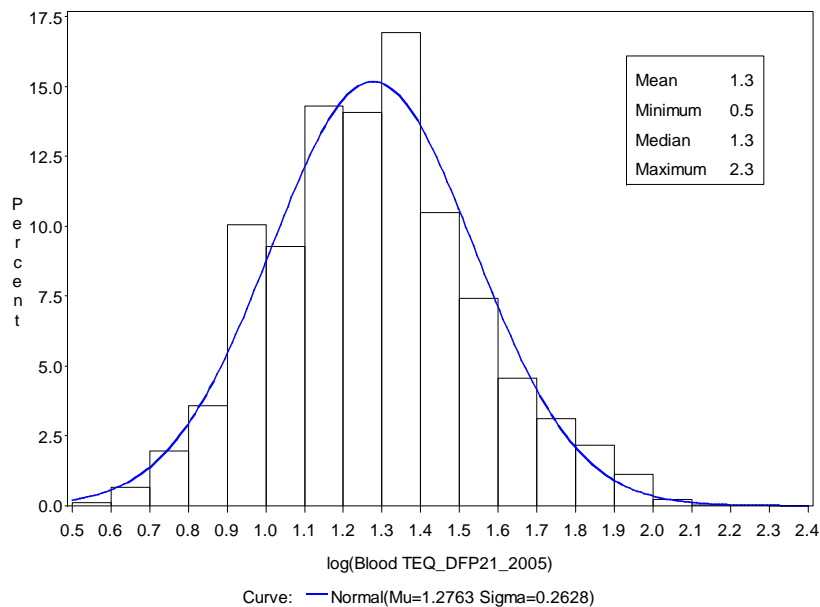
Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Overall Distribution of TEQ_DFP21_2005 (N=946)



Overall Distribution of log10(TEQ_DFP21_2005)(N=946)



SAS program: Get_table1_figure1.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by Age group and region

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Age Group	Zone	N	TEQ (ppt)						
			Mean	S.E.	Median	75th %ile	95th %ile	Min.	Max.
Age_18_29	Overall	55	7.8	0.4	8.2	8.9	11.0	4.0	17.3
	M/S FP	11	6.5	0.6	6.6	7.2	11.2	4.6	11.2
	M/S Near FP	12	8.8	1.1	7.9	10.7	17.3	4.1	17.3
	M/S Out FP	13	8.5	0.5	8.7	10.2	11.3	4.0	14.5
	M/S Plume	3	6.2	0.6	5.9	5.9	9.1	5.5	9.1
	Jackson/Calhoun	16	7.3	0.5	7.5	8.9	10.4	4.6	11.9
Age_30_44	Overall	200	14.0	0.6	13.2	17.7	20.5	4.8	58.7
	M/S FP	40	16.0	1.0	15.3	19.2	25.6	7.1	37.0
	M/S Near FP	41	18.8	3.0	15.5	21.3	58.7	5.7	58.7
	M/S Out FP	44	14.3	1.0	13.1	16.3	20.1	5.8	39.5
	M/S Plume	9	12.8	0.8	12.3	13.3	17.3	7.5	27.1
	Jackson/Calhoun	66	13.8	0.8	13.4	17.7	23.3	4.8	32.9
Age_45_59	Overall	378	22.2	1.0	20.1	24.8	48.5	3.2	67.4
	M/S FP	103	21.9	1.0	21.9	26.3	38.2	4.7	57.4
	M/S Near FP	86	22.0	1.2	21.2	24.7	37.9	8.9	65.5
	M/S Out FP	74	24.2	1.6	21.7	28.8	52.2	8.6	59.6
	M/S Plume	17	19.5	3.1	18.6	19.6	62.3	3.2	62.3
	Jackson/Calhoun	98	20.9	1.4	19.8	23.2	44.0	6.4	67.4
Age_60_more	Overall	313	37.6	1.8	33.0	46.4	83.9	9.6	207.4
	M/S FP	97	38.3	2.3	33.1	45.0	82.9	9.6	207.4
	M/S Near FP	58	38.1	2.7	37.7	42.9	73.9	11.9	144.3
	M/S Out FP	68	41.2	2.9	34.9	55.7	85.1	12.9	104.9
	M/S Plume	19	36.6	3.2	32.1	42.6	71.4	14.6	75.4
	Jackson/Calhoun	71	33.0	1.9	29.1	39.0	57.6	10.6	101.5

M/S: Midland/Saginaw

FP: Floodplain

SAS program: Get_table_TEQ_age.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

BLOOD DIOXIN CONCENTRATIONS: Test results for comparing weighted TEQ among regions

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood

Summary statistics for blood weighted TEQ concentration for region comparisons

Region	Mean of log ₁₀ TEQ	% > Jackson/Calhoun's 75 th percentile, which is 23.6 ppt	% > Jackson/Calhoun's 95 th percentile, which is 44 ppt
1-M/S FP (n=251)	1.3255	42.0%	9.1%
2-M/S Near FP (n=197)	1.3100	36.8%	9.1%
3-M/S Out FP (n=199)	1.3231	41.5%	14.5%
4-M/S Plume (n=48)	1.2310	23.1%	7.8%
5-Jackson/Calhoun (n=251)	1.2365	25.0%	5.1%

M/S: Midland / Saginaw; FP: Floodplain

Pair-wise comparisons for blood TEQ between regions (Each cell contains the p-value and effect direction)

This table shows the results of 1) t-tests (SAS PROC Surveyreg) for comparisons of the means of log₁₀TEQ between each combination of two regions; 2) Wald chi-square tests (SAS PROC Surveylogistic) for comparisons of the odds of subjects being above the 75th percentile TEQ for Jackson/Calhoun Counties between each combination of two regions; and 3) Wald chi-square tests (SAS PROC Surveylogistic) for comparisons of the odds of subjects being above the 95th percentile TEQ for Jackson/Calhoun Counties between each combination of two regions.

"+" after p-value: the row-region has higher mean or higher odds of being above the selected cut-point than the column-region.

"-" after p-value: the row-region has lower mean or lower odds of being above the selected cut-point than the column-region.

P-value	1-M/S FP	2-M/S Near FP			3-M/S Out FP			4-M/S Plume			5-Jackson/Calhoun		
		Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th	Mean of log ₁₀ TEQ	%>J/C's 75 th	%>J/C's 95 th
1-M/S FP													
Unadjusted		0.6296 +	0.4056 +	0.9884 -	0.9428 +	0.9370 +	0.1447 -	0.0481 +	0.0376 +	0.7849 +	0.0003 +	0.0005 +	0.0757 +
Adjusted		0.2901 -	0.6362 -	0.3948 -	0.6193 -	0.6262 -	0.1708 -	0.1409 +	0.1725 +	0.6713 -	0.0192 +	0.0233 +	0.2686 +
2-M/S Near FP													
Unadjusted					0.7177 -	0.4788 -	0.2204 -	0.1146 +	0.1402 +	0.7918 +	0.0111 +	0.0356 +	0.1336 +
Adjusted					0.4673 +	0.9312 +	0.7986 -	0.0482 +	0.1193 +	0.8990 +	0.0024 +	0.0248 +	0.1098 +
3-M/S Out FP													
Unadjusted								0.0692 +	0.0480 +	0.2809 +	0.0039 +	0.0019 +	0.0051 +
Adjusted								0.0838 +	0.0977 +	0.7584 +	0.0010 +	0.0047 +	0.0277 +
4-M/S Plume													
Unadjusted											0.9026 -	0.8121 -	0.4796 +
Adjusted											0.6316 -	0.9082 -	0.2901 +

Unadjusted: Region Only;

Adjusted: Region + Age + Age² + BMI;

J/C: Jackson/Calhoun

SAS program: Get_blood_region_compare.sas

Created by: BH;

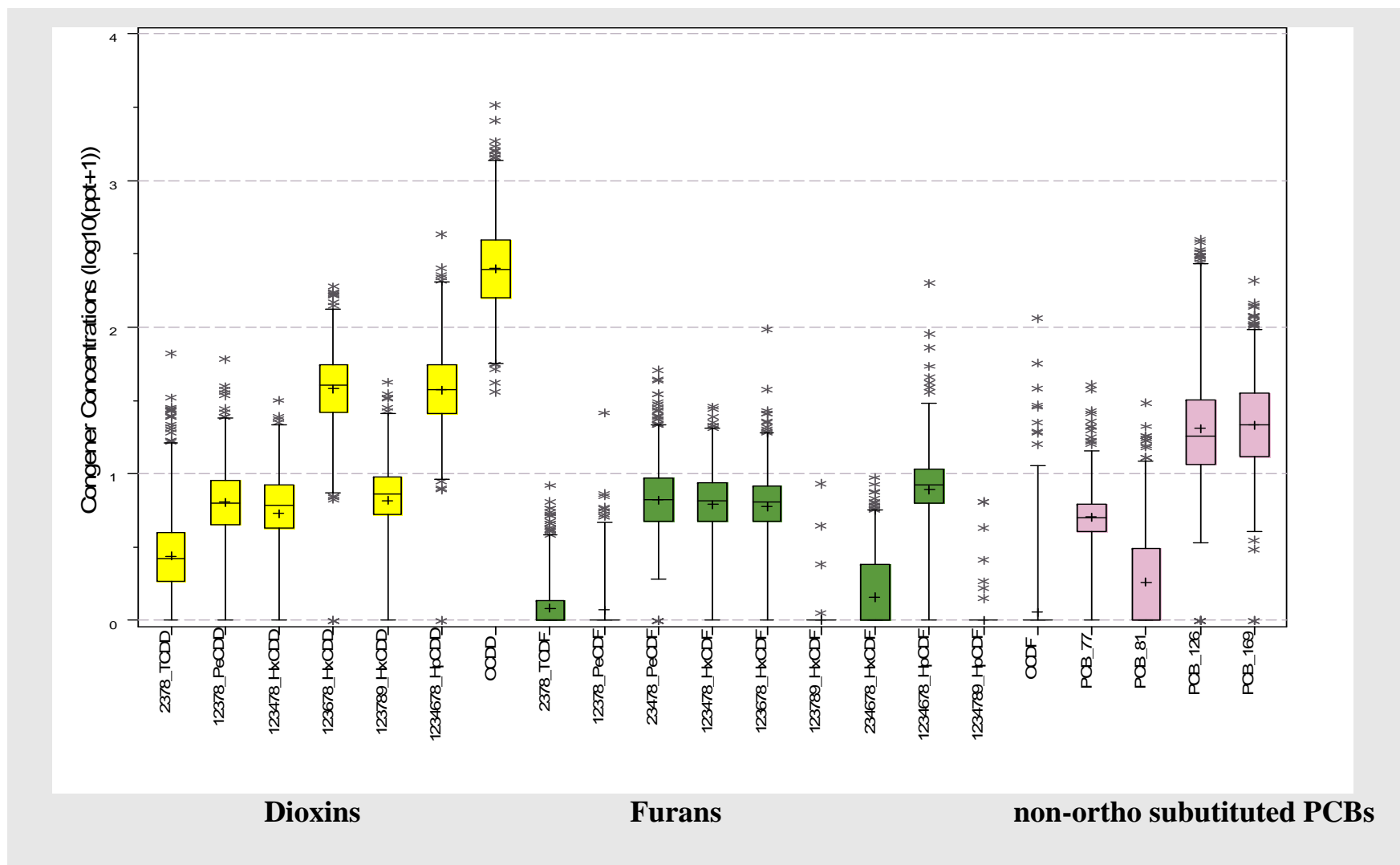
Last Update: XZ 06/16/2008

WEIGHTED BLOOD CONCENTRATIONS: Distribution of each dioxin, furan and non-ortho substituted PCB congener concentration, shown using box plots on the log₁₀ scale.

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Survey Sampling Weight: wt_final_blood



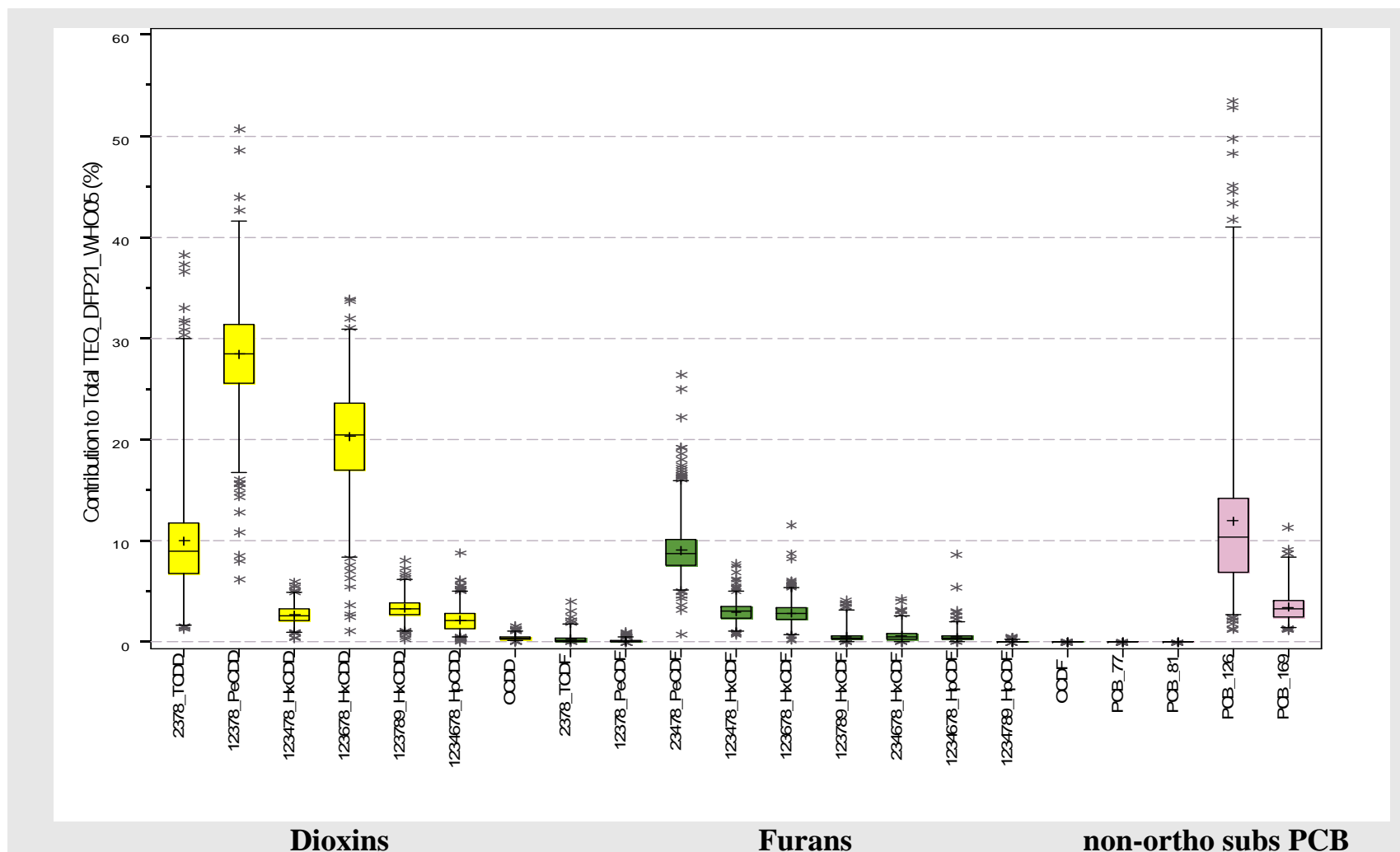
WEIGHTED BLOOD CONCENTRATIONS: Contribution of each congener to the total TEQ, shown using box plots

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood



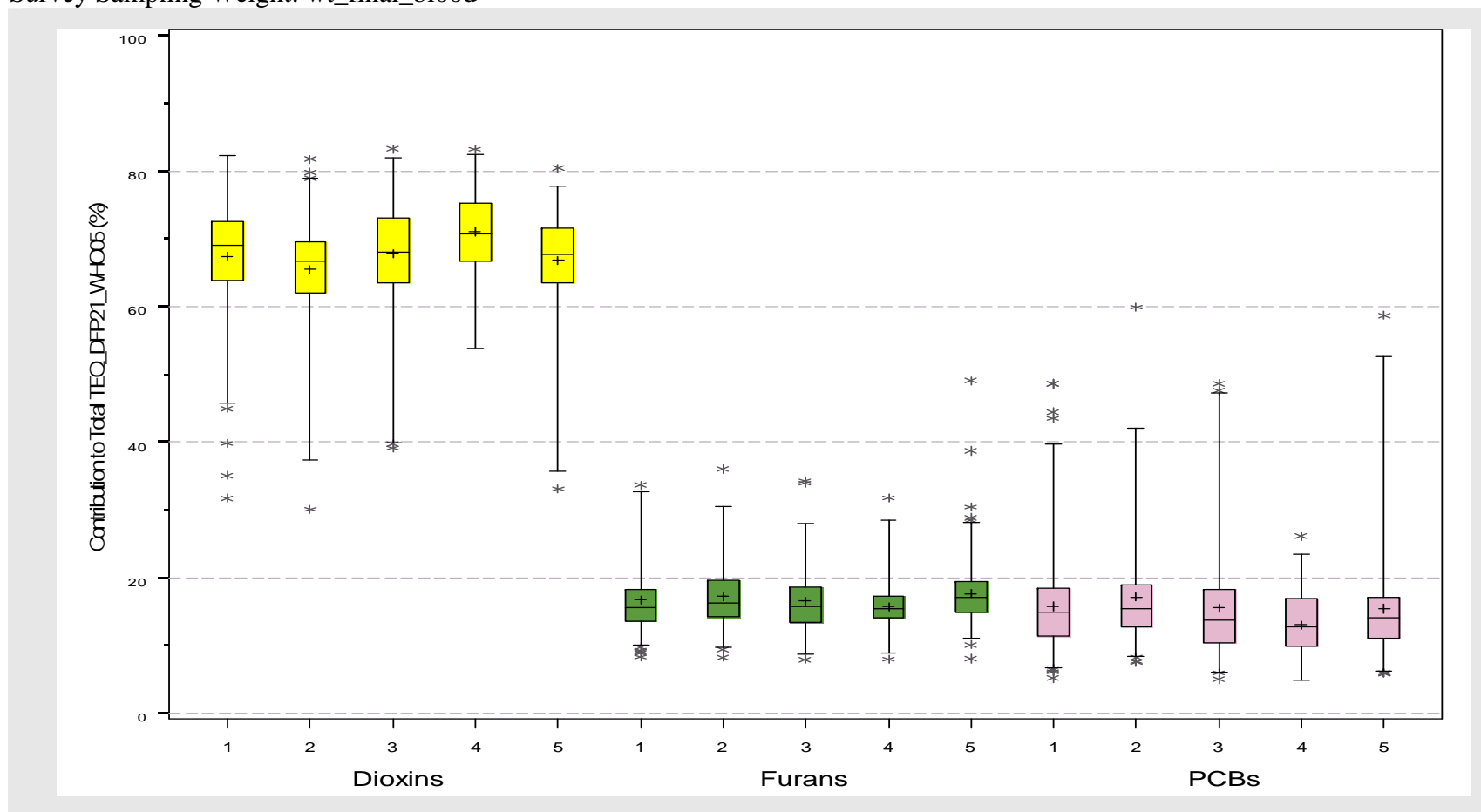
WEIGHTED BLOOD CONCENTRATIONS: Percent contribution to total TEQ for dioxins, furans and PCB, by region, shown using box plots

Number of Participants: 946

Sample Type: blood (lipid adjusted)

Notes: TEQ is the TEF-weighted average of the 21 dioxin congeners (dioxins, furans and non-ortho substituted PCBs) based on WHO 2005 TEFs

Survey Sampling Weight: wt_final_blood



Region* 1-Midland/Saginaw FP; 2-Midland/Saginaw Near FP; 3-Midland/Saginaw Out FP;
 4-Midland/Saginaw Plume; 5-Jackson/Calhoun

SAS program: Get_boxplot_Figure3_4_TEQ98_17.sas
 Created by: BH
 Last Update: XZ 07/07/2008