

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 1998 TEFs

Survey Sampling Weight: wt_final_blood

Zone	N	TEQ (ppt)						
		Mean	S.E.	Median	75th %ile	95th %ile	Min.	Max.
Overall	946	23.6	0.9	19.4	28.2	57.7	3.3	215
M/S FP	251	26.3	1.2	22.7	32.7	52	4.7	215
M/S Near FP	197	25.2	1.4	21.7	32.4	60.4	4.3	146.9
M/S Out FP	199	26.6	1.7	21.1	32.4	61.1	4.2	108.9
M/S Plume	48	21.2	2.2	16.8	20.7	61.3	3.3	76.7
Jackson/Calhoun	251	21	0.8	18.2	24.5	45.9	4.8	104.5

M/S: Midland/Saginaw

FP: Floodplain

SAS program: Get_table1_figure1.sas

Created by: BH & XJ

Last Update: XZ 06/05/2008

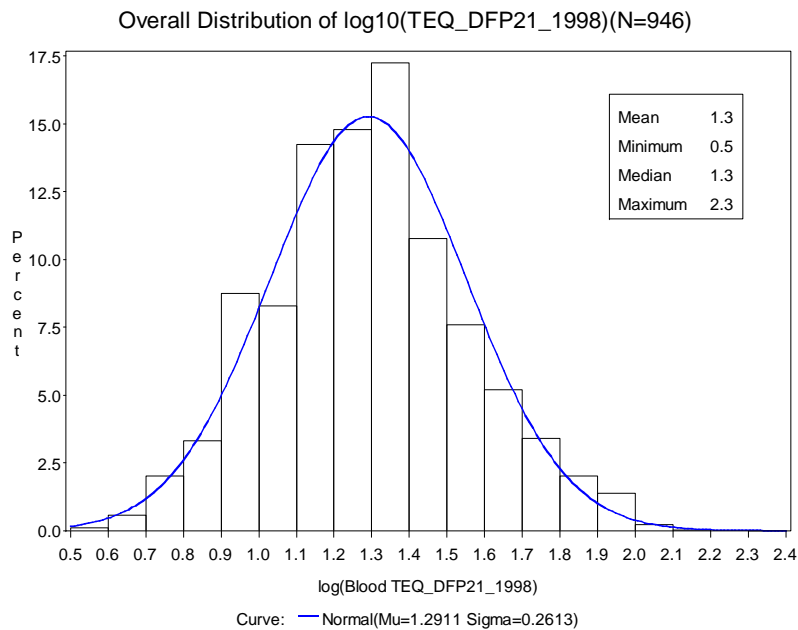
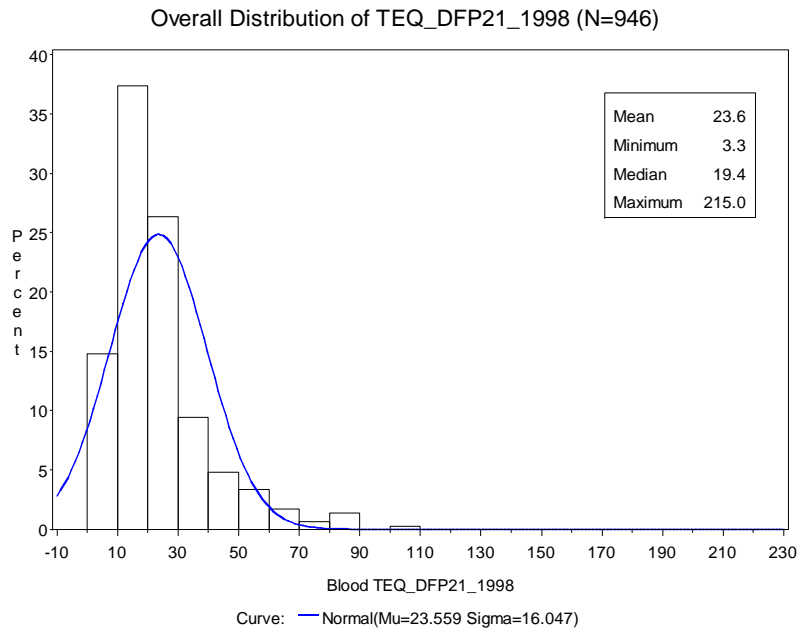
BLOOD DIOXIN CONCENTRATIONS: Weighted TEQ by region

Number of Participants: 946

Sample Type: blood (lipid adjusted)

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Survey Sampling Weight: wt_final_blood



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 1998 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	8.1	0.4	8.4	9.4	11.7	4.2	18.7
	M/S FP	11	6.7	0.6	6.9	7.3	11.6	4.7	11.6
	M/S Near FP	12	9.3	1.2	8.1	11.0	18.7	4.3	18.7
	M/S Out FP	13	8.9	0.6	9.0	10.5	11.8	4.2	15.1
	M/S Plume	3	6.4	0.7	6.2	6.2	9.5	5.7	9.5
	Jackson/Calhoun	16	7.6	0.5	7.9	9.2	10.8	4.8	12.8
Age_30_44	Overall	200	14.6	0.6	13.7	18.2	21.9	5.0	58.5
	M/S FP	40	16.7	1.1	15.8	21.0	26.6	7.4	38.9
	M/S Near FP	41	19.5	3.0	16.5	22.4	58.5	5.9	58.5
	M/S Out FP	44	14.9	1.1	13.4	16.8	21.1	5.9	40.8
	M/S Plume	9	13.2	0.8	12.8	13.7	17.6	7.7	28.0
	Jackson/Calhoun	66	14.4	0.8	13.7	18.2	24.3	5.0	34.1
Age_45_59	Overall	378	22.9	1.0	20.7	26.1	49.7	3.3	69.6
	M/S FP	103	22.8	1.0	22.5	27.1	40.1	4.8	58.1
	M/S Near FP	86	22.8	1.2	21.7	25.4	40.0	9.2	67.3
	M/S Out FP	74	24.9	1.6	22.1	30.7	53.8	9.0	61.1
	M/S Plume	17	20.1	3.2	19.1	20.2	63.5	3.3	63.5
	Jackson/Calhoun	98	21.7	1.5	20.2	23.7	45.9	6.5	69.6
Age_60_more	Overall	313	38.7	1.9	33.7	47.6	85.2	9.6	215.0
	M/S FP	97	39.6	2.3	34.2	46.2	84.5	9.6	215.0
	M/S Near FP	58	39.2	2.8	38.8	43.8	78.1	12.1	146.9
	M/S Out FP	68	42.4	3.0	36.0	57.7	86.3	13.0	108.9
	M/S Plume	19	37.6	3.3	33.1	43.7	73.2	14.9	76.7
	Jackson/Calhoun	71	33.9	1.9	29.8	40.5	57.5	10.9	104.5

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 1998 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 24.5 ppt	% > Jackson/Calhoun's 95 th percentile, which is 45.9 ppt
1-M/S FP (n=251)	1.3412	44.2%	8.8%
2-M/S Near FP (n=197)	1.3255	36.8%	8.8%
3-M/S Out FP (n=199)	1.3375	40.6%	14.5%
4-M/S Plume (n=48)	1.2449	23.1%	6.1%
5-Jackson/Calhoun (n=251)	1.2518	25.1%	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		0.6256 +	0.2392 +	0.9972 +	0.9118 +	0.5286 +	0.1229 -	0.0429 +	0.0218 +	0.5598 +	0.0003 +	0.0001 +	0.0946 +
Adjusted		0.3041 -	0.9914 -	0.4145 -	0.6930 -	0.7533 +	0.1398 -	0.1245 +	0.0925 +	0.9890 -	0.0170 +	0.0075 +	0.3068 +
2-M/S Near FP													
Unadjusted					0.7378 -	0.5551 -	0.1930 -	0.1051 +	0.1401 +	0.5826 +	0.0106 +	0.0381 +	0.1663 +
Adjusted					0.4370 +	0.7781 +	0.7180 -	0.0426 +	0.1146 +	0.6664 +	0.0022 +	0.0253 +	0.1331 +
3-M/S Out FP													
Unadjusted								0.0651 +	0.0561 +	0.1785 +	0.0038 +	0.0026 +	0.0051 +
Adjusted								0.0792 +	0.1366 +	0.5021 +	0.0011 +	0.0199 +	0.0273 +
4-M/S Plume													
Unadjusted											0.8784 -	0.8033 -	0.7927 +
Adjusted											0.6066 -	0.8842 -	0.5684 +

Unadjusted: Region Only;

Adjusted: Region + Age + Age² + BMI;

J/C: Jackson/Calhoun

SAS program: Get_blood_region_compare.sas

Created by: BH & WC

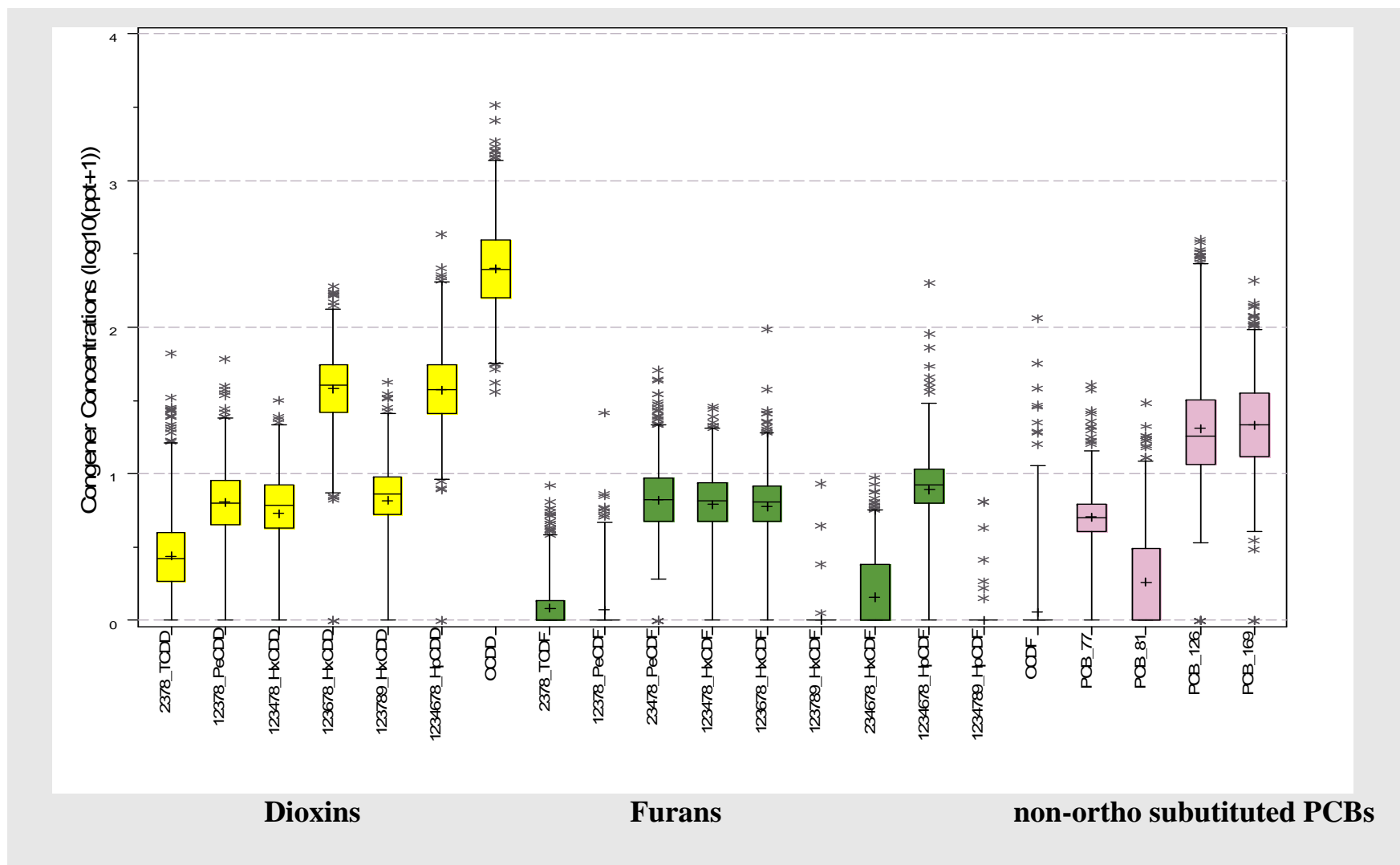
Last Update: XZ 06/16/2008

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



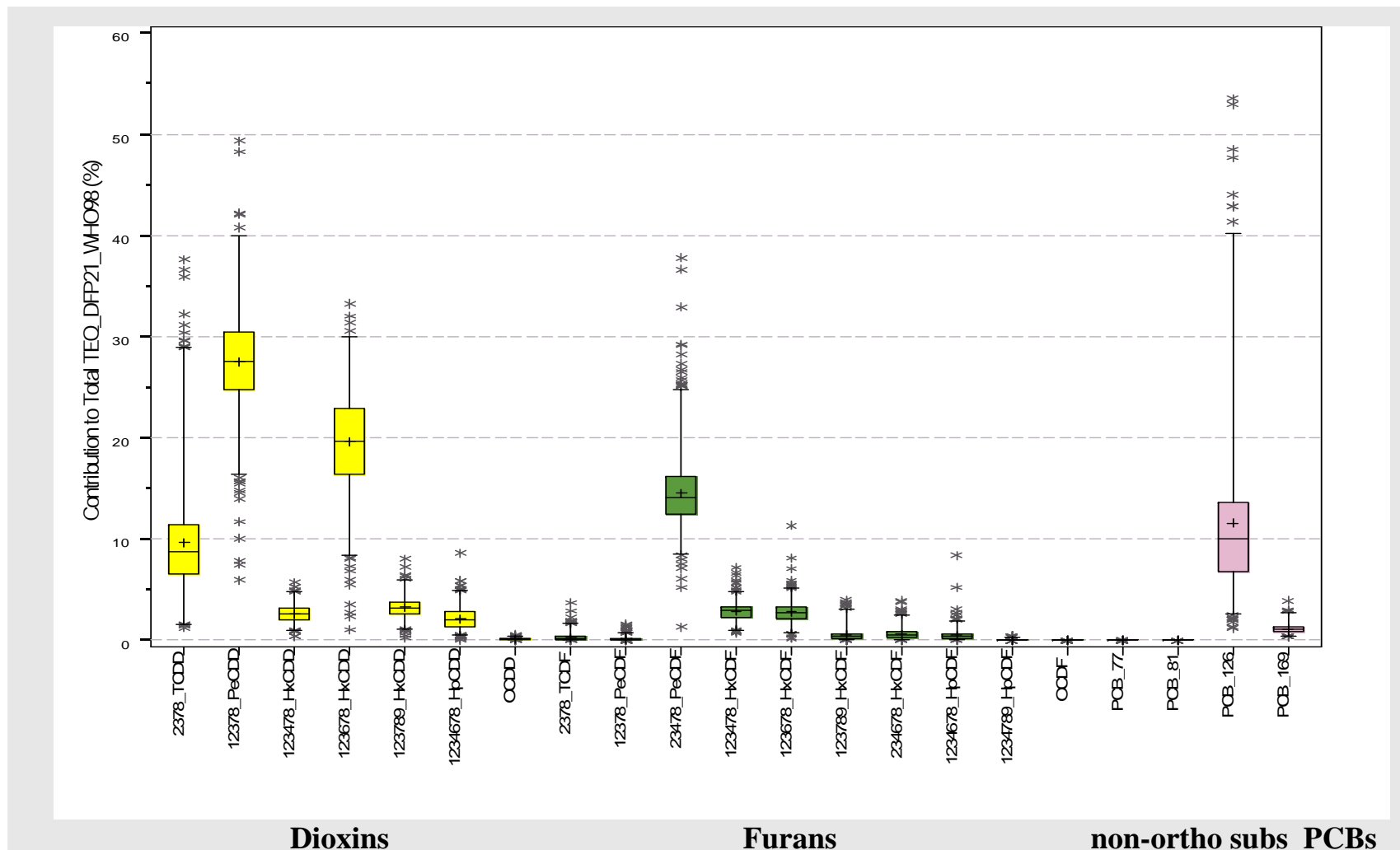
WEIGHTED BLOOD CONCENTRATIONS: Contribution of each congener to the total TEQ, shown using box plots

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 1998 TEFs

Survey Sampling Weight: wt_final_blood



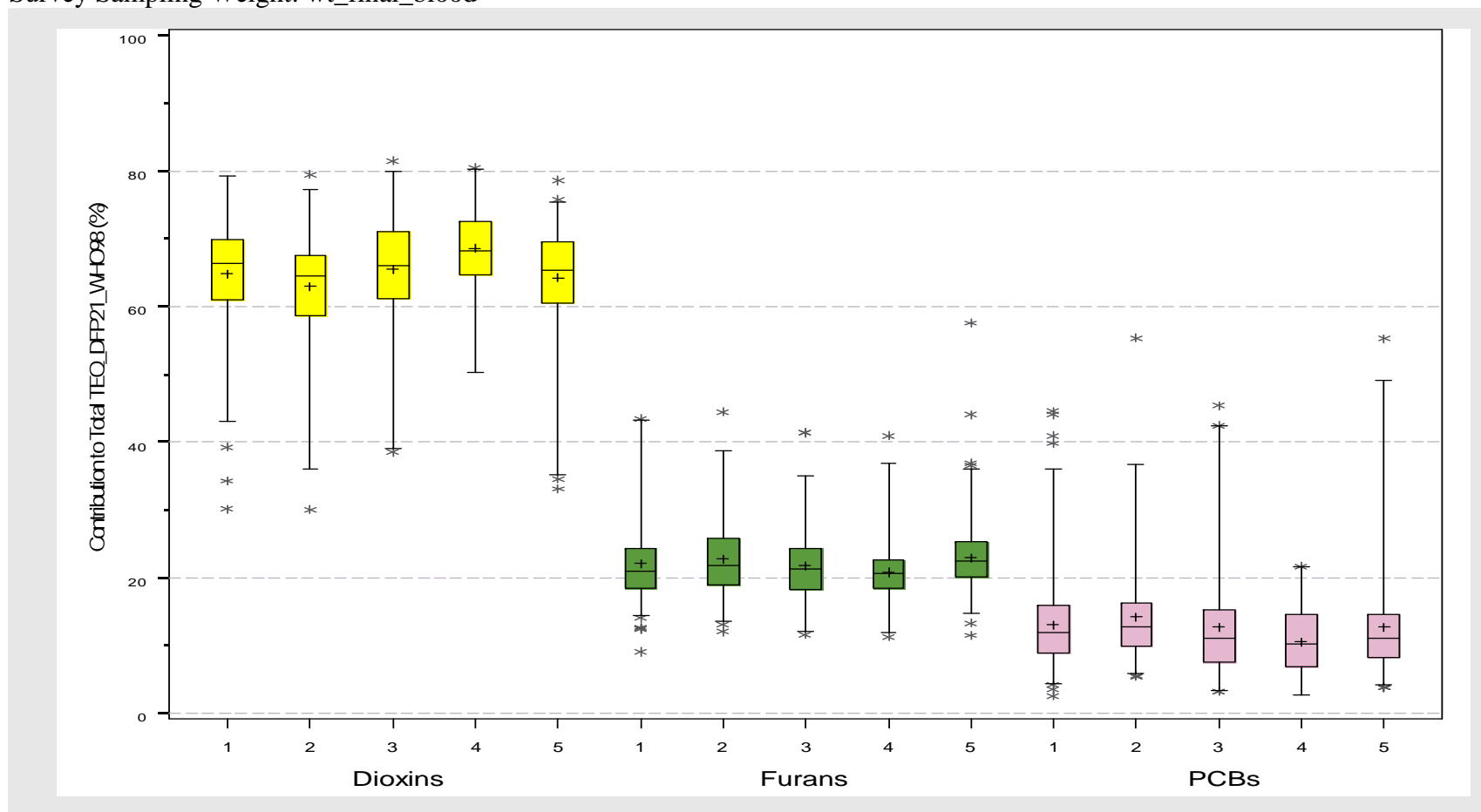
WEIGHTED BLOOD CONCENTRATIONS: Percent contribution to total TEQ for dioxins and furans, by region, shown using box plots

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 1998 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_21.sas

Created by: BH

Last Update: XZ 07/07/2008