

2008 Floodplain Wetlands Soil Samples

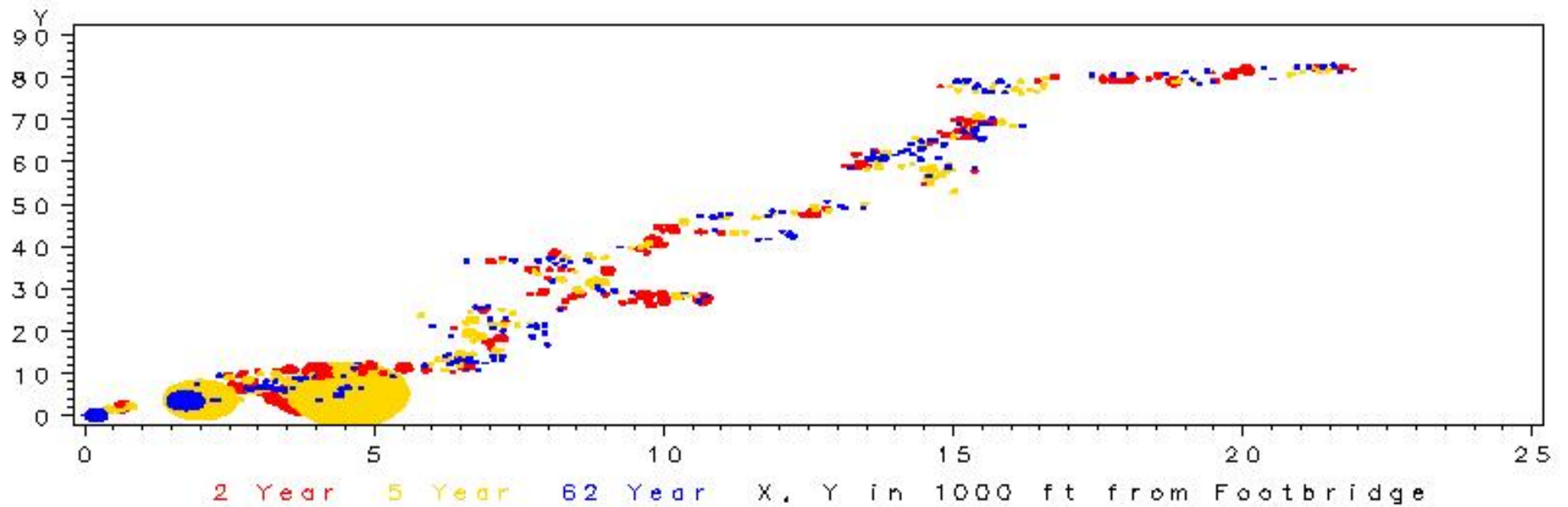
Analysis of THg

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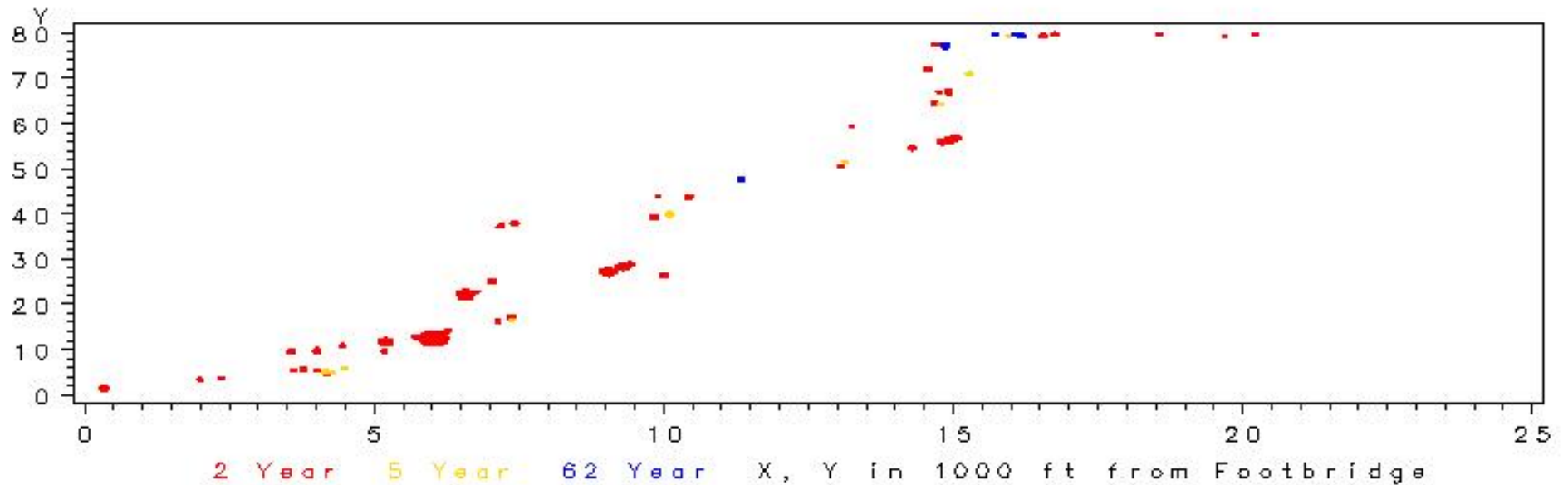
DuPont Applied Statistics Group

THg Distribution: Floodplains



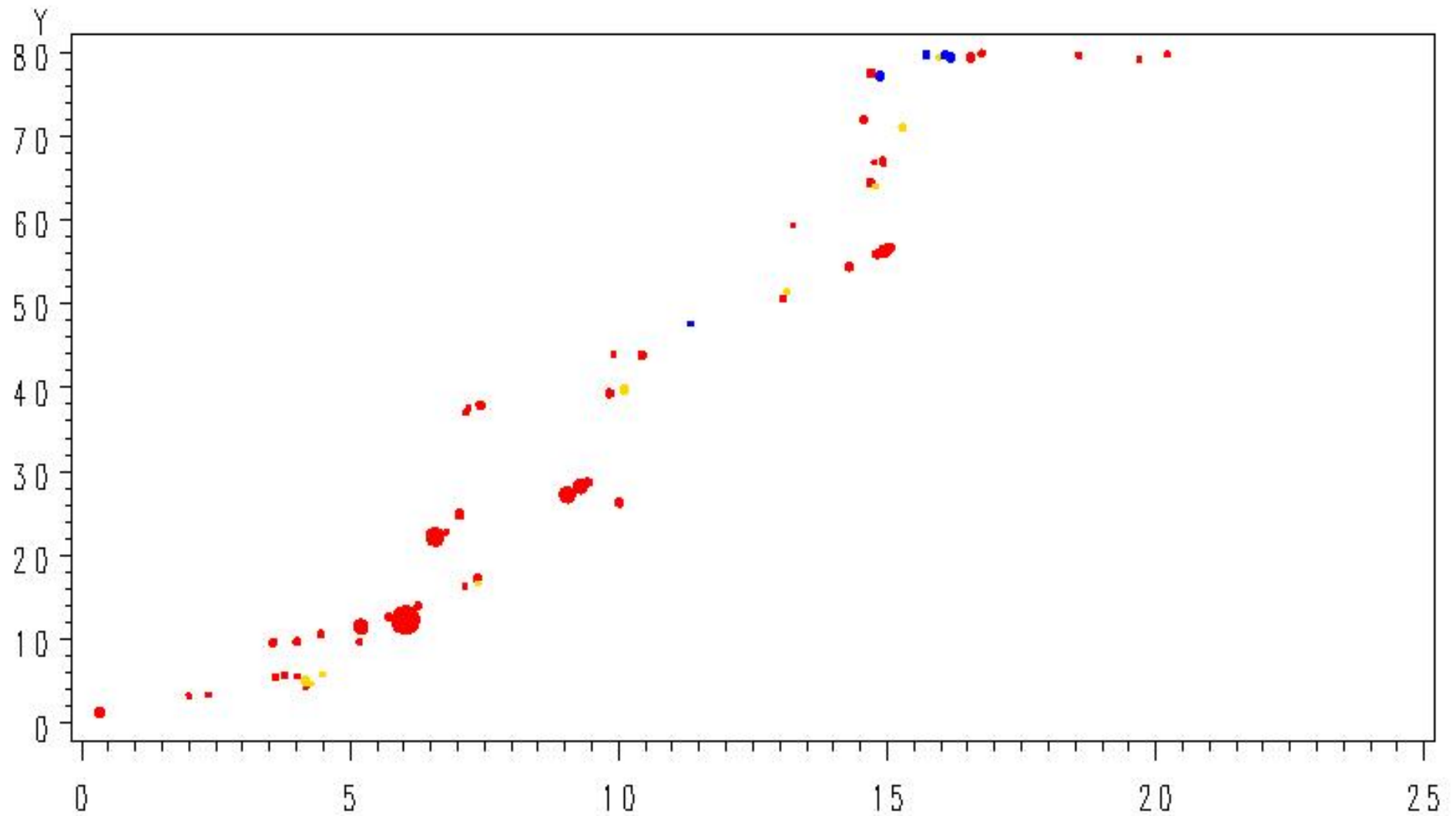
THg Distribution: Floodplains

Wetlands Surface Samples



THg Distribution: Floodplains

Wetlands Surface Samples



2 Year 5 Year 62 Year X, Y in 1000 ft from Footbridge

THg: Wetlands Surface Samples

Reach	FP	MdTHg	LCB	UCB	MaxHg	MinHg	N
1	2 Yr	2.77	1.18	6.52	14.60	0.56	7
1	5 Yr	1.44	0.39	5.34	10.10	1.29	3
2	2 Yr	6.51	2.57	16.48	66.90	0.27	10
3	2 Yr	10.20	5.13	20.29	38.80	2.03	9
3	5 Yr	0.27	.	.	0.27	0.27	1
4	2 Yr	6.13	3.32	11.33	9.56	1.38	7
4	5 Yr	2.06	0.06	76.26	13.00	0.33	2
4	62 Yr	1.05	.	.	1.05	1.05	1
5	2 Yr	9.23	2.07	41.07	22.20	0.01	9
5	5 Yr	0.56	.	.	0.56	0.56	1
6	2 Yr	6.14	3.30	11.43	12.30	1.36	7
6	5 Yr	1.98	0.13	29.83	7.90	0.50	2
6	62 Yr	8.57	5.41	13.57	10.80	3.01	5

THg: Wetlands Surface Samples

Label	RATIO	LCBRAT	UCBRAT	SIGNIF
FP2, REACH 2/1	4.296	1.333	13.84	**
FP2, REACH 3/1	3.592	1.108	11.65	**
FP2, REACH 4/1	2.950	0.848	10.26	*
FP2, REACH 5/1	2.347	0.718	7.67	
FP2, REACH 6/1	2.013	0.595	6.80	
FP2, REACH 3/2	0.836	0.273	2.55	
FP2, REACH 4/2	0.686	0.220	2.14	
FP2, REACH 5/2	0.546	0.174	1.71	
FP2, REACH 6/2	0.468	0.145	1.51	
FP2, REACH 4/3	0.821	0.239	2.81	
FP2, REACH 5/3	0.653	0.200	2.13	
FP2, REACH 6/3	0.560	0.174	1.81	
FP2, REACH 5/4	0.795	0.240	2.63	
FP2, REACH 6/4	0.682	0.195	2.38	
FP2, REACH 6/5	0.857	0.262	2.81	

THg: Wetlands Surface Samples

Label		RATIO	LCBRAT	UCBRAT	SIG
FP5, REACH	3/1	0.322	0.020	5.05	
FP5, REACH	4/1	0.940	0.116	7.60	
FP5, REACH	5/1	0.081	0.005	1.23	*
FP5, REACH	6/1	0.694	0.083	5.82	
FP5, REACH	4/3	2.916	0.165	51.36	
FP5, REACH	5/3	0.252	0.008	7.48	
FP5, REACH	6/3	2.153	0.103	44.89	
FP5, REACH	5/4	0.086	0.004	1.58	
FP5, REACH	6/4	0.738	0.069	7.83	
FP5, REACH	6/5	8.541	0.465	156.76	
FP62, REACH	6/4	4.035	0.282	57.66	

THg: Wetlands Surface Samples

Label	RATIO	LCBR	UCBR	SIG
REACH1, FP 5/2	1.638	0.319	8.40	
REACH4, FP 5/2	0.522	0.075	3.60	
REACH4, FP62/2	0.452	0.033	6.14	
REACH4, FP62/5	0.865	0.050	14.91	
REACH6, FP 5/2	0.565	0.090	3.53	
REACH6, FP62/2	2.674	0.676	10.58	
REACH6, FP62/5	4.727	0.688	32.48	
REACH3, FP 5/2	0.147	0.010	2.04	
REACH5, FP 5/2	0.056	0.004	0.74	**

THg: Wetlands Composite Samples

Reach	FP	MDTHG	LCB	UCB	MAXTHG	MINTHG	N
1	2 Yr	10.60	2.90	38.80	66.40	0.75	7
1	5 Yr	0.56	0.12	2.74	2.68	0.17	3
2	2 Yr	0.66	0.24	1.82	7.20	0.07	9
3	2 Yr	1.75	0.65	4.74	16.40	0.23	9
3	5 Yr	0.05	.	.	0.05	0.05	1
4	2 Yr	2.50	0.62	10.04	11.20	0.05	7
4	5 Yr	0.27	0.02	3.82	1.04	0.07	2
4	62 Yr	0.86	.	.	0.86	0.86	1
5	2 Yr	8.34	1.42	48.97	44.40	0.02	8
5	5 Yr	0.45	.	.	0.45	0.45	1
6	2 Yr	2.52	0.97	6.59	9.00	0.72	6
6	5 Yr	0.01	.	.	0.01	0.01	1
6	62 Yr	4.73	1.48	15.10	14.70	0.44	5

THg Wetlands Composite Samples

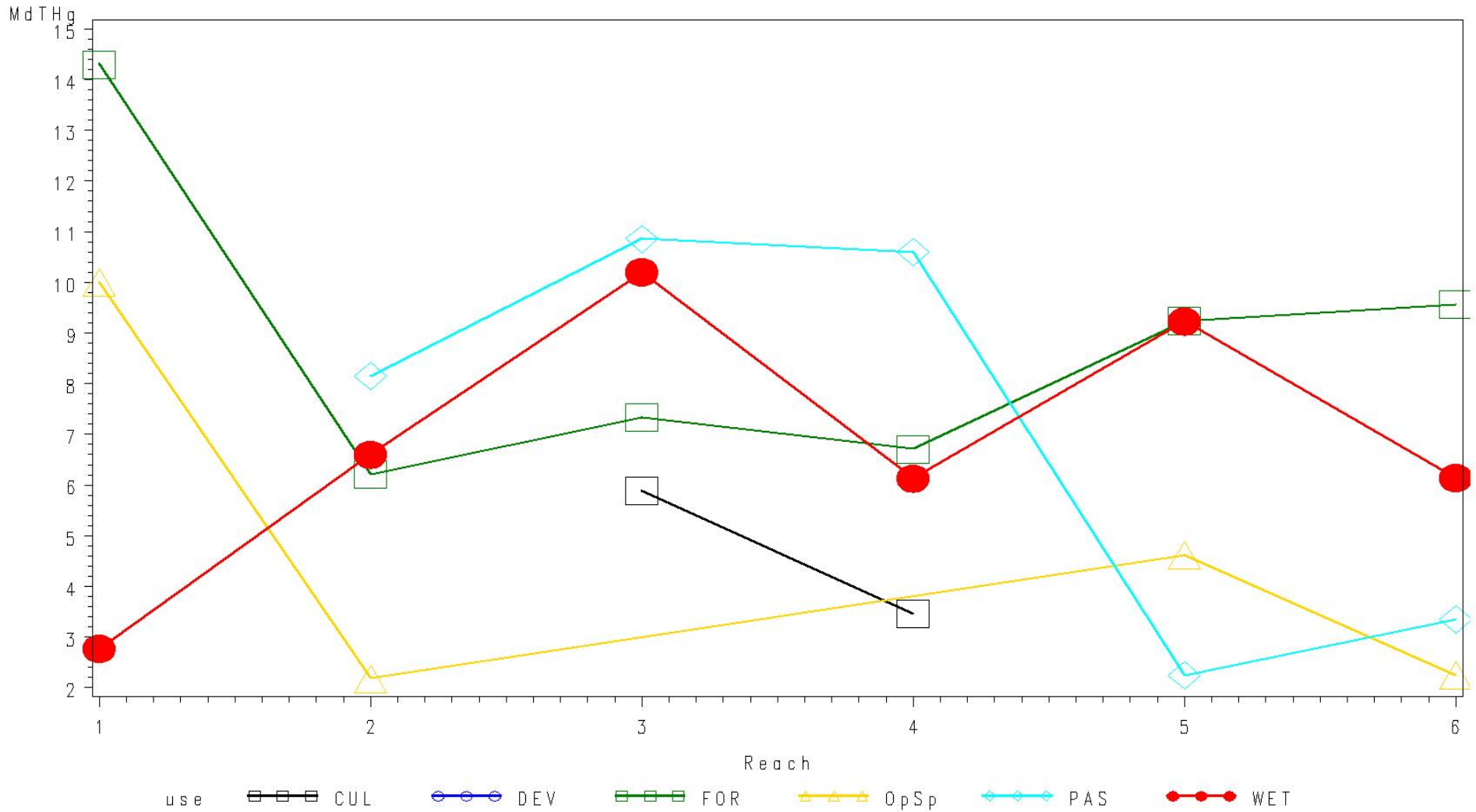
label			RATIO	LCBRA	UCBRAT	SIGNIF
FP2	Reach	2/1	0.10167	0.01630	0.6340	**
FP2	Reach	3/2	2.21467	0.30550	16.0549	
FP2	Reach	4/3	0.67170	0.10979	4.1094	
FP2	Reach	5/4	2.35769	0.37786	14.7109	
FP2	Reach	6/5	0.89959	0.13530	5.9811	
FP2	Reach	3/1	0.22593	0.03710	1.3760	
FP2	Reach	4/1	0.15175	0.02320	0.9925	*
FP2	Reach	5/1	0.35779	0.05853	2.1873	
FP2	Reach	6/1	0.32187	0.04579	2.2626	
FP2	Reach	4/2	1.49263	0.24502	9.0928	
FP2	Reach	5/2	3.51915	0.58504	21.1685	
FP2	Reach	6/2	3.16580	0.47404	21.1423	
FP2	Reach	5/3	1.58366	0.27308	9.1841	
FP2	Reach	6/3	1.42465	0.22073	9.1952	
FP2	Reach	6/4	2.12096	0.29635	15.1798	
FP2	Reach	6/5	0.89959	0.13530	5.9811	

THg Wetlands Composite Samples

label	RATIO	LCBRA	UCBRAT	SIGNIF
FP5 Reach 4/3	0.39319	0.30461	0.5075	*
FP5 Reach 5/4	0.66990	0.51260	0.8755	
FP5 Reach 6/5	0.01017	0.00798	0.0130	**
FP5 Reach 3/1	3.78989	2.71714	5.2862	*
FP5 Reach 4/1	1.49016	1.17560	1.8889	
FP5 Reach 5/1	0.99826	0.82584	1.2067	
FP5 Reach 6/1	0.01016	0.00834	0.0124	**
FP5 Reach 5/3	0.26340	0.18631	0.3724	*
FP5 Reach 6/3	0.00268	0.00179	0.0040	**
FP5 Reach 6/4	0.00681	0.00502	0.0092	**
FP5 Reach 6/5	0.01017	0.00798	0.0130	**
FP62 Reach 6/4	3.18976	0.14273	71.2870	

Total Hg by Use and Reach

FP=2Y



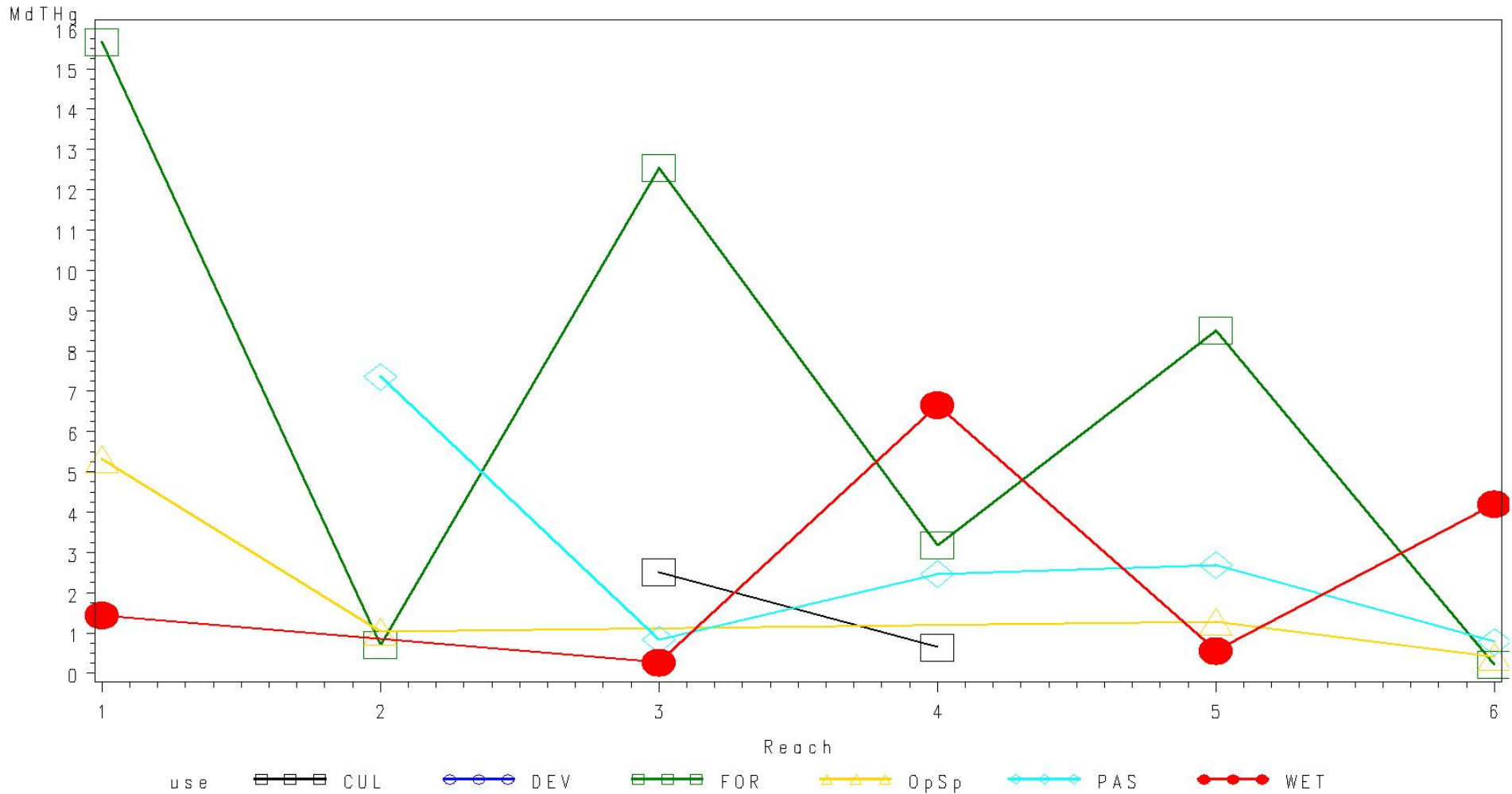
THG in Open spaces and forest exceeds wetlands in reach 1.

THg in pastures exceeds wetlands in reaches 2-4.

THG in forest areas equals or exceeds wetlands in reaches 4-6

Total Hg by Use and Reach

FP=5Y



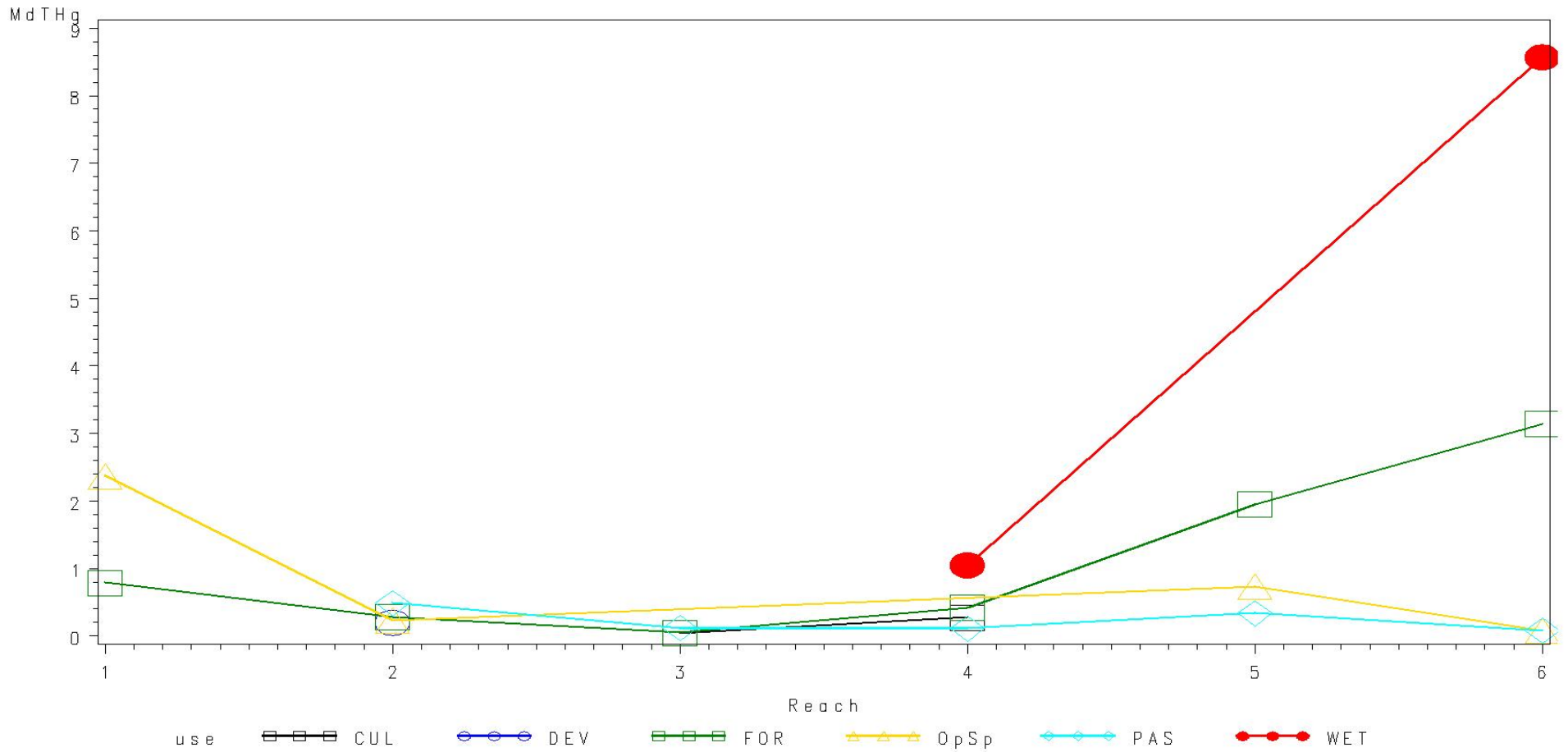
THg in forests exceeds wetlands in reaches 1,3, 5

No wetlands in reach 2

THg in wetlands exceeds all others in reaches 4, 6

Total Hg by Use and Reach

FP=62Y



Wetlands found only in reaches 4 and 6.

THG there exceeds all other uses

Conclusions for Wetlands

- **Floodplain significant (where data exists)**
 - Composite samples in reaches 1, 6
 - R2 only 2-Yr FP sampled
 - Surface samples in reach 1, 3
 - THg in 2-yr FP highest for both types of sample
 - Except reach 4 surface
 - Wetlands not especially important for THg
- **THg levels moderate to low**
 - 5/60 surface samples with THg>23 ppm
 - 4/60 composite samples with THg>23 ppm
- **No decreasing trend in THg levels down river**
- **Limited data**
 - 60 observations in each of surface and composite
 - Wetlands occupy minor parts of 2-, 5-, and 62-year floodplains; not all FPs present in some reaches

Conclusions for Wetlands

- **% moisture in sample significant**
 - % moisture pos correlated w/ THg
 - Exception R 2 composite (not significant)
 - Composite significant only in R 4
 - Not significant in surface samples
- **Silt% significant**
 - Composite: signif in reaches 1, 2, 5, 6
 - Increased silt associated with increased THg
 - Exception reach 2
 - Surface: not signif
 - Coeff w/ mixed signs

Conclusions for Wetlands

- **Elevation significant**
 - **Surface: signif in reaches 1, 4, 5**
 - **Pos coeff in R 1, 3; neg in R 2, 4-6**
 - **Composite: not significant**
 - **Coef w/ mixed signs**
- **LOI significant**
 - **Surface: signif in R 1, 2, 4, 6 w/ all pos coef**
 - **Composite: signif in R 1, 5 w/ all pos coef (except R2)**