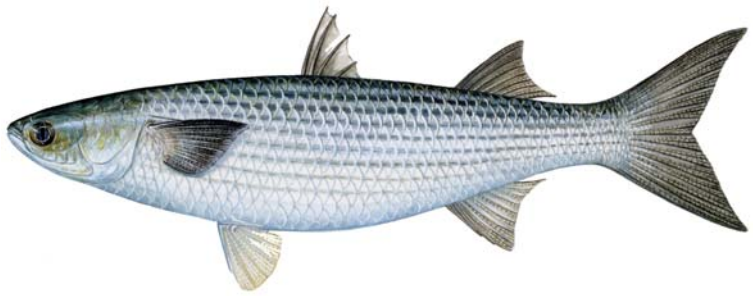
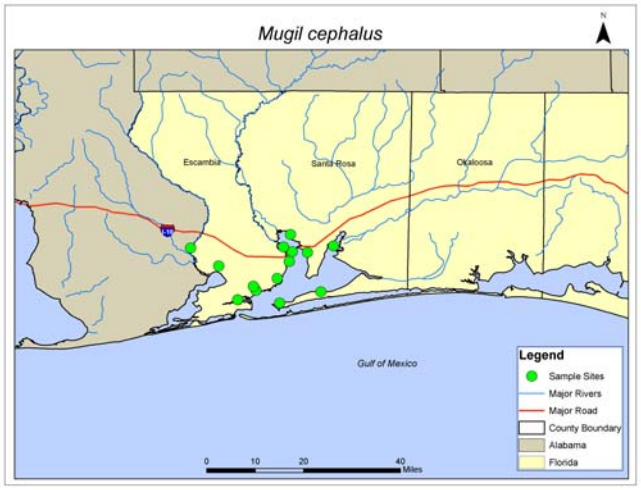


Striped Mullet
Mugil cephalus

Sample Locations



Areas with High PCB content

Lower Escambia River
Escambia River Delta
Upper and West Escambia Bay
Bayou Chico

Samples of skin-on fillets had twice the PCB load of skinless fillets.

Areas with low PCB content

Indian/Trout Bayous, East Escambia Bay
East Bay, Blackwater Bay
Pensacola Bay
Santa Rosa Sound
Bayous Hoffman,Woodlawn
Bayous Texar
Perdido Bay, Perdido River

Eighteen locations were targeted over the region providing 56 samples containing 170 fish. All samples were composites of 2 to 4 fish with at least three composites per location in nearly all cases, except four fish from the I-10 demolition blast on the Escambia Bay Bridge that were analyzed individually.

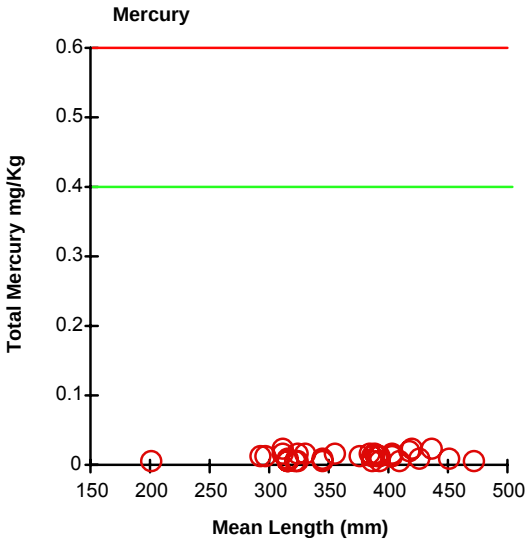
Mercury content was very low in all mullet tested.

Mullet contained the highest PCB and Dioxins/Furans concentrations of any fish sampled during this study, especially those fish collected from known PCB contaminated areas. Thirty of 56 samples exceeded the US EPA screening value for total PCBs, and 45 out of 56 samples exceeded the US EPA combined PCB and Dioxins/Furans TEQ screening value. Thirty-two samples exceeded the TEQ value for Dioxins/Furans alone, and 29 samples exceeded the TEQ threshold for PCBs alone.

Samples of skin-on fillets had twice the PCB load of skinless fillets, but the toxicity (TEQ) was higher for the skinless fillet.

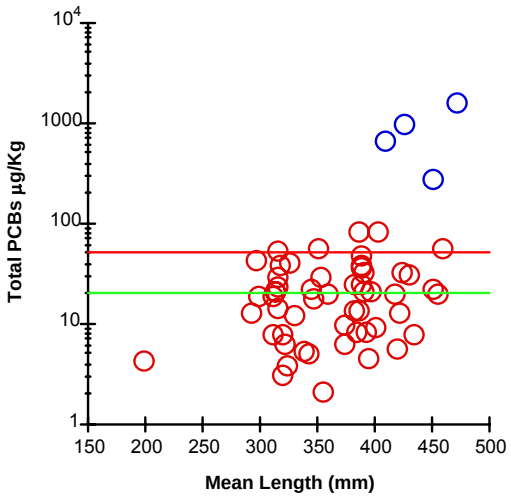
Locations with samples below the US EPA recreational consumption screening value for total PCBs and the combined PCB and Dioxins/Furans TEQ screening value were:
Yellow River, 2 of 3 samples
Bayou Texar, 1 of 3 samples
East Bay, 3 of 3 samples

Mercury Content

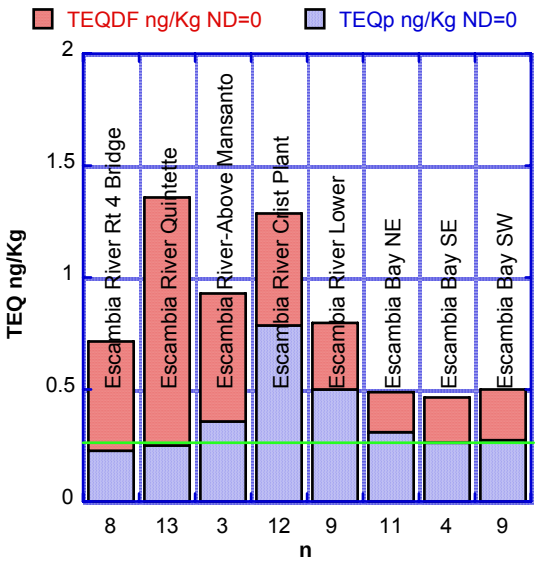


Red line: State of Florida action limit at 0.6 mg/kg. Green line: US EPA recreational consumption action limit at 0.4 mg/kg

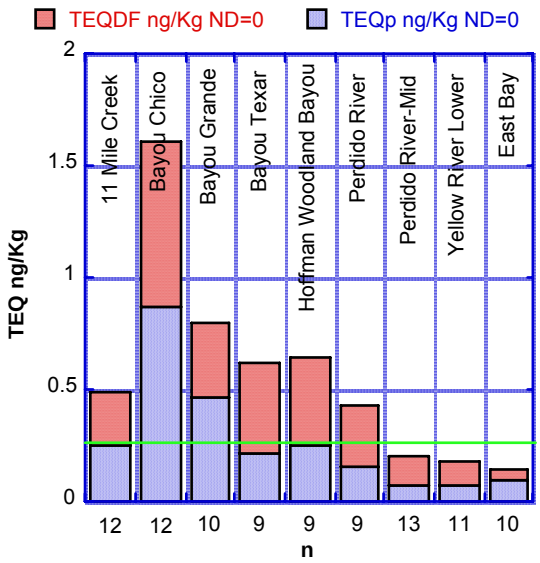
PCB content



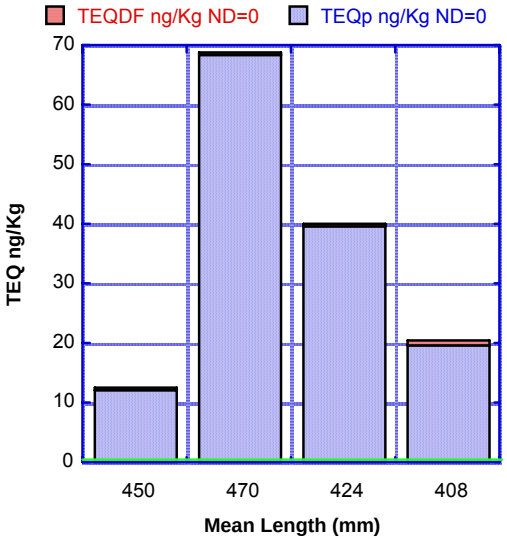
State of Florida limit 50 µg/kg (red line). US EPA recreational limit 20 µg/kg (green line). Note log scale on y-axis. Blue symbols I-10 Bridge, Esc. Bay



Toxicity of Dioxins Furans (TEQ_{DF}) and PCBs (TEQ_P) in Mullet within Escambia Bay except for I-10 bridge collections. The green line is the US EPA recreational consumption action limit at 0.256 ng/kg. State of Florida does not have an official action limit established for TEQ values.



TEQ_{DF} and TEQ_P in Mullet in NW Florida waters except Escambia Bay. The green line is the US EPA recreational consumption action limit at 0.256 ng/kg. State of Florida does not have an official action limit established for TEQ values.



TEQ_{DF} and TEQ_{P} in Mullet from the I-10 bridge in Esc. Bay. US EPA recreational consumption limit 0.256 ng/kg (green line). State of Florida does not have an official action limit established for TEQ values.

Location	n	Mean Length (mm)	Mean Weight (g)	Sex	Mean Age	% Lipids	TEQ_{DF} ng/kg ND=0	TEQ_{P} ng/kg ND=0	TEQ_{DFP} ng/kg ND=0	ΣPCBs ug/kg	Hg mg/kg	LAT	LONG
11 Mile Creek	4	314	351.8		2.1	2.10	**0.3270**	**0.2712**	**0.5982**	**21.188**		30.456	-87.377
11 Mile Creek	4	329	415.3		2.5	2.10	**0.3490**	**0.2913**	**0.6403**	12.400	0.018	30.456	-87.377
11 Mile Creek	4	382	623.3		3.0	1.50	0.1480	0.1717	**0.3197**	14.027	0.018	30.456	-87.377
Bayou Chico	4	312	311.5		1.5		0.3420	**0.5009**	**0.8429**	**21.269**		30.404	-87.255
Bayou Chico	4	314	332.5		1.7	0.40	**1.2398**	**0.9612**	**2.2010**	**29.392**	0.008	30.404	-87.255
Bayou Chico	4	326	328.8		2.4	1.10	**0.6560**	**1.1278**	**1.7838**	**40.800**		30.404	-87.255
Bayou Grande	4	314	370.8		2.2	0.30	**0.5299**	**0.3020**	**0.8319**	14.500	0.0083	30.372	-87.297
Bayou Grande	3	344	323.3		2.3	0.90	**0.3600**	**0.5792**	**0.9392**	**22.103**	0.008	30.372	-87.297
Bayou Grande	3	358	431.0		2.5	0.50	0.1230	**0.5139**	**0.6369**	**20.351**		30.372	-87.297
Bayou Texar	3	373	496.0		1.8	1.00	0.0110	0.0219	0.0329	9.859		30.439	-87.188
Bayou Texar	3	385	563.7		2.0	0.50	0.0840	0.2389	**0.3229**	14.113	0.010	30.439	-87.188
Bayou Texar	3	390	493.3		1.7	1.30	**1.1360**	**0.3630**	**1.4990**	**21.500**	0.0096	30.439	-87.188
East Bay	4	419	617.5		3.1	1.10	0.0000	0.2119	0.2119	5.800	0.026	30.450	-86.980
East Bay	3	422	633.3		3.2	2.80	0.0350	0.0564	0.0914	13.100		30.450	-86.980
East Bay	3	434	693.3		3.5	0.60	0.0980	0.0203	0.1183	7.759	0.026	30.450	-86.980
Esc. Bay I-10 Bridge	1	408	750.0	F		4.40	**1.0701**	**19.6102**	**20.6803**	**678.000**	0.0095	30.519	-87.143
Esc. Bay I-10 Bridge	1	424	750.0	F		2.20	**0.5219**	**39.5867**	**40.1086**	**1003.255**	0.011	30.519	-87.143
Esc. Bay I-10 Bridge	1	450	930.0	F		3.90	**0.4382**	**12.1610**	**12.5992**	**284.000**	0.013	30.519	-87.143
Esc. Bay I-10 Bridge	1	470	1010.0	F		3.30	**0.4668**	**68.5075**	**68.9743**	**1580.000**	0.0099	30.519	-87.143
Escambia Bay NE	4	387	607.5		2.6	1.10	**0.3030**	0.0834	**0.3864**	**36.724**		30.569	-87.165
Escambia Bay NE	4	388	562.5		2.7	1.70	0.1640	0.7789	**0.9429**	**24.600**	0.018	30.569	-87.165
Escambia Bay NE	3	424	716.7		4.0	2.10	0.0670	0.0662	**0.1332**	**33.600**		30.569	-87.165
Escambia River Lower	3	381	602.3	F	2.4	2.00	**0.3750**	0.0577	**0.4327**	**24.852**		30.533	-87.169
Escambia River Lower	3	388	675.0	F	2.7	2.20	0.0480	**0.5199**	**0.5679**	**48.605**	0.017	30.533	-87.169
Escambia River Lower	3	402	763.3	F	4.0	1.90	**0.4420**	**0.9390**	**1.3810**	**84.000**	0.017	30.533	-87.169
Escambia Bay SE	2	392	564.0			0.60	**0.3630**	0.2393	**0.6023**	8.570	0.014	30.465	-87.151
Escambia Bay SE	2	401	563.5			0.70	0.0463	**0.2750**	**0.3213**	9.140	0.021	30.465	-87.151
Escambia Bay SW	3	387	556.7		2.9	1.90	**0.4930**	0.0787	**0.5717**	**38.699**		30.494	-87.113
Escambia Bay SW	3	395	566.7		3.3	1.30	0.0310	**0.4469**	**0.4779**	**21.200**		30.494	-87.113
Escambia Bay SW	3	417	633.3		3.0	1.40	0.1490	**0.3064**	**0.4554**	**20.100**	0.024	30.494	-87.113
Esc. River Crist Plant	3	316	288.1		1.3	1.10	0.0910	**0.3508**	**0.4418**	**39.000**		30.554	-87.212
Esc. River Crist Plant	3	350	374.6	F	1.3	1.00	0.2160	**0.7479**	**0.9639**	**57.700**		30.554	-87.212
Esc. River Crist Plant	3	385	516.7	M	2.0	1.20	**1.0959**	**1.2081**	**2.3040**	**85.100**		30.554	-87.212
Esc. River Crist Plant	3	457	776.7	F	3.3	1.70	**0.5802**	**0.8412**	**1.4214**	**56.700**		30.554	-87.212
Escambia River Mid (above Mansanto)	3	450	1160.0	F	5.0	6.50	**0.5750**	**0.3556**	**0.9306**	**22.480**			
Escambia River Quintette Bridge	4	346	427.5	F	1.0	1.00	**0.3990**	0.1675	**0.5665**	18.600		30.670	-87.267
Escambia River Quintette Bridge	3	390	620.0		1.0	2.80	**1.6293**	**0.5613**	**2.1906**	**33.300**		30.670	-87.267
Escambia River Quintette Bridge	3	430	760.0	F	1.3	3.60	**1.4059**	0.0410	**1.4469**	**32.100**		30.670	-87.267
Escambia River Quintette Bridge	3	455	856.7		3.7	1.10	**0.9838**	0.2267	**1.2105**	**20.400**		30.670	-87.267

Escambia River Rt 4 Bridge	2	199	186.5	F	2.0	0.90	**0.5365**	0.0253	**0.5618**	4.390	0.008	30.967	87.234
Escambia River Rt 4 Bridge	3	295	660.0	F	2.7	3.20	0.1655	**0.4048**	**0.5703**	**42.600**	0.017	30.967	87.234
Escambia River Rt 4 Bridge	3	353	946.7	F	3.8	4.70	**0.7760**	0.2420	**1.0180**	**29.800**	0.021	30.967	87.234
Perdido River	3	310	321.7		1.5	1.70	**0.3060**	0.1674	**0.4734**	8.050	0.021	30.460	-87.412
Perdido River	3	318	320.3		2.2	2.80	**0.3800**	0.1999	**0.5799**	8.087		30.460	-87.412
Perdido River	3	322	311.0		2.0	1.50	0.1450	0.0823	0.2273	3.843	0.021	30.460	-87.412
Perdido River Lower	5	320	319.0		2.0	1.00	0.1130	0.0982	0.2112	3.110	0.0097	30.530	-87.447
Perdido River Lower	4	321	315.8		2.0	1.30	0.1630	0.0090	0.1720	6.363	0.010	30.530	-87.447
Perdido River Mid	4	338	358.5		2.0	2.10	0.1240	0.1078	0.2318	5.283		30.530	-87.447
Yellow River Lower	4	342	382.5		2.0	1.40	0.2170	0.1209	**0.3379**	5.050	0.012	30.536	-87.020
Yellow River Lower	4	355	425.3		1.8	1.00	0.0000	0.0038	0.0038	2.080		30.536	-87.020
Yellow River Lower	3	394	552.0		3.5	1.30	0.1280	0.0721	0.2001	4.517		30.536	-87.020
Hoffman Woodland Bayou	2	374	457.0			0.80	**0.5920**	0.1312	**0.7232**	6.300	0.014	30.365	-87.179
Hoffman Woodland Bayou	2	384	493.0			0.70	**0.3230**	0.1546	**0.4776**	8.310	0.014	30.365	-87.179
Hoffman Woodland Bayou	2	292	205.5							12.705	0.014	30.365	-87.179
Hoffman Woodland Bayou	2	297	229.5			4.20	0.0687	**0.3309**	**0.3996**	19.445		30.365	-87.179
Hoffman Woodland Bayou	3	311	321.5		1.3	4.80	**0.5510**	**0.3975**	**0.9485**	19.000	0.027	30.365	-87.179