DEPARTMENT OF REGULATORY &
ENVIRONMENTAL SERVICES
Water Quality Division

NAS Jacksonville Administrative Record
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November 10, 1993

Kevin Gartland
C.O. NAS Jacksonville
Attn: Facilities & Environmental Dept.
P.O. Box 5
Jacksonville, FL 32212-5000

Dear Mr. ~~Gartland~~ Kevin:

As we discussed I have enclosed fish tissue and sediment contaminants data for the NAS area. Most samples were collected in 1991. Fish were collected by St. Johns River Water Management District (SJRWMD) staff, sediments were sampled by the City.

The information is fairly straight forward. Sample C 26L, a white catfish was analyzed two different times. The more recent report used more sensitive techniques thought the numbers are still very close.

If there are any questions, I will do my best. My phone number is (904) 630-3461.

Sincerely,

Dana Morton

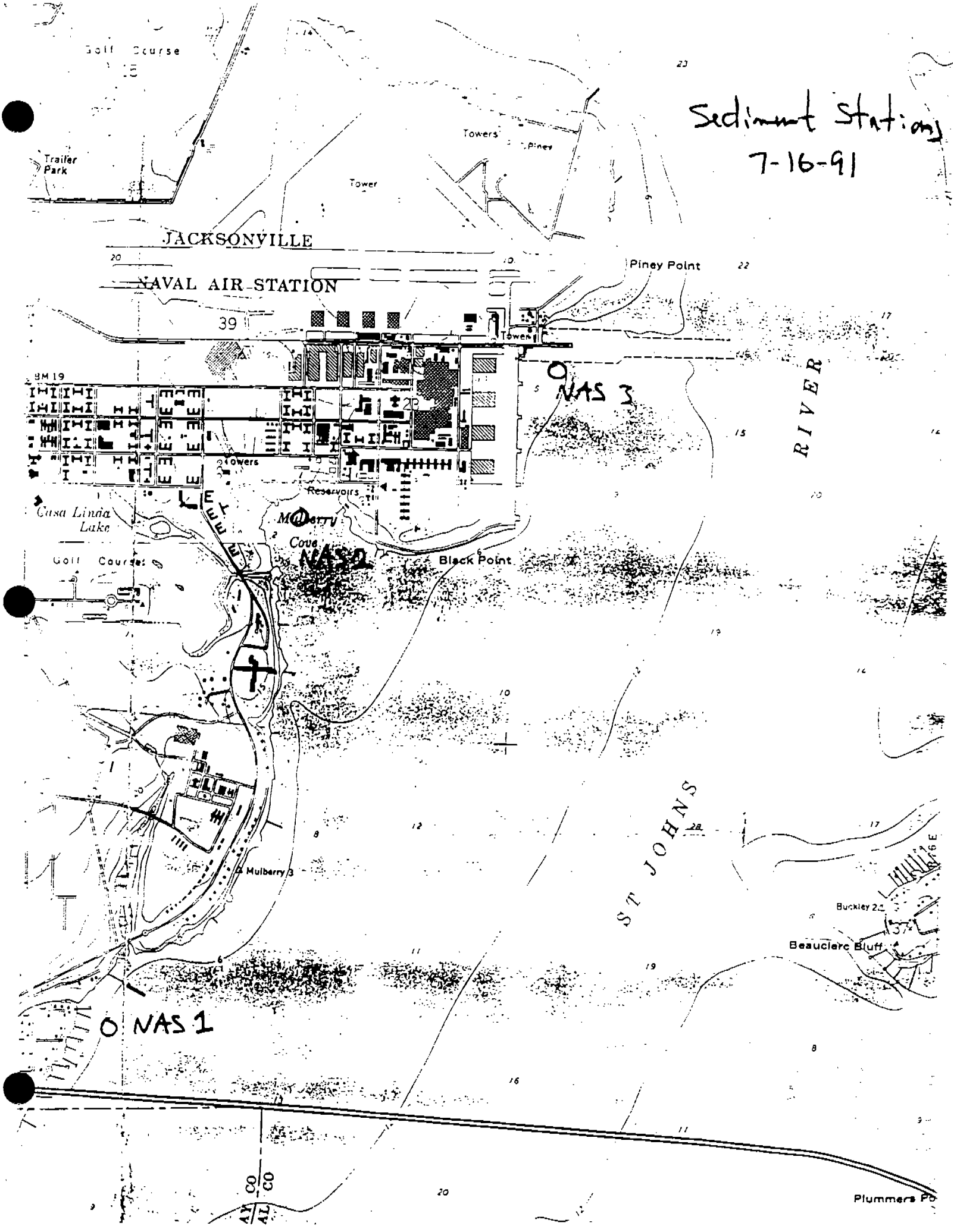
Dana Morton
Aquatic Biologist

DM/am

Enc.

421 West Church Street - Suite 412
Jacksonville, Florida 32202-4111

Area Code 904/630-3666


Sediment Stations
7-16-91
Golf Course
Trailer Park
Towers
Piney
Tower
JACKSONVILLE
NAVAL AIR STATION
Piney Point
39
Towers
BM 19
NAS 3
RIVER
Towers
Reservoirs
Casa Linda Lake
Mulberry Cove
NAS 2
Black Point
Golf Course
Mulberry 3
ST JOHNS
Buckley 2
Beauclerc Bluff
NAS 1
Plummers Po

City of Jacksonville
Bio-Environmental Services Laboratory Report
Red Bay and NAS Sediment Samples
Collected July 16, 1991

Site	Al Sed	As Sed	Cd Sed	Cr Sed	Cu Sed	Fe Sed
Red Bay 1A	33,500	4.45	0.84	54.2	19.2	22,100
Red Bay 1B	35,000	3.79	1.02	54.3	21.5	22,500
Red Bay 2A	14,600	3.09	0.69	26.7	29.3	10,800
Red Bay 2B	9,570	2.19	0.36	17.4	17.4	4,710
NAS 1A	33,600	5.67	2.36	59.1	19.3	23,600
NAS 1B	54,100	5.39	1.49	81.7	29.7	32,700
NAS 2A	48,500	3.81	3.89	89.1	33.7	34,400
NAS 2B	47,700	2.19	3.68	95.8	31.9	37,400
NAS 3A	54,100	5.15	1.47	88.2	24.6	34,300
NAS 3B	57,700	5.44	1.38	99.8	27.4	36,100
1646/2704A	57,900	17.3	0.74	67.0	14.2	30,400
1646/2704B	61,100	15.0	0.93	78.1	23.2	33,600
1646/2704C	63,400	19.4	0.89	82.9	12.6	35,800
1646/2704 Mean	60,800	17.2	0.85	76.0	20.0	33,300
1646/2704 TV	62,500	23.4	0.36	76.0	18.0	33,500
Storet Number	1103	1003	1028	1029	1043	1170

Samples were collected as part of the joint SJRWMD/BES Fish Toxics Study
Results are in ug/g dry weight
TV = True Value

City of Jacksonville
Bio-Environmental Services Laboratory Report
Red Bay and NAS Sediment Samples
Collected July 16, 1991

Site	Hg-Sed	Mg-Sed	Ni-Sed	Pb-Sed	Se-Sed	Zn-Sed
Red Bay 1A	0.323	4,440	13.4	32.4	1.96	84.8
Red Bay 1B	0.383	4,950	15.0	37.1	1.59	98.2
Red Bay 2A	0.167	1,050	6.99	41.1	0.81	152
Red Bay 2B	0.156	512	5.05	25.6	0.28	83.6
NAS 1A	0.312	5,270	14.2	45.7	1.08	92.9
NAS 1B	0.355	7,920	17.9	59.0	1.45	145
NAS 2A	0.280	7,190	20.2	85.3	1.42	160
NAS 2B	0.331	6,480	19.7	80.0	1.56	160
NAS 3A	0.399	9,340	16.8	60.0	0.90	123
NAS 3B	0.425	9,520	18.0	59.2	1.19	130
1646/2704A	1.40	8,740	24.2	24.4	0.85	105
1646/2704B	1.44	9,260	41.0	32.2	1.32	131
1646/2704C	1.43	9,830	23.0	39.5	0.71	100
1646/2704 Mean	1.42	9,280	29.4	32.0	0.96	112
1646/2704 TV	1.44	10,900	32.0	28.2	1.10	138
Storet Number	71921	924	1068	1052	1148	1093

Samples were collected as part of the joint SJRWMD/BES Fish Toxics Study
Results are in ug/g dry weight
TV = True Value

City of Jacksonville
Bio-Environmental Services Laboratory Report
NAS Sediment Samples
July 16, 1991

Compound	NAS 1A	NAS 1B	NAS 2A	NAS 2B	NAS 3A	NAS 3B
Aroclor 1260	*	*	*	*	*	*
4,4'-DDD	*	*	*	*	*	*
4,4'-DDE	*	*	*	*	*	*
4,4'-DDT	*	*	*	*	*	*
Aldrin	*	*	*	*	*	*
a-BHC	*	*	*	*	*	*
b-BHC	*	*	*	*	*	*
d-BHC	*	*	*	*	*	*
g-BHC	*	*	*	*	*	*
Chlordane	*	*	*	*	*	*
Dieldrin	*	*	*	*	*	*
Dursban	*	*	*	*	*	*
Endosulfan I	*	*	*	*	*	*
Endosulfan II	*	*	*	*	*	*
Endosulfan Sulfate	*	*	*	*	*	*
Endrin	*	*	*	*	*	*
Endrin Aldehyde	*	*	*	*	*	*
Heptachlor	*	*	*	*	*	*
Heptachlor Epoxide	*	*	*	*	*	*
2,3',5-TC Biphenyl	*	*	*	*	*	*
2,3',4,4',5-PC Biphe	*	*	*	*	*	*
2,2',4,4',5,5'-HC Bi	*	*	*	*	*	*
2,2',3,4,4',5'-HC Bi	*	*	*	*	*	*
3,3',4,4',5-PC Biphe	*	*	*	*	*	*
3,3',4,4',5,5'-HC Bi	*	*	*	*	*	*
Toxaphene	*	*	*	*	*	*
Dioxins	*	*	*	*	*	*
% Moisture	87	87	86	86	81	81

Results are in ug/g(mg/Kg) wet weight
Entries "S" indicate the compound is likely present but unconfirmed by GC/MS
* indicates compound not found

City of Jacksonville
Bio-Environmental Services Laboratory Report
NAS Sediment Samples

Compound	NAS 1A	NAS 1B	NAS 2A	NAS 2B	NAS 3A	NAS
1-Methylnaphthalene	*	*	*	*	*	*
1-Methylphenanthrene	*	*	*	S	*	*
2-Methylnaphthalene	*	*	*	*	*	*
2-Chloronaphthalene	*	*	*	*	*	*
2,6-Dimethylnaphthalene	*	*	*	*	*	*
Acenaphthene	*	*	*	*	*	*
Acenaphthylene	*	*	*	*	*	*
Anthracene	*	*	*	*	*	*
Benzo(a)anthracene	*	*	S	S	*	S
Benzo(a)pyrene	*	S	S	S	S	S
Benzo(e)pyrene	*	S	S	S	S	S
Benzo(b)fluoranthene	S	S	*	*	*	*
Benzo(g,h,i)perylene	*	*	*	*	*	*
Benzo(k)fluoranthene	*	*	*	*	S	*
Biphenyl	*	*	*	*	*	*
Chrysene	*	S	S	S	S	S
Dibenz(a,h)anthracene	*	*	*	*	*	*
Fluoranthene	S	S	S	S	S	S
Fluorene	*	*	*	*	*	*
Indeno(1,2,3,c,d)pyrene	*	*	*	*	*	*
Naphthalene	*	*	*	*	*	*
Perylene	*	*	*	*	*	*
Phenanthrene	*	S	S	S	S	S
Pyrene	*	*	*	*	*	*

Results are in ug/g(mg/Kg) wet weight
Entries "S" indicate the compound is likely present but unconfirmed by GC/M
* indicates compound not found

Naval Air Station-Jacksonville

Species	Number	Date Coll.	Weight	Length	Tissue
American eel	C.1	3.14.91	450	59	M,L
American eel	C.2	3.14.91	155	45	M,L
American eel	C.3	3.14.91	100	37.5	M,L
American eel	C.4	3.14.91	235	47.5	M,L
American eel	C.5	3.14.91	290	50.5	M,L
American eel	C.6	3.15.91	80	35.5	M,L
American eel	C.7	3.15.91	100	36.5	M,L
American eel	C.8	3.15.91	135	40.5	M,L
American eel	C.9	3.15.91	120	40.5	M,L
American eel	C.10	3.15.91	215	47.0	M,L
American eel	C.11	3.15.91	165	46.5	M,L
American eel	C.20	3.21.91	140	42.5	M,L
American eel	C.21	3.21.91	365	57.0	M,L
American eel	C.22	3.21.91	80	36.5	M,L
American eel	C.23	3.21.91	100	39.0	M,L
American eel	C.24	3.21.91	140	42.5	M,L
American eel	C.25	3.21.91	100	38.5	M,L
American eel	C.28	3.22.91	160	43.0	M,L
American eel	C.29	3.22.91	115	40.0	M,L
American eel	C.30	3.22.91	120	48.5	M,L
American eel	C.31	3.22.91	185	47.5	M,L
American eel	C.32	3.22.91	135	43.0	M,L
American eel	C.70	5.23.91	490	59.0	M,L
American eel	C.71	5.23.91	270	49.5	M,L
LM Bass	C.60	4.22.91	640	34.5	M,L
LM Bass	C.61	4.22.91	600	36.0	M,L
LM Bass	C.62	4.22.91	870	39.0	M,L
LM Bass	C.63	4.22.91	725	36.5	M,L
BR Bull Cat	C.12	3.15.91	800	38.0	M,L,A
BR Bull Cat	C.75	5.29.91	715	36.0	M,L
BR Bull Cat	C.76	5.29.91	800	38.0	M,L,G
BR Bull Cat	C.77	5.30.91	810	40.5	M,L
BR Bull Cat	C.78	5.30.91	550	37.0	M,L,G
BR Bull Cat	C.79	5.30.91	500	35.0	M,L
BR Bull Cat	C.80	5.31.91	700	35.5	M,L
BR Bull Cat	C.81	5.31.91	1050	40.0	M,L
BR Bull Cat	C.82	5.31.91	850	38.5	M,L
BR Bull Cat	C.83	5.31.91	500	35.0	M,L,G
BR Bull Cat	C.84	5.31.91	450	32.5	M,L,G
BR Bull Cat	C.85	5.31.91	550	34.5	M,L

White Catfish	C.26	3.22.91	1450	45.5	M,B		
White Catfish	C.27	3.22.91	1800	46.0	M,B,G	4	7
White Catfish	C.72	5.24.91	560	37.0	M,B		
Chann Catfish	C.73	5.24.91	95	22.5	M,L		
Chann Catfish	C.74	5.24.91	113	23.0	M,L	3	6
Chann Catfish	C.86	5.31.91	200	26.0	M,L		
						28	48

SUMMARY OF FISH TISSUE AND SEDIMENT DATA[a]
COLLECTED FROM 1990-1992
BY LSJRB SWIM
ANALYZED BY City of Jacksonville RESD

Moncrief Cr.

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	0.2, 0.006 (3)	0.49, 0.35 (4)
Eel (G)	0.25, 0 (1)	
BB (G) (0.68)[b]	0.36, 0.45 (2)	
WC (A)	1.51, 0 (1)	
Eel (L) (0.036)	0.35, 0.007 (2)	
Blue Crab (HP) (1.67)	1.31, 0.39 (5)	
Blue Crab (HP) tDDT (0.617)	0.165, 0.252 (5)	
Eel (0.07)		0.039, 0.017 (8)
BB (0.04)		0.033, 0.008 (2)
WC		0.277, 0 (1)

Ribault River

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	BDL	0.42, 0.74 (6)
BB (L)	0.03, 0 (1)	
WC (A)	1.54, 0.83 (5)	
WC (G)	0.225, 0.16 (2)	
WC (L)	0.105, 0.078 (2)	
WC (A) Chlordane (1.99)	1.62, 0.52 (2)	
Eel		0.103, 0.010 (3)
BB		0.027, 0.001 (3)
WC		0.154, 0.072 (5)
LMB		0.108, 0.022 (3)

Goodbys Creek

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	BDL	0.36, 0.049 (4)
WC (L)	0.180 (1)	
WC (G)	0.150 (1)	
LMB (G) (0.25)	0.205, 0.64 (2)	

Cedar River

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	0.219, 0.085 (2)	0.232, 0.071 (4)
LMB (0.822)		0.56, 0.26 (3)
BF (3.00)		2.03, 1.36 (2)
WC (0.247)		0.187, 0.06 (3)
BB (0.088)		0.073, 0.023 (3)
LMB (G)(10.44)	3.2, 4.87 (4)	
LMB (L) (0.187)	0.098, 0.073 (4)	
WC (L)	0.872 (1)	
BF (L)	1.08 (1)	
Eel (L) (0.721)	0.369, 0.258 (4)	
CC (L)	0.548 (1)	

NAS Jax

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	BDL	0.35, 0.054 (6)
LMB (L)	0.382 (1)	
LMB (G)	0.999 (1)	
WC (G)	0.239 (1)	
BB (G)	0.7 (1)	
Eel (0.097)		0.092, 0.007 (2)
LMB (0.113)		0.109, 0.006 (3)
BB (0.098)		0.049, 0.045 (3)

Rice Creek

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment (0.90)		0.73, 0.16 (3)
Eel (0.05)		0.029, 0.030 (2)
BF (0.82)		0.655, 0.228 (2)
LMB (0.11)		0.077, 0.039 (4)
BB (0.12)		0.119, 0.003 (2)
WC (0.09)		0.066, 0.039 (2)
LMB (A) (1.07)	0.553, 0.476 (3)	
BF (A) (3.85)	1.99, 2.63 (2)	
WC (A) (1.66)	1.51, 0.21 (2)	

Pottsburg Creek

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	no sample	
LMB (G)	2.18 (1)	
LMB (L) (0.237)	0.173, 0.100 (3)	
WC (L)	0.781 (1)	
WC (L)	0.025 (1)	

Talleyrand

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	no sample	
croaker	0.488 (1) (2 others 0)	

Julington Creek

	tPCBs (mg/kg) mean, sd (n)	Hg (mg/kg) mean, sd (n)
Sediment	BDL	0.15, 0.13 (4)

[a]The values indicated were calculated from sediment and fish samples in which there were measurable quantities of contaminants. Thus, no zero values were included.

[b]Numbers in parentheses after the name of the fish was the highest value for the parameter and sample type.

BB=brown bullhead
WC=white catfish
LMB=largemouth bass
Eel=eel
BF=bowfin
CC=channel catfish

BDL=below detection limit

PCB tissues
A=adipose
G=gonad
L=liver
HP=hepatopancreas

Mercury analyses were performed on muscle fillets.

City of Jacksonville
Water Quality Division Laboratory Report
NAS Marine Tissue Samples Mercury Results

March 12, 1992

Skinless Fillets Analyzed Total Hg

Sample	Result	Species
C1	0.087	Eel
C5	0.097	"
C62	0.111	LMBass
C63	0.113	"
C60	0.102	"
C81	NS	BrCatfish
C82	NS	"
C77	0.010	"
C26	0.040	"
C27	0.098	"
QC		T.V.
DORM1	0.746*	0.798
SRM020	2.80*	2.52

* - DORM1 is mean value of 6 replicates with S.D.of 0.041; range 0.690 to 0.816
* - SRM020 is mean of 3 replicates with S.D.of 0.120; range 2.68 to 2.92
NS indicates no sample was delivered to the laboratory though listed on records
All results are in ug/g wet weight

City of Jacksonville
Water Quality Division Laboratory Report
NAS Vicinity Marine Tissues

August 26, 1992

Compound	C26I	C8/9 10/11L	C1/2 4/5L	C20/21 24/28L	C32/70L	C60/63L	C77L	C27A
1-Methylnaphthalene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
1-Methylphenanthrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
2-Methylnaphthalene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
2-Chloronaphthalene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
2,6-Dimethylnaphthalene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Acenaphthene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Acenaphthylene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Anthracene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(a)anthracene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(a)pyrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(e)pyrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(b)fluoranthene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(g,h,i)perylene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Benzo(k)fluoranthene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Biphenyl	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Chrysene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Dibenz(a,h)anthracene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Fluoranthene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Fluorene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Indeno(1,2,3,c,d)pyrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Naphthalene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Perylene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	0.04	<0.05
Phenanthrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05
Pyrene	<0.05	<0.08	<0.05	<0.05	<0.07	<0.06	<0.15	<0.05

All units are ug/g wet weight
Original samples ID's appended with "I" for livers; "A" for adipose; "G" for gonads
Detection limits vary from sample to sample depending upon weight extracted.