

Appendix 3c: PCB and OCP Concentrations with Qualifiers (from J. Ashley, ANS)

CHEM ID	1881	1881
Sample #	77904	Qualifier
Sample Date	5/7/2003	
Station	TN2	
Common Name	mummichog	
DRY MASS (%)	N/A	
LIPID PERCENT (%)	3.763	
EXTRACTION MASS (wet weight, g)	2.057	
SURROGATE RECOVERY (%)		
PCB 14	116	
PCB 65	96	
PCB 166	106	
Concentrations (ng/g wet for biota; ng/g dry for sediment)		
TOTAL PCBs	781	
TOTAL DDXs	131	
TOTAL CHLORDANES	45	

POLYCHLORINATED BIPHENYLS	Homo. Grp. (# of Cl's)	Detec. Limit	
1	1	0.25	1.19
3	1	0.72	2.71
4+10	2	0.05	0.79
7	2	0.03	0.07
6	2	0.04	0.17
8+5	2	0.24	1.33
19	3	0.08	0.26
12+13	2	0.02	0.20
18	3	0.20	1.26
17	3	0.24	7.56
24+27	3	0.09	0.35
16+32	3	0.22	3.56
29	3	0.21	0.26
26	3	0.09	1.58
25	3	0.34	0.81
31+28	3	0.84	18.79
53+33+21	.84 tri / .16 tetra	0.27	2.67
22	3	0.25	3.38
45	4	0.06	0.96
46	4	0.04	0.36
52	4	0.70	16.19
49	4	0.62	14.89
47	4	0.75	18.52
48	4	0.30	2.40
44	4	0.52	11.18
37+42	.49 tri / .51 tetra	0.31	6.60
41+71	4	0.71	23.81
64	4	0.75	12.32
40	4	0.11	2.04
100	5	0.08	104.44
63	4	0.06	2.06
74	4	0.43	16.29
70+76	4	0.80	23.51
66	4	1.54	58.18
95	5	0.30	8.47

91		5	0.13	4.80
56+60		4	0.92	25.11
101		5	0.60	17.25
99		5	0.49	19.79
83		5	0.06	0.85
97		5	0.18	3.90
87+81	.90 penta / .10 tetra		0.65	12.12
85		5	0.24	8.60
136		6	0.04	1.05
77+110	.79 penta / .21 tetra		0.77	31.73
82		5	0.06	1.02
151		6	0.15	6.27
135+144		6	0.11	2.97
107		5	0.06	3.07
149		6	0.45	15.16
118		5	0.62	21.99
134		6	0.27	0.59
131		6	0.01	0.27
146		6	0.27	8.67
153+132+105	.88 hexa / .12 penta		1.49	61.34
141		6	0.04	0.79
137+176	.20 hexa / .80 hepta		0.16	2.61
163+138		6	1.16	43.81
158		6	0.21	8.86
129+178	.92 hepta / .08 hexa		0.08	3.36
187+182		7	0.32	13.13
183		7	0.18	7.53
128		6	0.15	5.82
185		7	0.03	0.86
174		7	0.08	3.92
177		7	0.12	4.57
202+171	.50 octa / .50 hepta		0.11	3.27
157+200	.07 hexa / .93 octa		0.04	1.72
172+197	.84 hepta / .16 octa		0.05	2.32
180		7	0.42	20.40
193		7	0.39	1.39
191		7	0.04	0.89
199		8	0.04	0.25
170+190		7	0.30	14.31
198		8	0.02	0.28
201		8	0.14	6.32
203+196		8	0.23	7.84
189		7	0.17	0.84
208+195	.06 nona / .94 octa		0.12	4.25
207		9	0.07	0.36
194		8	0.06	2.73
205		8	0.04	0.11
206		9	0.08	2.19
209		10	0.03	0.77

ORGANOCHLORINE PESTICIDES

o,p DDE			0.28	6.63
p,p DDE			1.01	84.46
o,p DDT			0.34	19.76
p,p DDT			0.83	0.50
o,p DDD			0.08	1.35
p,p DDD			0.37	18.21
Total DDX's			2.08	130.91

alpha BHC	<i>0.03</i>	<i>0.08</i>
beta BHC	<i>0.04</i>	<i>0.22</i>
delta BHC	<i>0.42</i>	<i>0.44</i>
lindane	<i>0.33</i>	<i>0.51</i>
heptaclor	<i>0.13</i>	<i>2.96</i>
heptachlor epoxide	<i>0.11</i>	<i>4.70</i>
oxychlordane	<i>0.09</i>	<i>1.11</i>
gamma chlordane	<i>0.18</i>	<i>4.84</i>
alpha chlordane	<i>0.21</i>	<i>7.32</i>
cis nonachlor	<i>0.14</i>	<i>4.22</i>
trans nonachlor	<i>0.50</i>	<i>19.54</i>
Total Chlordanes	<i>1.27</i>	<i>44.69</i>
dieldrin		<i>2.68</i>
endrin	<i>0.07</i>	<i>0.14</i>
aldrin	<i>0.17</i>	<i>0.14</i>
endosulfan I	<i>0.18</i>	<i>3.60</i>
endosulfan II	<i>0.05</i>	<i>0.31</i>

1882 75362	1882 Qualifier	1883 75252	1883 Qualifier	1884 76433	1884 Qualifier	1885 75364	1885 Qualifier	1886 75442
1/23/2002 TN3 mummichog N/A 4.647 2.139	10/25/2001 TN4 mummichog N/A 6.196 2.077	7/19/2002 TN4 mummichog N/A 2.602 2.394	1/25/2002 TN5 mummichog N/A 5.630 2.096	4/19/2002 TN5 mummichog N/A 2.822 2.282				
116 98 107	124 102 111	113 96 104	128 96 96	106 93 106				
1190 189 85	1224 191 98	607 74 37	806 167 149	851 160 83				
0.70 3.06 1.09 0.09 0.33 2.01 0.52 0.25 5.77 15.11 0.81 7.35 0.52 5.39 2.77 35.11 5.40 6.76 1.81 0.51 39.72 31.80 33.78 5.68 18.99 15.10 42.12 12.79 2.37 36.40 3.90 36.04 34.17 87.61 23.07	0.62 1.62 2.31 0.06 0.42 3.24 0.52 0.41 7.77 14.25 0.95 9.93 0.42 6.99 4.39 48.43 7.92 10.15 1.98 0.84 38.60 31.75 30.54 5.50 30.27 17.66 44.59 16.21 4.60 148.66 3.49 29.36 39.73 85.36 17.11	0.55 1.70 0.68 0.08 0.20 1.21 0.26 0.19 1.03 8.76 0.17 2.59 0.16 1.38 1.23 15.69 1.93 3.24 0.72 0.34 10.05 10.98 11.91 1.81 10.14 5.76 15.30 7.89 1.76 139.68 1.36 11.07 11.80 37.45 6.23	0.34 1.74 0.98 0.03 0.23 2.00 0.35 0.43 3.15 11.07 0.55 4.39 0.41 2.49 2.07 25.40 3.02 6.26 0.95 0.21 20.24 19.55 19.80 3.40 11.28 8.71 24.84 20.40 1.33 35.41 2.14 20.91 27.02 60.98 12.02	0.98 1.18 0.88 0.04 0.16 0.75 0.25 0.15 1.26 10.93 0.42 3.78 0.33 1.81 1.56 25.30 2.70 3.97 0.71 0.34 15.56 15.86 22.55 2.42 10.50 7.36 29.03 13.08 1.82 67.05 2.42 21.56 30.10 63.70 11.66				

6.30	6.42	2.53	4.99	4.61
41.47	44.78	15.81	26.27	28.67
33.81	29.34	10.80	21.76	16.81
35.54	28.53	12.47	29.20	18.30
0.79	1.53	0.70	0.73	0.67
5.64	6.52	3.08	4.21	3.95
19.20	16.49	6.80	13.78	14.25
18.60	13.01	6.10	10.80	9.75
0.82	1.57	0.74	0.98	0.88
45.24	40.54	17.49	28.85	36.19
0.84	1.66	0.79	0.79	1.42
7.86	9.39	4.34	6.78	7.43
3.28	5.16	2.10	3.20	3.84
6.97	5.42	2.13	3.62	3.96
20.40	18.23	9.22	12.84	15.25
44.30	30.34	15.13	25.24	27.15
0.68	1.45		3.15	1.37
0.28	0.45	0.23		
15.66	11.42	6.59	9.21	10.99
103.52	72.55	42.81	61.06	71.34
0.35	1.43	0.69	0.56	0.58
3.83	3.10	1.60	2.15	2.95
72.45	53.07	29.10	45.06	50.74
14.15	10.96	5.22	8.53	11.65
5.57	4.63	2.56	3.41	4.54
19.88	15.71	10.11	13.49	14.99
11.81	10.09	5.89	8.00	9.33
11.62	7.42	3.52	6.37	7.38
0.74	1.06	0.39	0.58	0.91
5.10	5.71	2.67	3.21	4.04
6.33	5.82	3.27	4.22	4.80
4.66	4.66	2.79	6.56	4.50
3.08	2.23	1.15	1.85	1.59
3.60	3.15	1.77	2.78	2.44
33.70	27.55	16.76	23.73	26.74
2.18	3.11	1.35	3.24	1.55
1.43	1.05	0.52	1.20	1.04
0.37	0.27	0.15	0.21	0.21
23.74	19.70	11.43	18.60	19.97
0.34	0.44	0.18	0.29	0.36
10.10	8.01	5.58	8.30	8.18
10.91	9.54	6.31	9.35	9.84
1.07	1.08	0.93	1.05	1.11
5.42	5.19	3.82	3.95	5.36
0.42	0.34	0.27	0.39	0.43
3.51	3.62	1.93	3.60	3.42
0.12	0.16	0.07	0.24	0.13
2.21	2.79	1.49	2.54	2.13
0.80	0.80	0.66	0.97	0.74
7.48	13.86	4.81	11.25	7.97
120.15	102.89	40.95	92.79	93.08
33.25	38.17	16.76	40.46	32.13
0.87	1.21	0.72	2.10	1.84
1.95	2.90	1.11	2.12	2.99
24.97	31.68	9.97	18.08	21.92
188.68	190.72	74.33	166.80	159.93

0.12		0.11	0.09	0.13	0.18
0.41		1.18	0.29	0.74	0.58
	BDL	0.32		0.88	0.55
9.32		7.06	7.66	88.25	16.69
5.32		6.25	2.45	3.42	2.96
4.55		6.85	1.77	9.88	3.36
7.61		5.05	1.48	4.89	3.20
6.25		12.82	4.41	19.93	8.22
11.22		17.99	5.36	28.40	14.93
8.32		6.13	3.21	6.30	7.31
41.93		43.27	18.26	76.63	42.67
85.20		98.35	36.93	149.46	82.66
4.59		5.41	1.28	6.63	2.61
0.15		0.26	0.12	0.42	0.28
0.38		0.45	0.12	0.24	0.37
10.76		21.79	7.18	32.03	6.52
1.23		0.94	0.34	0.78	0.75

1886	1887	1887	1888	1888	1889	1889	1890	1890
Qualifier	75256	Qualifier	77389	Qualifier	75355	Qualifier	75380	Qualifier

10/25/2001	3/12/2003	11/12/2001	3/26/2002
TN6	TN6	S1	S1
mummichog	mummichog	silversides	silversides
N/A	N/A	N/A	N/A
6.762	3.089	5.202	5.198
2.199	2.007	2.274	2.270

133	109	110	107
103	96	98	91
111	109	112	103

1498	1378	1498	1131
299	306	255	309
223	195	98	75

0.59	1.76	0.80	0.80
1.14	1.56	1.89	1.06
2.26	0.58	1.80	1.90
0.09	0.10	0.13	0.08
0.57	0.25	0.44	0.37
4.75	1.60	2.56	3.60
0.55	0.31	0.48	0.86
0.31	0.27	0.16	0.15
12.14	2.94	11.14	7.76
17.63	12.07	21.61	13.90
1.42	0.49	1.44	1.30
13.67	6.26	12.35	9.91
0.77	0.33	0.68	0.40
10.29	5.37	8.68	5.26
7.29	3.87	6.28	3.30
73.59	43.39	63.28	47.76
9.68	3.87	14.66	9.81
18.18	8.20	10.80	9.36
2.37	1.28	3.80	2.57
0.89	0.26	1.78	1.22
49.49	38.65	49.17	35.19
43.46	34.90	40.57	31.96
37.87	35.43	35.91	25.98
8.53	5.31	9.93	8.60
39.04	14.04	45.52	30.77
23.58	11.80	29.50	21.33
59.21	47.41	57.65	37.74
56.12	66.25	28.79	20.96
5.43	1.66	9.14	7.15
41.86	41.87	63.76	33.08
5.41	4.41	4.49	3.36
41.79	36.00	34.92	26.88
52.37	51.31	68.25	52.67
111.87	96.92	123.91	31.17
22.47	23.01	17.89	48.89

8.32	7.77	9.04	6.72
64.97	46.17	74.62	63.88
37.08	38.29	38.96	32.89
43.97	42.12	32.37	27.68
1.90	0.62	3.21	3.22
8.55	5.44	12.42	9.60
22.81	22.89	22.06	17.44
19.05	18.51	17.30	14.27
1.57	1.44	2.37	2.39
50.05	53.39	59.02	46.59
1.89	0.64	4.64	3.55
9.99	12.22	10.71	10.23
5.01	5.72	7.36	6.83
7.11	7.83	5.22	4.72
19.84	22.32	24.15	20.25
39.90	46.08	37.01	29.22
1.23	ND	1.32	0.92
0.53	0.25	0.65	0.68
13.78	17.80	12.77	11.75
87.85	107.20	83.17	72.72
0.83	0.79	2.43	2.22
3.62	4.43	3.38	3.28
67.69	79.93	63.82	55.25
15.11	18.82	13.01	10.85
5.83	5.69	6.09	5.07
18.05	22.20	17.97	14.78
11.81	15.17	11.26	8.87
10.99	12.61	9.13	8.19
1.23	1.25	1.12	0.88
5.43	5.46	6.55	5.04
6.93	6.52	6.73	5.87
7.78	8.70	5.71	4.96
2.68	3.26	2.15	2.02
3.79	4.21	3.15	2.56
34.81	39.45	32.27	23.24
3.60	4.68	2.30	1.91
1.48	1.77	0.94	0.82
0.33	0.31	0.35	0.31
28.16	31.16	22.17	17.41
0.41	0.41	0.49	0.90
12.22	12.40	9.37	7.51
14.01	16.53	13.67	10.24
1.43	1.59	1.88	1.49
6.04	8.88	6.72	5.26
0.60	0.72	0.65	0.49
5.40	5.46	4.75	3.77
0.29	0.31	0.57	0.35
3.99	3.59	5.61	4.31
1.32	1.35	1.19	0.99
25.58	13.68	23.41	24.16
152.16	182.16	152.24	194.92
79.09	75.91	33.99	25.79
1.58	3.34	1.51	1.85
3.11	2.92	9.40	12.66
37.46	28.33	34.37	49.93
298.98	306.34	254.92	309.30

0.26	0.17	0.17		0.26
1.46	0.48	0.46		0.76
0.44	0.79		BDL	0.44
10.19	0.89	5.22		32.28
8.44	4.79	9.58		6.83
11.54	13.21	4.54		3.17
11.00	9.22	4.33		5.23
21.96	11.20	9.66		6.03
43.58	35.90	14.29		7.83
9.92	10.89	7.81		6.86
116.34	110.17	47.84		39.51
222.78	195.38	98.05		75.46
9.44	7.67	4.17		2.84
0.28	0.47	0.23		0.27
0.43	0.59	0.40		0.21
19.35	6.92	12.63		5.25
2.12	1.78	0.62		0.49

75380	Qualifier	76435	Qualifier	75361	Qualifier	75423	Qualifier	75424
3/26/2002		7/22/2002		1/23/2002		4/23/2002		4/26/2002
S1		S2		TN3		S2		S3
silversides		silversides		mummichog		silversides		silversides
N/A		N/A		N/A		N/A		N/A
4.802		2.590		4.316		2.799		2.806
2.520		2.019		2.039		2.001		2.053
112		96		106		104		102
92		86		88		87		87
105		99		97		101		98
1123		811		817		1380		873
313		126		153		209		159
77		46		73		97		71
0.68		0.92		0.88		0.34		0.76
2.21		0.80		1.09		2.18		1.39
1.53		0.74		0.78		1.15		1.31
0.13		0.06		0.10		0.11		0.05
0.34		0.42		0.30		0.57		0.25
3.57		1.61		2.93		2.86		2.00
0.63		0.35		0.31		0.62		0.41
0.15		0.17		0.12		0.30		0.16
8.12		6.41		3.24		10.99		6.15
12.64		4.18		2.69		6.87		3.89
1.40		0.69		0.45		1.10		0.72
9.74		5.88		8.01		11.31		6.40
0.42		0.14		0.99		0.94		0.56
5.03		5.85		2.64		11.66		5.23
2.95		3.93		1.50		9.35		4.22
44.44		33.59		34.96		60.57		33.44
10.15		8.29		3.62		17.33		8.59
8.92		5.63		6.89		11.35		6.14
2.38		1.82		1.13		3.94		2.08
1.20		0.90		0.27		1.99		1.16
35.01		27.60		20.10		49.95		28.28
30.62		23.93		21.31		42.71		24.56
30.28		21.47		27.79		41.30		23.11
5.95		4.44		4.59		6.36		4.23
29.98		25.24		12.18		46.95		25.77
20.51		15.88		9.33		29.77		16.04
35.84		31.52		36.02		61.39		33.09
16.50		10.55		12.16		22.86		17.34
6.26		5.01		1.71		8.61		5.37
32.40		1.54		1.32		3.35		1.95
3.42		2.52		3.39		4.95		2.63
26.07		20.85		27.31		35.89		19.83
51.47		44.65		27.58		80.60		44.77
73.17		68.70		81.46		116.56		75.96
25.33		13.30		9.15		22.74		10.56

7.06	5.45	5.04	10.65	6.22
65.24	40.86	34.85	79.21	42.48
32.39	23.09	18.35	38.43	25.24
25.44	19.03	24.03	28.47	20.53
2.87	1.99	0.82	3.52	2.01
9.40	8.08	4.89	13.79	8.06
17.11	13.24	14.13	23.69	14.30
10.29	9.90	12.29	16.38	10.34
2.15	1.46	0.89	2.26	1.85
45.26	36.78	32.84	59.27	38.31
3.36	3.18	0.78	5.88	3.22
9.89	6.11	6.37	10.16	7.81
6.97	4.66	2.77	7.17	5.31
4.88	3.34	4.16	5.06	3.13
20.68	15.21	13.66	22.04	17.32
28.00	23.67	28.94	34.45	21.56
1.05	0.77			0.58
0.64	0.43	0.25	0.64	0.48
12.07	8.07	10.63	11.22	8.96
71.52	51.01	63.92	71.05	56.94
2.33	1.55	0.52	2.90	1.78
3.63	2.09	2.54	3.83	2.40
54.00	37.75	45.30	53.92	40.67
10.60	7.34	8.93	13.29	8.05
5.16	3.65	3.53	5.82	3.87
14.72	9.82	13.49	13.06	11.63
9.06	6.13	7.52	9.00	7.43
8.08	5.41	7.09	8.09	5.79
1.16	0.61	0.61	1.08	0.91
4.85	3.29	3.54	6.12	4.45
6.00	3.78	4.52	5.22	4.61
5.03	3.04	3.58	4.39	3.74
2.38	1.43	1.79	2.09	1.48
2.80	1.93	2.09	2.92	2.24
22.04	16.00	20.62	23.64	18.94
2.29	1.07	1.10	2.28	1.28
1.33	0.53	0.73	0.83	0.71
0.45	0.16	0.19	0.34	0.22
16.56	10.84	15.50	17.32	13.40
0.56	0.26	0.20	0.46	0.42
7.06	3.83	7.54	6.46	5.45
9.86	5.52	7.67	9.76	7.93
1.88	0.80	0.73	1.51	1.50
5.86	2.97	4.68	4.55	4.12
0.62	0.32	0.37	0.38	0.34
3.13	2.00	2.58	3.50	2.64
0.70	0.25	0.09	0.40	0.42
3.90	1.95	1.74	3.77	3.33
0.79	0.36	0.70	0.65	0.69
22.60	13.24	7.18	21.92	14.47
197.76	73.82	88.51	117.71	94.81
26.77	18.07	28.81	32.12	25.47
2.33	0.62	0.47	1.22	0.67
14.21	4.15	1.28	9.17	5.73
49.59	16.49	27.04	27.07	18.26
313.26	126.39	153.29	209.21	159.42

0.27	0.08	0.11		0.19	0.08
0.63	0.35	0.33		0.35	0.42
0.26	0.28		BDL	0.30	0.35
31.22	10.44	7.24		13.25	61.17
6.50	4.48	5.71		9.39	5.18
3.27	1.51	4.37		1.38	2.58
5.80	2.30	5.58		3.78	3.03
6.53	3.81	6.37		11.36	8.54
10.88	6.04	11.88		18.87	12.11
6.79	4.47	5.93		8.31	4.69
37.59	23.12	32.89		43.57	34.62
77.35	45.75	72.72		96.66	70.75
2.99	1.32	4.30		2.18	1.94
0.16	0.19	0.20		0.22	0.18
0.26	0.20	0.27		0.17	0.25
5.18	5.89	9.80		9.52	9.29
0.50	0.34	0.92		0.52	0.43

Qualifier	77903	Qualifier	75308	Qualifier	75308	Qualifier	75434	Qualifier
	5/7/2003		11/27/2001		11/27/2001		5/8/2002	
	TN2		TN1		TN1		TN2	
	silversides		white perch		white perch		white perch	
	N/A		N/A		N/A		N/A	
	2.617		2.569		1.907		5.148	
	2.029		2.055		2.019		1.484	
	102		100		94		104	
	85		89		86		89	
	97		106		98		94	
	665		697		644		2113	
	140		185		145		1564	
	45		46		35		278	
	0.73		1.28		1.05		0.41	
	2.91		2.50		1.43		2.03	
	0.76		0.54		0.53		1.27	
	0.09		0.07		0.06		0.10	
	0.16		0.26		0.18		1.55	
	1.48		1.40		1.46		3.47	
	0.27		0.38		0.34		1.07	
	0.17		0.15		0.15			ND
	3.64		5.13		3.91		12.46	
	2.15		7.06		10.89		28.67	
	0.59		0.72		0.61		2.26	
	4.02		6.58		5.14		15.58	
	0.29		0.20		0.36		0.77	
	2.53		2.77		2.38		6.56	
	1.64		1.47		1.43		4.03	
	20.31		17.75		15.46		57.79	
	5.50		4.71		3.87		17.75	
	3.74		4.56		3.53		18.00	
	1.73		1.33		1.25		5.02	
	0.85		0.68		0.61		2.69	
	18.39		17.57		14.15		50.31	
	16.05		15.01		12.13		41.82	
	15.30		21.27		16.67		51.77	
	3.70		2.98		2.52		10.42	
	15.77		14.79		11.92		46.29	
	9.60		8.92		7.14		31.44	
	19.79		19.66		15.89		64.88	
	14.55		13.88		11.42		37.95	
	3.06		2.80		2.45		11.27	
	1.62		44.63		132.21		148.91	
	1.70		1.41		1.16		5.60	
	13.36		17.86		13.62		46.63	
	29.98		17.08		12.97		69.18	
	43.04		57.29		41.27		154.96	
	12.08		5.87		6.78		24.82	

4.25	3.20		2.39		10.72
30.82	36.59		27.19		153.45
20.57	13.50		10.51		46.62
16.81	17.58		13.56		57.64
1.88	0.92		0.68		7.48
6.30	3.71		2.67		14.95
10.70	7.61		5.77		27.71
7.74	8.32		5.36		19.35
1.76	0.90		0.74		4.20
27.89	20.93		16.14		76.78
2.13	1.08		0.78		5.84
6.74	3.80		2.81		16.90
4.63	2.23		1.71		11.72
2.70	2.21		1.83		8.83
14.84	9.93		7.83		33.33
18.19	23.11		18.11		54.66
1.71		ND	1.31		
0.19	0.21			ND	1.85
8.50	8.24		6.45		23.16
53.24	60.83		48.65		142.21
1.98	0.64		0.46		3.47
2.54	1.06		0.87		3.32
37.55	38.60		30.06		107.68
7.35	10.48		6.13		21.26
3.91	3.19		2.06		9.67
10.79	11.24		8.34		28.66
7.16	7.65		5.54		18.26
5.47	5.31		3.76		15.65
0.93	0.44		0.33		1.58
3.69	1.98		1.46		8.22
4.40	2.06		1.42		8.17
3.41	3.05		2.04		7.86
1.47	1.51		1.17		5.12
2.34	1.99		1.53		7.03
16.91	20.29		15.63		56.96
2.15	1.45		1.27		2.65
1.12	0.64		0.59		2.99
0.39	0.13		0.24		0.65
12.28	13.18		9.51		44.26
0.81	0.26		0.28		1.37
4.97	5.29		4.11		12.92
6.61	8.51		6.34		19.84
1.88	1.15		0.79		3.54
4.29	3.84		3.12		9.91
0.58	0.41		0.29		0.67
2.78	2.85		2.04		7.79
0.63	0.29		0.14		0.55
2.89	2.83		2.10		6.35
0.60	0.72		0.47		1.19
10.75	7.88		5.73		88.46
95.02	120.80		94.25		696.90
13.85	17.05		13.40		83.20
1.85	1.28		1.03		43.90
4.60	7.38		5.89		178.59
13.53	30.99		24.70		472.74
139.61	185.37		145.00		1563.80

0.12		0.10	0.17	0.23
0.17		0.24	0.23	0.40
	BDL	0.24	BDL	0.45
1.14		0.59	0.75	3.02
3.82		4.48	3.88	12.69
2.96		1.46	1.52	9.84
2.00		5.56	4.63	25.15
4.04		1.76	1.34	23.03
6.12		6.22	4.50	59.44
5.12		4.61	3.63	22.96
20.59		22.09	15.27	124.40
44.65		46.17	34.77	277.50
2.11		2.16	1.40	8.21
0.23		0.30	0.19	0.53
0.25		0.19	0.22	0.31
3.25		3.15	2.37	9.82
0.39		0.60	0.42	2.40

1898	1898	1899	1899	1900	1900	1901A	1901A	1901B
75439	Qualifier	75440	Qualifier	75441	Qualifier	75178	Qualifier	75178
5/8/2002		5/8/2002		5/8/2002		9/25/2001		9/25/2001
TN2		TN2		TN2		S2		S2
white perch		white perch		white perch		white perch		white perch
N/A		N/A		N/A		N/A		N/A
1.618		2.187		1.401		2.023		2.265
2.027		2.030		2.049		2.012		2.084
104		101		100		100		92
84		100		96		87		83
96		90		96		93		88
660		948		750		242		235
119		202		131		43		43
44		70		52		9		8
0.71		1.72		3.46		0.36		0.26
4.23		2.90		3.84		0.91		1.37
0.44		0.79		0.32		0.58		0.51
0.12		0.11		0.17		0.04		0.04
0.25		0.35		0.29		0.12		0.12
1.36		1.75		0.91		0.67		0.64
0.41		0.58		0.37		0.20		0.20
0.12		0.30		0.13		0.04		0.03
3.30		6.12		2.99		1.78		1.62
8.95		24.26		13.66		1.55		3.39
0.50		0.95		0.40		0.23		0.21
3.88		8.13		4.08		1.63		1.60
0.36		0.86		0.55			BDL	0.19
2.78		5.45		3.76		0.88		0.84
2.02		3.88		2.48		0.59		0.53
16.31		26.98		17.82		7.53		7.27
5.19		9.27		6.18		0.48		0.58
4.13		9.13		5.17		1.50		1.44
1.62		2.76		2.00		0.45		0.42
0.91		1.77		1.14		0.25		0.25
18.36		31.06		24.12		5.66		5.43
14.92		24.08		21.28		5.26		5.09
12.60		28.40		22.91		5.42		4.31
3.98		7.27		4.17		1.23		1.50
16.93		30.58		24.17		4.31		4.05
10.09		20.76		16.26		2.46		2.46
21.61			ND	10.96		5.06		4.92
14.94			ND		ND	3.97		6.27
3.30		0.80		0.25		0.87		0.92
23.94			ND		ND	0.69		0.28
1.54		3.38		3.79		0.58		0.64
12.45		26.83		18.13		4.40		4.28
27.78		33.64		30.92		7.89		7.63
47.05		28.11		15.20		5.71		5.07
7.25		36.30		34.90		6.06		5.94

3.69	5.14	4.83	1.07	1.07
34.22	56.10	41.58	12.52	12.10
16.39	21.82	19.94	5.55	5.38
14.30	25.27	18.91	4.83	4.72
1.22	1.84	1.67	0.36	0.30
5.37	7.39	7.19	1.30	1.63
9.11	11.96	11.47	2.83	2.61
6.78	11.68	9.63	2.35	2.10
1.45	1.87	1.50	0.38	0.36
23.57	33.21	31.17	6.36	6.42
1.90	2.61	2.87	0.68	0.56
4.70	7.05	5.65	1.37	1.30
3.22	5.04	4.15	1.24	1.02
2.35	4.52	3.04	1.28	1.16
10.87	16.51	14.00	4.31	4.10
16.95	30.66	24.67	7.00	6.68
ND	ND	0.93	0.79	0.59
0.33	0.43	0.55	0.09	0.06
7.13	13.56	9.04	3.67	3.43
48.46	79.22	58.10	26.47	25.42
1.28	1.64	1.59	0.44	0.30
1.33	2.57	2.06	0.80	0.67
34.77	58.48	43.10	17.56	16.99
6.34	11.74	8.66	2.94	2.50
3.24	5.22	4.15	1.80	1.64
10.48	20.12	12.68	5.65	5.35
6.69	9.93	7.85	3.61	3.36
4.76	8.58	6.24	2.48	2.27
0.66	0.88	0.85	0.21	0.14
2.40	4.66	3.75	0.75	0.76
2.00	5.92	3.78	2.15	2.10
3.22	4.80	4.03	2.48	2.34
1.43	2.04	1.65	0.74	0.58
2.49	4.00	2.95	1.26	1.14
21.26	28.27	23.61	10.72	10.43
1.75	2.78	2.60	1.43	1.02
0.81	1.33	0.99	0.38	0.55
0.16	0.42	0.23	0.03	0.07
15.89	22.36	17.76	7.56	7.22
0.58	0.63	0.41	0.17	0.22
6.45	8.59	6.81	3.75	3.73
9.57	10.66	9.82	4.21	4.17
1.49	1.84	1.86	0.69	0.70
4.70	5.64	5.03	2.07	1.98
0.40	0.50	0.56	0.12	0.12
4.19	4.22	4.21	2.01	1.95
0.31	0.34	0.40	0.10	0.09
4.28	3.63	4.19	1.53	1.36
0.88	0.69	0.86	0.20	0.21
10.63	13.92	12.79	2.33	2.25
63.06	116.87	76.54	18.55	18.51
17.91	25.44	19.52	4.57	4.71
0.99	1.46	1.30	BDL	0.53
5.94	13.90	6.37	2.38	2.44
20.35	30.16	14.43	15.09	15.04
118.88	201.74	130.93	43.37	43.49

0.09		0.17	0.15	0.08	0.07
0.18		0.32	0.23	0.29	0.21
	BDL	0.32	0.29	0.55	0.53
1.08		3.26	1.26	1.11	1.09
3.43		6.47	4.58	0.62	0.66
1.39		2.13	1.14	0.72	0.71
1.78		5.56	1.91	0.70	0.61
4.53		5.07	3.41	0.64	0.54
9.61		12.37	8.96	1.26	1.29
3.29		6.41	5.73	1.45	1.03
20.24		31.84	26.28	3.69	3.44
44.27		69.85	52.02	9.08	8.28
1.05		2.55	1.22	0.45	0.49
0.24		0.40	0.39	0.24	0.29
0.12		0.16	0.16	0.19	0.16
3.51		6.08	1.85	1.55	1.47
0.28		0.69	0.50	0.21	0.20

1901B Qualifier	1901C 75178	1901C Qualifier	1902 75427	1902 Qualifier	1903 76259	1903 Qualifier	1904 76263	1904 Qualifier
	9/25/2001		5/8/2002		6/4/2002		6/4/2002	
	S2		TN3		TN3		TN3	
	white perch		white perch		white perch		white perch	
	N/A		N/A		N/A		N/A	
	2.112		1.598		7.440		4.586	
	2.003		0.870		2.074		2.067	
	103		95		147		100	
	92		86		96		88	
	98		91		123		104	
	252		1017		5190		3709	
	46		100		1069		508	
	9		41		394		193	
	0.28		1.49		0.75		1.00	
	0.98		1.85		4.44		7.73	
	0.66		0.21		6.58		2.92	
	0.05		0.10		0.17		0.19	
	0.14		0.63		1.32		0.95	
	0.83		2.20		6.96		4.79	
	0.24		0.57		1.47		1.02	
	0.05		0.08		0.17		0.14	
	1.68		9.20		25.39		19.22	
	3.67		9.21		21.56		15.37	
	0.26		0.86		3.16		2.01	
	1.74		8.22		28.85		20.53	
	BDL		0.62		2.34		2.20	
	0.72		7.80		24.65		22.62	
	0.52		5.43		17.20		16.18	
	7.77		46.13		153.29		125.34	
	0.57		4.83		19.35		13.68	
	1.68		7.40		37.27		26.96	
	0.44		3.16		14.41		3.89	
	0.30		2.00		6.65		5.02	
	5.92		39.06		159.01		121.44	
	5.58		31.01		132.26		107.21	
	5.54		17.81		ND		81.35	
	1.15		7.34		41.18		18.91	
	4.44		36.12		138.32		115.38	
	2.61		16.72		86.08		74.56	
	4.09		44.40		187.36		158.30	
	5.80		25.33		145.69		107.86	
	0.98		5.47		26.02		21.99	
	1.23		49.89		76.22		53.11	
	0.58		3.24		19.91		14.74	
	4.67		25.08		142.92		103.94	
	8.26		55.57		256.34		218.85	
	5.65		26.34		65.90		65.21	
	6.37		38.04		228.95		158.32	

1.20	7.26	34.31	26.50
12.41	70.12	401.00	305.57
5.84	24.96	144.01	93.03
5.26	20.91	141.32	83.77
0.33	2.20	16.37	10.16
1.31	8.71	50.05	36.28
2.83	14.59	87.03	61.72
2.31	8.10	70.35	50.83
0.34	1.60	12.62	7.10
7.13	41.58	214.16	150.37
0.59	3.22	20.62	18.50
1.35	4.94	44.05	22.80
1.12	4.38	33.63	19.35
1.31	4.09	32.05	17.61
4.43	13.92	87.14	53.47
7.42	26.19	147.78	98.35
0.37	1.44	5.08	3.91
0.07	0.34	2.31	1.41
3.75	8.50	52.49	29.12
27.47	56.45	316.07	184.90
0.30	1.34	9.52	6.43
0.24	1.48	4.13	2.17
18.38	38.81	246.03	144.27
2.68	5.98	50.54	28.22
1.65	3.49	24.79	10.44
5.73	12.27	74.04	39.05
3.64	6.08	41.87	25.40
2.54	3.77	39.89	23.60
0.17	0.84	5.72	3.47
0.82	2.64	25.66	16.07
2.20	2.48	19.02	11.98
2.56	3.27	20.21	13.24
0.76	1.81	12.17	7.97
1.40	2.28	16.83	10.28
11.35	18.79	132.87	81.96
1.36	12.10	157.47	85.31
0.40	1.54	5.69	3.33
0.05	0.38	1.07	0.83
8.12	12.76	110.53	68.31
0.19	0.56	2.12	1.76
4.05	5.58	39.83	28.98
4.45	7.76	56.51	38.80
0.92	2.06	14.01	9.40
2.16	4.32	30.22	15.75
0.14	0.54	2.14	1.78
2.11	2.91	24.19	17.60
0.13	0.32	1.56	1.09
1.39	3.36	22.54	19.71
0.24	0.70	4.17	4.14
2.67	14.03	95.92	61.98
20.37	35.97	571.46	238.01
4.65	17.12	171.08	84.15
0.62	2.00	9.35	3.11
2.34	7.73	76.56	44.07
14.90	23.10	144.91	76.90
45.54	99.95	1069.30	508.22

0.10	0.25	0.42	0.32
0.23	0.18	4.93	1.64
0.57	BDL	0.74	0.25
1.18	3.14	22.55	6.55
0.64	5.21	26.96	19.16
0.80	1.92	16.01	6.49
0.69	3.51	19.63	8.38
0.70	3.67	39.06	16.16
0.99	8.05	90.68	41.97
1.18	3.54	35.28	18.69
3.87	15.43	166.48	82.44
8.86	41.33	394.10	193.28
0.43	1.71	14.22	6.51
0.27	0.61	1.83	1.08
0.11	0.32	0.41	0.37
1.55	4.39	36.23	16.36
0.12	0.54	2.58	1.71

1905 76264	1905 Qualifier	1906 76265	1906 Qualifier	1907 76270	1907 Qualifier	1908 76272	1908 Qualifier	1909 75236
6/4/2002 TN3 white perch N/A 6.369 2.019	6/4/2002 TN3 white perch N/A 4.387 0.857	6/4/2002 TN3 white perch N/A 4.056 0.853	6/4/2002 TN3 white perch N/A 4.404 2.057	10/25/2001 TN4 white perch N/A 2.285 2.035				
120 91 106	104 88 95	91 85 90	100 85 100	100 86 92				
6822 611 304	2234 359 143	3060 338 153	2757 606 209	739 132 71				
0.70 1.63 5.03 0.42 4.83 16.04 3.02 0.68 49.04 36.77 5.52 56.74 4.90 70.02 59.58 330.09 52.28 76.13 25.23 14.66 265.82 235.38 176.67 42.88 263.73 165.74 363.68 241.68 50.92 63.57 34.46 211.76 466.83 155.16 290.40	0.87 5.68 2.69 0.14 0.73 3.26 1.07 0.12 13.60 10.71 1.50 13.89 1.37 11.34 8.28 76.65 8.83 16.12 5.12 3.33 73.01 63.99 48.26 12.53 66.90 41.26 87.61 69.08 13.47 5.71 6.60 52.72 120.01 33.27 91.79	0.65 11.96 3.14 0.76 1.50 4.36 1.00 0.09 17.41 10.92 1.94 18.67 1.71 22.26 16.74 109.69 11.52 20.62 7.32 5.46 111.02 98.49 77.44 18.16 100.56 61.75 140.62 87.58 17.19 8.64 14.03 92.09 176.73 93.16 121.56	0.16 4.65 1.58 0.12 0.72 2.81 1.14 0.07 14.39 12.84 2.09 17.70 0.78 8.88 4.60 60.74 9.18 19.59 5.29 3.23 63.03 53.94 59.66 15.53 57.52 36.63 80.41 48.53 13.06 56.88 9.44 81.38 94.05 42.56 104.23	0.72 4.56 0.70 0.07 0.31 1.78 0.48 0.18 5.99 4.56 1.00 6.56 0.68 4.81 3.14 28.02 3.73 7.19 2.50 1.31 25.26 21.93 18.75 5.21 23.02 12.67 29.87 16.72 3.96 2.22 2.33 21.52 35.21 15.23 30.08				

49.17	16.20	23.37	12.69	4.41
655.19	159.80	244.78	182.69	48.54
161.49	62.66	79.38	54.07	17.49
141.85	53.53	75.05	82.14	21.32
19.02	5.82	8.47	6.10	1.39
67.78	22.37	30.82	17.50	5.76
121.92	35.21	52.33	32.58	9.94
106.33	26.60	43.00	31.67	7.73
10.04	5.49	5.47	5.54	1.29
269.35	95.93	128.34	90.12	26.87
38.85	9.65	14.14	6.56	2.10
30.83	17.48	17.09	17.23	3.84
28.69	13.65	15.13	13.77	2.99
30.17	10.12	12.95	13.91	2.54
65.88	39.80	41.62	45.16	9.98
156.12	54.28	89.24	80.56	21.89
6.37	4.00	6.72	4.16	0.70
1.90	0.92	1.05	0.80	0.22
34.69	20.31	27.23	40.25	7.49
214.17	129.60	161.72	266.65	50.88
6.07	4.90	4.01	4.84	0.84
2.98	1.40	2.17	1.74	0.28
181.72	98.63	119.87	162.37	32.59
39.92	16.65	22.32	33.80	5.78
9.95	9.78	7.04	13.24	2.69
39.39	27.81	32.13	58.16	9.09
26.69	16.76	18.49	35.71	5.67
33.41	14.23	15.80	23.78	3.84
3.38	2.10	2.06	2.06	0.65
16.73	10.76	9.86	12.95	1.94
12.42	8.05	8.43	12.00	1.22
12.99	9.92	8.88	14.11	2.39
7.73	4.18	5.53	7.64	1.52
10.23	5.81	7.39	11.67	1.96
82.16	52.20	56.25	103.80	18.38
84.06	64.96	54.42	54.37	22.32
3.61	2.40	2.46	4.78	0.67
0.68	0.58	0.40	0.52	0.12
69.17	41.71	40.58	78.00	11.81
1.56	1.21	1.16	1.78	0.27
25.57	17.06	15.56	25.60	5.33
36.70	23.37	22.32	41.39	7.84
8.99	7.08	7.10	9.24	1.74
18.67	12.79	10.31	20.54	2.43
1.54	1.13	0.80	1.29	0.38
14.53	10.17	8.15	16.55	2.96
0.92	0.72	0.43	1.20	0.15
15.71	10.64	9.55	10.33	3.71
2.70	2.09	1.72	1.93	0.95
106.97	40.27	46.51	43.33	
241.45	168.79	149.94	379.80	72.82
103.11	69.25	60.23	65.62	30.96
3.90	3.81	3.31	3.98	0.89
65.85	22.06	31.77	36.57	6.18
90.06	54.77	46.61	76.80	20.93
611.34	358.94	338.37	606.09	131.78

0.28	0.39	0.29	0.25	0.12
1.89	0.67	1.89	0.58	0.68
0.41	0.79	0.59	0.23	0.27
13.43	9.18	11.44	2.25	4.62
44.43	12.00	18.01	15.70	4.97
14.49	6.28	6.04	10.83	2.80
15.89	4.51	8.74	17.54	4.95
24.38	13.79	12.31	13.87	6.35
57.10	34.93	30.92	34.30	18.64
31.41	9.59	15.89	18.06	3.82
116.44	62.08	61.07	98.78	29.47
304.13	143.18	152.98	209.09	70.99
13.54	4.62	4.88	7.35	1.97
2.25	1.08	1.10	0.38	0.18
0.59	0.62	0.52	0.44	0.16
25.35	19.58	16.39	10.37	5.21
3.16	1.55	1.49	1.70	0.72

1909 Qualifier	1910 75395	1910 Qualifier	1911 75396	1911 Qualifier	1912 75398	1912 Qualifier	1913 75277	1913 Qualifier
	4/10/2002 TR4 white perch N/A 3.600 2.111		4/10/2002 TR4 white perch N/A 5.613 2.405		4/10/2002 TR4 white perch N/A 4.033 2.058		9/12/2001 TN5 white perch N/A 1.788 2.013	
	112 91 94		111 86 99		106 92 94		107 94 90	
	1505 280 119		2407 515 227		1726 258 118		360 52 21	
	0.46 4.02 1.06 0.09 0.47 2.97 0.78 0.32 10.77 15.41 1.26 11.06 1.39 8.07 5.56 49.14 5.32 11.49 2.77 2.46 47.17 40.24		2.13 ND 1.81 0.09 0.67 3.14 0.94 0.15 12.34 17.13 1.58 14.27 1.42 11.60 8.59 78.56 6.94 17.97 5.45 2.98 71.52 67.42		0.47 0.79 1.52 0.06 0.39 2.24 0.58 0.08 10.92 12.33 1.11 11.93 0.58 7.55 4.90 53.30 14.42 11.26 4.21 2.22 46.51 40.11		1.18 1.60 0.33 0.07 0.26 0.70 0.23 0.13 2.55 14.01 0.35 2.30 0.42 1.24 1.01 8.79 0.89 2.67 0.96 0.54 12.12 10.47	
	23.13 45.04 27.66 58.81 15.31 9.43 50.33 4.08 42.49 68.09 21.82 65.80	ND	16.55 42.59 13.86 42.10 11.65 39.28 8.69 66.49 120.63 20.01 113.62	ND	37.94 8.20 42.63 23.30 58.53 36.05 9.44 111.93 3.89 32.31 61.19 49.55 43.52		7.99 3.67 10.49 6.00 4.49 3.36 2.07 ND 0.99 7.65 10.85 7.79 13.40	

9.81	16.68		10.05	2.20
113.69	162.35		91.41	17.27
35.39	70.62		38.32	10.03
43.11	71.72		41.00	8.25
3.28	5.99		3.27	0.61
12.08	21.81		11.41	2.77
21.22	44.95		21.56	5.23
19.27	34.45		12.70	4.50
3.26	4.82		4.56	0.67
57.01	109.35		51.61	11.74
5.58	9.92		4.61	1.00
9.89	23.43		17.78	2.44
7.10	15.93		10.66	1.64
6.16	12.93		5.76	1.44
20.90	39.43		35.83	7.39
42.55	68.76		34.75	10.99
2.33	3.55		4.87	1.06
0.50	0.85		0.71	0.14
14.72	26.58		18.16	4.21
99.32	172.32		110.87	30.70
2.78	4.21		5.96	0.59
0.49		ND	5.20	0.92
69.04	126.87		79.17	21.66
14.46	26.71		17.07	3.44
6.65	12.17		9.56	2.11
19.21	36.21		29.55	6.25
12.47	24.14		18.86	3.60
11.19	20.94		9.71	3.06
1.25	2.51		2.81	0.30
5.14	11.58		13.63	1.43
4.74	11.14		8.69	1.59
0.67		ND	14.49	1.69
2.93	5.85		3.37	0.75
4.64	10.20		7.03	1.31
37.06	77.80		54.71	10.29
52.21	120.09		51.28	9.51
2.26	4.02		2.34	0.53
0.44	0.34		0.55	0.13
28.65	63.70		43.59	6.97
0.81	1.29		1.02	0.24
10.24	23.11		15.13	3.66
13.62	32.98		21.95	4.71
4.55	8.11		6.23	1.88
6.65	16.24		11.06	2.30
0.57	1.28		0.64	0.33
5.13	13.59		8.76	1.82
0.35	0.81		0.52	0.15
4.47	10.86		5.98	2.04
0.89	2.14		1.66	0.68
ND				
7.20	10.97		24.01	3.88
159.39	284.43		107.45	18.33
51.62	121.31		60.61	13.20
1.34	1.55		1.39	0.62
17.41	25.38		17.16	3.35
43.13	70.90		47.72	12.25
280.10	514.53		258.34	51.63

0.20		0.27	0.17	0.10	
0.71		1.81	0.60	0.28	
	BDL	0.29	0.27		BDL
2.64		8.40	3.84	1.09	
2.13		3.85	9.69	1.17	
5.09		6.37	5.11	1.65	
9.78		12.45	5.91	1.52	
16.20		20.46	15.88	2.34	
25.89		53.18	32.87	6.24	
7.99		13.37	5.91	1.46	
52.35		117.48	42.65	6.74	
119.42		227.17	118.02	21.12	
4.90		6.97	4.70	0.96	
0.72		0.87	0.49	0.13	
0.46		0.50	0.40	0.18	
13.13		23.46	11.73	2.98	
1.21		1.65	1.04	0.30	

1913dup 75277	1913dup Qualifier	1914 75347	1914 Qualifier	1915 75387	1915 Qualifier	1916 75389	1916 Qualifier	1917 75392
9/12/2001 TN5 white perch N/A 2.031 2.019	12/11/2001 TN5 white perch N/A 3.386 2.156	4/10/2002 TR5 white perch N/A 5.433 2.393	4/10/2002 TR5 white perch N/A 7.387 2.369	4/10/2002 TR5 white perch N/A 1.899 2.054				
81 75 69	112 97 92	113 86 85	136 95 99	101 93 96				
348 44 18	1681 157 75	1524 274 180	2744 436 186	819 115 32				
1.88 2.95 0.24 0.08 0.27 1.03 0.34 0.11 2.13 18.03 0.33 2.10 0.32 1.13 0.76 8.06 0.82 2.57 0.80 0.49 11.77 10.35 7.64 3.26 9.83 6.06 4.10 7.61 1.74	0.40 3.03 0.95 0.08 0.35 2.13 0.61 0.18 10.28 13.38 1.04 10.19 0.87 10.59 8.01 58.58 16.95 11.12 4.51 2.86 61.55 52.73 38.77 15.22 58.59 33.55 78.45 39.42 10.53	1.30 1.54 2.18 0.07 0.59 5.76 0.75 0.32 14.30 12.98 1.55 15.39 0.89 10.39 9.77 69.84 17.46 16.80 4.45 3.15 52.68 42.84 32.80 9.88 50.85 26.96 63.72 45.37 10.36	0.86 2.86 3.05 0.13 1.17 6.51 1.36 0.26 23.20 22.02 2.63 26.07 1.21 19.66 14.41 111.95 32.12 27.30 8.75 5.17 98.85 81.06 72.97 15.87 92.59 53.81 119.27 56.27 18.63	0.92 1.19 0.41 0.08 0.22 1.28 0.23 0.13 4.26 7.36 0.50 4.37 0.23 2.79 1.60 16.81 5.31 3.73 1.41 0.94 23.77 19.98 16.77 4.80 19.65 11.76 27.27 11.89 3.70				
0.88 7.37 10.27 9.64 11.73	ND 127.66 6.21 42.99 89.52 53.06 65.89	64.67 4.27 33.91 73.95 38.73 51.20	122.37 8.84 65.64 135.88 113.87 87.07	58.04 2.06 16.53 28.30 47.10 15.20				

2.08	13.96	10.65	19.34	5.28
15.26	129.98	100.06	201.61	41.72
9.78	41.15	37.01	67.14	21.23
8.26	37.04	25.42	38.71	18.83
0.63	4.66	3.19	6.29	1.61
2.53	16.92	12.54	23.27	6.54
4.78	28.47	22.19	39.77	11.29
3.85	22.89	15.86	30.85	7.29
0.66	3.40	3.60	5.56	1.68
10.94	63.07	55.03	95.57	29.08
0.92	9.14	6.06	11.62	2.87
2.35	9.61	11.23	20.16	5.79
1.48	8.24	8.51	15.02	4.59
1.23	6.05	5.20	10.61	3.02
7.13	22.04	25.73	42.40	15.78
10.18	37.92	33.56	61.57	21.48
1.37	7.48	5.75	6.07	2.95
0.15	0.68	0.71	1.03	0.31
3.73	10.55	12.45	21.97	8.80
29.48	61.27	77.40	132.86	58.85
0.51	2.54	3.11	5.16	2.04
0.83	3.25	3.59	6.50	2.18
19.81	50.05	59.91	104.29	41.48
3.29	10.08	12.14	23.19	9.04
1.65	3.19	6.21	11.07	4.64
5.66	12.73	17.04	30.56	13.65
3.42	7.44	9.90	17.49	8.91
2.66	9.08	9.47	18.99	6.82
0.30	1.36	1.35	2.18	1.05
1.29	5.20	7.46	10.75	3.03
1.23	4.20	5.44	8.27	2.99
1.69	3.92	6.44	9.60	3.94
0.78	2.45	2.64	4.68	2.20
1.36	2.83	3.99	6.53	3.30
9.70	20.02	30.19	48.15	22.38
7.42	31.57		10.71	1.88
0.52	1.22	1.40	2.51	1.48
0.15	0.36	0.42	0.68	0.38
6.41	15.45	24.91	40.15	16.74
0.28	0.62	0.85	1.16	0.88
3.24	6.43	10.70	15.01	7.25
4.49	8.54	13.88	21.05	10.72
0.86	3.21	5.55	7.98	4.59
2.35	2.66	7.87	11.05	5.90
0.32	0.35	0.68	0.90	0.82
1.65	2.86	5.81	8.28	4.11
0.10	0.69	0.47	0.66	0.55
1.74	3.42	6.37	8.74	4.74
0.58	0.77	1.91	2.23	1.87
		ND		
3.56	23.94	32.83	44.88	10.25
15.68	52.76	94.69	181.56	54.93
10.68	34.40	83.66	95.09	20.28
0.61	0.96	1.52	2.49	0.82
2.82	17.29	19.07	35.76	7.74
10.66	27.54	41.84	76.36	21.21
44.01	156.88	273.61	436.15	115.23

0.11	0.07		0.27		0.32	0.09
0.30	0.35		1.50		3.09	0.23
0.31		BDL		BDL	0.89	
0.90	2.33		8.35		17.04	0.99
1.32	8.03		7.44		14.70	2.86
1.42	3.51		9.65		12.29	1.22
1.37	4.34		8.87		10.47	1.87
2.10	10.31		31.49		25.19	2.70
4.73	19.72		58.17		52.94	7.05
1.54	5.71		6.12		9.73	3.46
5.92	23.31		58.63		61.04	13.15
18.39	74.92		180.35		186.36	32.31
0.89	3.58		8.32		11.55	1.30
0.22	0.41		0.37		0.85	0.26
0.19	0.23		0.45		0.52	0.25
2.61	12.57		18.08		30.92	3.31
0.21	0.68		1.58		1.52	0.35

1917 Qualifier	1918	1918 Qualifier	1919	1919 Qualifier	1920	1920 Qualifier	1921	1921 Qualifier
	10/25/2001		4/10/2002		8/5/2003		8/5/2003	
	TN6		TN7		TN2 1		TN1 3	
	white perch		white perch		sediment		sediment	
	N/A		N/A		40.253		47.049	
	2.767		3.790		N/A		N/A	
	2.132		2.269		5.582		5.009	
	90		106		83		91	
	84		93		77		81	
	88		100		86		90	
	531		3223		281		454	
	66		249		124		171	
	26		105		12		10	
	0.60		0.35		1.35		0.62	
	0.77		1.36		1.26		1.99	
	0.53		1.18		0.38		0.70	
	0.04		0.19		0.09		0.15	
	0.20		1.31		0.32		0.92	
	1.89		5.79		3.83		8.76	
	0.34		1.36		0.29		0.80	
	0.08		0.40		0.20		0.36	
	4.16		26.78		2.89		7.93	
	5.88		18.81		3.64		5.74	
	0.50		2.77		0.44		0.87	
	4.43		29.47		3.34		8.92	
	0.30		1.78		0.19		0.20	
	2.16		33.49		1.91		3.06	
	1.50		26.69		1.29		1.73	
	15.86		154.81		14.65		33.35	
	4.08		49.87		4.12		10.56	
	3.58		33.99		3.44		8.50	
	1.11		11.89		0.85		2.30	
	0.64		7.59		0.50		1.24	
	13.52		132.84		7.81		13.50	
	12.30		105.19		7.17		11.33	
	11.61		79.19		4.79		7.22	
	2.29		27.61		1.83		3.71	
	11.89		126.86		7.75		14.33	
	6.45		69.51		5.58		10.46	
	14.94		164.81		9.32		16.62	
	10.77		69.33		9.32		9.90	
	2.24		21.67		1.53		2.90	
	39.90		43.23		0.60		0.93	
	1.07		13.80		0.43		0.89	
	8.77		84.21		4.85		8.49	
	15.06		185.34		12.85		22.63	
	16.23		308.15		5.62		11.06	
	11.53		38.61		10.19		15.90	

2.81	24.15	1.54	2.91
22.77	279.88	17.95	36.31
11.73	73.98	5.84	8.90
10.46	60.82	3.81	5.85
0.71	8.37	0.48	0.79
2.96	29.85	2.16	3.25
5.69	51.08	3.02	4.46
3.31	39.53	2.03	2.89
1.22	5.94	0.88	1.34
13.28	112.42	9.16	14.39
1.19	14.89	0.97	1.37
5.18	16.68	1.57	2.41
2.85	15.19	1.29	1.92
1.84	10.85	0.61	0.81
12.12	39.84	6.57	9.23
11.14	70.04	6.58	8.93
0.78	12.09	1.67	1.13
0.24	1.16	0.16	0.18
6.28	20.70	2.15	2.55
42.54	106.44	15.67	20.23
1.67	5.20	1.01	1.23
1.58	6.44	0.85	0.31
29.13	89.69	12.36	15.93
4.83	20.84	2.05	2.62
3.39	6.07	1.00	1.18
11.18	24.58	3.61	4.56
6.78	13.88	2.01	2.62
3.58	15.74	2.00	2.41
0.90	2.27	0.38	0.44
4.14	11.59	1.80	2.59
3.43	8.42	1.65	2.05
4.51	6.53	1.39	1.57
1.33	4.26	0.71	0.91
2.46	5.01	0.87	0.91
20.71	35.49	6.05	8.10
1.01	5.02	0.81	0.89
0.89	2.23	0.58	0.46
0.21	0.78	0.23	0.22
14.78	28.22	5.09	6.68
0.40	1.50	0.39	0.33
6.14	12.48	2.79	3.54
8.16	16.32	3.71	4.45
1.73	5.50	1.91	1.28
4.28	6.68	1.80	1.81
0.34	1.21	0.41	0.38
3.27	5.49	1.57	2.07
0.23	0.79	0.24	0.22
2.35	5.23	2.79	3.42
0.71	1.73	1.94	2.67
5.20	42.10	3.70	6.18
29.65	91.57	10.66	18.03
11.17	43.57	4.39	8.33
0.78	1.54	89.99	111.78
3.26	30.70	5.53	8.15
16.08	39.19	9.51	18.58
66.14	248.68	123.79	171.06

	0.07		0.22	2.08	0.19
	0.30		0.49	0.84	0.25
BDL		BDL	0.21	0.70	0.85
	3.05		2.82	4.61	1.84
	3.12		19.21	1.15	3.04
	2.08		4.10	0.29	0.17
	1.13		4.74	0.16	0.36
	2.28		8.85	4.22	1.01
	6.46		24.95	3.03	2.24
	2.11		9.68	0.89	1.00
	9.20		33.70	2.10	2.30
	26.38		105.23	11.84	10.12
	1.13		5.10	0.67	0.48
	0.20		1.10	0.28	1.15
	0.21		0.32	0.18	0.22
	2.98		11.58	0.65	0.56
	0.24		0.99	0.31	0.33

1922 78705	1922 Qualifier	1923 78498	1923 Qualifier	1924 78694	1924 Qualifier	1925 78494	1925 Qualifier	1925dup 78494
12/12/2003 TN4 1 sediment 35.860 N/A 5.043		12/4/2003 TN3 1 sediment 35.071 N/A 5.041		12/12/2003 TN5 2 sediment 31.635 N/A 4.991		12/4/2003 TN6 3 sediment 46.796 N/A 5.186		12/4/2003 TN6 3 sediment 46.796 N/A 5.045
92		96		95		88		92
80		84		79		83		88
91		92		90		91		95
734		504		699		22		27
134		176		215		10		10
19		15		29		2		1
1.60		0.94		1.47		0.26		0.60
2.88		2.43		2.12		1.05		1.52
0.71		0.65		0.61		0.21		0.18
0.14		0.11		0.15		0.05		0.04
1.83		0.61		0.88		0.12		0.10
14.12		4.99		9.37		0.33		0.51
0.50		0.58		0.56		0.15		0.13
0.71		0.43		0.59		0.10		0.46
9.34		4.78		7.61		0.18		0.24
7.88		7.30		10.13		0.31		0.76
0.91		0.62		0.92		0.05		0.08
9.99		5.68		8.78		0.31		0.31
0.43		0.27		0.53		0.14		0.12
7.40		3.59		5.00		0.13		0.14
12.21		2.82		5.61			BDL	
49.57		29.71		42.73		0.94		0.86
12.92		7.83		11.66		0.32		0.41
9.03		6.42		10.31		0.48		0.50
2.72		1.89		2.99		0.06		0.09
1.74		1.10		2.09		0.06		0.09
23.81		14.37		21.11		0.48		0.50
21.83		13.23		18.61		0.45		0.49
1.91		7.38		10.14			BDL	0.32
7.49		3.80		4.37			BDL	0.16
25.22		15.17		22.00		0.42		0.46
16.85		10.37		14.12		0.38		0.42
29.73		18.02		25.67		0.70		0.61
13.47		14.87		16.80		0.93		3.75
5.43		3.36		5.94		0.15		0.15
5.55		27.80		42.10		0.08		0.17
1.55		0.87		1.33		0.08		0.10
10.59		8.36		11.30		0.29		0.31
39.29		23.89		32.43		0.75		0.77
7.21		9.21		11.80			BDL	
26.61		18.55		23.34		0.38		0.50

5.11	2.74	4.21	0.10		0.11
44.53	35.92	48.49	0.95		0.87
15.32	9.34	13.29	0.31		0.37
10.36	6.48	1.39	0.20		0.22
1.33	1.63	1.84	0.16		0.06
5.56	3.56	5.04	0.13		0.15
5.49	5.14	7.14		BDL	0.33
4.29	3.68	4.95	0.13		0.17
2.05	1.31	1.85	0.05		0.08
25.04	17.94	23.41	0.44		0.40
1.85	1.88	2.48	0.11		0.09
4.07	2.21	3.24	0.11		0.16
3.25	2.07	2.81	0.10		0.11
2.33	1.09	1.43	0.11		0.07
16.87	9.60	14.23	0.27		0.29
15.01	10.71	14.92	0.35		0.30
1.62	0.81	2.74	1.35		0.43
0.33	0.56	0.81	0.04		0.03
5.59	2.98	4.61	0.17		0.17
37.09	21.93	31.45	0.68		0.65
2.42	1.53	2.06	0.45		0.10
0.60	1.06	0.56		ND	
27.75	18.09	25.71		BDL	
4.49	2.96	4.29	0.15		0.11
0.98	1.57	0.95	0.25		0.27
8.94	5.23	7.21	0.17		0.19
5.30	2.97	4.21	0.26		0.26
4.21	2.98	4.28	0.19		0.30
0.80	0.63	0.69	0.10		0.17
5.48	2.91	4.44	0.05		0.11
4.20	2.69	3.37	0.15		0.18
0.88	2.22	2.68	0.21		0.27
1.52	1.22	1.46	0.19		0.20
1.92	1.15	1.47	0.30		0.21
15.77	8.92	13.19	0.19		0.34
1.41	1.16	1.54		BDL	0.47
0.72	0.87	0.76		ND	0.10
0.46	0.28	0.43	0.06		0.06
13.76	7.28	10.75	0.34		0.26
0.69	0.40	0.61	0.11		0.15
7.55	4.22	5.99	0.24		0.29
9.46	5.40	7.70	0.29		0.33
3.72	2.47	2.03	0.90		0.67
3.37	1.97	3.17	0.15		0.20
1.19	0.63	0.73	0.09		0.11
4.02	2.55	3.20	0.11		0.19
0.53	0.31	0.34	0.09		0.16
7.08	4.03	6.03	0.31		0.20
4.81	3.18	4.03	0.20		0.11
3.74	6.70	9.86	0.39		0.40
27.62	15.40	20.08	0.73		0.76
9.78	3.35	6.33	0.31		1.98
81.94	139.51	167.53	8.28		6.11
4.63	3.64	2.97	0.13		0.15
6.71	7.44	7.93	0.36		0.46
134.42	176.05	214.70	10.19		9.86

0.28	0.27	0.19	0.09	0.08
0.81	0.87	0.85	0.22	0.19
1.08	1.06	1.56	0.24	0.27
23.84	6.44	20.93	0.44	0.37
4.77	3.16	5.62	0.26	0.22
0.50	0.59	0.78	0.24	0.20
0.51	0.25	0.34	0.12	0.08
5.39	3.83	7.69	0.22	0.21
3.28	1.60	3.51	0.10	0.21
1.71	2.28	4.57	0.24	0.31
2.81	3.79	6.34	0.33	0.25
18.97	15.50	28.85	1.51	1.48
0.38	0.84	0.60	0.04	0.07
0.63	0.80	0.71	0.22	0.16
0.30	0.43	1.23		0.09
0.52	0.71	0.61	1.53	1.48
0.69	0.70	5.09	0.07	0.10

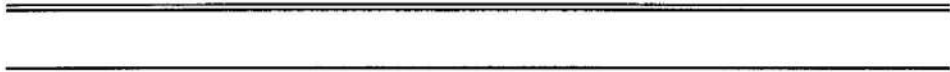
		0.09	13.14	14.51	13.89
		1.03	164.15	166.41	200.51
		0.39	52.43	50.68	50.92
		0.24	51.13	50.32	46.09
		0.07	5.13	5.14	10.73
		0.16	18.21	17.41	17.14
	BDL		31.53	31.55	31.22
		0.15	25.59	30.96	26.79
		0.09	4.89	4.64	5.88
		0.47	72.67	72.36	85.05
		0.16	8.41	8.69	7.74
		0.16	15.93	16.14	17.47
		0.16	11.99	12.39	13.71
		0.14	11.64	12.48	6.75
		0.31	38.63	34.16	26.71
		0.40	63.18	59.15	31.43
		0.61	6.66	3.96	0.58
		0.02	0.91	0.85	0.98
		0.19	25.36	20.02	13.49
		0.62	139.48	127.21	86.46
		0.09	4.89	5.37	3.38
ND	ND		6.22	6.81	2.79
BDL		0.49	105.62	98.46	68.63
	BDL		22.45	22.70	18.78
		0.19	10.54	11.52	8.39
		0.21	31.24	29.76	21.20
		0.33	18.44	16.84	15.39
		0.22	18.55	19.06	10.02
		0.15	2.24	2.40	1.57
		0.09	11.17	10.73	7.92
		0.18	9.82	9.86	7.09
		0.20	10.06	9.78	8.16
		0.16	6.18	7.24	4.88
		0.36	6.92	7.82	4.88
		0.28	50.85	50.42	64.25
	BDL		81.08	77.48	6.99
		0.12	2.18	2.88	1.48
		0.08	0.62	0.82	0.25
		0.23	42.20	42.29	38.69
		0.10	1.32	1.28	0.59
		0.26	17.14	17.11	9.37
		0.19	22.22	23.00	15.97
		0.38	7.59	8.60	4.58
		0.11	12.73	13.99	7.54
		0.09	0.91	1.01	0.64
		0.13	9.18	9.78	6.40
		0.11	0.56	0.65	0.56
		0.24	9.42	10.15	4.42
		0.10	3.36	3.68	0.64
		0.48	32.02	33.17	102.18
		0.72	170.25	174.44	776.12
		0.28	90.97	97.64	96.22
		5.04	2.86	2.90	28.70
		0.13	32.22	34.70	288.97
		0.41	70.78	75.57	866.47
		7.05	399.10	418.42	2158.66

0.06	0.42	0.52	0.33	
0.14	1.49	1.53	0.67	
0.23	0.38	0.24		BDL
0.33	8.28	8.23	3.05	
0.22	9.00	9.54	13.60	
0.13	5.34	5.64	9.54	
0.08	12.17	13.56	17.93	
0.29	15.10	17.35	25.46	
0.13	53.86	61.10	71.22	
0.19	8.89	9.02	10.85	
0.32	56.38	61.78	91.12	
1.36	160.74	178.01	239.73	
0.04	7.06	7.71	10.02	
0.12	1.09	1.06	0.72	
0.09	0.16	0.28	0.25	
1.55	20.43	22.50	14.24	
0.04	1.54	1.72	1.65	

1928 75407	1928 Qualifier	1929 75408	1929 Qualifier	1930 76275	1930 Qualifier	1931 75305	1931 Qualifier
4/17/2002 GN1 white perch N/A 8.19028936 2.039	4/17/2002 GN1 white perch N/A 5.56097561 2.050	6/4/2002 TN1 white perch N/A 6.59971306 2.091	11/27/2001 TN3 white perch N/A 2.80418251 2.104				
							surrogate average
91	114	114	103				105
73	94	92	91				89
86	98	106	97				97
1816	1626	5937	795				
266	295	458	131				
86	97	201	36				
1.40	0.48	0.46	1.01				
3.78	4.00	1.95	1.40				
2.96	1.95	3.56	0.59				
0.10	0.14	0.26	0.08				
0.35	0.57	3.14	0.42				
4.22	3.84	11.15	1.88				
1.37	0.91	2.37	0.68				
0.27	0.52	0.31	0.12				
15.70	13.65	45.07	7.21				
20.87	18.17	32.47	7.39				
2.11	1.73	4.59	1.19				
20.86	15.58	50.45	8.89				
0.93	0.97	2.75	0.60				
8.76	8.41	55.88	3.65				
4.59	5.03	44.85	1.84				
65.42	50.74	277.09	26.49				
16.07	15.46	82.72	6.87				
16.84	12.47	63.57	5.73				
5.05	4.68	18.51	2.39				
2.93	2.68	12.41	1.34				
47.21	53.49	212.55	24.98				
39.47	41.19	176.98	20.60				
45.90	34.87	158.01	20.48				
13.60	12.37	42.05	5.50				
44.67	46.96	211.35	21.67				
28.27	26.83	124.71	12.42				
60.46	60.87	283.81	28.13				
42.60	43.67	120.30	17.95				
11.82	9.12	38.48	4.42				
31.59	50.73	84.27	33.26				
5.92	4.54	26.07	1.90				
57.80	34.35	175.15	18.29				
66.76	59.67	348.12	26.04				
156.84	109.58	626.89	62.46				
17.73	24.18	45.68	9.21				

7.62	9.89	36.85	5.02
122.99	98.09	554.84	48.52
32.10	39.55	117.44	19.27
45.49	36.16	114.65	17.80
2.42	3.32	13.58	1.57
9.85	12.38	49.61	5.86
18.06	20.80	91.48	10.34
18.97	12.39	79.45	7.66
2.55	3.74	7.89	1.84
42.88	50.84	189.56	24.62
3.76	4.47	29.27	2.27
8.46	12.31	25.08	5.52
6.61	8.94	23.28	4.00
10.53	5.92	24.50	2.67
25.31	31.80	61.59	14.62
56.13	38.37	147.00	19.98
2.74	3.56	9.70	2.00
0.38	0.73	1.84	0.26
21.94	16.01	32.73	8.30
143.15	100.70	195.75	54.89
1.99	3.71	7.19	1.21
3.67	4.43	10.69	1.65
94.97	75.18	165.55	37.08
18.90	14.37	42.94	6.85
6.30	8.15	10.70	3.46
28.45	24.33	38.68	12.08
15.56	12.84	25.52	6.02
15.93	10.22	34.11	5.38
0.90	1.61	3.03	0.71
5.05	7.35	17.32	2.71
6.78	6.81	12.74	2.67
6.40	5.64	11.52	2.89
4.23	2.70	10.70	1.49
4.85	4.71	9.72	1.96
42.83	36.30	72.58	16.84
30.08	35.18	84.51	9.38
1.39	1.75	2.99	1.06
0.18	0.43	0.85	0.28
30.53	27.95	59.12	11.67
0.56	0.84	1.68	0.62
9.84	11.60	25.09	4.95
14.77	15.45	33.34	6.96
4.55	4.63	9.78	2.81
7.17	9.12	18.28	3.68
0.74	0.81	1.37	0.46
5.66	6.04	12.98	2.48
0.47	0.58	0.74	0.29
4.65	6.59	14.38	2.37
1.73	2.10	4.41	0.94
19.70	24.45	71.67	10.80
130.55	125.69	193.76	73.87
39.70	52.57	83.72	14.24
2.21	2.51	4.81	1.82
28.09	25.03	45.97	7.63
45.30	65.03	57.79	22.84
265.54	295.29	457.72	131.19

0.33		0.45	0.64	0.34
0.49		0.52	2.64	0.32
	BDL	0.36	0.57	0.33
1.20		1.45	13.37	1.04
8.18		7.84	27.84	4.55
3.70		5.61	7.80	1.86
13.46		6.33	12.39	3.17
6.41		9.12	14.82	2.91
16.29		29.25	42.97	7.89
7.88		5.95	23.66	2.76
29.60		32.47	71.66	13.06
85.52		96.58	201.15	36.20
5.78		6.60	10.16	2.73
0.73		0.72	2.68	0.51
0.14		0.29	0.59	0.21
10.78		9.94	19.65	3.06
1.80		0.92	2.04	0.63



recoveries

stdev

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