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REGULATORY DOCKET FILE

IMPINGEMENT MONITORING PROGRAM

REPORT NO. 2 - MAY 1977

SALEM NUCLEAR GENERATING STATION  
UNIT NO. 1

DOCKET NO. 50-272  
OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC AND GAS COMPANY  
NEWARK, NEW JERSEY  
JUNE 20, 1977

## SUMMARY

This is the second monthly impingement monitoring program report required by the proposed changes to Section 3.1.2.2 of the Environmental Technical Specifications (ETS). The ETS are Appendix B of the Salem Nuclear Generating Station (SNGS) Operating License No. DPR-70. The tabular of summaries attached include daily estimates of the number and weight of fish impinged on the Circulating Water System (CWS) traveling screens (Table 2) and the Service Water System (SWS) traveling screens (Table 3).

The monitoring program at both locations was initiated on April 18, 1977 and consists of three 24-hour sampling periods per week at the CWS. A comparable set of samples was collected at the SWS. The CWS screens were sampled four times per 24-hour period at approximately six-hour intervals. During the first part of May the samples were collected by diverting approximately three minutes of screen wash water to either the counting pool or inclined trash screen located on the north end of the CWS intake structure. During the second part of May, both the upper, fish trough and lower debris trough were diverted to the counting pool simultaneously. Survival rates were calculated for pool samples only. Attached also (Table 1) is a summary of plant operating conditions during sample collection at CWS.

SWS screen samples consisted of two 12-hour samples per day. These samples consisted of all fish impinged and found in the trash baskets located on the intake structure proper. These data are also summarized and attached.

MDL:aec

Table 1. - Start time and duration of impingement samples at the circulating water intake, S.N.G.S Unit 1, 2-31 May 1977. Number of pumps and screens in operation is indicated.

Date	Sample Start Time			Dur. (min.)	Pumps	Screens
	Upper Sluice	Lower Sluice	Combined			
2 May	1200	1159	-	3	5	5
	1800	1755	-	3	5	5
3	0000	2355	-	3	5	5
	0605	0555	-	3	5	5
4	1200	1155	-	3	5	5
	1830	1825	-	3	3	3
5	0000	0015	-	3	3	3
	0305	0255	-	3	3	3
	1258	1250	-	3	2	2
	1805	1755	-	3	1	1
7	1200	1205	-	3	4	4
	1757	1803	-	3	6	6
9	1200	1201	-	3	6	6
	1800	1801	-	3	6	6
10	0005	0004	-	3	6	6
	0611	0616	-	3	6	6
11	1215	1216	-	3	5	5
	1800	1801	-	3	6	5
12	0013	0012	-	3	6	6
	0600	0558	-	3	6	6
	-	-	1124	3	6	6
	-	-	1800	3	6	6
13	-	-	0011	3	5	5
	-	-	0603	3	5	5
16	-	-	1200	3	6	6
	-	-	1800	3	6	6
17	-	-	0001	3	6	6
	-	-	0600	3	6	6
18	-	-	1200	3	6	6
	-	-	1800	3	6	6
19	-	-	0000	3	6	6
	-	-	0600	3	6	6
	-	-	1200	3	6	6
	-	-	1802	3	6	6

Table 1. - (continued).

Date	Sample Start Time			Dur. (min.)	Pumps	Screens
	Upper Sluice	Lower Sluice	Combined			
20	-	-	0000	3	6	6
	-	-	0600	3	6	6
23	-	-	1159	3	6	6
	-	-	1802	3	6	6
24	-	-	0034	3	6	6
	-	-	0602	3	6	6
25	-	-	1114	3	5	5
	-	-	1803	3	5	5
26	-	-	0000	3	5	5
	-	-	0600	3	5	5
	-	-	1203	3	4	4
	-	-	1800	3	4	4
27	-	-	0000	3	5	5
	-	-	0600	3	5	5
30	-	-	1200	3	6	6
	-	-	1825	3	6	6
31	-	-	0000	3	6	6
	-	-	0600	3	5	5

Table 2. - Estimated number and weight per 24 hours and modal and maximum lengths of fishes and blue crab impinged at the circulating water intake, S.N.G.S. Unit 1, 2-31 May 1977. % Survival: L = live, D = dead, D\* = damaged; N = number of 3-minute samples; CF = catch frequency (number of samples in which the species appeared).

Date	Species	Location <sup>1</sup> Sluice	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
					L	D	D*					Mode	Max.
2-3 May	A. aestivalis	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	1.26	2.5	103	103
	B. tyrannus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	2	-	-	-	240	277.1	23.39	46.55	33, 238	238
	A. mitchilli	Upper	4	4	46	42	12	3,120	2,017.5	8.80	6.01	73	88
		Lower	4	3	-	-	-	7,560	13,217.4	18.64	31.29	68	83
	M. americana	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	3	-	-	-	960	876.4	60.61	57.29	133	213
	P. flavescens	Upper	4	1	100	0	0	120	240.0	14.22	28.44	213	213
		Lower	4	0	-	-	-	-	-	-	-	-	-
	P. dentatus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	16.16	32.33	258	258
	T. maculatus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	2	-	-	-	240	277.1	9.01	13.33	141, 103	141
TOTAL		Upper						3,240		23.02			
		Lower						9,240		129.07			
		Combined						12,480		152.09			

Table 2. - (continued).

Date	Species	Location <sup>1</sup> Sluice	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
					L	O	D*					Mode	Max.
4-5 May	A. mitchilli	Upper	4	3	0	100	0	600	459.6	1.96	1.35	63	83
		Lower	4	3	-	-	-	720	619.7	1.37	1.18	68	88
	M. americana	Upper	4	1	100	0	0	120	240.0	3.37	6.74	83	83
		Lower	4	1	-	-	-	120	240.0	5.02	10.03	143	143
	T. maculatus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	2	-	-	-	120	240.0	6.52	9.83	68	88
	C. sapidus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	2	-	-	-	360	459.6	1.38	1.99	-	48
	TOTAL	Upper						720		5.33			
		Lower						1,320		14.29			
		Combined						2,040		19.62			
5 May	A. rostrata	Upper	2	1	100	0	0	240	339.4	72.19	102.09	478	478
		Lower	2	0	-	-	-	-	-	-	-	-	-
	M. americana	Upper	2	1	0	0	100	480	678.8	43.44	61.43	143, 218	218
		Lower	2	0	-	-	-	-	-	-	-	-	-
	TOTAL	Upper						720		115.63			
		Lower						0		0			
		Combined						720		115.63			

Table 2. - (continued).

Date	Species	Location <sup>1</sup> Sluice	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
					L	D	D*					Mode	Max.
7 May	A. mitchilli	Upper	2	2	67	33	0	720	339.4	1.42	0.98	-	83
		Lower	2	1	-	-	-	960	1,357.7	2.16	3.05	68	78
	M. americana	Upper	2	0	-	-	-	-	-	-	-	-	-
		Lower	2	1	-	-	-	240	339.4	4.87	6.89	118	118
	T. maculatus	Upper	2	0	-	-	-	-	-	-	-	-	-
		Lower	2	1	-	-	-	480	678.8	11.35	16.05	98	98
	C. sapidus	Upper	2	0	-	-	-	-	-	-	-	-	-
		Lower	2	1	-	-	-	720	1,018.2	1.66	2.34	-	58
	TOTAL	Upper						720		1.42			
		Lower						2,400		20.04			
		Combined	9					3,120		21.46			
9-10 May	A. rostrata	Upper	4	1	100	0	0	120	240.0	7.93	15.86	318	318
		Lower	4	0	-	-	-	-	-	-	-	-	-
	B. tyrannus	Upper	4	1	100	0	0	120	240.0	2.44	4.87	113	113
		Lower	4	2	-	-	-	1,080	1,853.7	48.78	92.76	113	228
	A. mitchilli	Upper	4	2	80	20	0	600	908.6	2.52	4.00	68	78
		Lower	4	2	-	-	-	360	459.6	0.84	1.03	58	58
	H. nuchalis	Upper	4	1	100	0	0	120	240.0	3.20	6.41	128	128
		Lower	4	1	-	-	-	240	480.0	4.64	9.29	118	118
	M. americana	Upper	4	1	100	0	0	120	240.0	3.00	6.00	118	118
		Lower	4	1	-	-	-	480	960.0	24.00	48.00	128	173
	T. maculatus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	2.11	4.22	98	98
	C. sapidus	Upper	4	1	100	0	0	240	480.0	0.40	0.79	21, 31	31
		Lower	4	2	-	-	-	360	459.6	1.75	2.07	-	48
	TOTAL	Upper						1,320		19.49			
		Lower						2,640		82.12			
		Combined						3,960		101.61			

Table 2. - (continued).

Date	Species	Location <sup>1</sup> Sluice	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
					L	D	D*					Mode	Max.
11-12 May	A. aestivalis	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	28.21	56.42	263	263
	A. mitchilli	Upper	4	4	69	31	0	1,920	1,959.6	5.26	4.01	71	83
		Lower	4	3	-	-	-	2,400	2,036.5	6.22	4.90	63	78
	I. nebulosus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	4.34	8.69	163	163
	U. regius	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	0.55	1.10	83	83
	L. macrochirus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	6.60	13.20	138	138
	S. aquosus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	120	240.0	1.34	2.69	88	88
	T. maculatus	Upper	4	0	-	-	-	-	-	-	-	-	-
		Lower	4	1	-	-	-	360	720.0	9.97	19.94	-	123
TOTAL		Upper						1,920		5.26			
		Lower						3,360		57.23			
		Combined						5,280		62.49			



Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
12-13 May	A. rostrata	4	1	100	0	0	120	240.0	3.07	6.14	258	258
	A. aestivalis	4	1	0	100	0	120	240.0	1.25	2.50	103	103
	B. tyrannus	4	3	80	20	0	600	459.6	0.38	0.30	33	38
	A. mitchilli	4	4	53	32	15	30,000	32,605.9	74.08	81.23	63	88
	U. regius	4	2	77	8	15	1,560	1,894.8	11.90	13.83	-	126
	R. marginata	4	2	75	0	25	960	1,615.9	15.42	27.55	153	203
	M. menidia	4	3	75	25	0	480	391.9	3.50	2.78	98	108
	M. americana	4	1	100	0	0	120	240.0	6.13	12.26	143	143
	L. macrochirus	4	1	100	0	0	120	240.0	7.45	14.90	148	148
	S. aquosus	4	1	0	100	0	120	240.0	0.77	1.54	83	83
	T. maculatus	4	3	100	0	0	600	459.6	19.96	19.06	-	123
	C. sapidus	4	1	100	0	0	240	480.0	1.00	1.99	28, 43	43
TOTAL							35,040		144.88			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
16-17 May	A. rostrata	4	1	0	0	100	120	240.0	12.58	25.15	363	363
	B. tyrannus	4	4	62	32	5	4,440	6,051.0	18.78	12.21	38	118
	A. mitchilli	4	4	69	21	10	18,720	21,369.4	42.83	47.20	63	83
	U. regius	4	2	33	33	33	360	459.6	57.36	67.97	126	128
	R. marginata	4	1	100	0	0	720	1,440.0	12.83	25.66	158	168
	M. martinica	4	1	100	0	0	240	480.0	1.45	2.90	90	93
	M. menidia	4	4	100	0	0	240	277.1	1.81	2.12	88, 98	98
	M. americana	4	4	33	17	50	720	277.1	46.72	13.05	-	193
	C. striata	4	1	100	0	0	120	240.0	0.46	0.91	58	58
	P. flavescens	4	2	0	50	50	240	480.0	17.89	35.78	138, 218	218
	P. saltatrix	4	1	100	0	0	120	240.0	0.11	0.22	58	58
	S. aquosus	4	1	100	0	0	120	240.0	0.72	1.44	78	78
	T. maculatus	4	1	100	0	0	240	480.0	5.24	10.49	105	108
	C. sapidus	4	1	100	0	0	120	240.0	0.42	0.84	23	23
TOTAL							26,520		219.20			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
18-19 May	A. rostrata	4	2	33	66	0	360	459.6	106.54	204.27	-	658
	B. tyrannus	4	3	20	60	20	600	459.6	0.89	0.61	33	43
	A. mitchilli	4	4	45	46	10	17,520	16,597.6	41.22	28.82	63	88
	U. regius	4	2	50	50	0	240	277.1	2.17	2.54	88, 113	113
	R. marginata	4	1	100	0	0	840	1,680.0	17.15	34.30	68	83
	M. menidia	4	1	100	0	0	120	240.0	0.78	1.56	83	83
	M. americana	4	2	70	30	0	1,200	1,385.6	61.87	71.96	128	168
	L. macrochirus	4	1	0	0	100	120	240.0	4.58	9.17	128	128
	P. saltatrix	4	1	100	0	0	240	480.0	0.40	0.79	40	43
	L. xanthurus	4	1	0	50	50	240	480.0	0.32	0.65	25	28
	P. dentatus	4	1	100	0	0	120	240.0	22.60	45.19	253	253
	T. maculatus	4	3	90	10	0	1,200	919.1	37.14	38.52	103, 108	158
	C. sapidus	4	2	100	0	0	240	277.1	2.04	23.58	48, 53	53
TOTAL							23,040		297.70			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
19-20 May	A. rostrata	4	1	100	0	0	120	240.0	2.56	5.11	218	218
	B. tyrannus	4	1	40	20	40	600	1,200.0	0.24	0.48	38	53
	A. mitchilli	4	4	55	43	2	7,200	7,629.8	15.18	17.89	63	78
	U. regius	4	1	100	0	0	240	480.0	2.38	4.75	78, 128	128
	R. marginata	4	3	86	14	0	1,680	1,270.0	32.76	22.60	148	203
	M. menidia	4	2	100	0	0	360	459.6	1.68	2.03	98	98
	M. americana	4	1	100	0	0	120	240.0	7.18	14.35	58	58
	L. xanthurus	4	1	50	50	0	240	480.0	0.59	1.18	28	28
	T. maculatus	4	3	100	0	0	480	391.9	16.49	15.06	-	138
TOTAL							11,040		79.06			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
23-24 May	A. rostrata	4	2	0	33	66	360	459.6	41.98	75.62	-	488
	B. tyrannus	4	2	36	36	27	1,320	2,331.0	1.98	3.21	53	53
	A. mitchilli	4	4	38	50	12	19,248	23,160.4	19.25	23.16	68	88
	R. marginata	4	4	60	13	27	1,680	1,385.6	45.36	33.54	158	198
	M. martinica	4	1	77	15	8	1,560	3,120.0	5.41	10.82	183	193
	M. menidia	4	2	100	0	0	840	1,378.7	6.28	10.43	103	113
	M. americana	4	3	29	0	71	840	720.0	57.85	52.85	-	188
	P. saltatrix	4	2	86	14	0	840	1,378.7	1.27	2.12	53	58
	L. xanthurus	4	2	50	50	0	720	919.1	0.26	0.33	28	33
	T. maculatus	4	3	100	0	0	960	783.8	23.03	24.34	143	188
	C. sapidus	4	4	86	14	0	840	459.6	9.41	7.98	43	83
TOTAL							29,208		212.08			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
25-26 May	B. tyrannus	4	2	60	40	0	600	720.0	20.26	39.62	-	163
	A. mitchilli	4	4	33	59	7	3,240	362.3	10.45	11.07	58	88
	I. nebulosus	4	1	0	0	100	120	240.0	30.17	60.34	253	253
	R. marginata	4	4	56	22	22	2,160	1,592.0	25.84	31.28	193	193
	M. americana	4	1	0	100	0	120	240.0	7.25	14.50	158	158
	P. saltatrix	4	1	60	40	0	600	908.6	0.91	1.44	53	58
	L. xanthurus	4	2	12	50	38	960	1,616.9	0.43	0.69	33	38
	T. maculatus	4	1	100	0	0	120	240.0	2.66	5.33	98	98
	C. sapidus	4	2	100	0	0	240	277.1	1.93	2.98	36	36
TOTAL							7,680		99.90			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
26-27 May	B. tyrannus	4	1	0	100	0	120	240.0	0.10	0.19	33	33
	A. mitchilli	4	4	32	47	21	9,720	9,368.2	31.20	30.79	63	83
	U. regius	4	1	0	0	100	120	240.0	5.04	10.08	163	163
	R. marginata	4	2	66	0	33	360	459.6	12.12	8.45	-	173
	M. menidia	4	1	100	0	0	120	240.0	1.20	2.40	118	118
	M. americana	4	2	50	0	50	240	277.1	12.06	14.69	138, 163	163
	P. saltatrix	4	1	100	0	0	120	240.0	0.12	0.24	48	48
	L. xanthurus	4	4	41	59	0	2,040	2,809.1	0.89	1.11	28	38
	T. maculatus	4	3	100	0	0	480	391.9	10.20	18.81	-	153
	C. sapidus	4	3	66	33	0	360	240.0	1.91	1.32	38	43
TOTAL							13,680		74.84			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean <sup>2</sup> Estimated Number/ 24 hours	Standard Deviation	Mean <sup>3</sup> Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
30-31 May	A. rostrata	4	1	0	100	1	120	240.0	0.56	1.13	123	123
	A. aestivalis	4	1	100	0	0	120	240.0	1.34	2.69	103	103
	B. tyrannus	4	3	43	57	0	1,680	1,774.5	2.86	2.82	40	53
	A. mitchilli	4	4	16	78	6	21,120	21,697.6	60.96	67.51	63	88
	U. regius	4	2	25	25	50	480	678.8	16.19	19.88	-	178
	R. marginata	4	4	61	5	33	6,840	10,849.7	96.01	142.62	178	213
	M. martinica	4	1	100	0	0	120	240.0	1.58	3.17	118	118
	M. menidia	4	1	100	0	0	120	240.0	0.52	1.03	93	93
	M. americana	4	1	33	66	0	360	720.0	20.47	40.94	128	188
	L. macrochirus	4	1	100	0	0	120	240.0	6.35	12.70	143	143
	P. saltatrix	4	3	75	25	0	960	876.4	2.42	2.09	55	68
	L. xanthurus	4	3	6	89	6	2,160	1,979.1	3.80	3.07	38	68
	T. maculatus	4	1	100	0	0	120	240.0	2.14	4.27	93	93
	C. sapidus	4	3	70	20	10	1,200	1,774.5	19.48	30.49	53, 68	78
TOTAL							35,520			334.41		

<sup>1</sup> Upper and lower sluices were sampled separately from 2 to 12 May. Combined samples were taken from 12 to 31 May.

<sup>2</sup> Mean estimated number per 24 hours for each species was calculated by multiplying the number of specimens in each 3-minute sample by 480 to obtain a 24-hour estimate. The estimated number for each sample was summed and divided by the number of samples to obtain the mean:  $\frac{\sum (n/3\text{-min} \times 480)}{N}$

<sup>3</sup> Mean estimated weight per 24 hours was calculated by the same method.



Table 3. - Total number and weight per 24 hours and modal and maximum lengths of fishes and blue crab impinged at the service water intake, S.N.G.S. Unit I, 2-31 May 1977.

Date	2-3 May				4-5 May			
Time	0830-0830				0900-0900			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	6	318.1	-	383	4	78.0	-	258
A. pseudoharengus	-	-	-	-	1	10.0	98	98
B. tyrannus	-	-	-	-	1	68.7	163	163
A. mitchilli	97	233.2	63	93	77	160.0	63	88
I. nebulosus	1	9.2	68	68	-	-	-	-
R. marginata	1	21.0	168	168	1	28.0	188	188
M. americana	-	-	-	-	7	330.7	123, 143	203
L. macrochirus	-	-	-	-	1	36.7	123	123
P. dentatus	1	46.8	173	173	2	317.3	243, 263	263
T. maculatus	2	101.2	123, 138	138	3	124.5	-	148
C. sapidus	2	5.8	28, 53	53	10	223.2	28	43
TOTAL	110	735.3			107	1,377.1		

Table 3. - (continued).

Date	5 May				7 May			
Time	0900-2100				0900-2100			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	2	0.9	48, 63	63	1	208.5	443	443
A. aestivalis	-	-	-	-	2	221.7	83, 288	288
A. pseudoharengus	-	-	-	-	1	170.0	243	243
A. mitchilli	26	62.8	-	83	6	12.7	68	73
M. americana	1	63.3	158	158	4	326.5	-	223
P. dentatus	-	-	-	-	2	355.1	213, 298	298
S. aquosus	1	6.2	78	78	-	-	-	-
T. maculatus	3	70.2	-	126	3	115.0	-	158
C. sapidus	6	24.6	38	48	1	2.1	38	38
TOTAL	39	228.0			20	1,411.6		

Table 3. - (continued).

Date	9-10 May				11-12 May			
Time	0830-0830				0830-0830			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	-	-	-	-	1	81.4	333	333
A. aestivalis	1	154.0	248	248	2	204.7	173, 248	248
B. tyrannus	3	86.6	-	163	6	88.0	-	128
A. mitchilli	-	-	-	-	155	349.8	63	88
C. auratus	1	30.4	113	113	-	-	-	-
H. nuchalis	-	-	-	-	1	12.0	113	113
I. nebulosus	1	87.0	198	198	-	-	-	-
U. regius	-	-	-	-	1	2.6	68	68
R. marginata	-	-	-	-	2	52.3	123, 208	208
M. americana	7	300.5	-	178	4	102.3	-	193
C. striata	-	-	-	-	3	10.3	-	73
P. flavescens	-	-	-	-	1	33.7	143	143
P. dentatus	-	-	-	-	2	68.0	198	198
S. aquosus	-	-	-	-	2	8.6	48, 73	73
T. maculatus	1	56.3	53	53	-	-	-	-
C. sapidus	6	37.1	53	53	4	10.6	23	43
TOTAL	20	751.9			184	1,024.3		

Table 3. - (continued).

Date	12-13 May				16-17 May			
Time	0830-0830				0830-0830			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	1	38.0	293	293	9	132.5	303	313
B. tyrannus	7	41.4	28, 38	128	2	1.1	28, 33	33
A. mitchilli	187	437.6	63	83	35	71.2	63	73
U. regius	1	2.4	63	63	3	14.0	-	98
R. marginata	7	146.0	73, 88	88	4	88.8	-	213
H. erectus	-	-	-	-	1	1.6	73	73
M. americana	3	114.5	138	138	5	166.3	143	143
C. striata	3	27.1	93	93	-	-	-	-
L. gibbosus	1	5.4	63	63	-	-	-	-
P. annularis	-	-	-	-	1	3.9	68	68
P. flavescens	-	-	-	-	1	22.5	128	128
L. xanthurus	-	-	-	-	3	1.0	-	28
P. dentatus	1	4.8	68	68	-	-	-	-
S. aquosus	6	23.8	-	78	-	-	-	-
T. maculatus	2	24.4	73, 98	98	-	-	-	-
C. sapidus	-	-	-	-	2	7.2	31	33

TOTAL

219

865.4

66 510.1  
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Table 3. - (continued).

Date	18-19 May				19-20 May			
Time	0830-0830				0830-0830			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	3	145.6	-	398	2	258.3	403, 433	433
A. aestivalis	1	118.0	228	228	-	-	-	-
B. tyrannus	-	-	-	-	2	63.0	33, 163	163
A. mitchilli	19	45.6	63	73	15	70.0	63	88
I. nebulosus	-	-	-	-	1	144.7	233	233
R. marginata	2	30.5	133, 163	163	6	97.8	-	178
M. americana	5	187.8	-	168	-	-	-	-
L. xanthurus	-	-	-	-	1	2.0	33	33
Prionotus sp.	-	-	-	-	1	0.6	33	33
S. aquosus	1	7.8	88	88	-	-	-	-
T. maculatus	1	65.1	143	143	-	-	-	-
C. sapidus	2	4.7	33	33	4	15.8	33	48
TOTAL	34	605.1			32	652.2		

Table 3. - (continued).

Date		23-24 May			25-26 May			
Time		0830-0830			0830-0830			
No. of Pumps		4			4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	7	292.5	-	353	2	152.8	263, 388	388
B. tyrannus	8	10.3	53	53	1	60.8	153	153
A. mitchilli	25	69.9	63	88	5	14.9	68	78
U. regius	1	10.7	103	103	-	-	-	-
R. marginata	12	196.3	-	83	-	-	-	-
M. americana	3	189.0	-	198	5	226.2	138	178
C. striata	1	9.3	83	83	-	-	-	-
P. saltatrix	-	-	-	-	1	1.1	78	78
L. xanthurus	1	0.2	28	28	1	0.2	23	23
P. dentatus	2	1,400.0	278, 478	478	-	-	-	-
T. maculatus	1	74.4	148	148	1	15.7	93	93
C. sapidus	1	8.4	43	43	1	9.7	48	48
TOTAL	62	2,261.0			17	481.4		

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Table 3. - (continued).

Date	26-27 May				30-31 May			
Time	0830-0830				0830-0830			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	2	154.8	218, 443	443	-	-	-	-
A. pseudoharengus	1	172.2	268	268	-	-	-	-
B. tyrannus	2	23.9	48, 118	118	11	8.0	43	48
A. mitchilli	41	114.6	58	88	49	141.8	68	78
H. nuchalis	1	20.0	123	123	-	-	-	-
U. chuss	-	-	-	-	1	8.6	103	103
R. marginata	5	116.5	58	93	15	144.5	68	91
M. menidia	1	4.3	93	93	-	-	-	-
S. fuscus	-	-	-	-	1	1.1	138	138
M. americana	3	141.7	-	153	2	61.2	123, 143	143
P. saltatrix	2	1.7	58, 73	73	-	-	-	-
L. xanthurus	10	1.8	23	33	15	9.8	38	48
S. aquosus	1	12.4	98	98	-	-	-	-
T. maculatus	1	20.9	103	103	-	-	-	-
C. sapidus	2	12.2	28, 78	78	3	28.0	48	58
TOTAL	72	797.0			97	403.0		