

IMPINGEMENT MONITORING PROGRAM

REPORT NO. 3 - JUNE 1977

SALEM NUCLEAR GENERATING STATION
UNIT NO. 1

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

Docket # 50-272
Control #
Date 7-20-77 of Documents
REGULATORY DOCKET FILE

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

SUMMARY

This is the third 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 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 the CWS and SWS consists of three 24-hour sampling periods per week. The CWS screens were sampled four times per 24-hour period at approximately six-hour intervals. Samples were collected by diverting approximately three minutes of screen wash water to the counting pool located on the north end of the CWS intake structure. Survival rates are calculated for CWS samples only. Attached also (Table 1) is a summary of plant operating conditions during sample collection at CWS. No CWS samples were collected during the week of June 5 due to station outage.

SWS screen samples consisted of either one 24-hour or 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.

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

Date	Sample Start Time	Dur. (min.)	Pumps	Screens
1 June 77	1200	3	6	6
	1800	3	5	5
2	0000	3	6	5
	0600	3	6	6
	1200	3	6	6
	1800	3	5	5
3	0000	3	6	6
	0600	3	6	6
16	1200	3	4	4
	1814	3	4	4
17	0000	3	4	4
	0600	3	4	4
	1200	3	4	4
	1810	3	4	4
18	0012	3	6	6
	0600	3	6	6
	1200	3	6	6
	1815	3	6	6
19	0000	3	5	4
	0610	3	6	6
20	1200	3	6	6
	1812	3	6	6
21	0000	3	5	5
	0600	3	6	6
22	1221	3	6	6
	1815	3	6	5
23	0000	3	6	6
	0600	3	6	6
	1202	3	6	6
	1818	3	6	6
24	0000	3	6	6
	0600	3	6	6

Table 1. - (continued).

Date	Sample Start Time	Dur. (min.)	Pumps	Screens
27 June 77	1200	3	2	2
	1800	3	1	3
	2355	3	1	4
28	0600	3	1	4
29	1200	3	6	6
	1800	3	6	6
30	0000	3	6	6
	0600	3	6	6
	1200	3	6	6
	1800	3	6	6
1 July 77	0000	3	6	6
	0600	3	6	6

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, 1 June through 1 July 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	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
1-2 June	A. aestivalis	4	1	0	100	0	120	240.0	1.76	3.53	108	108
	B. tyrannus	4	4	42	58	0	3,120	3,290.7	3.64	4.49	38, 48	48
	A. mitchilli	4	4	44	43	14	12,960	14,753.0	36.73	40.15	68	78
	U. regius	4	1	0	100	0	120	240.0	5.60	11.21	178	178
	R. marginata	4	3	54	15	31	1,560	2,195.2	33.02	48.08	148	213
	P. saltatrix	4	3	63	31	6	1,920	1,708.3	4.08	3.56	56	73
	L. xanthurus	4	4	50	45	5	10,560	16,125.9	12.50	19.28	43	53
	T. maculatus	4	1	100	0	0	240	480.0	2.80	4.15	43, 83	83
	C. sapidus	4	3	100	0	0	600	604.0	8.05	7.12	63	63
TOTAL							31,200		107.46			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
2-3 June	B. tyrannus	4	1	8	88	4	14,640	29,280.0	18.06	36.12	48	58
	A. mitchilli	4	4	18	73	9	38,080	71,292.9	114.85	214.07	63	83
	R. marginata	4	4	60	3	37	7,200	7,719.9	124.25	138.35	148	188
	P. saltatrix	4	4	59	30	11	3,240	5,204.9	7.40	11.90	53	73
	L. xanthurus	4	4	44	48	8	20,280	37,048.9	21.13	38.63	43	63
	P. carolinus	4	1	100	0	0	120	240.0	0.54	1.08	63	63
	T. maculatus	4	2	100	0	0	480	678.8	8.57	10.28	-	148
	C. sapidus	4	4	67	25	8	1,440	876.4	18.06	13.58	38, 68	73
TOTAL							53,400		312.86			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
16-17 June	B. tyrannus	4	4	71	28	2	30,240	37,509.7	44.33	56.79	48	78
	A. mitchilli	4	4	45	52	2	25,680	26,847.1	73.79	79.01	63	93
	R. marginata	4	3	100	0	0	480	391.9	12.70	9.74	-	203
	P. saltatrix	4	4	78	22	0	1,080	240.0	4.01	0.76	-	83
	C. regalis	4	1	100	0	0	120	240.0	0.34	0.67	38	38
	L. xanthurus	4	4	65	34	1	11,280	5,206.8	15.85	5.80	53	98
	P. carolinus	4	1	100	0	0	120	240.0	0.19	0.38	38	38
	S. aquosus	4	4	93	7	0	3,480	2,942.7	3.70	2.66	51	53
	T. maculatus	4	1	100	0	0	120	240.0	1.30	2.60	78	78
	C. sapidus	4	3	100	0	0	1,320	1,262.4	18.48	20.01	68	68
TOTAL							73,920		174.69			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
18-19 June	A. rostrata	4	2	0	50	50	240	277.1	33.62	47.38	323, 473	473
	B. tyrannus	4	4	43	49	8	15,480	13,356.1	32.33	30.18	53	143
	A. mitchilli	4	4	45	53	2	42,240	47,509.5	119.83	133.68	68	88
	U. regius	4	1	0	100	0	240	480.0	11.68	23.35	168, 188	188
	R. marginata	4	3	94	6	0	1,920	1,879.5	45.48	43.57	-	203
	M. menidia	4	1	100	0	0	120	240.0	1.03	2.06	103	103
	C. striata	4	1	100	0	0	120	240.0	0.44	0.89	68	68
	P. saltatrix	4	4	59	35	6	2,040	2,195.3	7.88	7.85	73	88
	C. regalis	4	2	25	75	0	480	678.8	1.50	2.78	43	43
	L. xanthurus	4	4	67	32	2	27,240	27,755.4	99.08	93.19	53	113
	P. dentatus	4	1	100	0	0	120	240.0	1.22	2.45	103	103
	S. aquosus	4	4	64	36	0	10,440	17,370.3	13.22	20.93	43	93
	P. americanus	4	1	50	50	0	240	480.0	0.91	1.82	48, 68	68
	T. maculatus	4	1	100	0	0	120	240.0	1.42	2.83	83	83
	C. sapidus	4	4	89	11	0	1,080	908.6	23.00	20.04	53	83
TOTAL							102,120		392.64			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated* Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
17-18 June	B. tyrannus	4	3	41	55	5	10,560	9,307.6	15.71	13.20	46	73
	A. mitchilli	4	4	34	58	8	45,120	48,444.3	149.38	163.82	68	93
	O. tau	4	1	100	0	0	120	240.0	0.78	1.56	68	68
	R. marginata	4	2	100	0	0	720	1,142.6	15.53	29.76	188	188
	M. americana	4	1	0	100	0	240	480.0	15.70	31.39	143, 193	193
	P. saltatrix	4	4	63	38	0	960	678.8	3.44	1.79	73	83
	C. regalis	4	1	33	66	0	720	1,440.0	0.50	1.01	38	43
	L. xanthurus	4	4	62	36	2	14,400	10,882.4	38.02	35.00	53	98
	P. evolans	4	1	0	100	0	120	240.0	0.12	0.24	38	38
	S. aquosus	4	3	43	57	0	4,800	4,831.9	5.75	5.73	38	58
	T. maculatus	4	2	100	0	0	360	459.6	1.33	2.02	-	68
	C. sapidus	4	2	100	0	0	840	989.6	12.59	18.01	53	83
TOTAL							78,960		258.85			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
20-21 June	A. rostrata	4	1	0	100	0	120	240.0	6.71	13.42	308	308
	B. tyrannus	4	4	45	51	4	117,120	181,982.3	211.51	312.37	48	63
	A. mitchilli	4	4	46	48	6	66,720	97,766.9	200.02	288.88	63	93
	O. tau	4	1	100	0	0	120	240.0	0.53	1.06	63	63
	U. regius	4	1	100	0	0	120	240.0	5.57	11.14	178	178
	R. marginata	4	4	75	15	10	2,400	1,413.1	50.95	30.65	148	198
	M. menidia	4	2	100	0	0	240	277.1	0.23	0.26	26, 118	118
	M. americana	4	1	100	0	0	120	240.0	8.99	17.98	158	158
	P. saltatrix	4	4	75	25	0	3,840	2,509.5	15.60	13.15	68, 73	98
	C. regalis	4	3	56	44	0	2,160	3,098.4	1.99	2.74	38	48
	L. xanthurus	4	4	76	21	3	73,200	110,900.1	430.98	756.75	71	123
	P. dentatus	4	1	100	0	0	240	480.0	2.33	4.66	88, 113	113
	S. aquosus	4	3	77	22	1	9,960	11,992.8	12.36	15.18	48	63
	T. maculatus	4	1	100	0	0	120	240.0	0.67	1.34	68	68
	C. sapidus	4	4	87	13	0	3,600	2,234.3	108.55	107.34	43	163
TOTAL							280,080		1,056.99			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
22-23 June	A. rostrata	4	1	0	0	100	120	240.0	4.94	9.88	253	253
	B. tyrannus	4	4	66	31	3	36,000	42,001.1	56.40	63.98	48	73
	A. mitchilli	4	4	39	57	4	47,040	50,133.4	131.40	145.00	68	83
	R. marginata	4	2	80	5	15	2,400	3,634.5	68.54	106.23	168	233
	M. martinica	4	2	100	0	0	480	678.8	1.75	2.58	78, 88	88
	P. saltatrix	4	3	50	50	0	2,880	3,061.0	11.57	13.36	83	98
	C. regalis	4	3	45	55	0	8,280	14,676.6	9.88	17.68	48	58
	L. xanthurus	4	4	60	38	2	24,840	15,426.7	97.44	75.37	53	118
	P. evolans	4	1	100	0	0	120	240.0	0.46	0.91	48	48
	S. aquosus	4	4	70	30	0	6,840	9,871.2	10.40	15.80	53	68
	P. americanus	4	1	100	0	0	120	240.0	0.42	0.84	73	73
	T. maculatus	4	2	100	0	0	600	908.6	12.88	24.49	58	168
	C. sapidus	4	4	79	21	0	1,680	1,492.4	36.42	37.28	63	98
TOTAL							131,400		442.50			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
23-24 June	A. rostrata	4	1	0	100	0	120	240.0	4.98	9.96	303	303
	B. tyrannus	4	4	78	20	2	51,120	48,712.3	77.92	73.05	53	58
	A. mitchilli	4	4	59	37	4	60,120	34,489.7	167.80	110.42	63	93
	R. marginata	4	4	77	8	16	1,560	908.6	34.92	29.25	158	198
	M. martinica	4	1	66	33	0	720	1,440.0	3.24	6.48	86	98
	M. menidia	4	2	100	0	0	480	554.3	3.26	3.78	98	98
	S. fuscus	4	1	100	0	0	240	480.0	0.08	0.17	58, 83	83
	M. americana	4	1	0	0	100	120	240.0	3.25	6.50	123	123
	M. saxatilis	4	1	100	0	0	120	240.0	0.04	0.07	38	38
	P. saltatrix	4	4	78	22	0	2,760	819.8	10.79	5.17	63	88
	C. regalis	4	3	41	56	4	3,240	2,581.2	3.89	2.86	43	53
	L. xanthurus	4	4	75	22	3	63,240	48,163.5	178.38	201.63	68	113
	S. aquosus	4	4	73	25	2	5,280	4,767.9	8.76	7.84	53	68
	T. maculatus	4	2	100	0	0	240	277.1	1.03	1.33	53, 68	68
	C. sapidus	4	2	83	11	6	2,160	4,006.4	58.62	115.49	-	93
TOTAL							191,520		556.96			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
27-28 June	<i>B. tyrannus</i>	4	3	66	33	0	1,080	1,064.3	1.69	1.70	53	58
	<i>A. mitchilli</i>	4	2	75	25	0	480	678.8	6.10	8.53	68	83
	<i>R. marginata</i>	4	1	100	0	0	480	960.0	13.32	26.64	-	93
	<i>P. saltatrix</i>	4	2	100	0	0	480	678.8	1.50	2.27	-	88
	<i>C. regalis</i>	4	3	60	40	0	1,800	1,853.9	2.69	2.71	58	63
	<i>L. xanthurus</i>	4	4	70	30	0	2,760	2,668.9	9.94	13.57	-	98
	<i>S. aquosus</i>	4	3	88	12	0	960	678.8	1.99	1.94	58	68
	<i>C. sapidus</i>	4	2	80	20	0	600	720.0	5.16	6.54	53	58
TOTAL							8,640		42.39			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
29-30 June	B. tyrannus	4	4	38	59	3	33,720	29,525.2	71.20	45.39	53	173
	A. mitchilli	4	4	26	71	3	38,880	42,891.3	109.69	122.01	68	88
	O. tau	4	1	100	0	0	120	240.0	0.82	1.63	73	73
	R. marginata	4	4	92	2	6	5,760	7,467.0	110.17	12.11	163	238
	M. menidia	4	2	100	0	0	240	277.1	2.28	1.93	43, 98	98
	M. americana	4	2	50	50	0	240	277.1	11.72	22.75	43, 193	193
	C. striata	4	1	0	100	0	120	240.0	0.47	0.94	53	53
	P. saltatrix	4	4	73	24	3	4,440	4,209.7	24.94	23.20	78	108
	C. regalis	4	4	32	65	3	45,360	50,206.1	90.35	98.51	58	78
	L. xanthurus	4	4	59	38	3	68,280	82,703.4	321.25	472.31	58	113
	P. evolans	4	1	50	50	0	240	480.0	0.60	1.20	41	43
	P. dentatus	4	2	100	0	0	240	277.1	4.92	5.76	128, 133	133
	S. aquosus	4	4	66	33	2	7,320	9,449.8	16.28	20.61	58	78
	T. maculatus	4	4	100	0	0	720	277.1	3.08	1.10	56	68
	C. sapidus	4	4	80	20	0	5,280	8,323.1	12.32	19.29	63	158
TOTAL							210,960		780.09			

Table 2. - (continued).

Date	Species	N	CF	% Survival			Mean ¹ Estimated Number/ 24 hours	Standard Deviation	Mean ² Estimated Wt./24 hrs (kg)	Standard Deviation	Length (mm)	
				L	D	D*					Mode	Max.
30 June- 1 July	A. rostrata	4	1	0	0	100	120	240.0	8.52	17.04	323	323
	B. tyrannus	4	4	23	72	6	16,080	19,089.6	34.82	39.59	53	68
	A. mitchilli	4	4	3	95	2	300,240	574,586.6	787.25	1,491.01	68	88
	R. marginata	4	4	89	0	11	3,360	1,879.6	84.12	39.77	163	203
	M. americana	4	1	100	0	0	120	240.0	0.12	0.24	43	43
	P. saltatrix	4	4	61	33	6	2,160	2,431.8	11.30	12.47	78	93
	C. regalis	4	4	35	62	3	44,280	25,154.2	85.80	41.24	59	78
	L. xanthurus	4	4	61	36	4	16,440	4,900.9	89.71	64.18	43	108
	P. evolans	4	1	100	0	0	360	720.0	0.97	1.94	53	58
	S. aquosus	4	3	90	10	0	3,360	4,416.7	10.74	8.99	58	68
	P. americanus	4	1	100	0	0	120	240.0	0.12	0.24	38	38
	T. maculatus	4	3	100	0	0	960	783.8	8.02	9.89	63	98
	C. sapidus	4	4	95	0	5	2,520	1,585.9	108.30	108.07	53	148
TOTAL							390,120		1,229.79			

¹ 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: $\frac{\sum (n/3\text{-min} \times 480)}{N}$

² Mean estimated weight per 24 hours was calculated by the same method as mean estimated number.

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, 1 June through 1 July 1977.

Date	1-2 June				2-3 June			
Time	0815-0815				0900-0900			
No. of Pumps	4				4			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	2	114.1	318	318	2	100.0	278, 333	333
B. tyrannus	20	132.3	43	163	21	262.3	46	248
A. mitchilli	87	214.1	63	83	87	233.8	68	78
I. catus	-	-	-	-	1	36.3	148	148
R. marginata	22	457.4	158	203	37	747.3	136, 153	208
M. americana	1	16.0	113	113	2	112.8	153	153
P. saltatrix	13	17.3	53, 63	63	6	11.8	58	83
L. xanthurus	22	15.1	48	48	17	14.4	36	53
P. dentatus	1	249.4	293	293	3	690.8	-	348
S. aquosus	1	5.4	73	73	1	9.1	93	93
T. maculatus	1	22.1	103	103	1	25.0	88	88
C. sapidus	6	38.7	-	78	8	45.8	43	63
TOTAL	176	1,281.9			186	2,289.4		

Table 3. - (continued).

Date	7-8 June				8-9 June			
Time	2100-2100				2100-2100			
No. of Pumps	-				-			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	3	119.3	-	306	3	277.2	-	373
B. tyrannus	8	40.6	48	138	10	11.1	48	53
A. mitchilli	22	52.9	68	83	68	204.5	68	83
U. regius	1	19.3	38	38	-	-	-	-
R. marginata	17	396.7	163	223	10	221.6	78	78
M. americana	2	47.2	125	128	-	-	-	-
L. macrochirus	1	1.5	48	48	-	-	-	-
P. nigromaculatus	1	188.2	238	238	-	-	-	-
P. saltatrix	2	4.0	53, 68	68	1	2.9	73	73
L. xanthurus	10	5.4	28	48	25	28.5	53	63
S. aquosus	10	4.9	38	43	50	52.3	38	98
T. maculatus	2	53.3	93, 123	123	1	16.3	88	88
C. sapidus	-	-	-	-	5	60.5	53	68
TOTAL	79	933.3			170	874.9		

Table 3. - (continued).

Date	9-10 June			
Time	0900-0900			
No. of Pumps	-			
Species	n	Wt. (g)	Length (mm)	
			Mode	Max.
A. rostrata	3	132.9	-	333
B. tyrannus	75	74.3	48	58
A. mitchilli	123	330.0	73	83
I. catus	1	158.2	-	-1
R. marginata	14	345.1	158	208
H. erectus	1	1.1	78	78
M. americana	2	119.3	153, 168	168
C. striata	1	3.9	68	68
P. saltatrix	7	17.8	63, 73	73
L. xanthurus	68	54.9	35	58
P. dentatus	2	229.4	78, 288	288
S. aquosus	266	225.9	38	93
P. americanus	2	3.4	28, 43	43
C. sapidus	3	13.7	48	48
TOTAL	568	1,709.9		

1 specimen unmeasurable

Table 3. - (continued).

Date	16-17 June				17-18 June			
Time	0900-0900				0900-0900			
No. of Pumps	-				-			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	1	54.2	303	303	1	12.1	113	113
B. tyrannus	6	9.2	48	53	24	71.9	48	163
A. mitchilli	60	158.4	68	83	75	189.6	63	88
I. nebulosus	-	-	-	-	1	35.2	143	143
U. regius	-	-	-	-	1	52.9	193	193
R. marginata	8	169.3	151	198	6	109.7	168, 178	178
H. erectus	-	-	-	-	1	1.9	78	78
M. americana	1	1.2	33	33	1	37.2	148	148
P. saltatrix	8	20.3	48	63	6	12.2	58	88
C. regalis	-	-	-	-	4	0.9	38	38
L. xanthurus	22	57.2	38, 53	168	34	94.5	43	98
P. dentatus	1	7.4	98	98	-	-	-	-
S. aquosus	107	99.0	43	68	93	97.9	43	118
P. americanus	1	3.1	63	63	-	-	-	-
T. maculatus	1	22.5	108	108	-	-	-	-
C. sapidus	3	48.5	68	68	1	8.1	73	73
TOTAL	219	650.3			244	724.1		

Table 3. - (continued).

Date	18-19 June			
Time	0900-0900			
No. of Pumps	4			
Species	n	Wt. (g)	Length (mm)	
			Mode	Max.
B. tyrannus	34	199.4	53	178
A. mitchilli	103	314.3	68	93
I. nebulosus	1	209.8	258	258
R. marginata	2	30.4	153, 158	158
M. menidia	1	6.9	103	103
S. fuscus	1	1.9	158	158
P. saltatrix	5	13.6	68	83
L. xanthurus	69	164.5	53	98
P. evolans	1	1.7	48	48
S. aquosus	43	31.2	43	58
T. maculatus	2	36.2	78, 113	113
C. sapidus	1	7.4	53	53
TOTAL	263	1,017.3		

Table 3. - (continued).

Date	20-21 June				22-23 June			
Time	0900-0900				0845-0830			
No. of Pumps	-				-			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	2	114.4	293, 323	323	7	672.0	-	518
B. tyrannus	121	151.3	53	73	47	124.8	48	158
A. mitchilli	230	603.1	73	93	115	299.7	68	88
U. regius	1	21.9	43	43	-	-	-	-
R. marginata	10	263.5	168	208	5	160.8	188	223
M. martinica	-	-	-	-	2	9.4	83, 93	93
M. menidia	1	0.4	43	43	1	3.7	88	88
M. americana	2	58.6	113, 153	153	-	-	-	-
P. saltatrix	11	39.1	63	93	4	6.6	76	78
C. regalis	4	2.2	43	43	13	9.9	38	58
L. xanthurus	63	159.4	58	83	62	283.2	68	113
P. evolans	1	1.2	48	48	-	-	-	-
P. dentatus	6	173.0	93	238	1	6.0	88	88
S. aquosus	116	121.2	43	63	99	147.1	48	88
P. americanus	1	6.0	83	83	-	-	-	-
T. maculatus	-	-	-	-	1	35.3	133	133
C. sapidus	3	39.3	58	63	2	17.8	53, 73	73
TOTAL	572	1,754.6			359	1,776.3		

Table 3. - (continued).

Date	23-24 June			
Time	0900-0900			
No. of Pumps	-			
Species	n	Wt. (g)	Length (mm)	
			Mode	Max.
A. rostrata	3	123.3	-	398
B. tyrannus	43	61.5	53	58
A. mitchilli	163	443.2	68	88
R. marginata	5	85.0	156	158
M. martinica	1	5.3	88	88
M. americana	2	97.0	133, 188	188
P. saltatrix	1	6.1	93	93
C. regalis	8	5.0	38	58
L. xanthurus	53	205.9	48	98
P. carolinus	1	1.2	58	58
P. dentatus	2	184.5	73, 273	273
S. aquosus	74	110.5	48	78
T. maculatus	1	26.2	113	113
C. sapidus	3	35.8	-	93
TOTAL	360	1,390.5		

Table 3. - (continued).

Date	27-28 June				29-30 June			
Time	0900-0900				0830-0900			
No. of Pumps	1-4				5			
Species	n	Wt. (g)	Length (mm)		n	Wt. (g)	Length (mm)	
			Mode	Max.			Mode	Max.
A. rostrata	-	-	-	-	2	139.6	283, 368	368
B. tryannus	32	49.5	53	58	105	254.7	53	163
A. mitchilli	156	450.4	68	68	205	618.9	68	88
I. nebulosus	-	-	-	-	1	100.8	113	113
U. regius	-	-	-	-	1	35.2	158	158
R. marginata	7	187.1	93	98	8	218.3	203	203
M. americana	-	-	-	-	2	1.7	33, 38	38
C. striata	-	-	-	-	1	7.6	83	83
P. saltatrix	4	13.3	68	83	17	75.3	68	93
C. regalis	93	146.5	53	68	119	230.9	58	73
L. xanthurus	86	259.6	48	118	94	483.0	48	153
P. evolans	-	-	-	-	1	5.0	73	73
P. dentatus	1	10.9	108	108	2	169.4	128, 238	238
S. aquosus	150	279.2	48	73	45	99.0	58	78
P. americanus	1	0.9	48	48	-	-	-	-
T. maculatus	1	51.3	153	153	1	3.1	58	58
C. sapidus	2	19.2	43, 63	63	2	87.1	78, 118	118
TOTAL	533	1,467.9			606	2,529.6		

Table 3. - (continued).

Date	30 June-1 July			
Time	0830-0830			
No. of Pumps	6			
Species	n	Wt. (g)	Length (mm)	
			Mode	Max.
A. rostrata	4	135.1	-	318
B. tyrannus	146	155.2	53	73
A. mitchilli	509	1,499.6	68	88
O. tau	1	7.1	78	78
R. marginata	12	380.6	168, 188	223
M. martinica	1	5.9	83	83
M. americana	1	48.3	148	148
C. striatus	1	6.6	78	78
P. nigromaculatus	1	59.3	173	173
P. saltatrix	19	100.2	73	188
C. regalis	136	250.1	58	78
L. xanthurus	120	855.1	53	188
P. dentatus	4	246.4	-	288
S. aquosus	63	134.8	58	78
P. americanus	1	7.6	78	78
C. sapidus	2	43.4	68, 83	83
TOTAL	1,021	3,935.3		

Table 4. - Weight (g/3-min sample) of detritus taken in impingement samples at the circulating water intake, S.N.G.S. Unit I, 1 June through 1 July 1977.

Date	Sample Start Time	Detritus Wt. (g/3-min sample)
1 June 77	1200	870
	1800	860
2	0000	720
	0600	11,500
	1200	550
	1800	3,800
3	0000	1,700
	0600	48,000
16	1200	5,300
	1814	2,500
17	0000	800
	0600	4,200
	1200	830
	1810	22,000
18	0012	900
	0600	4,700
	1200	1,000
	1815	21,000
19	0000	4,500
	0610	5,200
20	1200	3,900
	1812	26,000
21	0000	3,600
	0600	22,000
22	1221	3,000
	1815	12,000
23	0000	2,700
	0600	18,000
	1202	2,000
	1818	7,800
24	0000	1,100
	0600	3,900
27	1200	4,500
	1800	1,100
	2355	1,800
28	0600	1,300

Table 4. - (continued).

Date	Sample Start Time	Detritus Wt. (g/3-min sample)
29	1200	47,000
	1800	9,000
30	0000	81,000
	0600	10,000
	1200	12,000
	1800	12,000
1 July 77	0000	33,000
	0600	22,000