

50-335

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"Impingement. at St Lucie Pwr Plant - Nov 76"
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30p

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LIC. ASST. :

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			SITE TECH.
PROJECT MANAGEMENT	REACTOR SAFETY	OPERATING TECH.	GAMMILL
BOYD	ROSS	EISENHUT	STEPP
P. COLLINS	NOVAK	SHAO	HULMAN
HOUSTON	ROSZTOCZY	BAER	
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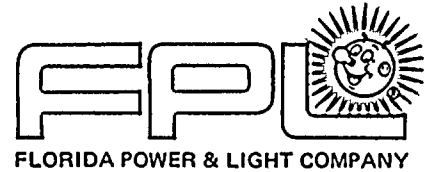
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Regulatory Docket File

January 5, 1977
L-77-5

Daniel R. Muller
Assistant Director for Environmental Projects
Division of Reactor Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulation Commission
Washington, D. C. 20555

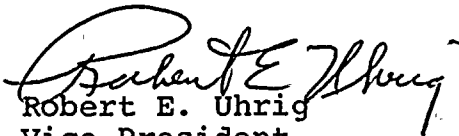


Dear Mr. Muller:

Re: St. Lucie Unit No. 1 - Docket No. 50-335
Environmental Technical Specification Report

Florida Power & Light Company submits the attached report entitled "Impingement at St. Lucie Power Plant - November, 1976" in accordance with Specification 4.2 of Appendix B of the St. Lucie Unit No. 1 Technical Specifications.

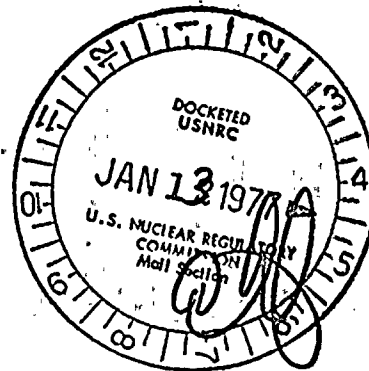
Yours very truly,


Robert E. Uhrig
Vice President

REU/NLR/hlc

Attachment

cc: Norman C. Moseley, Region II
Robert Lowenstein, Esq.



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IMPINGEMENT

at

ST. LUCIE POWER PLANT

NOVEMBER 1976

November 1976

Impingement studies conducted at the Florida Power & Light St. Lucie Plant for this month are herein reported. All fishes and commercially important invertebrates are included. Although not presented in the attached tables, data were also collected and recorded on other invertebrates impinged (such as other species of crustaceans, jellyfish, and polychaete worms).

Standard methodology employed for the different species was as follows:

LENGTH

1. Fish: Standard length, from the tip of the snout to the base of the caudal fin, is the measurement used for the majority of fishes. Throughout this study, length was recorded to the nearest millimeter.
2. Crabs: Carapace (shell) width was used for measuring crabs.
3. Shrimp & Lobster: Carapace length was used for measuring shrimp and lobster.

WEIGHT

Weight was recorded to the nearest gram.

1. Fishes and shellfishes were weighed and measured individually up to 25 specimens.
2. A range of lengths and the combined weight was obtained for the balance of individuals when over 25 specimens were collected.
3. If over 200 individuals of a single species or a group of closely related species (e.g., anchovies) were collected, the total number of individuals was generally calculated from an aliquot where $\text{total weight} / \text{aliquot weight} \times \text{number of individuals in the subsample} = \text{total number of}$

individuals. (The size of the subsample equaled 10-25% of the total sample, varying inversely with the total number of individuals collected.)

NOTE:

For monthly reports on impingement, the data from individual measurements have been combined and are presented in major size groupings.

NUMBER AND BIOMASS OF SHELLFISHES AND FISHES COLLECTED
DURING 24-HOUR IMPINGEMENT SURVEYS AT THE ST. LUCIE PLANT
NOVEMBER 1976

Category	Date 1-2		4-5		8-9		11-12		14-15		22-23		23-24		29-30	
	No. ^a	Wt. ^b	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
shrimp	105	287	102	495	5	14	7	101	9	21	9	38 ^c	15	47	6	19
blue crab	44	1568	62	2819	24	849	9	355	8	362	7	310	22	1069	5	355
stone crab	-	-	-	-	1	21	-	-	-	-	-	-	1	3	1	38
anchovy	44	44	30	57	10	7 ^c	72	157	261	136 ^c	21	19	41	52	6	7
herring	2	4	10	80 ^c	2	3	17	28	31	55	-	-	1	1	1	1
grunt	3	9	8	108	3	22	31	347	39	1334	4	27	2	5	3	26
mojarra	2	4 ^c	15	146	2	16	3	37	3	5	1	2	2	3	1	2
croaker	42	237	26	217	9	31	21	26	35	1274	9	21	2	14	1	- ^c
flounder, sole	11	227	7	155	4	39	1	5	-	-	1	25	1	- ^c	-	-
jack	70	64	77	223	18	15 ^c	102	407	230	200	36	75	7	13	4	4 ^c
cutlassfish	25	41	3	7 ^c	2	7 ^c	26	74 ^c	23	72 ^c	68	561 ^c	11	59 ^c	13	122 ^c
other fish	34	664	34	1614	11	568	15	3641	24	897	8	74	3	23	2	7 ^c
Total shellfish	149	1855	164	3314	30	884	16	456	17	383	16	348	38	1119	12	412
Total fish	233	1294	210	2607	61	708	288	4722	646	3973	148	804	70	170	31	169

^a Number of individuals.

^b Total weight in grams.

^c Includes fragments (total weight lacking).

TABLE I-31
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
1-2 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	52	7-17	33
		6	18-27	32
		3	30-42	81
	blue crab	4	31-50	16
		10	61-87	273
		4	106-111	309
	Atlantic bumper	22	22-52	14
	sand drum	18	26-43	10
	Atlantic cutlassfish	17	127-167	24
	Atlantic moonfish	14	23-48	13
	bay anchovy	8	48-58	9
	striped anchovy	7	34-53	4
	Cuban anchovy	5	32-52	3
	flat anchovy	1	79	5
	anchovy	7	29-35	2
	bank cusk-eel	3	99-139	50
		3	167-192	144
	red drum	4	38-46	5
	black drum	2	25	1
	silver perch	1	37	1
	lookdown	2	22-25	1
	jack	1	25	1

TABLE I-31
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
1-2 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900 (continued)	spot	1	158	98
	lesser electric ray	2	84-91	21
	barbfish	2	49-59	13
	orangespotted filefish	1	66	9
	spotted whiff	1	105	21
	sailors choice	1	60	6
	pygmy sea bass	1	41	2
	silver jenny	1	57	4
	doctorfish	1	29	1
	guaguanche	1	47	1
	chain pipefish	1	116	1
0900-1700	shrimp	1	39	35
	blue crab	5	51-88	120
		5	97-111	361
	Atlantic cutlassfish	2	134-142	2
	sand drum	2	29-33	1
	black drum	1	31	1
	red drum	1	37	1
	spot	1	164	96
	tomtate	1	40	1

TABLE I-31
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
1-2 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700: (continued)	Atlantic bumper	1	35	1
	Atlantic moonfish	1	27	1
	lookdown	1	33	1
	striped anchovy	1	52	1
	Atlantic thread herring	1	60	3
	bank cusk-eel	1	94	5
1700-0100	shrimp	40	8-16	53
		3	20-37	53
	blue crab	3	34-42	8
		10	65-85	278
		3	91-118	203
	Atlantic moonfish	20	21-47	24
	Atlantic bumper	8	29-51	8
	bay whiff	8	75-92	86
	sand drum	7	25-34	3
	black drum	3	31-32	3
	Atlantic cutlassfish	6	149-184	15
	Cuban anchovy	8	30-66	13
	striped anchovy	4	32-56	3
	bay anchovy	3	51-54	4

TABLE I-31
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT.
1-2 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	Atlantic thread herring	1	33	1
	guaguanche	3	63-72	7
	bank cusk-eel	1	80	3
		1	243	103
	scrawled cowfish	2	119-143	203
	cardinalfish	2	41-42	5
	sand perch	1	49	2
	blackcheek tonguefish	1	127	75
	dusky flounder	1	145	45
	chain pipefish	1	229	5
	pipefish	1	217	7
	palespotted eel	1	255	7
	lesser electric ray	1	132	39
	bandtail puffer	1	102	16
	bluestriped grunt	1	44	2
	reef croaker	1	92	17
	spotted soapfish	1	89	17
	silver jenny	1	fragment	fragment
	planehead filefish	1	39	2
	bluespotted cornetfish	1	132	1

TABLE I-32

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
4-5 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	56	8-19	85
		8	30-39	207
	blue crab	3	40-58	26
		14	60-86	413
		8	95-117	635
	Atlantic moonfish	9	27-50	14
	Atlantic bumper	8	37-74	20
	lookdown	3	33-46	6
	sand drum	9	32-39	7
	red drum	1	42	1
	black drum	1	31	1
	silver perch	1	51	3
	spot	2	150-164	184
	bay anchovy	7	52-59	11
	Cuban anchovy	5	35-65	7
	flat anchovy	1	78	5
	anchovy	1	36	1
	Atlantic thread herring	2	50-61	5
	Spanish sardine	1	fragment	fragment
	silver jenny	2	36-67	9

TABLE I-32
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT.
4-5 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900 (continued)	guaguanche	2	54-76	6
	lined seahorse	2	97-124	18
	chain pipefish	1	177	2
	opossum pipefish	1	86	1
	trunkfish	1	21	1
	bank cusk-eel	1	108	7
		1	194	51
	cusk-eel	1	40	1
	planehead filefish	2	34-40	5
	filefish	1	46	4
	triggerfish	1	27	1
	Atlantic cutlassfish	1	87	4
		1	fragment	fragment
	bluespotted cornetfish	1	115	1
	tomtate	1	60	5
	jack	1	30	1
	spottedfin tonguefish	1	98	4
	spotted whiff	1	101	17
	lined sole	1	60	9
	eel (<i>Ophichthus</i> sp.)	1	286	17
	inshore lizardfish	1	340	411

TABLE I-32
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
4-5 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900 (continued)	barbfish	1	57	7
	dwarf sand perch	1	113	25
	lane snapper	1	49	3
0900-1700	blue crab	4	25-58	27
		12	65-89	414
		14	90-111	982
	shrimp	1	9	1
		2	30-34	55
	Atlantic bumper	26	28-66	55
		7	73-106	70
	silver jenny	8	57-96	103
	Cuban anchovy	5	40-69	12
	bay anchovy	4	46-53	6
	flat anchovy	1	73	5
	Atlantic thread herring	3	40-45	3
	Spanish sardine	2	113-128	44
	tomtate	4	49-86	33
	grunt	1	74	12
	porkfish	2	93-96	58
	planehead filefish	2	34-46	8
		1	241	494

TABLE I-32
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
4-5 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	barbfish	1	66	18
		1	168	192
	lined sole	2	79-88	52
	sand drum	2	33-34	2
	black drum	1	27	1
	silver perch	1	44	2
	high-hat	1	68	7
	lookdown	1	102	38
	southern stargazer	1	184	234
1700-0100	shrimp	32	7-19	71
		3	31-36	76
	blue crab	3	45-52	22
		4	82-109	300
	Atlantic bumper	12	24-40	9
	Atlantic moonfish	8	24-38	8
	lookdown	1	28	1
	silver jenny	5	58-65	34
	bay anchovy	5	49-56	9
	Cuban anchovy	1	47	1
	sand drum	5	31-38	4
	silver perch	2	45-48	5

TABLE I-32
(continued)
RESULTS OF IMPINGEMENT AT THE ST...LUCIE PLANT
4-5 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	crevalle jack	1	31	1
	planehead filefish	2	25-41	5
	guaguanche	1	78	4
	bank cusk-eel	1	187	54
	Atlantic cutlassfish	1	179	3
	chain pipefish	1	165	2
	bay whiff	1	95	19
	lined sole	1	104	54
	barbfish	1	54	8
	dwarf sand perch	1	83	11
	Atlantic midshipman	1	113	23
	Spanish sardine	1	124	26
	Atlantic thread herring	1	43	2

TABLE I-33

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
8-9 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	4	31-59	27
		2	72-89	73
	shrimp	1	16	3
	rock shrimp	1	5	1
	Cuban anchovy	2	33-48	2
	striped anchovy	1	60	2
	Atlantic bumper	2	26-30	1
	Atlantic moonfish	1	35	1
	lookdown	1	38	2
	jack	1	32	1
	silver jenny	1	65	7
	bluelip parrotfish	1	118	49
	silver perch	1	44	2
	red drum	1	37	1
	black drum	1	31	1
	high-hat	1	91	17
	guaguanche	1	89	6
	lined seahorse	1	128	8

TABLE I-33
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT,
8-9 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	blue crab	1 6	54 75-98	12 297
	Atlantic bumper	4	26-39	3
	Cuban anchovy	3	36-45	2
	striped anchovy	3	26-35	1
	silver perch	1	47	2
	bandtail puffer	1	94	18
1700-0100	blue crab	1 9 1	32 67-86 114	3 311 126
	stone crab	1	39	21
	shrimp	3	10-17	10
	Atlantic bumper	6	28-45	5
	Atlantic moonfish	2 1	28 fragment	2 fragment
	tomtate	2	62-78	20
	Atlantic cutlassfish	1 1	232 fragment	7 fragment
	Atlantic thread herring	2	46-48	3
	planehead filefish	2	42-48	7
	black drum	2	30-32	2

TABLE I-33
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
8-9 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	red drum	1	41	2
	silver perch	1	55	4
	bluespotted searobin	1	249	361
	bank cusk-eel	1	231	97
	bandtail puffer	1	84	16
	sailors choice	1	45	2
	silver jenny	1	69	9
	lane snapper	1	37	2
	Cuban anchovy	1	fragment	fragment
	jawfish	1	59	4
	lined sole	1	57	9
	flounder (<i>B. robinsi</i>)	1	56	4
	spotted whiff	1	94	16
	bay whiff	1	82	10

TABLE I-34

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
11-12 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	8-14	4
		1	20	8
		1	41	41
	blue crab	1	43	5
		2	71-87	84
	Atlantic cutlassfish	4	114-168	6
		8	175-227	27
		4	fragment	fragment
	Atlantic bumper	11	27-49	13
		1	77	9
	Atlantic moonfish	4	26-42	6
	lookdown	2	30-48	5
	black drum	7	26-41	8
	red drum	1	43	2
	sand drum	1	42	1
	bay anchovy	3	52-60	6
	Cuban anchovy	3	35-62	4
	striped anchovy	1	41	1
	Atlantic thread herring	1	40	1
	bank cusk-eel	1	86	4
	barbfish	1	53	6

TABLE I-34
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
11-12 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	blue crab	4	76-98	187
	Atlantic bumper	53	30-106	190
		1	147	63
	Atlantic moonfish	2	44-45	7
		3	83-93	71
	lookdown	2	36-60	7
	tomtate	28	49-95	336
	sailors choice	1	52	4
	striped anchovy	24	37-59	39
	bay anchovy	16	49-62	29
	Cuban anchovy	10	40-69	19
	flat anchovy	8	77-89	48
	bigeye anchovy	1	69	4
	Atlantic thread herring	14	36-58	24
	Atlantic cutlassfish	4	121-210	12
	guaguanche	3	77-84	15
	silver jenny	3	60-97	37
	planehead filefish	2	192-210	608
		1	242	552
	black drum	3	32-35	4

TABLE I-34
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
11-12 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	red drum	2	36	2
	sand drum	1	32	1
	black grouper	1	118	38
	twospot cardinalfish	1	54	5
	barbfish	1	209	311
	smooth butterfly ray	1	588	2043
1700-0100	blue crab	2	76-87	79
	shrimp	1	9	1
		1	38	47
	Atlantic bumper	16	27-55	23
	Atlantic moonfish	6	27-43	10
	lookdown	1	39	3
	Atlantic cutlassfish	6	184-211	29
	striped anchovy	4	37-56	5
	Cuban anchovy	2	33-51	2
	Atlantic thread herring	2	38-45	3
	black drum	3	23-36	3
	red drum	2	36-40	3
	silver perch	1	45	2

TABLE I-34
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
11-12 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	tomtate	2	48-51	7
	southern puffer	1	104	40
	bandtail puffer	1	49	4
	flounder	1	61	5
	bull pipefish	1	305	15

TABLE I-35

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT.
14-15 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	4	9-18	7
	Atlantic cutlassfish	10 4	196-242 fragment	54 fragment
	Atlantic bumper	10	27-42	7
	Cuban anchovy	5	34-48	3
	bay anchovy	4	51-58	6
	anchovy	5	25-34	1
	black drum	1	28	1
	sargassumfish	1	33	2
	southern stargazer	1	135	97
0900-1700	blue crab	1 5	45 76-97	5 226
	Atlantic bumper	196 2	25-56 62-75	136 12
	Atlantic moonfish	10	33-68	31
	lookdown	2	42-48	6
	Cuban anchovy	20	36-61	21
	bay anchovy	13	50-60	18
	striped anchovy	12	40-75	21
	longnose anchovy	3	54-55	4
	bigeye anchovy	1	55	2

TABLE I-35
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT.
14-15 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	anchovy	172	28-43	48
	Atlantic thread herring	26	36-50	30
	Spanish sardine	3	44-49	3
	silver porgy	17	98-140	1177
	tomtate	11	34-67	44
		3	91-98	61
	sailors choice	2	53-69	11
		9	104-155	517
	porkfish	10	86-136	433
	balck margate	2	125-147	167
	Atlantic cutlassfish	1	120	1
		2	fragment	fragment
	planehead filefish	1	50	5
		1	247	510
	high-hat	3	72-76	28
		1	126	47
	black drum	2	33-39	3
	sand drum	1	48	2
	silver perch	1	47	2
	seaweed blenny	3	36-43	3
	oyster blenny	3	33-65	8
	barred blenny	1	48	3

TABLE I-35
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
14-15 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	blenny (<i>Labrisomus</i> sp.)	1	107	31
	goby	1	38	1
	twospot cardinalfish	1	49	3
	cardinalfish	2	38-66	11
	bank cusk-eel	1	258	111
	southern stargazer	1	138	88
	rock sea bass	1	41	1
	lantern bass	1	37	1
	barbfish	1	42	3
	silver jenny	1	41	1
1700-0100	shrimp	5	9-19	14
	blue crab	2	84-116	131
	Atlantic bumper	9	25-47	7
	Atlantic moonfish	1	31	1
	bay anchovy	1 1	61 fragment	2 fragment
	Cuban anchovy	3	32-47	2
	striped anchovy	2	38-54	2
	anchovy	19	31-37	6

TABLE I-35
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
14-15 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	Atlantic cutlassfish	4	181-217	17
		2	fragment	fragment
	seatrout	5	31-52	6
	silver perch	4	38-53	8
	silver jenny	2	48-52	4
	batfish	1	55	4
	parrotfish	1	78	12
	twospot cardinalfish	1	48	3
	sailors choice	1	151	94
	tomtate	1	62	7
	Atlantic thread herring	1	38	1
	Spanish sardine	1	118	21

TABLE I-36

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
22-23 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	1	57	15
		2	84-96	130
	shrimp	1	fragment	fragment
	Atlantic cutlassfish	10	225-295	107
	Atlantic bumper	2	37-43	3
	anchovy	2	33-37	1
	silver jenny	1	40	2
	planehead filefish	1	55	7
	barbfish	1	109	44
	silver perch	1	46	2
	tomtate	1	56	5
0900-1700	Atlantic cutlassfish	46	212-307	375
	Atlantic bumper	26	35-65	59
	Atlantic moonfish	1	63	6
	bay anchovy	3	55-58	4
	anchovy	10	28-41	4
	silver perch	4	45-50	8
	tomtate	1	57	4
	porkfish	1	76	14

TABLE I-36
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
22-23 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	4	12-17	14
		4	18-21	24
	blue crab	2	53-65	25
		2	93-101	140
	Atlantic cutlassfish	2	160-201	7
		7	223-280	72
		3	fragment	fragment
	Atlantic bumper	7	29-40	7
	bank cusk-eel	2	42-46	3
	seatrout	2	50-54	6
	silver perch	2	44-50	5
	cardinalfish	2	38-44	5
	bay anchovy	2	55-56	3
	Cuban anchovy	2	61-67	5
	striped anchovy	1	32	1
	anchovy	1	30	1
	sailors choice	1	52	4
	barbfish	1	57	8
	planehead filefish	1	58	7
	spotted whiff	1	114	25

TABLE I-37

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
23-24 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	blue crab	6	57-84	157
		5	94-105	384
	shrimp	2	9-10	2
	Atlantic cutlassfish	3	232-296	28
		4	fragment	fragment
	Cuban anchovy	5	34-42	3
	bay anchovy	1	48	1
	bigeye anchovy	1	68	4
	anchovy	12	29-39	34
	Atlantic bumper	2	41-47	3
	Atlantic moonfish	1	56	4
	chain pipefish	1	311	12
	spotfin mojarra	1	39	1
	planehead filefish	1	67	10
	Atlantic thread herring	1	41	1
	French grunt	1	48	3
	oyster blenny	1	28	1
	bay whiff	1	fragment	fragment

TABLE I-37
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
23-24 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	6	9-16	9
		6	18-22	35
	blue crab	4	34-43	15
		2	71-75	55
		3	100-108	206
	Cuban anchovy	6	34-46	3
	anchovy	10	31-41	4
	Atlantic bumper	3	37-42	4
	Atlantic cutlassfish	1 1	270 fragment	12 fragment
	tomtate	1	48	2
	sand drum	1	36	1
	reef croaker	1	84	13
	silver jenny	1	47	2
0900-1700	blue crab	1	98	78
		1	134	174
	stone crab	1	27	3
	shrimp	1	8	.1
	Cuban anchovy	4	33-35	2
	anchovy	2	33	1
	Atlantic cutlassfish	2	249-289	19
	Atlantic bumper	1	48	2

TABLE I-38

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
29-30 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0920	blue crab	3	94-106	222
	stone crab	1	49	38
	shrimp	1	9	1
		1	25	11
	rock shrimp	1	9	1
	Atlantic cutlassfish	4 1	250-297 fragment	45 fragment
	Atlantic bumper	2	37-52	3
	bay anchovy	1	54	1
	silver jenny	1	46	2
	tomtate	1	52	3
	chain pipefish	1	251	7
0920-1700	shrimp	1	19	5
	bluestriped grunt	1	84	18
	anchovy	1	32	1
	Atlantic cutlassfish	1	fragment	fragment
	Atlantic bumper	1	fragment	fragment
1700-0100	shrimp	2	8-12	1
	blue crab	2	87-108	133
	Atlantic cutlassfish	2	224-260	12
		5	287-343	65

TABLE I-38
(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
29-30 NOVEMBER 1976

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	bay anchovy	4	50-60	5
	Atlantic thread herring	1	45	1
	sailors choice	1	56	5
	Atlantic bumper	1	35	1
	silver perch	1	fragment	fragment
	pinfish	1	fragment	fragment

