

ST. LUCIE PLANT
IMPINGEMENT STUDY

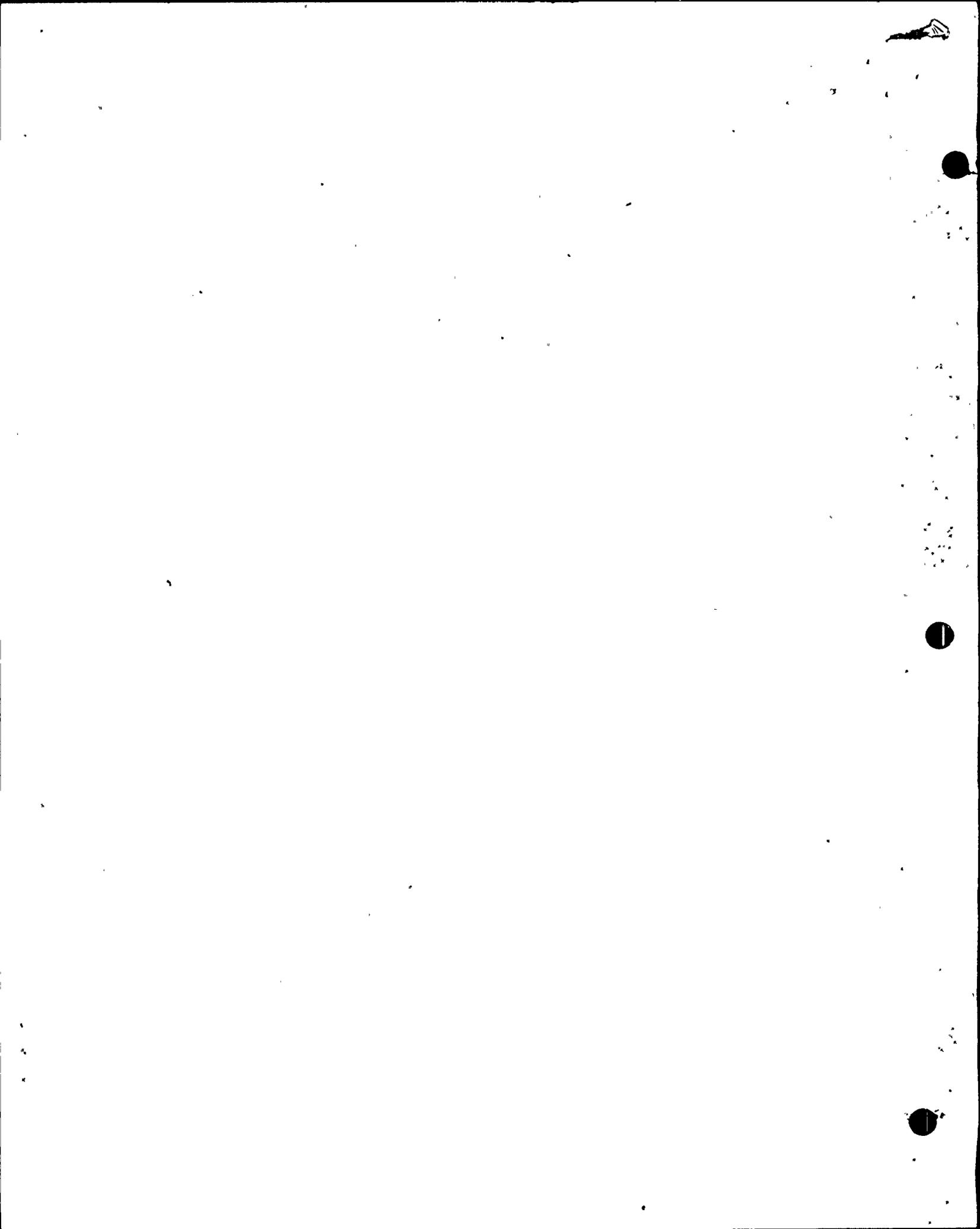
3 JANUARY-20 APRIL 1977

Prepared for
FLORIDA POWER & LIGHT COMPANY
MIAMI, FLORIDA

By
APPLIED BIOLOGY, INC.
ATLANTA, GEORGIA

MAY 1977

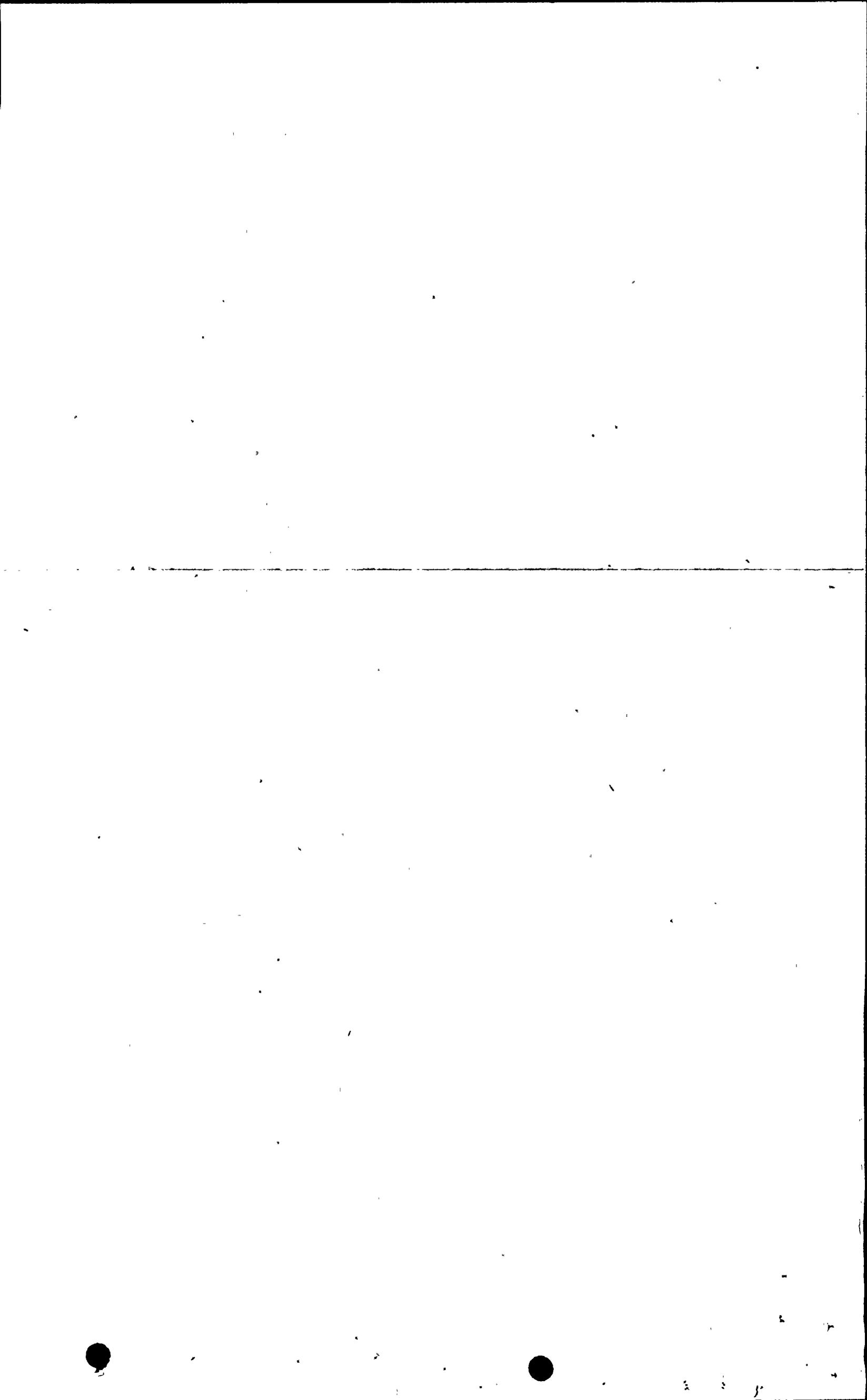
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NUMBER AND BIOMASS OF SHELLFISHES AND FISHES COLLECTED
DURING 24-HOUR IMPINGEMENT SURVEYS AT THE ST. LUCIE PLANT
1977

Category	3-4 JAN		6-7 JAN		10-11 JAN		13-14 JAN		17-18 JAN		20-21 JAN		24-25 JAN		27-28 JAN	
	No. ^a	Wt. ^b	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
shrimp	16	124	8	51	7	92	21	123	6	39	20	77	60	228 ^c	143	272
blue crab	10	282	9	488	6	203	26	1616	13	693	16	596	8	377	6	368
stone crab	-	-	1	10	1	1	-	-	1	24	1	12	-	-	-	-
spiny lobster	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	-
shark, ray	-	-	-	-	1	145	-	-	-	-	-	-	-	-	-	-
herring	1	- ^c	1	2	-	-	-	-	-	-	-	-	2	62	11	96 ^c
anchovy	2	2 ^c	1	2	-	-	1	6	-	-	-	-	15	75	3	9
catfish	-	-	-	-	-	-	-	-	-	-	2	109	4	159	4	125
jack	2	28	1	2	1	7	-	-	3	19	21	107	178	1346	145	767
mojarra	-	-	2	7	1	1	-	-	2	4	7	40	3	77	6	238
grunt	5	84	1	3	2	9	-	-	2	17	3	46	4	65 ^c	1	19
croaker	29	205	2	46	-	-	-	-	-	-	3	40	7	134	6	166
blenny, goby	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4
cutlassfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
scorpionfish, searobin	1	7	2	10	1	5	2	98	-	-	-	-	2	43	1	3
flounder, sole	-	-	2	20 ^c	-	-	2	31	-	-	5	49	5	50	2	14
triggerfish, filefish	4	945	1	14	-	-	1	433	-	-	4	77	2	54	1	604
puffer, trunkfish	-	-	-	-	1	5	-	-	1	5	-	-	6	68 ^c	7	674
other fish	-	-	1	21	1	5	3	224	-	-	8	631	12	627 ^c	12	647
total shellfish	26	406	18	549	14	296	47	1739	20	756	38	687	68	605 ^c	149	640
total fish	44	1271 ^c	14	127 ^c	8	177	9	792	8	45	53	1099	240	2760 ^c	200	3366 ^c

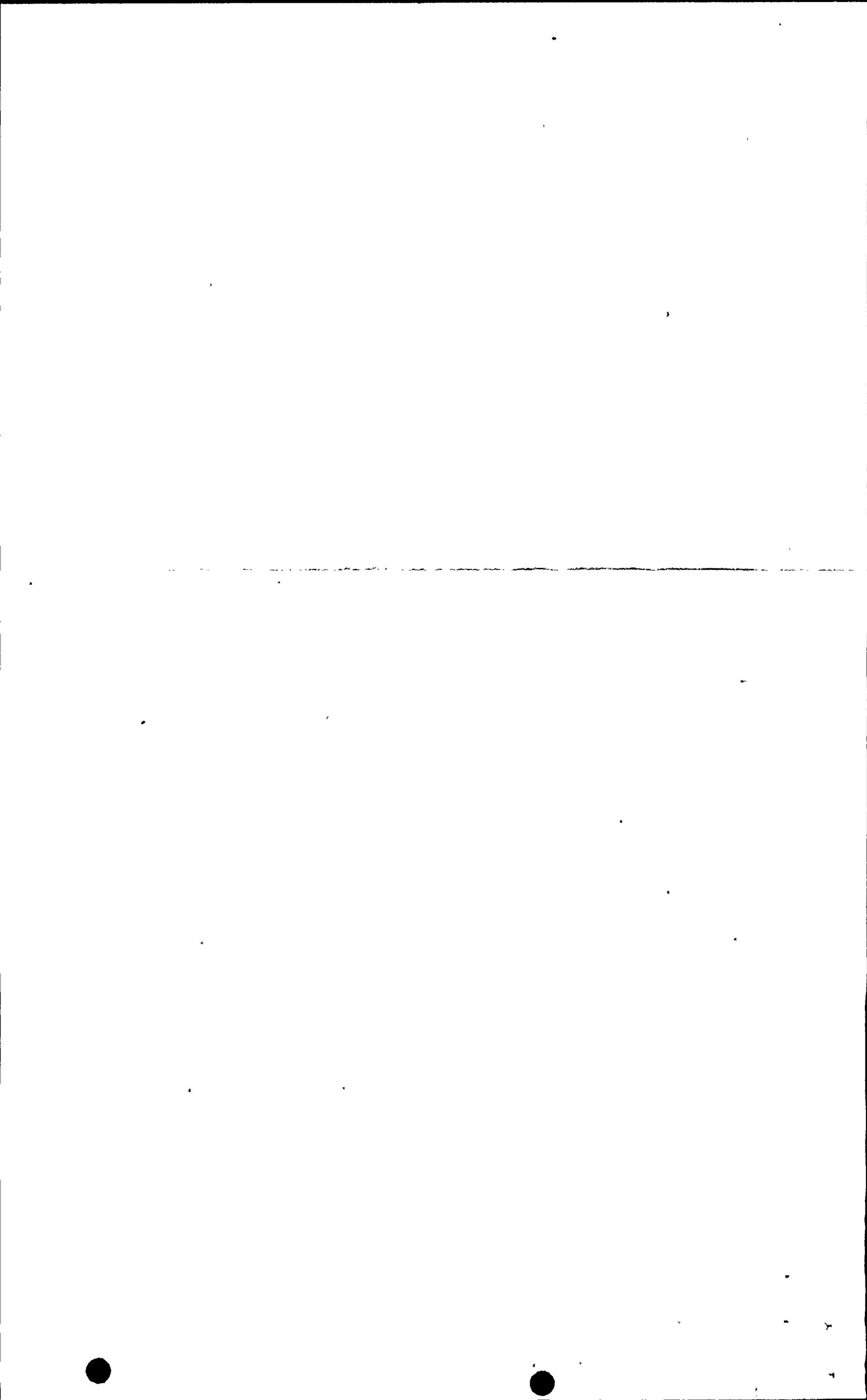
^a Number of individuals. ^b Total weight in grams. ^c Includes fragments.



(continued)
 NUMBER AND BIOMASS OF SHELLFISHES AND FISHES COLLECTED
 DURING 24-HOUR IMPINGEMENT SURVEYS AT THE ST. LUCIE PLANT
 1977

Category	31 JAN-1 FEB		3-4 FEB		7-8 FEB		10-11 FEB		14-15 FEB		17-18 FEB		22-23 FEB		24-25 FEB	
	No. ^a	Wt. ^b	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
shrimp	32	99	13	25	45	57	309	1073	111	315	24	27	15	67	17	42
blue crab	7	401	3	102	3	76	8	175	11	353	11	690	5	88	3	91
stone crab	1	1	1	1	1	10	-	-	-	-	2	3	-	-	-	-
spiny lobster	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
shark, ray	-	-	1	73	-	-	-	-	2	1026	1	252	1	530	-	-
herring	1	2	2	22	-	-	17	221	40	74	-	-	64	287	1	1
anchovy	1	8	5	24	2	3	36	110	2011	2394	11	19	686	990	331	487
catfish	1	56	1	32	2	115	4	150	1	29	1	29	-	-	-	-
jack	-	-	47	800	1	4	64	972	53	796	-	-	9	1559	8	1985
mojarra	1	3	-	-	3	23	-	-	-	-	-	-	1	2	8	73
grunt	-	-	31	1661	-	-	2	12	2	15	-	-	1	8	-	-
croaker	1	21	73	1901	1	1	2	207	13	1331	5	517	2	254	3	8
blenny, goby	1	3	38	275	1	1	1	1	2	5	1	2	-	-	1	4
cutlassfish	-	-	1	28	-	-	2	770	2	85	-	-	-	-	-	-
scorpionfish, searobin	-	-	2	230	-	-	5	268	3	339	-	-	2	156	-	-
flounder, sole	1	5	1	26	3	102	15	272	9	24	4	89	1	26	-	-
triggerfish, filefish	1	1	19	3408	-	-	1	1	3	1100	2	980	-	-	-	-
puffer, trunkfish	4	341	4	302	3	410	6	417	10	1298	1	89	2	471	-	-
other fish	-	-	24	963	4	297	30	655 ^c	17	992	2	19	4	42	-	-
total shellfish	40	501	17	128	49	143	317	1248	122	668	37	720	20	155	20	133
total fish	12	440	249	9745	20	956	185	4056 ^c	2168	9578	28	1996	773	4325	352	2558

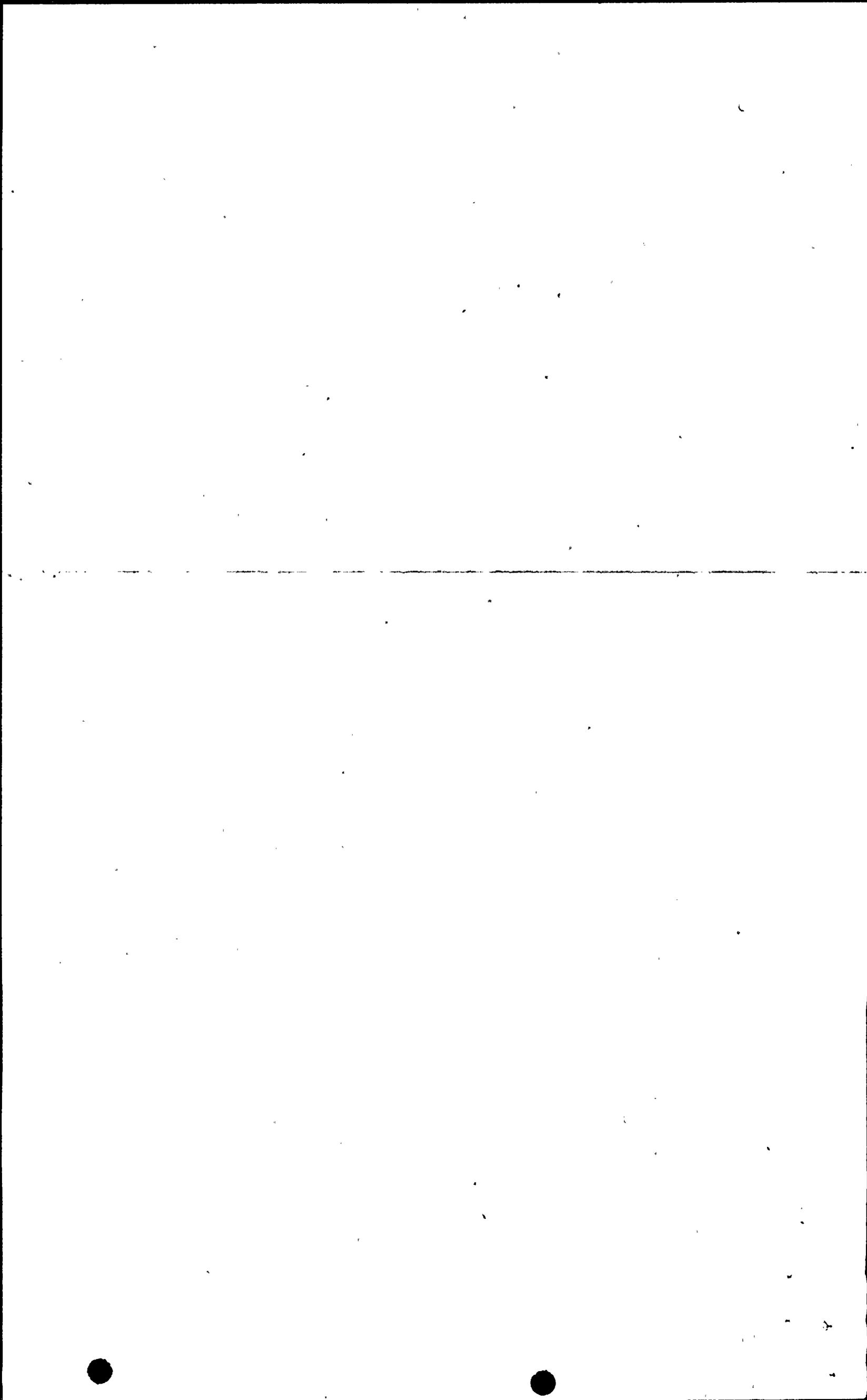
^a Number of individuals. ^b Total weight in grams. ^c Includes fragments.



(continued)
 NUMBER AND BIOMASS OF SHELLFISHES AND FISHES COLLECTED
 DURING 24-HOUR IMPINGEMENT SURVEYS AT THE ST. LUCIE PLANT
 1977

Category	28 FEB-1 MAR		3-4 MAR		7-8 MAR		10-11 MAR		14-15 MAR		17-18 MAR		21-22 MAR		24-25 MAR	
	No. ^a	Wt. ^b	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
shrimp	13	45	24	168	6	64	15	143	18	171	7	43	7	40	59	342
blue crab	4	380	3	118	5	212	2	118	4	248	3	230	5	141	7	503
stone crab	2	61	1	3	1	2	-	-	2	10	-	-	-	-	2	13
spiny lobster	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-
shark, ray	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
herring	84	434	12	89	3	4	295	890	-	-	2	11	36	257	31	127
anchovy	539	841	261	374	36	50	1735	2339	14	27	17	37	15	27	49	44
catfish	-	-	-	-	-	-	-	-	-	-	2	87	-	-	-	-
jack	8	1356	7	1022	9	3962	39	121	6	2755	7	5078	200	4819	9	890
mojarra	2	10	1	4	-	-	5	39	1	3	144	708	145	1351	357	2884
grunt	-	-	-	-	1	4	4	37	3	30	-	-	1	17	1	4
croaker	3	397	9	1316	1	8	18	712	2	168	4	22	1	18	4	87
blenny, goby	-	-	-	-	-	-	1	1	-	-	-	-	1	4	-	-
cutlassfish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
scorpionfish, searobin	-	-	-	-	-	-	-	-	-	-	1	4	1	29	1	5
flounder, sole	1	9	1	21	-	-	2	20	6	107	9	168	4	65	2	47
triggerfish, filefish	-	-	1	564	1	37	-	-	-	-	-	-	-	-	1	400
puffer, trunkfish	-	-	-	-	2	38	-	-	2	23	1	22	3	44	1	19
other fish	5	87	1	13	2	3	6	364	4	50	6	116	5	4	8	495
total shellfish	19	486	28	289	12	278	17	261	24	429	10	273	13	182	68	858
total fish	642	3134	293	3403	55	4106	2105	4523	38	3163	193	6253	412	6635	464	5002

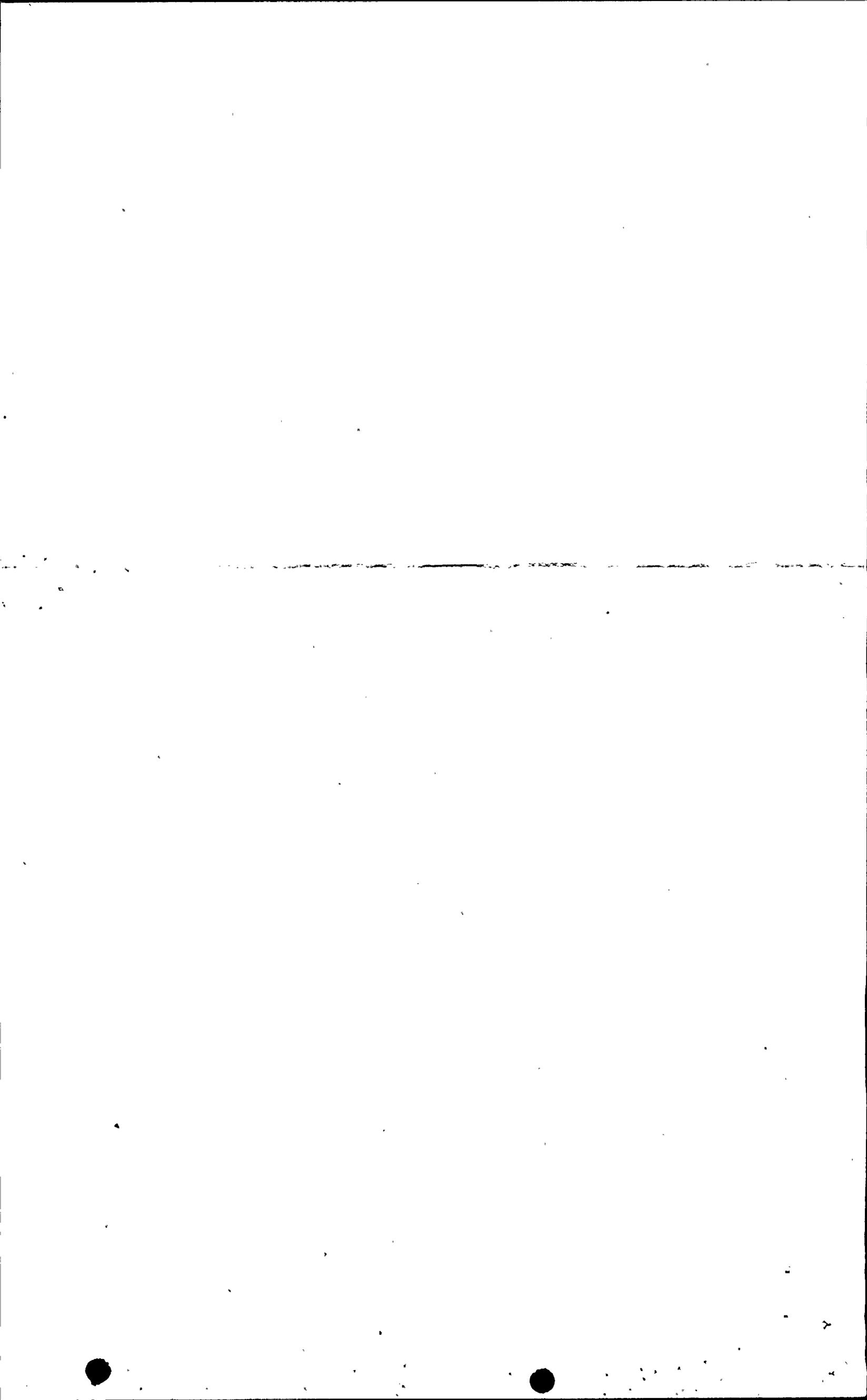
^a Number of individuals. ^b Total weight in grams.



(continued)
 NUMBER AND BIOMASS OF SHELLFISHES AND FISHES COLLECTED
 DURING 24-HOUR IMPINGEMENT SURVEYS AT THE ST. LUCIE PLANT
 1977

Category	28-29 MAR		31 MAR-1 APR		11-12 APR		14-15 APR		19-20 APR		No.	Wt.	No.	Wt.
	No. ^a	Wt. ^b	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.				
shrimp	19	128	2	3	33	121	8	8 ^c	13	23				
blue crab	2	364	3	94	12	535	2	147	11	158				
stone crab	2	3	3	12	1	74	1	16	-	-				
spiny lobster	-	-	-	-	-	-	-	-	-	-				
shark, ray	-	-	-	-	-	-	-	-	-	-				
herring	2	3	-	-	2	6	1	6	-	-				
anchovy	1	2	5	8	9	17	9	16	-	-				
catfish	-	-	-	-	-	-	-	-	1	52				
jack	2	823	4	1133	9	3017	14	1974	1	773				
mojarra	74	655	59	328	269	2049	61	299	19	42				
grunt	-	-	1	6	3	44	1	6	1	97				
croaker	-	-	3	10	1	6	-	-	-	-				
blenny, goby	1	3	-	-	-	-	-	-	1	2				
cutlassfish	-	-	-	-	-	-	-	-	-	-				
scorpionfish, searobin	2	8	1	44	3	64	3	12	2	14				
flounder, sole	5	91	-	-	18	290	8	52	6	12				
triggerfish, filefish	-	-	-	-	2	388	-	-	-	-				
puffer, trunkfish	-	-	-	-	1	20	2	25	2	30				
other fish	2	19	3	8	61 ^d	1195 ^c	33 ^d	778	19 ^d	135				
total shellfish	23	495	8	109	46	730	11	171 ^c	24	181				
total fish	89	1604	76	1537	378	7096 ^c	132	3168	52	1157				

^a Number of individuals. ^b Total weight in grams. ^c Includes fragments. ^d Primarily pinfish.



ST. LUCIE PLANT
IMPINGEMENT STUDY

3 JANUARY-20 APRIL 1977

Prepared for
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MIAMI, FLORIDA

By
APPLIED BIOLOGY, INC.
ATLANTA, GEORGIA

MAY 1977

Impingement studies conducted at the Florida Power & Light St. Lucie Plant for this period 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:

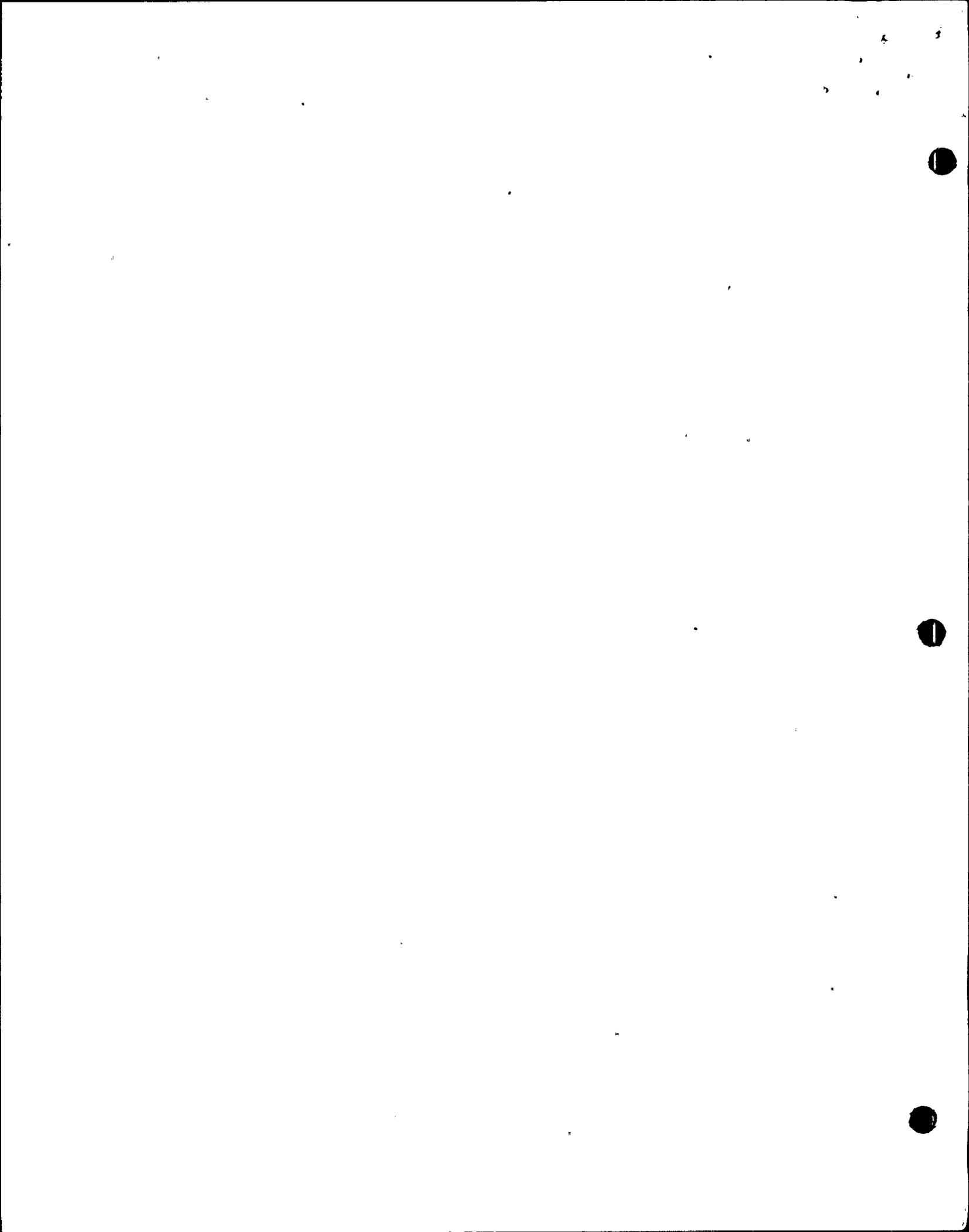
LENGTH

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.

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
3-4 JANUARY 1977

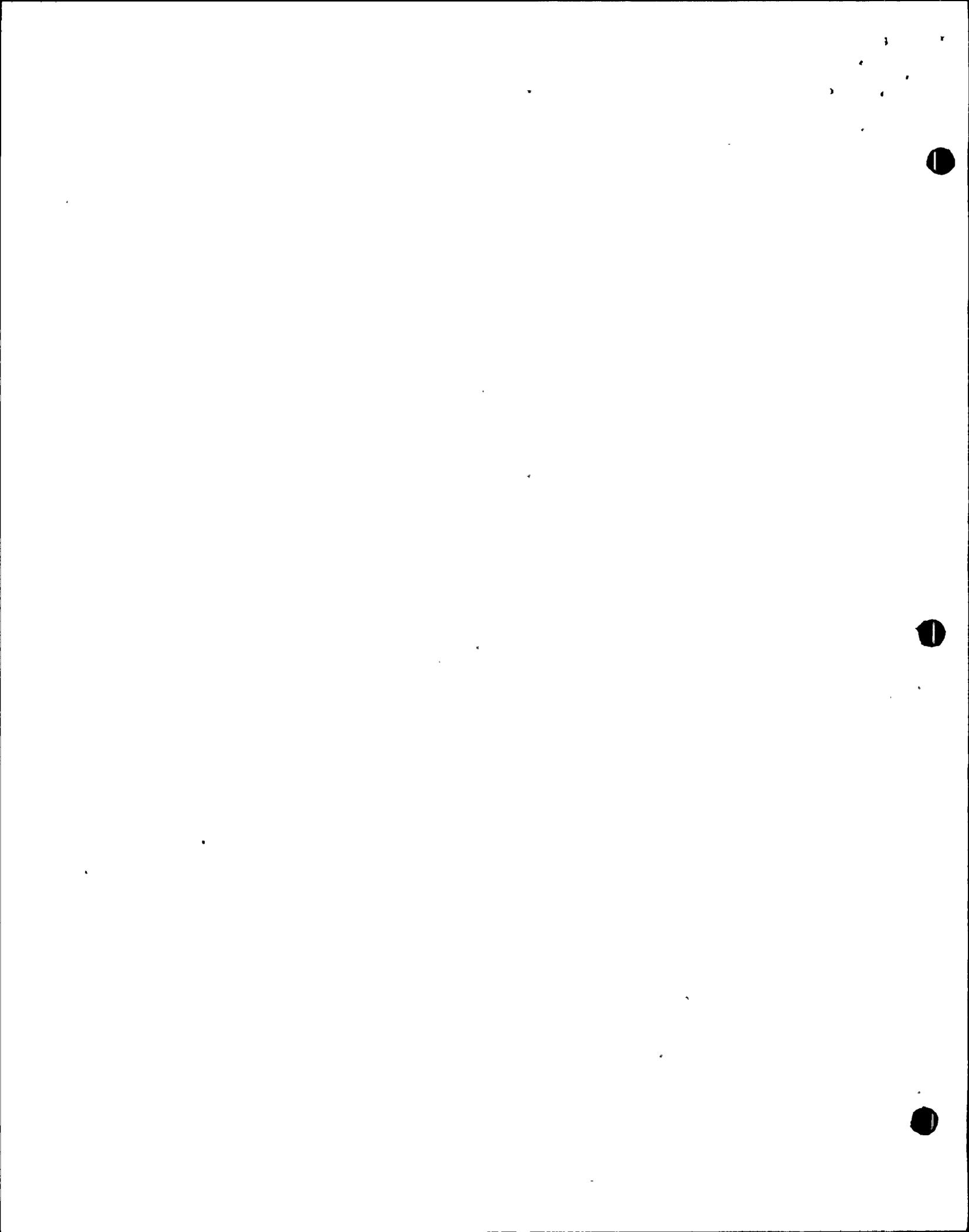
Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	1	9	1
		5	18-26	40
		1	37	36
	rock shrimp	1	9	1
	blue crab	2	66-72	48
		1	107	102
	bay anchovy	1	fragment	fragment
0900-1700	blue crab	2	33-38	5
		2	61-78	45
	shrimp	1	24	11
	striped croaker	26	53-75	151
	reef croaker	1	107	22
	tomtate	4	79-102	80
	sailors choice	1	55	4
	planehead filefish	1	83	23
		2	217-232	899
	Atlantic bumper	1	61	4
		1	112	24
	barbfish	1	54	7
bay anchovy	1	53	2	
1700-0100	shrimp	3	7-17	6
		4	20-25	29
	blue crab	3	68-73	82

(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
3-4 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	reef croaker	1	101	23
	striped croaker	1	72	9
	planehead filefish	1	80	23
	Atlantic thread herring	1	fragment	fragment

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
6-7 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	2	10-11	2
		5	19-27	48
	blue crab	4	73-84	139
	stone crab	1	34	10
	barbfish	2	48-54	10
	striped croaker	1	116	42
	planehead filefish	1	70	14
	Atlantic bumper	1	51	2
	tomtate	1	59	3
	shoal flounder	1	100	20
	silver jenny	1	46	2
	bay anchovy	1	51	2
	scaled sardine	1	51	2
0900-1700	blue crab	2	78-89	80
		3	103-114	269
	dwarf sand perch	1	103	21
	silver jenny	1	61	5
	bay whiff	1	fragment	fragment
	croaker	1	55	4
1700-0100	rock shrimp	1	5	1



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
10-11 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	19-28	29
	stone crab	1	13	1
	Atlantic bumper	1	74	7
	tomtate	1	59	4
	silver jenny	1	38	1
	bandtail puffer	1	57	5
	barbfish	1	51	5
0900-1700	blue crab	2	37-53	12
		4	74-95	191
	shrimp	1	17-24	13
		1	36	35
	tomtate	1	60	5
1700-0100	shrimp	2	25	15
	lane snapper	1	56	5
	Atlantic stingray	1	155	145

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
13-14 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	7	8-12	7
		11	18-27	112
	rock shrimp	2	9-13	3
	blue crab	9	66-89	372
		4	92-103	257
		2	117-147	311
	striped anchovy	1	81	6
	bandtail searobin	1	133	56
	polka-dot batfish	1	164	131
0900-1700	blue crab	6	81-107	365
	planehead filefish	1	241	433
	bank cusk-eel	1	229	91
1700-0100	blue crab	3	75-86	125
		2	92-115	186
	shrimp	1	10	1
	lined sole	2	66-74	31
	chain pipefish	1	182	2
	plumed scorpionfish	1	94	42

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
17-18 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	1	23	1
		1	74	35
		2	97-108	146
	shrimp	2	25-29	32
	rock shrimp	2	9-10	2
	Atlantic bumper	1	75	8
0900-1700	blue crab	2	69-74	54
		3	98-112	250
	Atlantic bumper	1	72	6
	tomtate	1	74	10
	porkfish	1	61	7
	spotfin mojarra	1	40	1
	1700-0100	blue crab	4	79-96
stone crab		1	41	24
shrimp		2	13-18	5
Atlantic bumper		1	67	5
bandtail puffer		1	53	5
spotfin mojarra		1	51	3

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
20-21 JANUARY 1977

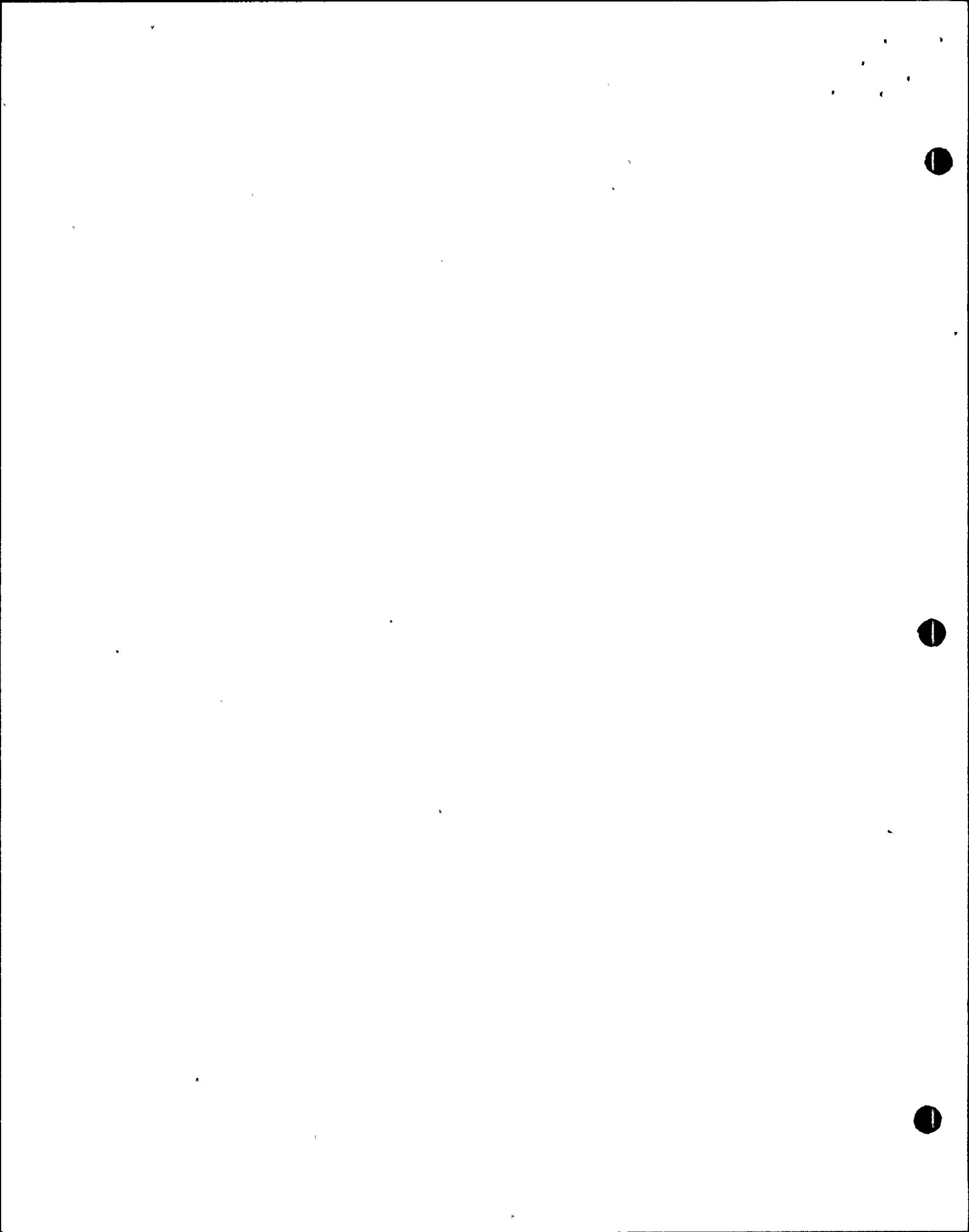
Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	2	28-36	4
		7	70-83	191
		2	97-112	143
	shrimp	5	9-17	8
		3	26-29	42
	Atlantic bumper	8	51-75	32
	planehead filefish	3	75-87	58
	great barracuda	1	87	5
		1	175	48
	lookdown	1	30	1
	tomtate	1	104	28
	spottedfin tonguefish	1	61	2
	flounder (<i>B. robinsi</i>)	1	68	8
	spotted whiff	1	112	22
silver jenny	1	55	5	
0900-1700	blue crab	2	72-93	94
		1	119	118
	shrimp	1	9	1
	spiny lobster	1	11	2
	sea catfish	2	129-184	109
	Atlantic bumper	1	73	7
	planehead filefish	1	82	19
	doctorfish	1	62	9
	high-hat	1	86	14
	southern stargazer	1	199	302

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 20-21 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	10	8-18	25
	rock shrimp	1	8	1
	blue crab	2	68-73	46
	stone crab	1	32	12
	Atlantic bumper	11	52-81	67
	silver jenny	5	47-73	26
	yellowfin mojarra	1	67	9
	dwarf sand perch	3	99-103	61
	tomtate	1	47	2
		1	89	16
	high-hat	2	76-91	26
	blackcheek tonguefish	2	74-99	17
	southern stargazer	1	171	206

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	55	9-30	220 ^a
	blue crab	1	34	4
		2	62-85	60
	Atlantic bumper	29	50-80	138
		9	85-122	152
	sea catfish	2	149-157	96
	high-hat	2	78-108	41
	lined sole	2	71-77	27
	blackcheek tonguefish	1	106	15
	bay whiff	1	70	5
	great barracuda	2	71-72	5
	bigeye anchovy	2	66-71	8
	flat anchovy	2	82-83	12
	silver perch	1	107	23
	striped croaker	1	110	31
	silver jenny	1	49	2
	crevalle jack	1	230	287
	planehead filefish	1	93	37
	bandtail puffer	1	55	6
	puffer (<i>Lagocephalus</i> sp.)	1	34	2
	sailors choice	1	123	57
	tomtate	1	fragment	fragment
bank cusk-eel	1	fragment	fragment	



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	55	9-30	220 ^a
	blue crab	1	34	4
		2	62-85	60
	Atlantic bumper	29	50-80	138
		9	85-122	152
	sea catfish	2	149-157	96
	high-hat	2	78-108	41
	lined sole	2	71-77	27
	blackcheek tonguefish	1	106	15
	bay whiff	1	70	5
	great barracuda	2	71-72	5
	bigeye anchovy	2	66-71	8
	flat anchovy	2	82-83	12
	silver perch	1	107	23
	striped croaker	1	110	31
	silver jenny	1	49	2
	crevalle jack	1	230	287
	planehead filefish	1	93	37
	bandtail puffer	1	55	6
	puffer (<i>Lagocephalus</i> sp.)	1	34	2
sailors choice	1	123	57	
tomtate	1	fragment	fragment	
bank cusk-eel	1	fragment	fragment	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 24-25 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	blue crab	5	82-106	313
	shrimp	1	16	3
	Atlantic bumper	35	50-76	168
		6	83-112	96
	redtail parrotfish	2	115-138	117
	bigeye anchovy	1	77	6
	bay anchovy	1	52	1
	rock sea bass	1	178	154
	Atlantic spadefish	1	141	159
	planehead filefish	1	74	17
	black margate	1	52	5
	scrawled cowfish	1	fragment	fragment
	1700-0100	shrimp	3	10-18
		1	30	fragment
Atlantic bumper		92	41-87	392
		6	90-132	113
flat anchovy		7	82-90	40
bigeye anchovy		2	68-72	8
high-hat		3	79-87	39
Atlantic midshipman		2	62-63	7
		1	142	53
redear sardine		2	107-126	62
sea catfish		2	132-138	63
scrawled cowfish		1	32	4
		1	104	54

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 24-25 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	southern puffer	1	32	2
	plumed scorpionfish	1	95	40
	barbfish	1	41	3
	hogfish	1	122	81
	lined sole	1	42	3
	butterfish	1	133	51
	porkfish	1	50	3
	silver jenny	1	88	19
	yellowfin mojarra	1	134	56

^a Estimated (fragments).

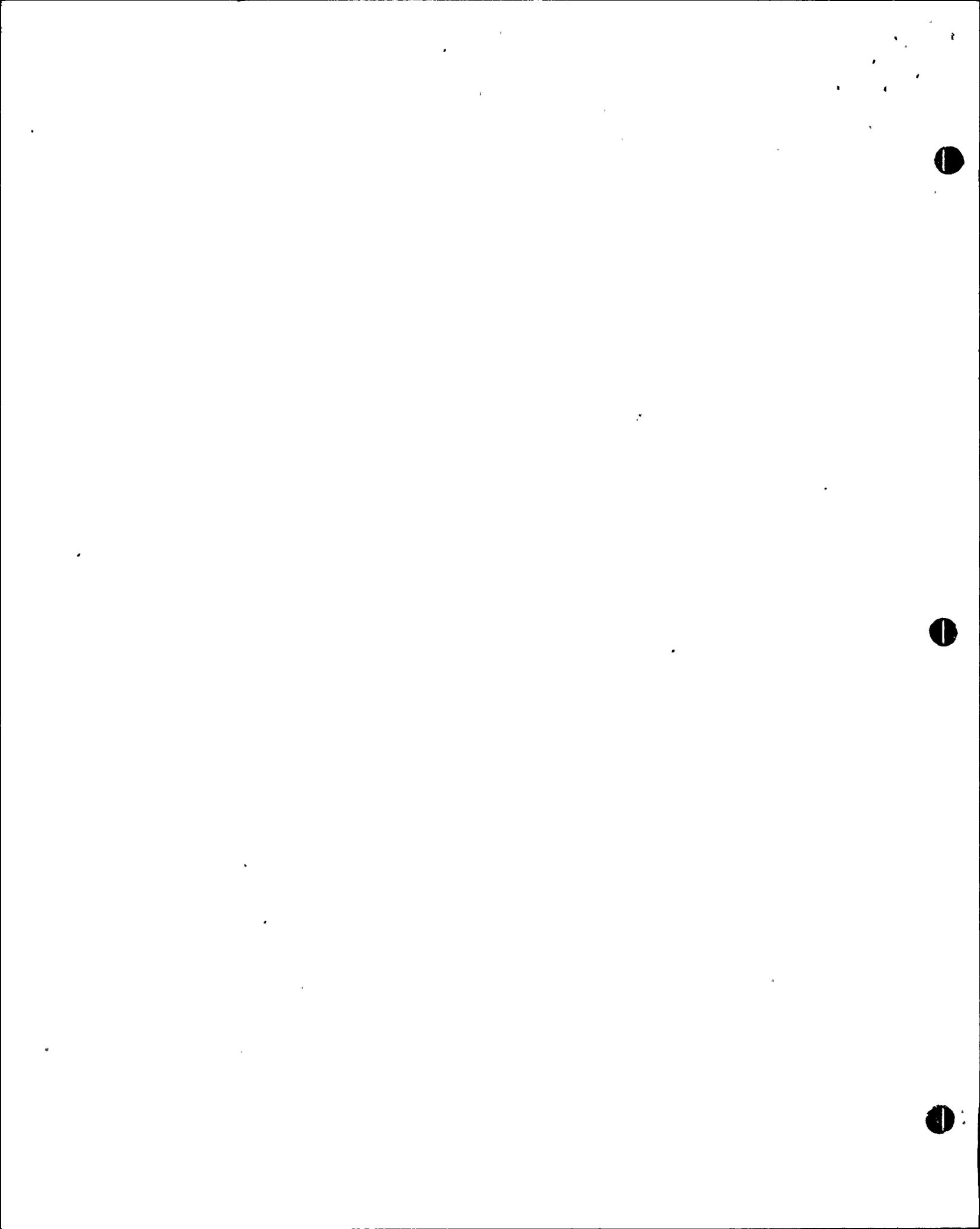
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
27-28 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	122	11-21	230
	blue crab	2	53-59	24
		1	104	82
	Atlantic bumper	21	49-80	84
		8	83-125	113
	high-hat	3	76-82	36
		1	123	47
	sea catfish	3	131-133	86
	Atlantic menhaden	1	93	14
		1	fragment	fragment
	Spanish sardine	2	92-121	35
	Atlantic thread herring	1	71	6
	flat anchovy	1	82	5
	dwarf sand perch	2	103-106	48
	southern puffer	2	43-53	7
	sharksucker	1	147	96
	barbfish	1	48	3
	scrawled cowfish	1	51	3
	yellowfin mojarra	1	179	186
	spotfin mojarra	1	46	1
	silver jenny	1	48	2
	tomtate	1	92	19
	lined sole	1	46	2
reef croaker	1	82	21	
striped croaker	1	136	62	



(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 27-28 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900 (cont.)	leatherjacket	1	141	24
	lookdown	1	136	68
	Atlantic moonfish	1	108	30
0900-1700	shrimp	5	10-12	4
	blue crab	2	100-110	163
	Atlantic bumper	8	44-68	47
		2	106-132	47
	striped burrfish	1	75	46
		1	192	302
	southern puffer	1	206	313
	planehead filefish	1	255	604
	great barracuda	1	282	188
	lookdown	1	149	87
	sea catfish	1	149	39
	Atlantic thread herring	1	76	7
	silver jenny	1	69	8
	margintail conger	1	404	94
summer flounder	1	240	301	
1700-0100	shrimp	14	10-16	14
		2	20-29	24
	blue crab	1	121	99
	Atlantic bumper	93	49-80	88
		7	86-106	90
	Atlantic thread herring	4	48-79	19



(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 27-28 JANUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	bay anchovy	2	53-54	4
	harvestfish	2	95-98	86
	sergeant major	2	35-66	16
	frillfin goby	1	54	4
	Atlantic spadefish	1	109	93
	crevalle jack	1	140	62
	Atlantic moonfish	1	104	27
	yellowfin mojarra	1	105	36
	spotfin mojarra	1	62	5
	dwarf sand perch	1	105	23
	redear sardine	1	92	15
	flounder (<i>B. robinsi</i>)	1	80	12
	chain pipefish	1	197	3
southern puffer	1	37	3	

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
31 JANUARY-1 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	9-15	3
		1	29	19
	blue crab	1	72	28
	striped burrfish	1	196	256
	planehead filefish	1	25	1
	Atlantic thread herring	1	48	2
	oyster blenny	1	49	3
0900-1700	blue crab	3	70-88	106
		1	155	207
1700-0100	shrimp	27	9-21	54
		1	32	23
	blue crab	2	65-81	60
	stone crab	1	12	1
	scrawled cowfish	2	91-92	78
	sea catfish	1	170	56
	striped anchovy	1	86	8
	southern puffer	1	55	7
	flounder (<i>B. robinsi</i>)	1	64	5
	spotfin mojarra	1	51	3
	reef croaker	1	104	21

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
3-4 FEBRUARY 1977

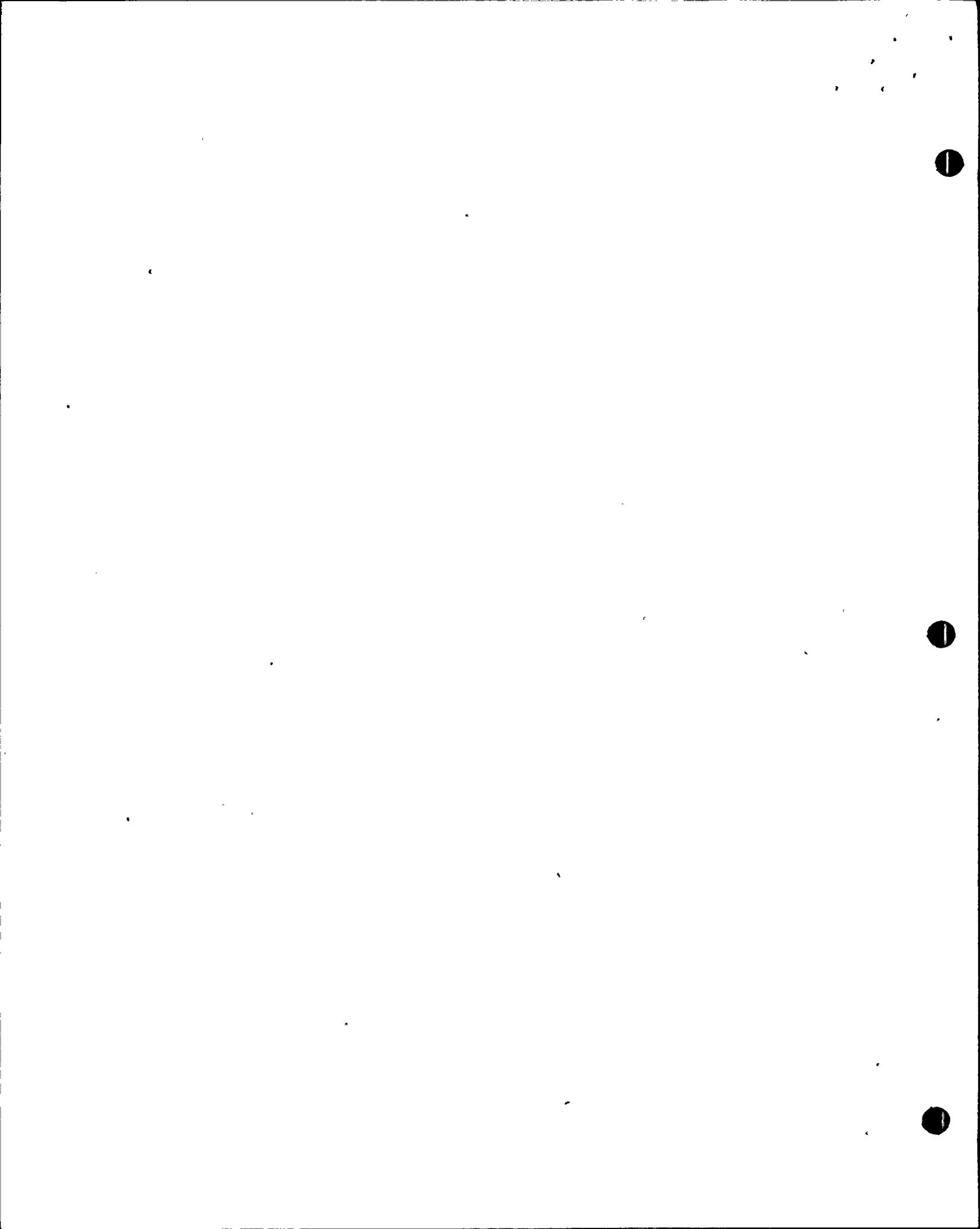
Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	shrimp	3	7-12	.3
	blue crab	1	100	56
	high-hat	55	73-145	1331
	Atlantic bumper	38	43-101	267
	planehead filefish	12	71-129	556
		6	215-250	2475
	oyster blenny	17	25-72	63
	reef croaker	12	74-122	255
	Atlantic spadefish	8	54-79	173
		1	213	609
	porkfish	8	90-139	495
	sailors choice	7	94-162	480
	tomtate	6	102-138	287
	seaweed blenny	5	41-71	19
	hariy blenny	3	127-132	146
	blenny (<i>Labrisomus</i> sp.)	2	52-61	9
	saddled blenny	1	45	2
	barred blenny	1	40	2
	twospot cardinalfish	4	53-60	24
	flamefish	3	63-74	31
	frillfin goby	4	43-59	15
	cocoa damselfish	3	61-76	45
	spotted scorpionfish	2	130-153	230
black margate	1	118	56	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 3-4 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (cont.)	lookdown	1	197	256
	striped burrfish	1	111	104
	striped anchovy	1	96	9
	anchovy	1	31	1
	spotted soapfish	1	82	17
	spotted whiff	1	110	26
	Atlantic thread herring	1	81	9
	dwarf sand perch	1	108	14
1700-0100	shrimp	8	10-18	12
		1	21	9
	rock shrimp	1	8	1
	blue crab	1	82	44
	Atlantic bumper	7	60-96	46
	oyster blenny	5	41-62	19
	high-hat	5	105-145	280
	porkfish	1	35	1
		3	86-101	109
	sailors choice	2	92-99	53
	twospot cardinalfish	2	48-58	9
	striped anchovy	2	59-94	13
	anchovy	1	36	1
	planehead filefish	1	214	377
	checkered puffer	1	164	178
	sharpnose puffer	1	47	6

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 3-4 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	Atlantic cutlassfish	1	377	28
	sea catfish	1	146	32
	silver porgy	1	97	41
	redear sardine	1	93	13
	horse-eye jack	1	206	231
	Atlantic stingray	1	133	73
0100-0900	blue crab	1	29	2
	stone crab	1	16	1
	sailors choice	2	130-137	138
	porkfish	1	107	42
	reef croaker	1	121	35
	bandtail puffer	1	78	14



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
7-8 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	11	9-18	18
	blue crab	1	82	46
	sea catfish	1	182	79
	silver jenny	1	86	18
	spotfin mojarra	1	51	3
	lined seahorse	1	154	15
	bay anchovy	1	46	1
	bluelip parrotfish	1	72	10
0900-1700	shrimp	3	9-17	5
	rock shrimp	1	11	1
	blue crab	2	58-62	30
	stone crab	1	31	10
	Atlantic bumper	1	60	4
	southern puffer	1	45	4
	checkered puffer	1	174	213
	spotted whiff	1	135	44
	frillfin goby	1	36	1
1700-0100	shrimp	29	7-16	32
	rock shrimp	1	10	1
	doctorfish	1	184	268
	spot	1	39	1

(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
7-8 FEBRUARY 1977

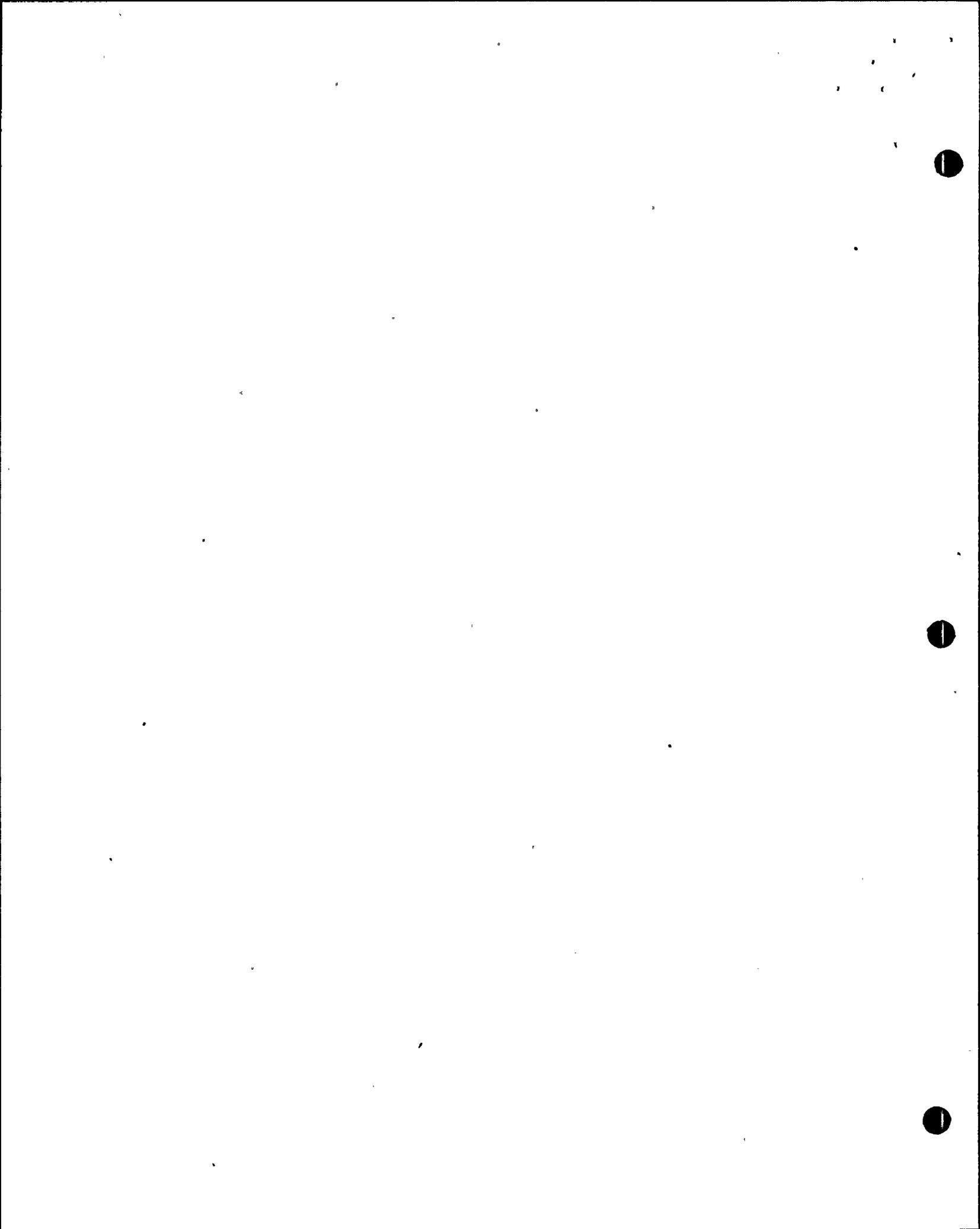
Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	striped burrfish	1	152	193
	lined sole	1	93	36
	sea catfish	1	146	36
	spotted whiff	1	100	22
	bay anchovy	1	59	2
	spotfin mojarra	1	44	2
	Atlantic midshipman	1	64	4

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
10-11 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	shrimp	13	11-21	55
		2	28-30	42
	blue crab	1	22	1
	Atlantic bumper	4	47-57	9
	Cuban anchovy	3	48-65	5
	striped anchovy	1	77	8
	anchovy	1	31	1
	silver seatrout	1	197	118
	checkered puffer	1	184	227
	Florida pompano	1	175	126
	Atlantic spadefish	1	-78	31
	trunkfish (<i>Lactophrys</i> sp.)	1	22	1
	1700-0145	shrimp	75	9-20
		22	21-33	327
rock shrimp		1	9	1
blue crab		1	41	6
		1	82	46
Atlantic bumper		38	49-86	108
bay anchovy		8	52-63	20
Cuban anchovy		4	52-65	9
striped anchovy		3	83-86	22
anchovy		3	34-36	1
Atlantic midshipman		2	50-78	9
		3	102-126	66

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 10-11 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0145 (cont.)	Atlantic thread herring	8	64-79	49
	Spanish sardine	6	104-141	135
	sea catfish	4	141-153	150
	lined sole	4	71-88	82
	blackcheek tonguefish	1	67	4
	spottedfin tonguefish	1	104	13
	offshore tonguefish	2	116-121	35
	bay whiff	1	93	15
	flounder (<i>B. robinsi</i>)	1	59	6
	dwarf sand perch	3	101-106	69
	flying gurnard	2	39-46	5
	palespotted eel	1	292	16
	shrimp eel	3	362-374	123
	crevalle jack	1	142	65
		1	265	269
	Atlantic moonfish	1	75	22
	Atlantic cutlassfish	1	721	258
	doctorfish	1	111	49
	spotted soapfish	2	64-71	15
	cocoa damselfish	2	56	18
	southern puffer	1	49	6
	striped burrfish	1	99	70
	scrawled cowfish	1	61	17
	barred hamlet	1	71	10
	barbfish	1	41	3

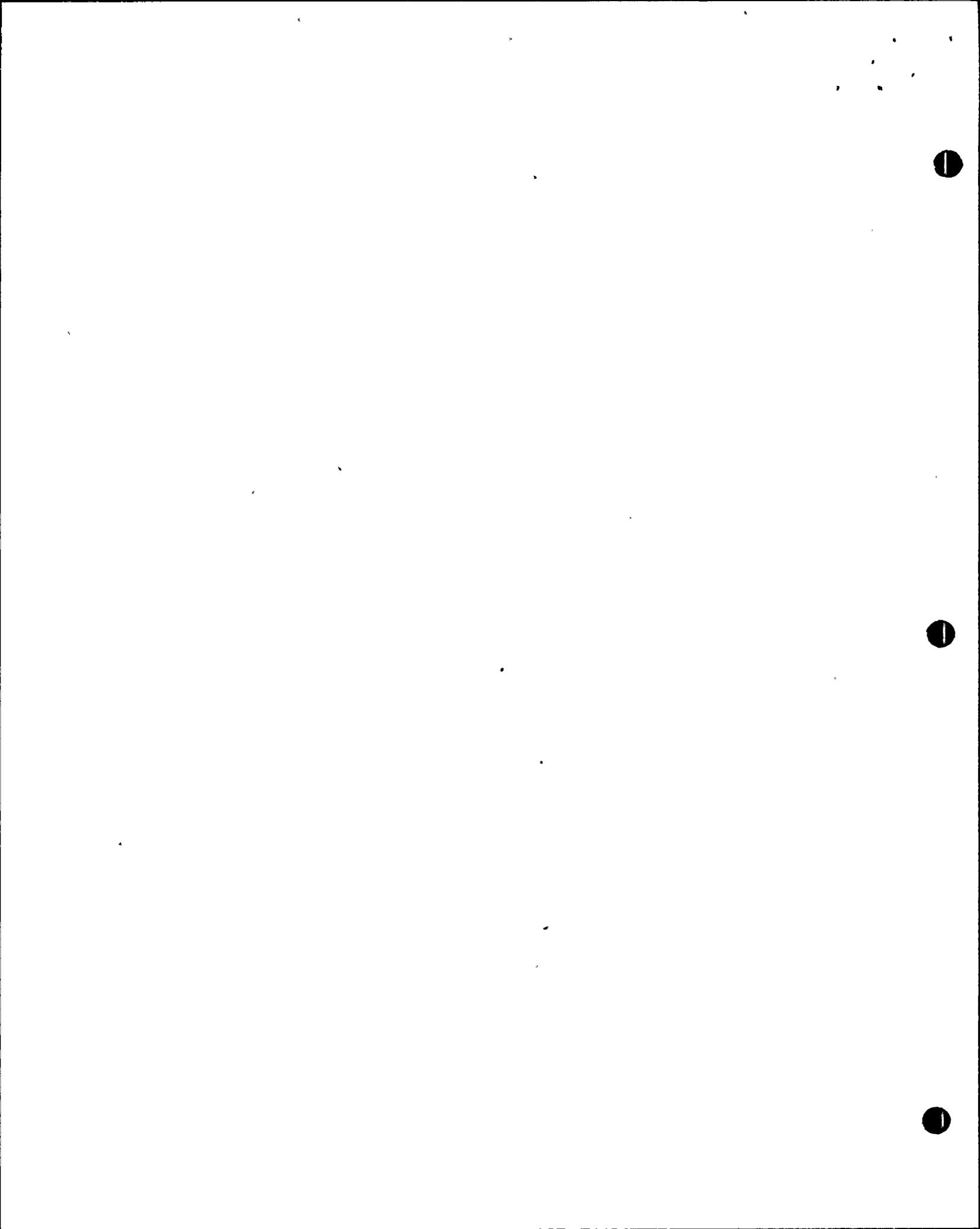


(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 10-11 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0145-0900	shrimp	189	8-22	403
		5	24-30	72
	rock shrimp	2	11	2
	blue crab	2	39-49	11
		3	68-90	111
	Atlantic bumper	17	48-64	47
	Cuban anchovy	4	42-62	6
	bay anchovy	4	54-57	8
	striped anchovy	3	88-94	29
	anchovy	2	32-36	1
	lined sole	5	75-98	117
	barbfish	2	40-77	18
		1	176	183
	spotted scorpionfish	1	103	64
	Atlantic thread herring	3	67-114	37
	dwarf sand perch	3	95-108	70
	tomtate	2	62-63	12
	barred hamlet	1	73	12
	flying gurnard	1	42	2
	goby	1	39	1
	Atlantic spadefish	1	73	22
	striped burrfish	1	109	96
	Atlantic midshipman	1	94	12
planehead filefish	1	25	1	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 10-11 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0145-0900 (cont.)	crevalle jack	1	251	326
	bank cusk-eel	1	240	126
	silver seatrout	1	180	89
	inshore lizardfish	1	230	fragment
	Atlantic cutlassfish	1	846	512



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
14-15 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	64	8-22	138
		1	31	21
	blue crab	4	31-47	15
		1	60	14
	longnose anchovy	1050 ^a	43-60	1229 ^a
	Cuban anchovy	26 ^a	41-54	29 ^a
	silver anchovy	19 ^a	54-66	41 ^a
	striped anchovy	15 ^a	64-97	84 ^a
	bay anchovy	11 ^a	55-59	27 ^a
	anchovy	11 ^a	22-28	1 ^a
	Spanish sardine	10	33-47	8
	silver seatrout	6	192-210	718
	Atlantic bumper	3	48-62	8
		1	144	38
	butterfish	3	25-31	3
	flounder	3	16-20	1
	lined sole	1	73	17
	naked sole	1	109	36
	blackcheek tonguefish	1	133	28
	planehead filefish	1	46	4
		1	252	650
	Atlantic cutlassfish	1	218	4
		1	451	81
striped burrfish	2	116-186	416	
scrawled cowfish	1	22	2	
	2	55-71	33	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 14-15 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900 (cont.)	checkered puffer	1	229	404
	chain pipefish	1	149	2
	flamefish	1	57	6
	oyster blenny	1	48	3
	sand drum	1	50	2
	sea catfish	1	141	29
	dwarf sand perch	1	108	26
	blotched cusk-eel	1	184	45
	harvestfish	1	110	65
	leopard searobin	1	178	64
	mutton snapper	1	285	559
	barred hamlet	1	76	13
	barbfish	1	154	128
0900-1700	shrimp	5	8-18	7
		1	27	15
	blue crab	3	40-66	52
	longnose anchovy	697 ^a	42-58	710 ^a
	silver anchovy	12 ^a	64-69	38 ^a
	Cuban anchovy	8 ^a	46-48	7 ^a
	bay anchovy	8 ^a	58-59	16 ^a
	striped anchovy	4 ^a	88	34 ^a

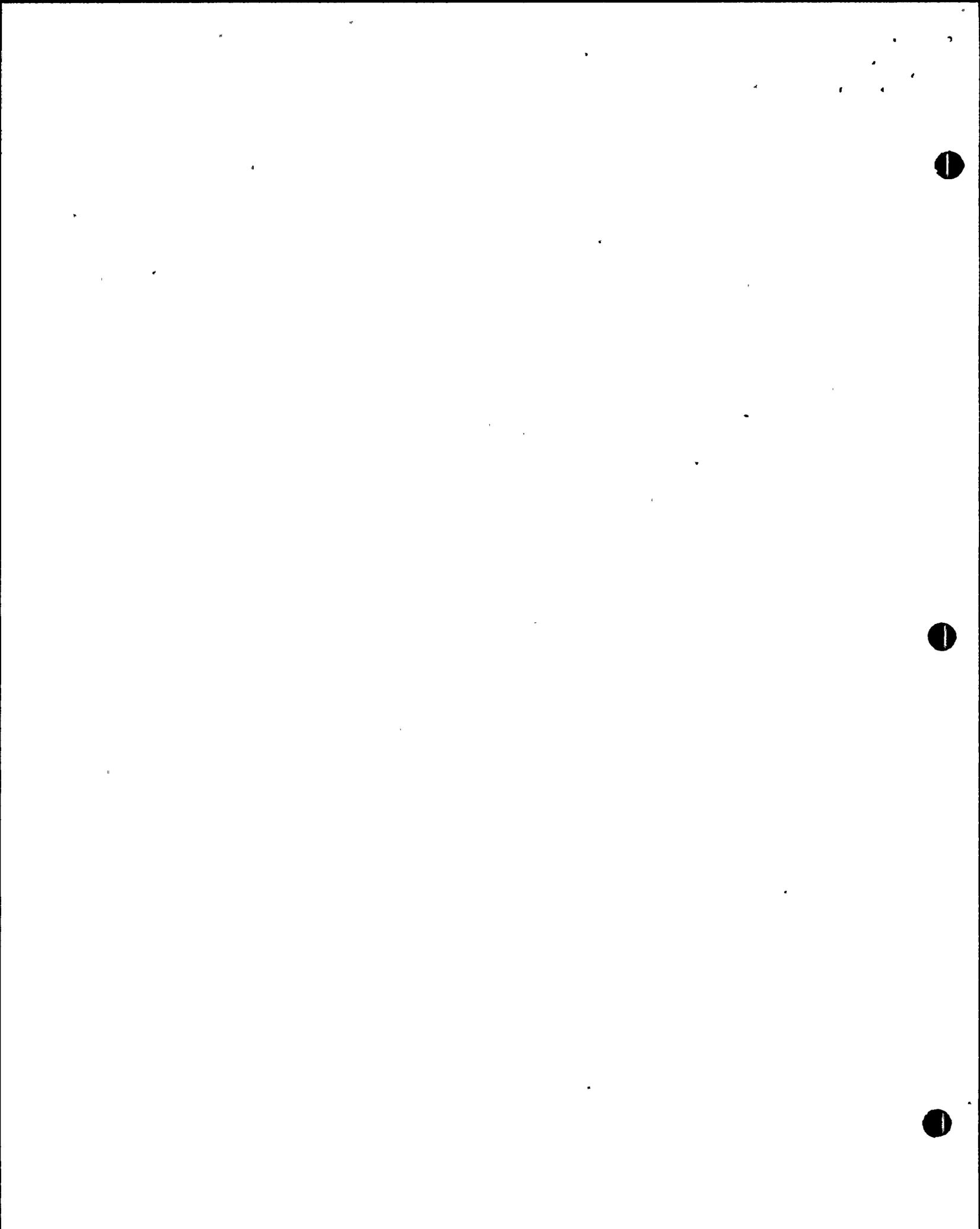
(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 14-15 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (cont.)	Atlantic bumper	37	49-82	171
		8	84-110	123
	Spanish sardine	23	30-46	14
		2	51-70	5
	Atlantic thread herring	2	79-82	17
	Atlantic spadefish	2	105-116	185
	bullnose ray	1	284	339
		1	380	687
	flounder (<i>B. robinsi</i>)	1	79	11
	flounder (bothid)	2	18-21	1
	southern puffer	1	91	30
	checkered puffer	1	194	240
	striped burrfish	1	139	150
	twospot cardinalfish	1	54	5
	planehead filefish	1	240	446
	barbfish	1	160	147
	silver seatrout	1	192	104
	crevalle jack	1	157	81
	reef croaker	1	89	16
	sailors choice	1	66	9
tomtate	1	63	6	
butterfish	1	35	1	
blackedge moray	1	297	62	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 14-15 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	38	9-20	93
		2	29-30	41
	blue crab	2	76-77	62
		1	172	210
	longnose anchovy	134	47-65	154
	Cuban anchovy	10	48-59	12
	bay anchovy	4	53-56	7
	silver anchovy	2	62-64	5
	silver seatrout	4	189-214	491
	Spanish sardine	2	44-49	3
		1	128	27
	Atlantic bumper	2	84-139	53
	crevalle jack	1	254	322
	scrawled cowfish	1	64	23
	butterfish	1	23	1
	dwarf sand perch	1	102	19
oyster blenny	1	40	2	

^a Calculated from a subsample.

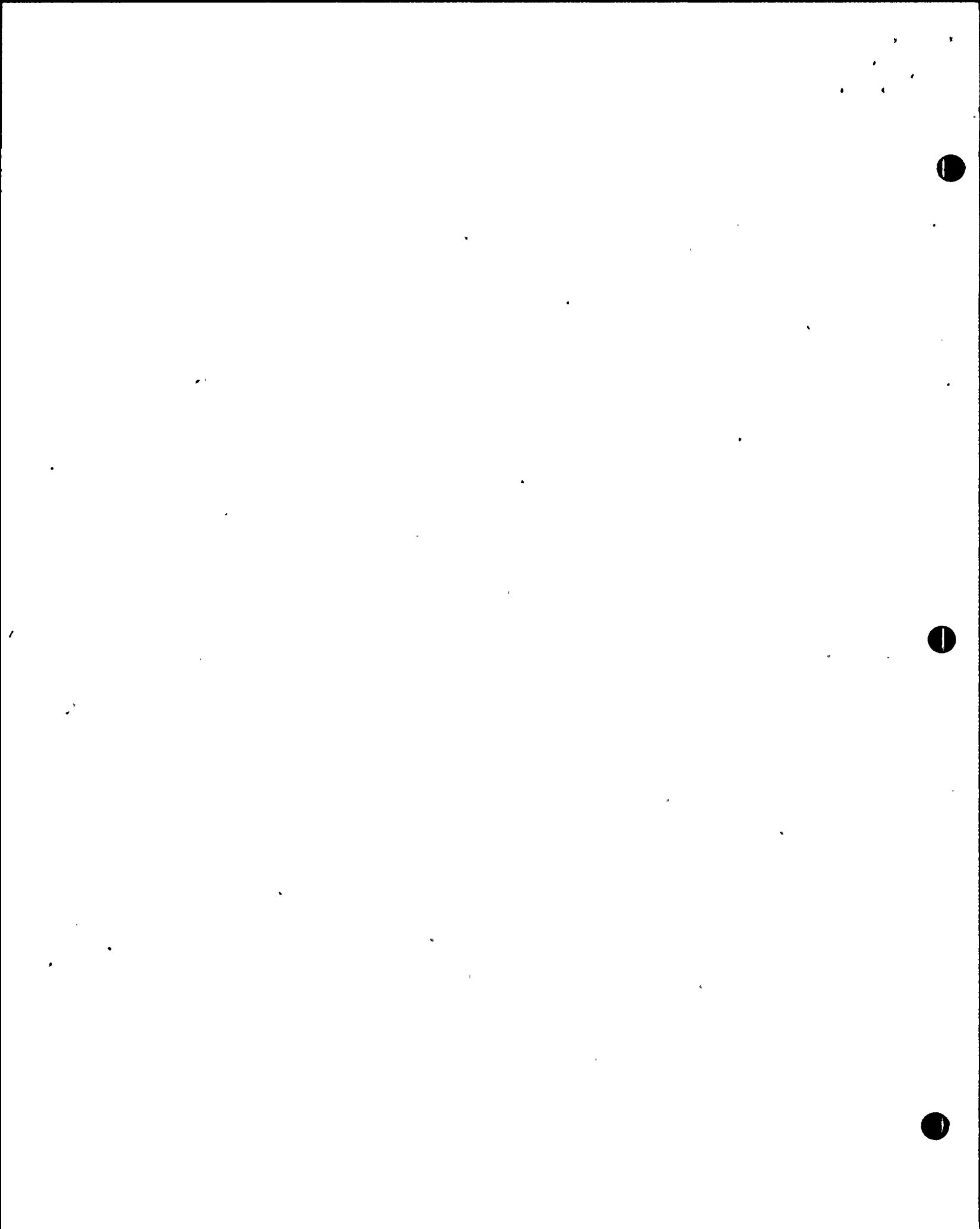


RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
17-18 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	5	8-10	4
	blue crab	4	35-48	23
	stone crab	1	19	2
	planehead filefish	2	239-252	980
	silver seatrout	2	194-195	225
	Cuban anchovy	1	50	2
	anchovy	2	48-53	3
	dwarf sand perch	1	100	18
	lined sole	1	79	21
	surgeonfish	1	20	1
0900-1700	blue crab	1	63	26
		2	157-160	473
	bigeye anchovy	1	71	5
	striped anchovy	1	54	2
	striped burrfish	1	100	89
	dusky flounder	1	119	36
1700-0100	shrimp	18	9-16	22
	rock shrimp	1	11	1
	blue crab	4	82-88	168
	stone crab	1	14	1
	longnose anchovy	3	47-53	2
	bay anchovy	1	59	1

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 17-18 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	anchovy (<i>Engraulis</i> sp.)	2	69-73	4
	silver seatrout	2	206-215	271
	saddled blenny	1	46	2
	bonnethead	1	405	252
	sea catfish	1	136	29
	lined sole	1	71	13
	spotted whiff	1	107	19
	striped croaker	1	97	21

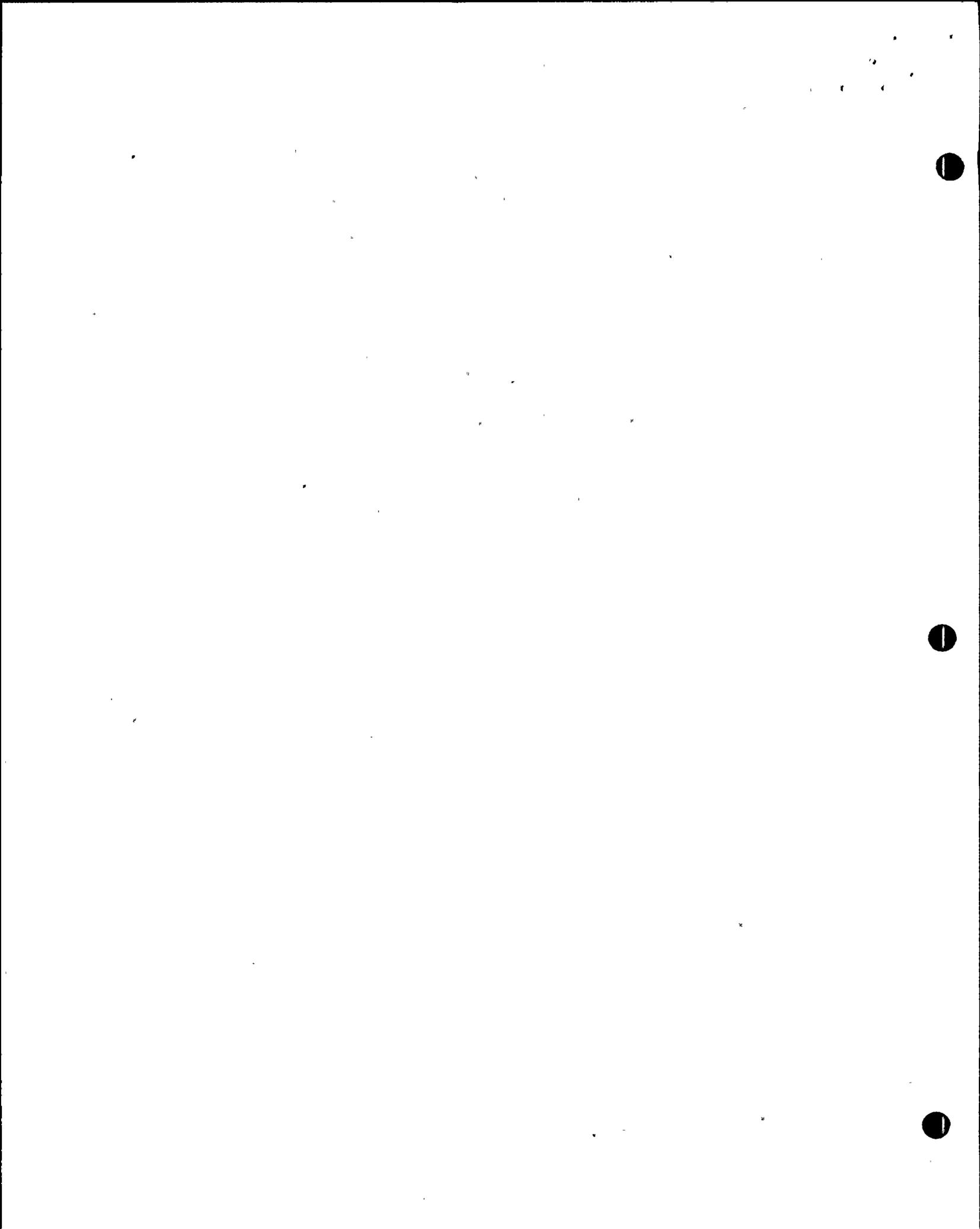


RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
22-23 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-1000	shrimp	7	9-14	8
		1	20	6
		1	36	29
	blue crab	2	68-73	39
	longnose anchovy	122	46-58	149
	Cuban anchovy	36	47-69	61
	bay anchovy	21	52-60	38
	striped anchovy	4	71-88	26
	Atlantic thread herring	4	75-89	25
	Spanish sardine	1	55	1
	Atlantic bumper	2	53-55	3
	weakfish	1	214	148
	Atlantic spadefish	1	93	41
	leopard searobin	1	114	21
tomtate	1	69	8	
striped mojarra	1	46	2	
1000-1700	blue crab	3	53-72	49
	shrimp	1	10	1
	longnose anchovy	192	43-61	208
	bay anchovy	18	51-58	33
	Cuban anchovy	15	37-70	21
	striped anchovy	4	66-94	28
	silver anchovy	1	62	1
	Atlantic thread herring	29	72-94	224

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 22-23 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1000-1700 (cont.)	Spanish sardine	25	33-49	24
		1	90	9
	bullnose ray	1	344	530
	crevalle jack	1	240	294
	silver seatrout	1	195	106
1700-0100	shrimp	3	8-13	3
		2	23-24	20
	longnose anchovy	152	37-61	177
	bay anchovy	77	51-63	147
	Cuban anchovy	39	46-70	79
	striped anchovy	2	63-65	6
		1	101	13
	silver anchovy	2	62-66	3
	Spanish sardine	4	43-47	4
	crevalle jack	4	230-249	1255
	butterfish (<i>Peprilus</i> sp.)	3	22-25	1
	Atlantic bumper	2	57-58	7
	checkered puffer	1	154	140
		1	208	331
	barbfish	1	144	135
bay whiff	1	106	26	



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	11	9-13	11
		2	20-28	22
	blue crab	1	50	8
		1	99	76
	longnose anchovy	74	43-58	88
	bay anchovy	41	48-61	75
	Cuban anchovy	24	45-69	44
	spot	2	46-50	6
	silver jenny	1	56	5
0900-1700	longnose anchovy	46	35-57	39
	bay anchovy	12	51-58	19
	Cuban anchovy	10	51-69	21
	striped anchovy	1	92	10
	crevalle jack	2	238-240	616
		1	361	1047
	Atlantic bumper	2	55-70	10
	oyster blenny	1	51	4
	mojarra (<i>Diapterus</i> sp.)	1	43	3
1700-0100	shrimp	4	9-17	9
		1	46	7
	longnose anchovy	65	42-57	78
	Cuban anchovy	33	45-73	65
	bay anchovy	24	47-62	45

(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 FEBRUARY 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (cont.)	silver anchovy	1	73	3
	Spanish sardine	1	45	1
	silver jenny	3	47-65	14
	Irish pompano	2	49-65	12
	spotfin mojarra	1	118	39
	Atlantic bumper	2	50-65	7
	spot	1	47	2
	crevalle jack	1	235	305

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
28 FEBRUARY-1 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	1	63	15
	longnose anchovy	70	42-62	79
	bay anchovy	34	50-67	62
	Cuban anchovy	9	50-65	14
	Spanish sardine	3	50-54	6
	Atlantic bumper	1	74	8
	bronze cardinalfish	1	35	2
	Atlantic midshipman	1	60	3
	eyed flounder	1	72	9
spotfin mojarra	1	52	2	
0900-1700	blue crab	1	101	96
	longnose anchovy	255	47-62	362
	bay anchovy	65	53-64	134
	Cuban anchovy	23	49-70	54
	bigeye anchovy	7	63-75	30
	striped anchovy	1	67	4
	silver anchovy	1	69	3
	Atlantic thread herring	46	70-94	359
	Spanish sardine	31	42-57	41
		2	86-88	19
	silver seatrout	3	191-220	397
	Atlantic bumper	2	79-82	16
	crevalle jack	2	244-262	692
butterfish	1	24	1	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 28 FEBRUARY.-1 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	12	9-21	24
		1	31	21
	blue crab	1	68	28
		1	164	241
	stone crab	1	18	2
		1	62	59
	longnose anchovy	54	46-59	60
	Cuban anchovy	11	50-66	22
	bay anchovy	8	52-59	15
	silver anchovy	1	63	2
	Spanish sardine	1	52	2
	Atlantic thread herring	1	75	7
	crevalle jack	2	236-254	637
	Atlantic bumper	1	53	3
	Atlantic midshipman	1	169	79
	silver jenny	1	65	8
	hake (<i>Urophycis</i> sp.)	1	52	2

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
3-4 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	9-14	4
		1	31	18
	stone crab	1	19	3
	blue crab	1	103	84
	longnose anchovy	52	45-57	35
	bay anchovy	12	52-58	21
	Cuban anchovy	6	48-67	10
	bigeye anchovy	1	63	3
	crevalle jack	1	230	291
	0900-1700	shrimp	2	11-14
longnose anchovy		136	46-60	197
bay anchovy		17	49-61	31
Cuban anchovy		9	63-71	28
bigeye anchovy		2	72	11
silver anchovy		1	65	2
Atlantic thread herring		9	70-100	78
Spanish sardine		2	44-47	2
		1	92	9
silver seatrout		8	198-220	1191
weakfish		1	195	125
Atlantic bumper		3	62-70	15
lookdown		1	118	51
crevalle jack		2	237-259	665

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 3-4 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	planehead filefish	1	250	564
	bay whiff	1	106	21
	silver jenny	1	56	4
1700-0100	shrimp	6	9-14	8
		9	19-27	90
		2	30-35	44
	rock shrimp	1	9	1
	blue crab	1	30	2
		1	76	32
	longnose anchovy	20	42-60	24
	Cuban anchovy	4	54-69	10
	bay anchovy	1	54	2
	sergeant major	1	61	13

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
7-8 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	2	22-24	2
		2	83-105	148
	stone crab	1	17	2
	shrimp	2	14-15	4
		1	34	34
	longnose anchovy	7	48-59	9
	Cuban anchovy	1	54	1
	Spanish sardine	2	47-48	3
	crevalle jack	5	244-264	1725
		1	345	791
	butterfish	1	27	2
	0900-1700	longnose anchovy	7	41-54
Cuban anchovy		3	49-67	5
bay anchovy		3	54-59	5
1700-0100	shrimp	2	13-14	4
		1	32	22
	blue crab	1	98	62
	longnose anchovy	9	47-57	11
	Cuban anchovy	3	51-67	6
	bay anchovy	3	55-56	6
	Spanish sardine	1	44	1
	crevalle jack	2	238-240	642
		1	362	804
	bandtail puffer	2	84-91	38

(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
7-8 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	planehead filefish	1	101	37
	striped croaker	1	69	8
	sailors choice	1	52	4
	lined seahorse	1	67	1

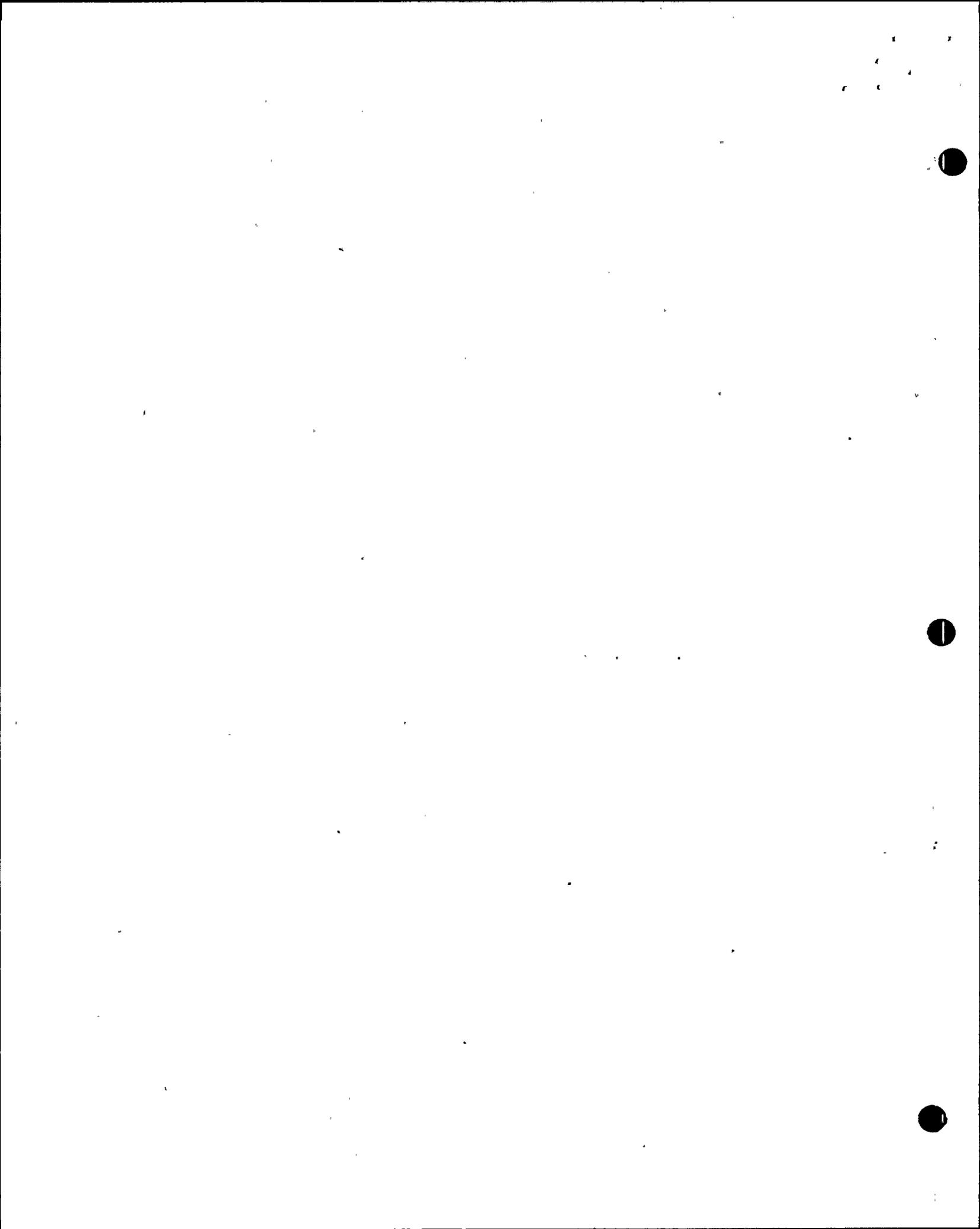
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
10-11 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	4	10-12	3
		5	21-29	59
	rock shrimp	1	9	1
	blue crab	1	91	53
	longnose anchovy	18	46-58	24
	bay anchovy	4	49-55	5
	Cuban anchovy	1	55	1
	Spanish sardine	1	41	1
	lined seahorse	1	79	3
	Atlantic bumper	1	79	8
0900-1700	longnose anchovy	958 ^a	43-58	1102 ^a
	bay anchovy	572 ^a	49-60	905 ^a
	Cuban anchovy	40 ^a	52-62	54 ^a
	bigeye anchovy	20 ^a	68-74	77 ^a
	striped anchovy	7 ^a	67	20 ^a
	silver anchovy	7 ^a	68	11 ^a
	Spanish sardine	226	43-92	438
	Atlantic thread herring	60	58-85	434
	Atlantic bumper	38	50-75	113
	striped croaker	11	61-82	92
	silver seatrout	5	184-212	608
	tomtate	4	66-76	37
	Irish pompano	3	62-81	23
	silver porgy	1	31	1

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 10-11 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	sand drum	1	64	5
	bluespotted cornetfish	1	96	1
	butterfish	1	25	1
	spotfin mojarra	1	50	3
	oyster blenny	1	29	1
1700-0130	shrimp	5	21-32	80
	blue crab	1	96	65
	longnose anchovy	77	45-60	82
	bay anchovy	28	54-62	50
	Cuban anchovy	3	60-67	8
	Spanish sardine	8	43-76	17
	southern stargazer	1	199	357
	offshore tonguefish	1	118	17
	lined sole	1	65	3
	Irish pompano	1	76	13
	striped croaker	1	68	7
	mullet	1	28	1

^a Calculated from a subsample.

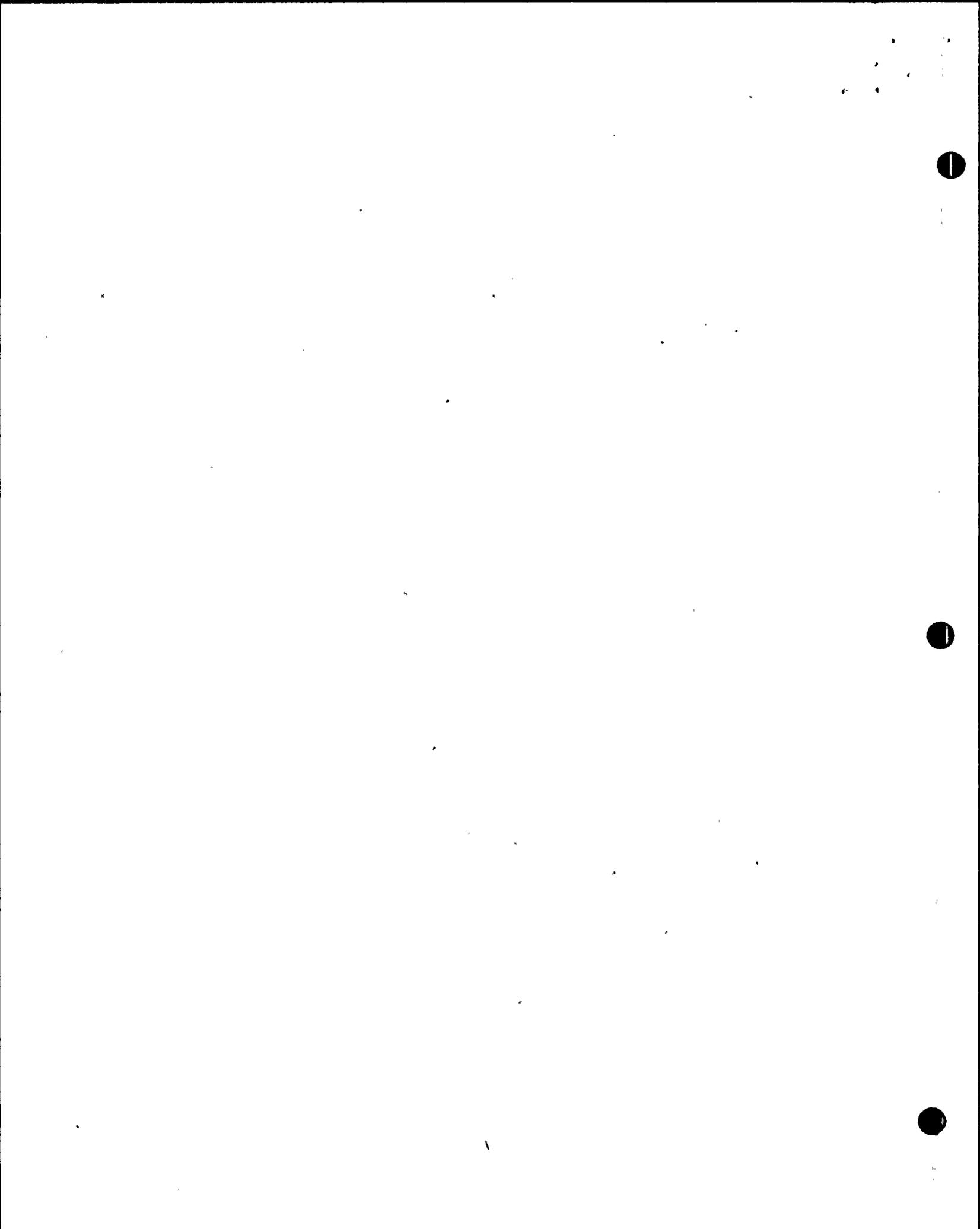


RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
14-15 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	1	11	1
		6	18-25	45
		1	34	28
	blue crab	1	63	15
		1	274	386
		1	374	895
	spotted whiff	2	93-106	34
	lined sole	1	57	7
	longnose anchovy	2	49-57	5
	silver seatrout	1	212	165
	tomtate	1	62	6
	sand drum	1	54	3
	0900-1700	shrimp	3	18-23
blue crab		1	67	22
stone crab		1	16	2
		2	45-57	2
longnose anchovy		2	45-57	2
bay anchovy		1	55	2
Atlantic bumper		1	65	4
crevalle jack		1	236	259
bandtail puffer		1	84	15
chain pipefish		1	300	12
lined seahorse		1	105	4
eyed flounder		1	74	9

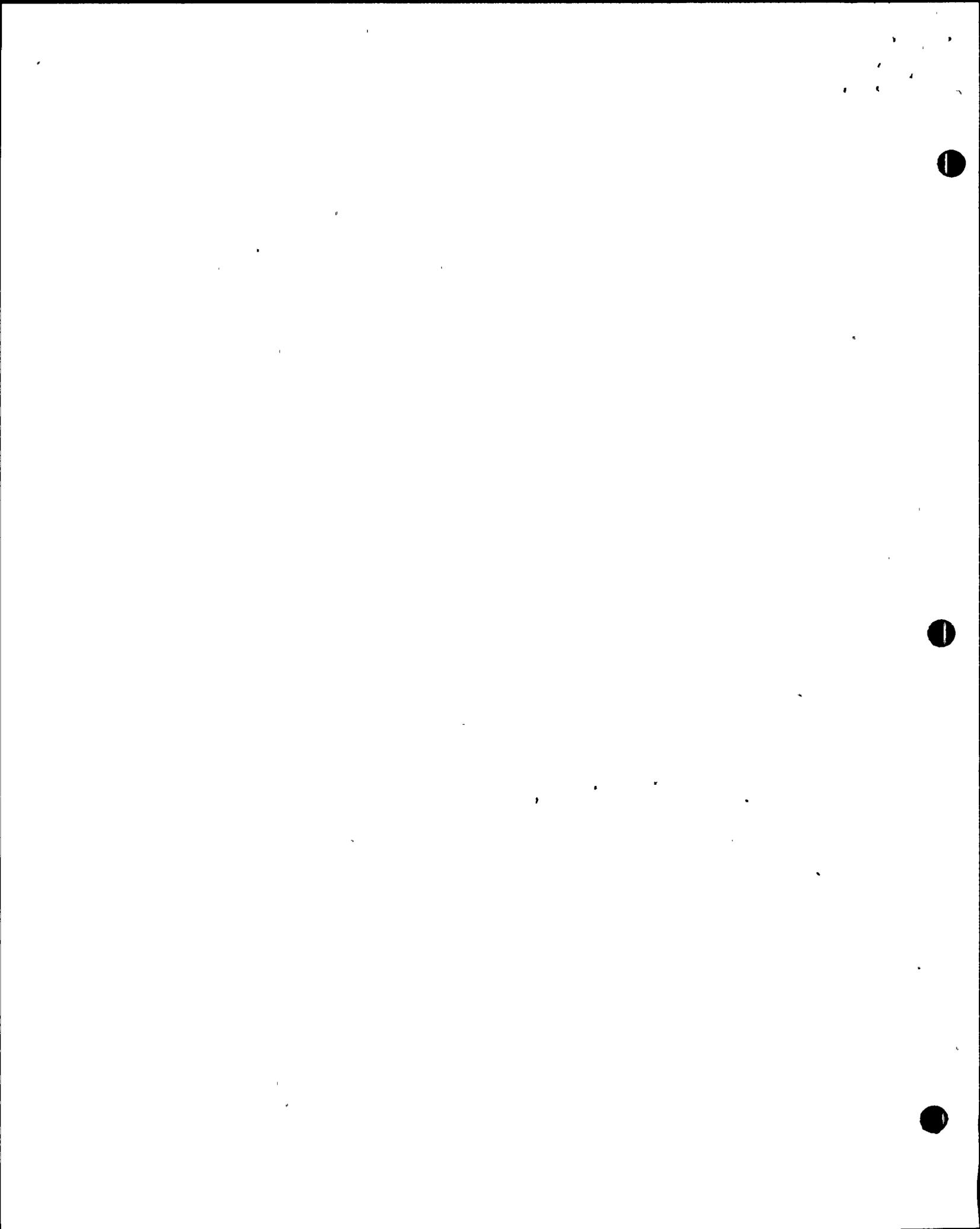
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 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 14-15 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	5	14-21	31
		2	26-34	43
	blue crab	1	64	17
		1	173	194
	stone crab	1	29	8
	longnose anchovy	8	51-61	14
	bigeye anchovy	1	65	4
	crevalle jack	1	251	321
		1	364	890
	lined sole	2	71-92	57
	tomtate	2	72-86	24
	spotfin mojarra	1	51	3
	lane snapper	1	46	3
	bandtail puffer	1	59	8
	Atlantic midshipman	1	121	31



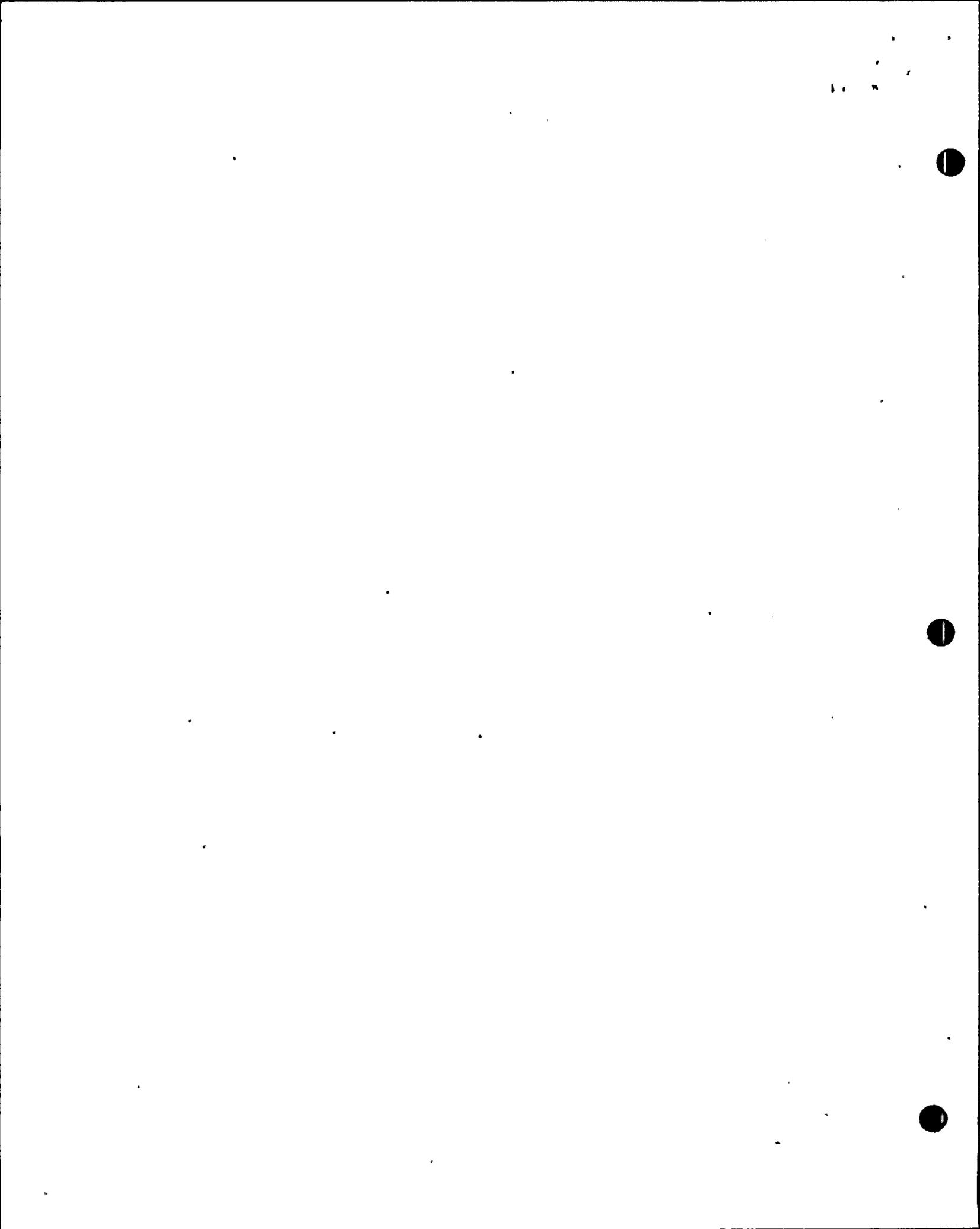
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT.
17-18 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700	shrimp	1	10	1
	spotfin mojarra	12	36-73	63
	silver jenny	2	37-52	6
	longnose anchovy	7	40-57	8
	Cuban anchovy	4	54-68	11
	bigeye anchovy	4	65-70	15
	spot	3	56-64	19
	Spanish sardine	1	55	2
	Atlantic thread herring	1	80	9
	bandtail puffer	1	81	22
	crevalle jack	1	370	892
	Atlantic spadefish	1	128	109
	sea catfish	1	139	39
	lined sole	1	83	16
dusky flounder	1	114	34	
1700-0100	shrimp	1	9	1
		1	22	9
	blue crab	1	65	21
	silver jenny	39	41-77	226
	spotfin mojarra	5	33-64	17
	lined sole	2	46-61	19
		2	73-90	46
	mullet	2	28-30	1



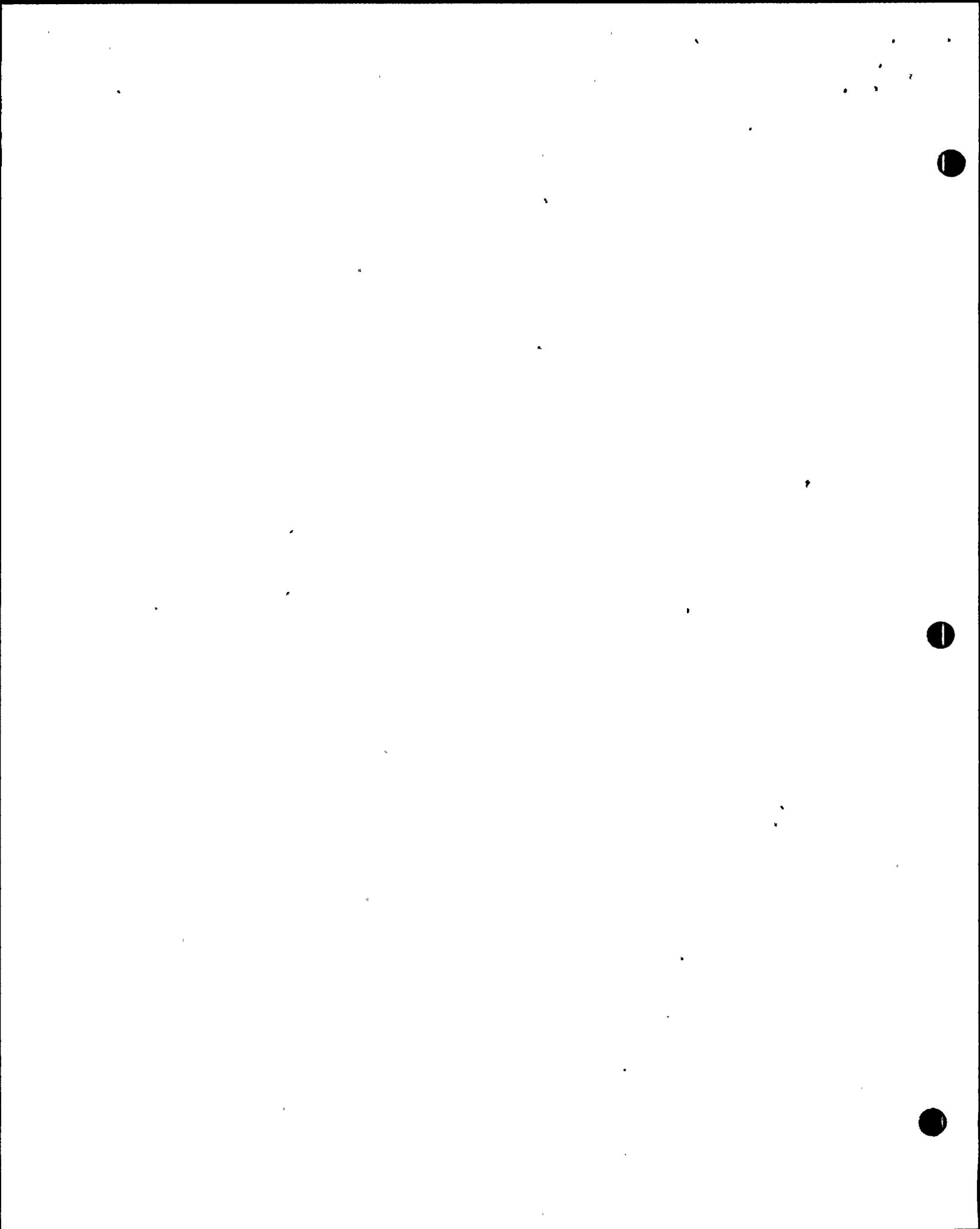
(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 17-18 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	longnose anchovy	2	49-54	3
	spot	1	52	3
	northern searobin	1	56	4
	Atlantic spadefish	1	62	4
	crevalle jack	1	370	890
0100-0900	shrimp	1	11	1
		3	22-24	31
	blue crab	1	71	28
		1	159	181
	silver jenny	67	37-78	354
	spotfin mojarra	18	35-58	36
	crevalle jack	1	267	358
		3	375-386	2932
	Atlantic bumper	1	71	6
	pinfish	1	25	1
	mullet	1	29	1
	Irish pompano	1	61	6
	sea catfish	1	148	48
	lined sole	1	48	6
	eyed flounder	1	85	15
spotted whiff	1	127	32	



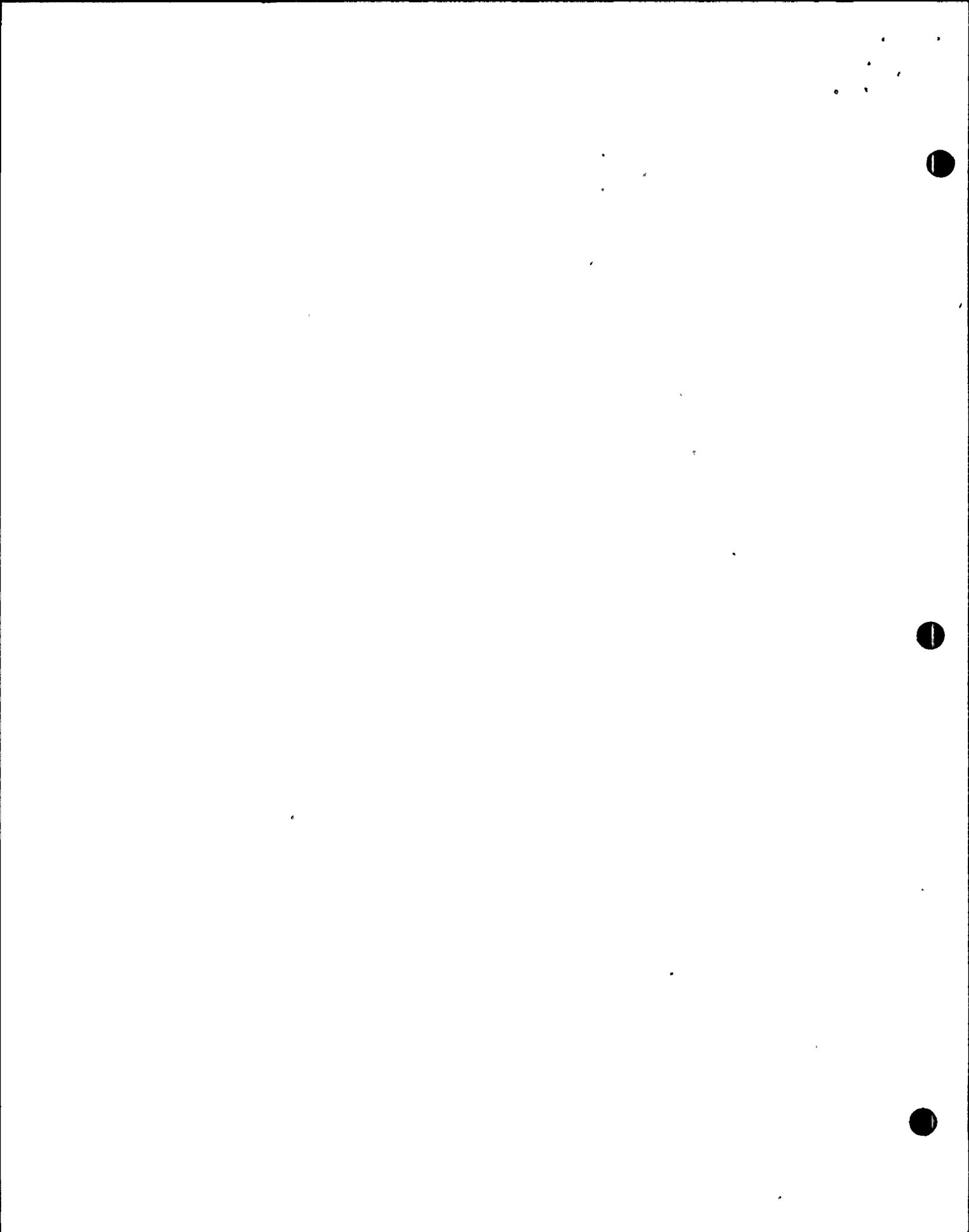
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
21-22 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	10-14	3
		4	20-24	37
	blue crab	1	70	26
		1	102	72
	silver jenny	7	65-83	59
	spotfin mojarra	1	52	3
	Atlantic bumper	5	56-85	33
	crevalle jack	2	376-380	1790
	longnose anchovy	4	54-56	6
	Atlantic thread herring	1	76	8
	bay whiff	3	84-123	62
	mullet	2	27-31	1
	bandtail puffer	1	87	21
	seaweed blenny	1	59	4
0900-1700	blue crab	2	30-65	32
	Atlantic bumper	188	53-111	1861
	crevalle jack	1	246	311
	silver jenny	125	52-91	1199
	spotfin mojarra	3	39-82	24
	Spanish sardine	19	51-65	68
		2	105	39
	Atlantic thread herring	14	74-95	142



(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 21-22 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	longnose anchovy	9	52-60	17
	reef croaker	1	95	18
	sailors choice	1	82	17
	spotted scorpionfish	1	84	29
	silver porgy	1	32	1
1700-0100	blue crab	1	51	11
	spiny lobster	1	6	1
	silver jenny	7	50-76	55
	spotfin mojarra	1	73	9
	mottled mojarra	1	43	2
	Atlantic bumper	3	69-78	24
	crevalle jack	1	352	800
	longnose anchovy	2	49-61	4
	bandtail puffer	2	61-79	23
	lined sole	1	39	3
	silver porgy	1	31	1
	mullet	1	29	1



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 MARCH

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	35	5-17	59
		14	18-29	162
		4	31-33	85
	rock shrimp	1	10	6
	blue crab	2	26-29	4
		1	62	15
		1	100	82
	stone crab	2	27-28	13
	silver jenny	17	44-73	115
	spotfin mojarra	2	42-53	5
	Atlantic bumper	4	64-73	22
	crevalle jack	2	241-249	588
	Atlantic spadefish	3	128-138	418
	longnose anchovy	2	51-57	3
	Cuban anchovy	1	65	3
	planehead filefish	1	230	400 ^a
	northern searobin	1	59	5
bay whiff	1	109	25	
spotted whiff	1	107	22	
bandtail puffer	1	87	19	
0900-1700	shrimp	2	8-12	2
		1	32	24
	blue crab	1	106	92
		1	159	247

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 24-25 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0900-1700 (continued)	silver jenny	188	43-114	1689
	spotfin mojarra	18	57-87	156
	mottled mojarra	3	38-42	4
	Irish pompano	1	61	6
	longnose anchovy	43	50-61	33
	bay anchovy	1	54	2
	Spanish sardine	21	46-67	51
	Atlantic thread herring	9	69-90	75
	Atlantic bumper	2	62-78	13
	reef croaker	2	83-118	56
	spot	1	32	1
	striped croaker	1	110	30
	sailors choice	1	49	4
	mullet	1	29	1
	harvestfish	1	126	67
	butterfish	1	40	3
1700-0100	shrimp	1	15	3
	rock shrimp	1	6	1
	blue crab	1	101	63
	silver jenny	108	39-94	856
	spotfin mojarra	14	37-62	41
	mottled mojarra	5	35-44	7
	Irish pompano	1	55	5

(continued)
RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
24-25 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	crevalle jack	1	235	267
		1	390	1002
	longnose anchovy	2	52-56	3
	Spanish sardine	1	47	1
	lined seahorse	1	76	5
	silver porgy	1	30	1

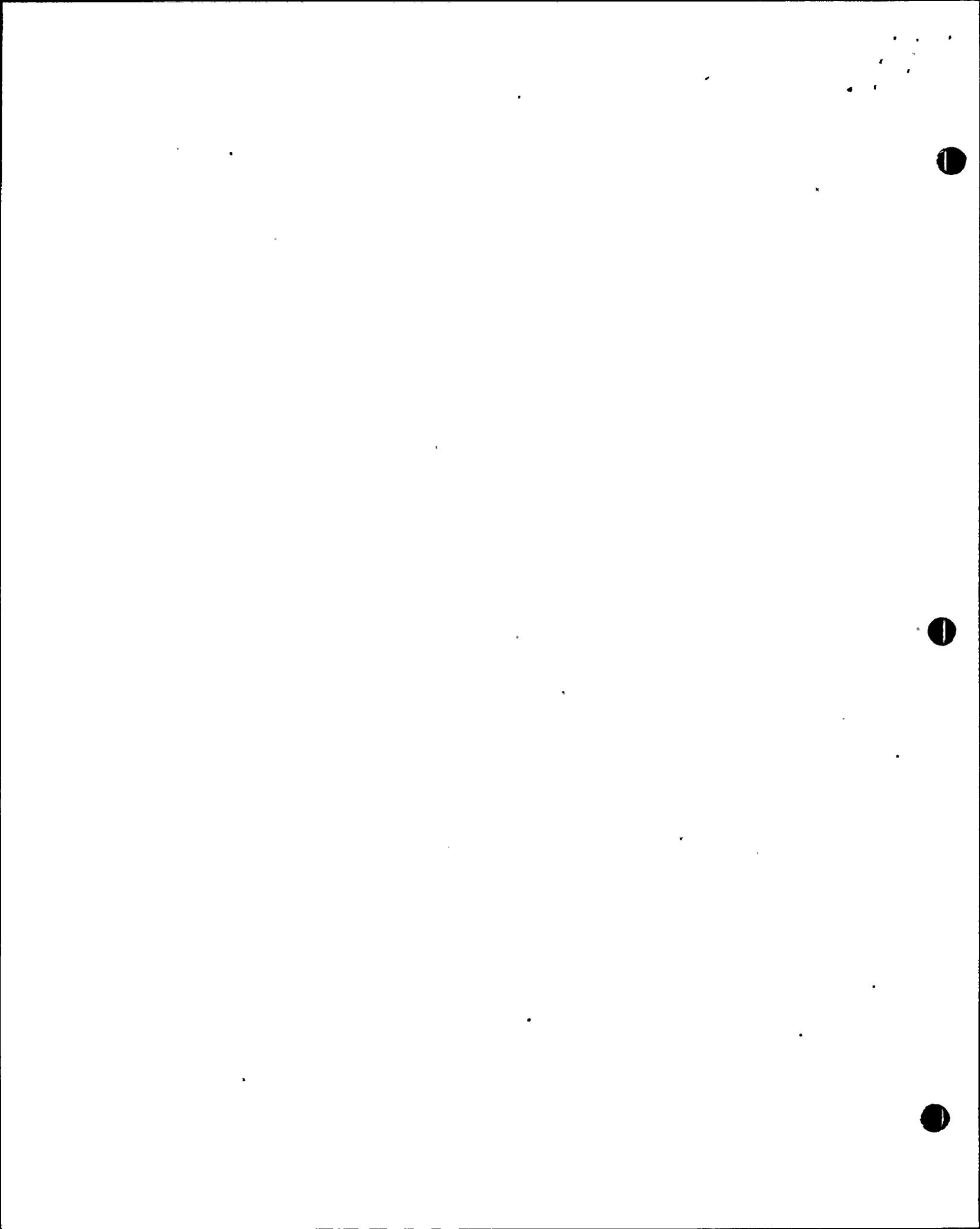
^a Estimated.

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
28-29 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	2	11-13	2
		1	20	7
		1	31	19
	blue crab	1	98	78
	spotfin mojarra	3	39-57	6
	mottled mojarra	1	40	1
	silver jenny	1	66	7
	bay whiff	2	95-99	32
	crevalle jack	1	372	816
	dwarf sand perch	1	93	18
0900-1700	stone crab	1	17	2
	silver jenny	47	62-103	489
	spotfin mojarra	1	37	1
		2	62-90	20
	mottled mojarra	1	32	1
	oyster blenny	1	47	3
	pinfish	1	34	1
	bay whiff	1	38	1
1700-0100	shrimp	8	9-15	13
		6	18-27	60
		1	32	27
	blue crab	1	168	286
	stone crab	1	16	1

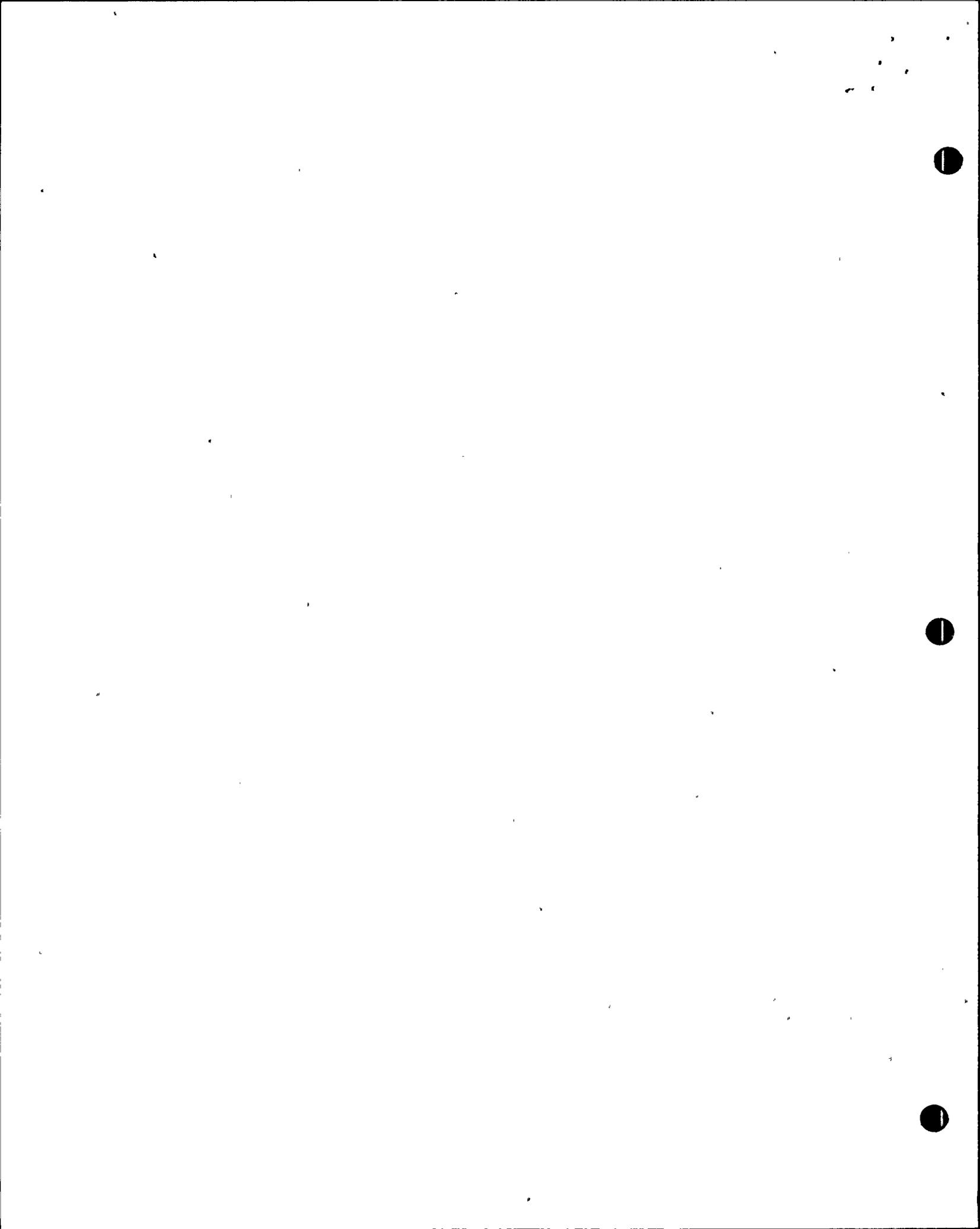
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RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
28-29 MARCH 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	silver jenny	14	49-88	113
	spotfin mojarra	4	37-74	17
	Spanish sardine	2	48-49	3
	Atlantic bumper	1	76	7
	spotted whiff	1	117	36
	lined sole	1	76	22
	longnose anchovy	1	55	2
	leopard searobin	1	59	5
	searobin	1	51	3



RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
31 MARCH-1 APRIL

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	blue crab	1	27	1
		2	62-99	93
	silver jenny	5	56-72	27
	spotfin mojarra	3	36-55	7
	crevalle jack	2	253-262	777
	pinfish	1	43	2
	longnose anchovy	1	53	1
0900-1700	silver jenny	18	47-76	110
	spotfin mojarra	6	37-59	15
	sand drum	2	50-56	6
	crevalle jack	1	262	342
	lane snapper	1	54	5
1700-0230	stone crab	3	15-26	12
	shrimp	2	9-15	3
	silver jenny	24	44-83	158
	spotfin mojarra	3	47-61	11
	longnose anchovy	3	56-57	5
	Cuban anchovy	1	68	2
	sand drum	1	60	4
	pinfish	1	34	1
	Atlantic bumper	1	92	14
	tomtate	1	64	6
	bighead searobin	1	131	44

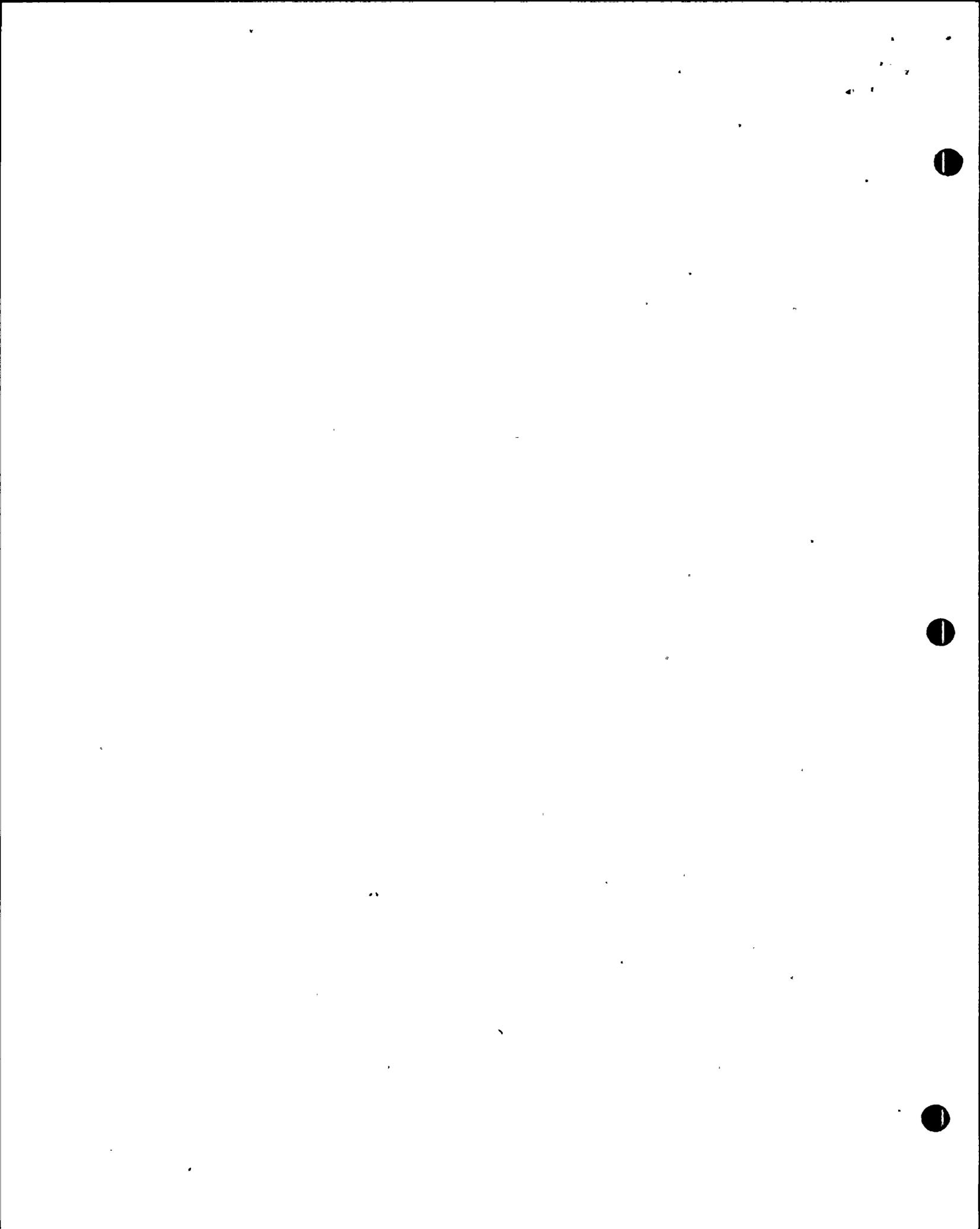


TRAWL COLLECTIONS AT ST. LUCIE
16 MARCH 1977

Station number	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0	nothing collected	-	-	-
1	Atlantic spadefish	4	125-134	582
	pigfish	1	178	136
2	nothing collected	-	-	-
3	flounder (<i>Bothus</i> sp.)	9	16-26	2
	cusck-eel (<i>Lepophidium</i> sp.)	3	81-89	6
	stargazer (<i>Dactyloscopus</i> sp.)	2	24-27	1
	bighead searobin	1	28	1
4	nothing collected	-	-	-
5	flounder (<i>Bothus</i> sp.)	19	16-28	3
	Atlantic spadefish	2	116-125	225
	rock sea bass	1	109	29
	pigfish	1	213	220

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
11-12 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight. (g)
0900-1700	shrimp	7	10-16	13
		7	20-30	68
	blue crab	3	6-35	5
		3	68-95	138
	silver jenny	211	47-108	1850
	spotfin mojarra	21	35-68	41
		1	110	33
	mottled mojarra	1	42	2
	Irish pompano	1	58	6
	longnose anchovy	6	54-59	11
	Cuban anchovy	1	56	2
	Spanish sardine	2	67	6
	pinfish	4	35-62	13
	ocellated frogfish	1	239	982
	jawfish	1	112	33
	pygmy sea bass	1	53	4
	bank cusk-eel	1	209	80
	orange filefish	1	50	1
	Atlantic bumper	1	67	6
	sand drum	1	71	6
	blackcheek tonguefish	1	137	26
	spotted whiff	1	86	12
	bay whiff	1	88	12
eyed flounder	1	54	3	



(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 11-12 APRIL 1977

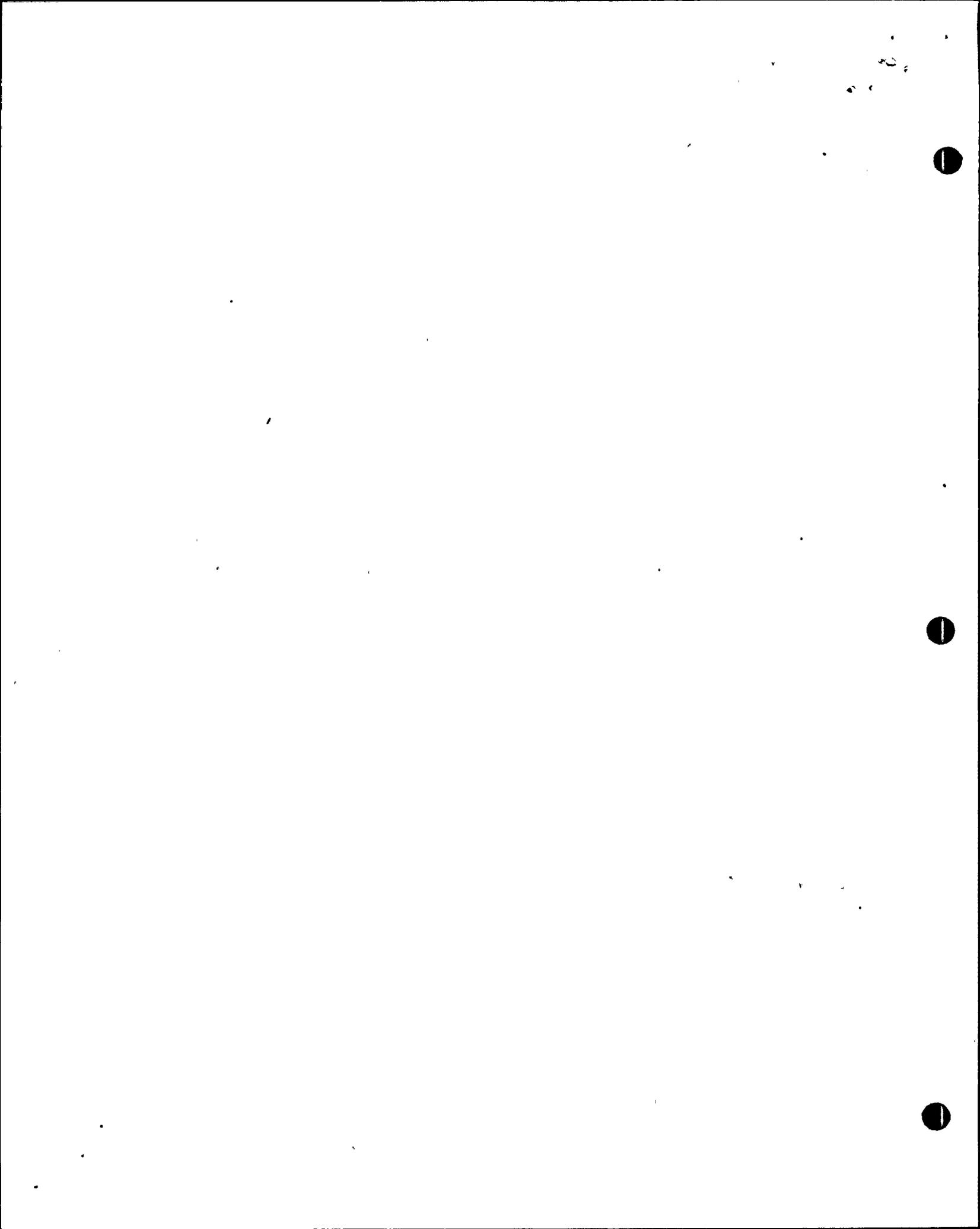
Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100	shrimp	14	9-16	17
		1	23	10
	blue crab	1	31	3
		3	83-101	204
	stone crab	1	58	74
	pinfish	28	30-47	40
	silver jenny	22	38-78	96
	spotfin mojarra	12	35-54	21
	silver porgy	6	32-35	8
	Atlantic bumper	4	62-91	31
	crevalle jack	1	267	278
		2	354-381	1844
	spotted whiff	5	96-114	122
	flounder (<i>B. robinsi</i>)	3	37-44	5
	fringed flounder	2	98-111	45
	eyed flounder	1	53	4
	offshore tonguefish	1	130	23
	lined sole	1	74	16
	pigfish	2	38-40	4
	tomtate	1	116	40
	longnose anchovy	2	55-58	4
	eel (congrid)	1	fragment	fragment
	bluelip parrotfish	1	66	6
dusky cardinalfish	1	41	2	
planehead filefish	1	223	387	
barbfish	1	74	17	

(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 11-12 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	leopard searobin	1	147	45
	northern searobin	1	45	2
	bandtail puffer	1	87	20
	lane snapper	1	52	4
	lined seahorse	1	62	2
0100-0900	shrimp	4	10-19	13
	blue crab	2	106-116	185
	pinfish	14	26-48	21
	crevalle jack	1	358	858
	lined sole	1	72	22

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
14-15 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	2	fragments	fragments
		1	16	4
	pinfish	17	27-42	67
	silver jenny	14	35-78	69
	spotfin mojarra	4	42-44	7
	longnose anchovy	4	56-57	7
	searobin	3	54-60	12
	bay whiff	3	45-94	21
	crevalle jack	3	249-364	1640
	Atlantic bumper	2	80-97	27
dwarf sand perch	1	66	5	
Spanish sardine	1	80	6	
0900-1700	silver jenny	14	37-78	104
	spotfin mojarra	4	39-62	9
	Atlantic bumper	8	67-88	62
	pinfish	6	29-41	8
	silver porgy	2	31	2
	longnose anchovy	4	55-57	7
	bandtail puffer	2	73	25
1700-0100	shrimp	5	10-12	4
	blue crab	1	30	2
		1	151	145
	stone crab	1	36	16



(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 14-15 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	spotfin mojarra	16	37-49	30
	silver jenny	9	39-100	80
	bay whiff	4	33-60	9
		1	105	22
	pinfish	5	34-41	9
	silver porgy	1	37	2
	sheepshead	1	246	685
	crevalle jack	1	235	245
	sailors choice	1	56	6
longnose anchovy	1	58	2	

RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
19-20 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
0100-0900	shrimp	3	9-11	2
		2	18-20	10
	blue crab	3	43-64	31
	barbfish	1	73	13
	silver porgy	1	39	1
	eyed flounder	1	51	4
	whiff	1	48	1
	bandtail puffer	1	35	2
0900-1700	blue crab	4	33-56	22
		1	89	73
	shrimp	2	9-17	6
	crevalle jack	1	388	773
	sea catfish	1	147	52
	eyed flounder	1	44	2
	spotfin mojarra	1	43	2
1700-0100	shrimp	5	7-11	3
	rock shrimp	1	13	2
	blue crab	2	28-33	4
		1	80	28
	spotfin mojarra	17	38-62	37
	silver jenny	1	49	3

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(continued)
 RESULTS OF IMPINGEMENT AT THE ST. LUCIE PLANT
 19-20 APRIL 1977

Time	Species	Number of individuals	Range of standard lengths (mm)	Total weight (g)
1700-0100 (continued)	pinfish	16	25-42	77
	silver porgy	1	25	1
	bay whiff	2	40-51	3
	eyed flounder	1	40	2
	trunkfish	1	71	28
	sailors choice	1	152	97
	Atlantic midshipman	1	150	56
	leopard searobin	1	43	1
	seaweed blenny	1	43	2

