Florida Power & Light Company
Biological Plan of Study Implementation for St. Lucie Plant EPU
Baseline Event 4 Data Report

Report to
Florida Power & Light Company

May 2012

Submitted by
Ecological Associates, Inc.
Post Office Box 405
Jensen Beach, Florida

INTRODUCTION

During February and March 2012, Ecological Associates, Inc. (EAI) conducted the fourth baseline field sampling event in accordance with the St. Lucie Plant EPU Biological Plan of Study. During this fourth event, sampling was conducted on seven days between February 15 and March 1, 2012. Data collected included general environmental data; water quality data; numbers and sizes of fish and shellfish collected by gill net, trawl, and beach seine; numbers of fish eggs and larvae and commercially or recreationally important decapod crustacean larvae collected by plankton net; and, numbers and sizes of sea turtles observed. Results of the fourth sampling event are provided in this report. All data should be considered preliminary until quality assurance checks have been completed.

SAMPLING LOCATIONS

Sampling was conducted within three separate sampling sites: SL1 located midway between the St. Lucie Plant and the Ft. Pierce Inlet, SL2 located in the vicinity of the St. Lucie Plant cooling water discharge, and SL3 located midway between the St. Lucie Plant and the St. Lucie Inlet.

For the purposes of gill netting and trawling, three transects were established within each of the three sampling sites: Transect A was located approximately 600 ft from shore on the beach terrace in water depths of 8-32 ft, Transect B was located approximately 4,000 ft. from shore in water depths of 34-44 ft, and Transect C was located approximately 8,000 ft. from shore in water depths of 31-46 ft. Plankton samples were collected concurrently with trawl samples at all three sites but only on Transects A and C.

Three stations were also established within each of the three sampling sites for the purpose of beach seining: Station A was located 0.5 mi. north of the center of the site, Station B was located at the center of the site, and Station C was located 0.5 mi. south of the center of the site. At all stations, seines were pulled to the beach from a water depth of approximately 4 ft.

For the purpose of boat-based sea turtle surveys, one transect was established in each of the three sampling sites. The transects were located along nearshore hardbottom habitat in each site.

RESULTS

Environmental data were recorded at each station during each day of sampling. Data recorded included sea conditions, air temperature, wind speed and direction, and sky conditions. Environmental data are summarized by day in Table 1. Values reflect the range of values recorded throughout each day of sampling.

Water quality data were recorded at three locations and three depths along each of the nine transects established for trawl and gill net sampling. Data recorded included conductivity, water temperature, salinity, pH, and dissolved oxygen (DO). Water quality data are provided in Table 2.

Trawls were towed for 15 minutes along each of the nine transects. The numbers of fish and commercially or recreationally important shellfish collected in each 15-minute tow are presented in Table 3. Because of variations in tow speed, the distances the trawl traveled during a 15-minute tow varied (based on GPS readings). In order to compare abundances among stations in terms of catch per unit effort, the numbers collected per kilometer of bottom sampled were calculated and are presented in Table 4.

The numbers of fish and commercially or recreationally important shellfish collected by gill net on each of the nine transects is given in Table 5. At each transect the gill net began to be retrieved 30 minutes after it was set. However, the total soak time (time from when the net first entered the water until the time it was completely removed from the water) varied among transects because of differences in retrieval times associated with variations in the number of fish present in the net. In order to compare abundances among stations in terms of catch per unit effort, the numbers collected per hour of total soak time were calculated and are given in Table 6.

Beach seines were deployed at each of the nine stations previously described. The numbers of fish and commercially or recreationally important shellfish collected at each station are presented in Table 7.

A maximum of 25 representative specimens of each Representative Important Species (RIS) of fish collected at each transect/station by trawl, gill net, and beach seine were measured (total length) and a batch weight for those specimens was obtained. Average lengths and average weights of each RIS at each station/transect for each gear type are presented in Table 8.

Bongo nets were used to collect fish eggs and larvae as well as commercially or recreationally important decapod crustacean larvae at each of the six transects previously described. Nets were pulled for 15 minutes and the volume of water filtered determined by means of flow meters. Numbers of individuals per cubic meter of water filtered are given in Table 9.

To quantify the number of sea turtles present in each of the three sampling sites, one one-kilometer-long transect in each sampling site was traversed by boat twice. The numbers of sea turtles sighted during each pass along each transect are presented in Table 10.

Table 1. Environmental Data, Baseline Sampling Event 4 (February - March 2012), St. Lucie Plant EPU Biological Study. Values reflect the range of values recorded throughout each day of sampling.

Sampling	Date	Sea Conditions	Air Temp	Wind Speed/Direction	Sky Conditions
Trawls/ Ichthyoplankton	2/23/2012	Calm to 2-3 ft swell	21.5-28.5°C	3-10 mph/SE to WSW	Clear
Trawls/ Ichthyoplankton	2/24/2012	1-4 ft swell	21.0-27.0°C	3-15 mph/SW to W	Clear
Gill Nets	2/15/2012	1-3 ft swell	21.3-26.7°C	5-10 mph/S to SE	Clear to Partly Cloudy
Gill Nets	2/16/2012	2-3 ft swell	21.4-22.8°C	5-10 mph/S to SE	Mostly Cloudy
Gill Nets	2/17/2012	calm	23.4°C	0-3 mph/S	Partly Cloudy
Beach Seines	3/1/2012	1-3 ft swell	21.7-32.1°C	0-7 mph/S	Clear to Mostly Cloudy
Sea Turtle Transects	2/24/2012	2 ft swell, slight chop	24.4°C	5-7 mph/SW to SSW	Partly Cloudy

Table 2. Water Quality Data, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study. NR = not recorded

Transect	Station	Depth	Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL1 A	North	Surface	55.60	22.87	36.75	8.20	6.53
		Mid-Depth	55.50	22.92	36.75	8.20	6.50
		Bottom	55.60	22.92	36.68	8.20	6.43
	Middle	Surface	55.50	23.01	36.68	8.18	6.65
		Mid-Depth	56.60	23.01	36.76	8.19	6.50
		Bottom	55.50	23.00	36.76	8.19	6.55
	South	Surface	55.50	23.13	36.76	8.18	6.90
		Mid-Depth	55.60	23.15	36.76	8.18	6.79
		Bottom	55.50	23.15	36.69	8.19	6.68
Trawl SL1 B	North	Surface	55.50	23.31	36.77	8.21	6.46
		Mid-Depth	55.50	23.32	36.77	8.21	6.56
		Bottom	55.50	23.32	36.70	8.21	6.51
	Middle	Surface	55.70	23.31	36.85	8.20	6.48
		Mid-Depth	55.50	23.33	36.70	8.20	6.58
		Bottom	55.50	23.32	36.70	8.20	6.48
	South	Surface	55.60	23.36	36.78	8.17	6.57
		Mid-Depth	55.50	23.36	36.77	8.18	6.57
		Bottom	55.50	23.32	36.77	8.19	6.49
Trawl SL1 C	North	Surface	55.60	23.34	36.78	8.17	6.67
		Mid-Depth	55.60	23.34	36.78	8.19	6.62
		Bottom	55.50	23.35	36.70	8.20	6.54
	Middle	Surface	55.60	23.24	36.77	8.21	6.54
		Mid-Depth	55.60	23.31	36.77	8.21	6.57
		Bottom	55.50	23.32	36.77	8.21	6.51
	South	Surface	55.60	23.24	36.77	8.21	6.66
		Mid-Depth	55.60	23.24	36.77	8.21	6.61
		Bottom	55.50	23.30	36.70	8.22	6.62
Trawl SL2 A	North	Surface	55.60	23.50	36.78	8.16	6.56
		Mid-Depth	55.60	23.44	36.78	8.18	6.57
		Bottom	55.50	23.35	36.70	8.19	6.47
	Middle	Surface	55.60	23.58	36.71	8.20	6.42
		Mid-Depth	55.50	23.33	36.70	8.20	6.53
		Bottom	55.60	23.18	36.69	8.21	6.43
	South	Surface	55.50	23.73	36.72	8.21	6.52
		Mid-Depth	55.50	23.24	36.77	8.21	6.43
		Bottom	55.60	23.19	36.69	8.21	6.48

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL2 B	North	Surface	55.60	23.30	36.77	8.21	6.67
		Mid-Depth	55.60	23.32	36.77	8.22	6.70
		Bottom	55.60	23.31	36.77	8.22	6.59
	Middle	Surface	55.60	23.16	36.76	8.22	6.56
		Mid-Depth	55.60	23.18	36.69	8.22	6.49
		Bottom	55.70	23.16	36.69	8.22	6.74
	South	Surface	55.60	23.06	36.76	8.23	6.63
		Mid-Depth	55.60	23.10	36.76	8.22	6.64
		Bottom	55.60	23.09	36.69	8.23	6.89
Trawl SL2 C	North	Surface	55.60	23.29	36.77	8.21	6.62
		Mid-Depth	55.60	23.31	36.77	8.22	6.57
		Bottom	55.50	23.31	36.70	8.22	6.51
	Middle	Surface	55.70	23.18	36.84	8.23	6.67
		Mid-Depth	55.70	23.18	36.77	8.23	6.71
		Bottom	55.60	23.23	36.77	8.23	6.58
	South	Surface	55.60	23.21	36.84	8.23	6.46
		Mid-Depth	55.60	23.23	36.77	8.23	6.68
		Bottom	55.50	23.22	36.77	8.23	6.63
Trawl SL3 A	North	Surface	55.70	23.39	36.85	8.22	6.37
		Mid-Depth	55.70	23.39	36.85	8.22	6.50
		Bottom	55.70	23.40	36.85	8.22	6.45
	Middle	Surface	55.70	23.39	36.85	8.20	6.40
		Mid-Depth	55.70	23.41	36.85	8.21	6.51
		Bottom	55.70	23.41	36.85	8.21	6.57
	South	Surface	55.70	23.40	36.85	8.18	6.63
		Mid-Depth	55.70	23.40	36.78	8.19	6.57
		Bottom	55.70	23.43	36.85	8.19	6.50
Trawl SL3 B	North	Surface	55.70	23.47	36.86	8.19	6.50
		Mid-Depth	55.70	23.47	36.86	8.20	6.44
		Bottom	55.60	23.46	36.78	8.20	6.45
	Middle	Surface	55.70	23.48	36.86	8.21	6.49
		Mid-Depth	55.60	23.49	36.78	8.21	6.47
		Bottom	55.60	23.49	36.78	8.21	6.39
	South	Surface	55.70	23.55	36.86	8.21	6.49
		Mid-Depth	55.60	23.59	36.79	8.22	6.49
		Bottom	55.60	23.59	36.79	8.21	6.43

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL3 C	North	Surface	55.80	23.34	36.92	8.19	6.62
		Mid-Depth	55.70	23.15	36.91	8.20	6.69
		Bottom	55.80	22.54	36.96	8.18	6.13
	Middle	Surface	55.80	23.34	37.00	8.22	6.41
		Mid-Depth	55.70	23.20	36.84	8.22	6.56
		Bottom	55.90	22.31	36.87	8.19	5.95
	South	Surface	55.90	23.25	36.99	8.23	6.58
		Mid-Depth	55.70	23.21	36.84	8.23	6.55
		Bottom	55.80	22.65	36.89	8.21	6.03
Gill Net SL1 A	West	Surface	54.80	20.24	35.99	8.11	7.32
		Mid-Depth	54.90	20.16	36.06	8.12	7.12
		Bottom	54.90	20.10	36.06	8.13	6.98
	Middle	Surface	54.80	20.32	36.00	7.99	7.92
		Mid-Depth	54.90	20.15	36.06	8.04	6.98
		Bottom	55.00	20.08	36.06	8.06	6.97
	East	Surface	54.80	20.36	36.00	8.09	7.37
		Mid-Depth	54.90	20.17	36.06	8.09	6.99
		Bottom	55.00	20.11	36.13	8.10	6.97
Gill Net SL1 B	West	Surface	54.80	20.66	36.10	8.09	7.44
		Mid-Depth	54.80	20.54	36.01	8.13	6.75
		Bottom	54.80	20.53	36.01	8.13	6.67
	Middle	Surface	55.00	20.81	36.10	8.14	7.02
		Mid-Depth	54.90	20.60	36.09	8.15	6.80
		Bottom	54.80	20.58	36.01	8.15	6.75
	East	Surface	54.80	20.74	36.02	8.16	6.89
		Mid-Depth	54.90	20.63	36.09	8.16	6.80
		Bottom	54.80	20.60	36.02	8.16	6.73
Gill Net SL1 C	West	Surface	54.70	22.03	36.08	8.16	7.01
		Mid-Depth	55.00	21.03	36.12	8.17	6.91
		Bottom	54.90	20.98	36.11	8.18	6.89
	Middle	Surface	54.80	21.80	36.17	8.19	6.83
		Mid-Depth	54.90	21.06	36.12	8.19	6.87
		Bottom	54.90	21.01	36.11	8.19	6.84
	East	Surface	54.70	21.68	36.01	8.19	6.74
		Mid-Depth	54.90	21.09	36.12	8.19	6.76
		Bottom	55.00	21.04	36.12	8.19	6.79

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Gill Net SL2 A	West	Surface	54.50	22.40	35.90	8.10	7.07
		Mid-Depth	54.60	21.63	35.85	8.13	7.00
		Bottom	54.60	21.22	35.90	8.13	7.04
	Middle	Surface	54.60	22.33	35.90	8.14	6.75
		Mid-Depth	54.60	21.67	35.93	8.15	6.84
		Bottom	54.70	21.08	35.90	8.16	6.90
	East	Surface	54.50	22.55	35.91	8.16	6.72
		Mid-Depth	54.60	21.58	35.93	8.17	6.76
		Bottom	54.60	21.36	35.91	8.17	6.79
Gill Net SL2 B	West	Surface	54.50	23.17	35.95	7.98	7.06
		Mid-Depth	54.60	21.89	35.95	8.07	6.91
		Bottom	54.70	21.22	35.91	8.08	6.79
	Middle	Surface	54.40	23.28	35.95	8.12	6.63
		Mid-Depth	54.60	21.37	35.95	8.12	6.72
		Bottom	54.70	21.32	35.99	8.12	6.60
	East	Surface	54.50	23.33	35.95	8.14	6.50
		Mid-Depth	54.60	21.91	35.95	8.14	6.65
		Bottom	54.70	21.48	35.92	8.14	6.63
Gill Net SL2 C	West	Surface	54.70	23.19	36.10	8.15	6.78
		Mid-Depth	54.60	22.57	35.91	8.17	6.81
		Bottom	54.60	21.94	35.96	8.17	6.78
	Middle	Surface	54.50	23.22	35.95	8.18	6.66
		Mid-Depth	54.50	22.64	35.92	8.19	6.64
		Bottom	54.60	22.26	35.98	8.19	6.66
	East	Surface	54.50	23.25	35.88	8.19	6.57
		Mid-Depth	54.50	22.56	35.99	8.19	6.63
		Bottom	54.60	22.18	35.96	8.19	6.66
Gill Net SL3 A	West	Surface	54.10	22.60	35.60	7.77	6.33
		Mid-Depth	54.00	22.40	35.50	7.75	6.33
		Bottom	54.00	22.40	35.50	7.74	6.26
	Middle	Surface	54.10	22.70	35.60	7.81	6.52
		Mid-Depth	54.10	22.50	35.50	7.81	6.47
		Bottom	54.10	22.40	35.60	7.79	6.55
	East	Surface	54.10	22.60	35.60	7.82	6.61
		Mid-Depth	54.30	22.70	35.80	7.81	6.49
		Bottom	54.10	22.30	35.60	7.81	6.65

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Gill Net SL3 B	West	Surface	54.20	22.80	35.70	7.80	6.33
		Mid-Depth	54.20	22.80	35.70	7.80	6.17
		Bottom	54.50	22.80	35.90	7.77	6.26
	Middle	Surface	54.20	22.70	35.70	7.81	6.52
		Mid-Depth	54.20	22.90	35.70	7.81	6.42
		Bottom	54.50	22.60	35.80	7.79	6.37
	East	Surface	54.20	22.80	35.70	7.81	6.71
		Mid-Depth	54.10	22.80	35.70	7.81	6.71
		Bottom	54.50	23.00	35.90	7.80	6.53
Gill Net SL3 C	West	Surface	54.40	22.93	35.86	7.80	6.22
		Mid-Depth	54.40	22.94	35.78	7.81	6.22
		Bottom	54.70	22.57	35.99	7.80	6.11
	Middle	Surface	54.30	22.95	35.79	7.82	6.43
		Mid-Depth	54.30	22.93	35.78	7.81	6.42
		Bottom	54.70	22.53	36.06	7.80	6.29
	East	Surface	54.30	22.96	35.79	7.81	6.50
		Mid-Depth	54.30	22.93	35.78	7.81	6.48
		Bottom	54.60	22.54	36.06	7.79	6.39

Table 3. Number of Individuals of Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured by Trawl during One 15-minute Tow at Each Station, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
Callinectes ornatus (shelligs)	2									2
Farfantepenaeus aztecus (brown shrimp)				3						3
Farfantepenaeus duorarum (pink shrimp)	2			1						3
Penaeidae sp. (penaeid shrimp)		3								3
Rimapenaeus sp.	1	2		3	1		5			12
Anisotremus surinamensis (black margate)	1									1
Centropristis striata (black sea bass)	1									1
Corvula sanctaeluciae (stripped croaker)	2									2
Cynoscion nebulosus (spotted seatrout)				1						1
Labridae sp. (wrass)	1									1
Labrisomas nuchipinnis (hairy blenny)	3									3
Lagodon rhomboides (pinfish)	1			2						3
Leiostomus xanthurus (spot)	5			3						8
Menticirrhus littoralis (Gulf kingfish)	1									1
Micropogonias undulatus (Atlantic croaker)				4						4
Ophidion holbrookii (bank cusk-eel)				1						1
Prionotus scitulus (leopard searobin)				1		1				2
Prionotus sp. (searobin)							1			1
Trachinotus carolinus (Florida pompano)	1									1
Umbrina coroides (sand drum)	3									3
TOTAL	24	5	0	19	1	1	6	0	0	56

Table 4. Number of Individuals of Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured per Kilometer by Trawl at Each Station, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study. (Note: Totals in the right column represent the number of individuals captured per kilometer for all nine transects.)

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
Callinectes ornatus (shelligs)	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Farfantepenaeus aztecus (brown shrimp)	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.3
Farfantepenaeus duorarum (pink shrimp)	1.7	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.3
Penaeidae sp. (penaeid shrimp)	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Rimapenaeus sp.	0.9	1.5	0.0	2.4	0.7	0.0	7.8	0.0	0.0	1.2
Anisotremus surinamensis (black margate)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Centropristis striata (black sea bass)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Corvula sanctaeluciae (stripped croaker)	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cynoscion nebulosus (spotted seatrout)	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1
Labridae sp. (wrass)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Labrisomas nuchipinnis (hairy blenny)	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Lagodon rhomboides (pinfish)	0.9	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.3
Leiostomus xanthurus (spot)	4.3	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.8
Menticirrhus littoralis (gulf kingfish)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Micropogonias undulatus (Atlantic croaker)	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.4
Ophidion holbrookii (bank cusk-eel)	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.1
Prionotus scitulus (leopard searobin)	0.0	0.0	0.0	0.8	0.0	0.9	0.0	0.0	0.0	0.2
Prionotus sp. (searobin)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.1
Trachinotus carolinus (Florida pompano)	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Umbrina coroides (sand drum)	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
TOTAL	20.7	3.8	0.0	15.3	0.7	0.9	9.4	0.0	0.0	5.4

Table 5. Number of Individuals of Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured by Gill Net at Each Station, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
Arenaeus cribrarius (speckled swimming crab)				1						1
Brevoortia smithi (yellowfin menhaden)	8	8			4		5	37		62
Caranx crysos (blue runner)	1	1	2	9	5	5				23
Caranx hippos (crevalle jack)								4		4
Carcharhinus brevipinna (spinner shark)			2			10		1	1	14
Centropristis striata (black sea bass)					1					1
Chloroscombrus chrysurus (Atlantic bumper)		9			312			75	9	405
Echeneis naucrates (sharksucker)								1		1
Leiostomus xanthurus (spot)								1		1
Lutjanus synagris (lane snapper)							2			2
Menticirrhus americanus (southern kingfish)		10		1				13		24
Menticirrhus littoralis (Gulf kingfish)								1		1
Micropogonias undulatus (Atlantic croaker)		1						14		15
Orthopristis chrysoptera (pigfish)		3						11		14
Paralichtys albigutta (Gulf flounder)					2					2
Pomatomus saltatrix (bluefish)	11	2						3		16
Rachycentron canadum (cobia)							1	1		2
Rhizoprionodon terraenovae (Atlantic sharpnose shark)			3			20		105	99	227
Scomberomorus maculatus (Spanish mackerel)	8	3								11
Selene setapinnis (Atlantic moonfish)								1		1
Sphyrna tiburo (bonnethead)		11						82		93
Synodus foetens (inshore lizardfish)		7			1			26		34
Trachinotus carolinus (Florida pompano)								1		1
TOTAL	28	55	7	11	325	35	8	377	109	955

Table 6. Catch Per Unit Effort (Number of Individuals Per Hour of Soak Time) for Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured by Gill Net at Each Station, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study. (Note: Totals in the right column represent the number of individuals captured per hour for all nine transects.)

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
Arenaeus cribrarius (speckled swimming crab)				1.25						0.10
Brevoortia smithi (yellowfin menhaden)	9.23	7.87			3.12		7.69	12.83		6.00
Caranx crysos (blue runner)	1.15	0.98	2.40	11.25	3.90	5.17				2.23
Caranx hippos (crevalle jack)								1.39		0.39
Carcharhinus brevipinna (spinner shark)			2.40			10.34		0.35	0.97	1.35
Centropristis striata (black sea bass)					0.78					0.10
Chloroscombrus chrysurus (Atlantic bumper)		8.85			243.12			26.01	8.71	39.19
Echeneis naucrates (sharksucker)								0.35		0.10
Leiostomus xanthurus (spot)								0.35		0.10
Lutjanus synagris (lane snapper)							3.08			0.19
Menticirrhus americanus (southern kingfish)		9.84		1.25				4.51		2.32
Menticirrhus littoralis (Gulf kingfish)								0.35		0.10
Micropogonias undulatus (Atlantic croaker)		0.98						4.86		1.45
Orthopristis chrysoptera (pigfish)		2.95						3.82		1.35
Paralichtys albigutta (Gulf flounder)					1.56					0.19
Pomatomus saltatrix (bluefish)	12.69	1.97						1.04		1.55
Rachycentron canadum (cobia)							1.54	0.35		0.19
Rhizoprionodon terraenovae (Atlantic sharpnose shark)			3.60			20.69		36.42	95.81	21.97
Scomberomorus maculatus (Spanish mackerel)	9.23	2.95								1.06
Selene setapinnis (Atlantic moonfish)								0.35		0.10
Sphyrna tiburo (bonnethead)		10.82						28.44		9.00
Synodus foetens (inshore lizardfish)		6.89			0.78			9.02		3.29
Trachinotus carolinus (Florida pompano)								0.35		0.10
TOTAL	32.31	54.10	8.40	13.75	253.25	36.21	12.31	130.75	105.48	92.42

Table 7. Number of Individuals of Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured by Beach Seine at Each Station, Baseline Sampling Event 4 (March 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
Arenaeus cribrarius (speckled swimming crab				1						1
Emerita sp.							2			2
Bairdiella chrysoura (silver perch)	5	1								6
Chloroscombrus chrysurus (Atlantic bumper)		1								1
Menticirrhus littoralis (Gulf kingfish)	1					1		1	3	6
Polydactylus virginicus (barbu)		1								1
Selene vomer (lookdown)	1	1				1			6	9
Trachinotus falcatus (permit)				1			1			2
Umbrina coroides (sand drum)	2	1			1					4
TOTAL	9	5	0	2	1	2	3	1	9	32

Table 8. Average total length (TL) and average weight (W) of each Representative Important Species Captured by Gill Net, Trawl, and Beach Seine, Baseline Sampling Event 4 (February-March 2012), St. Lucie Plant EPU Biological Study. For each species the number weighed/measured (n) and the total number collected (N) are given.

TAXON	Gill Net				Trawl				Beach Seine			
	TL (mm)	W (g)	n	N	TL (mm)	W (g)	n	N	TL (mm)	W (g)	n	N
Brevoortia smithi (yellowfin menhaden)	336.3	422.8	41	62								
Leiostomus xanthurus (spot)	258.0	192.0	1	1	192.3	92.3	7	8				
Menticirrhus americanus (southern kingfish)	351.4	467.2	23	24								
Menticirrhus littoralis (Gulf kingfish)	377.0	545.0	1	1	227.0	113.0	1	1	124.9	132.1	6	6
Micropogonias undulatus (Atlantic croaker)	249.1	166.7	15	15	241.5	168.5	4	4				
Orthopristis chrysoptera (pigfish)	246.1	214.4	13	14								
Pomatomus saltatrix (bluefish)	405.0	632.8	16	16								
Prionotus scitulus (leopard searobin)					196.5	55.4	2	2				
Scomberomorus maculatus (Spanish mackerel)	459.4	500.0	11	11								
Trachinotus carolinus (Florida pompano)	277.0	266.0	1	1	149.0	45.3	1	1				
Umbrina coroides (sand drum)					181.3	76.7	3	3	47.6	2.6	4	4

Table 9. Number of Individuals of Each Taxon of Fish Eggs and Larvae and Commercially or Recreationally Important Decapod Crustacean Larvae Captured Per Cubic Meter of Water Filtered During One 15-minute Bongo-Net Tow at Each Transect, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study. (Note: Totals in the right column represent numbers captured per cubic meter of water filtered at all six transects.)

TAXON	SL 1		SL 2		SL 3		TOTAL
	A	C	A	C	A	C	
Archirus lineatus, post yolk-sac larvae				0.041			0.006
Bathygobius soporator, post yolk-sac larvae	0.031		0.017		0.038		0.012
Blenniidae spp., post yolk-sac larvae		0.052			0.462		0.048
Brevoortia smithi, post yolk-sac larvae					0.115		0.009
Carangidae, post yolk-sac larvae				0.020			0.003
Chasmodes saburrae, post yolk-sac larvae				0.020			0.003
Clupeidae spp., post yolk-sac larvae	14.000	0.325	0.339	1.224	0.038	0.203	3.036
Clupeidae spp., yolk-sac larvae	0.156						0.030
Cynoscion nebulous, post yolk-sac larvae					0.038		0.003
Cynoscion spp., post yolk-sac larvae					0.154		0.012
Gobiesox strumosus, post yolk-sac larvae				0.020			0.003
Gobiidae spp., post yolk-sac larvae	0.250	0.442	0.136	0.020	0.038	0.136	0.204
Gobiosoma robustum, post yolk-sac larvae		0.013	0.034			0.068	0.021
Lutjanidae spp., post yolk-sac larvae				0.020			0.003
Microgobius gulosus, post yolk-sac larvae						0.136	0.024
Perciformes spp., post yolk-sac larvae		0.247		0.041	0.038		0.066
Pleuronectiformes spp., post yolk-sac larvae				0.061			0.009
Sciaenidae spp., post yolk-sac larvae				0.102	0.115	1.017	0.204
Sciaenidae spp., yolk-sac larvae	0.094				0.269		0.039
Sphyraenidae spp., post yolk-sac larvae		0.052					0.012
Tetraodontidae spp., post yolk-sac larvae		0.052					0.012
Triglidae spp., post yolk-sac larvae				0.020			0.003
Unidentified fish fragment, post yolk-sac larvae			0.034				0.006

Table 9 (continued). Number of Individuals of Each Taxon of Fish Eggs and Larvae and Commercially or Recreationally Important Decapod Crustacean Larvae Captured Per Cubic Meter of Water Filtered During One 15-minute Bongo-Net Tow at Each Transect, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study. (Note: Totals in the right column represent numbers captured per cubic meter of water filtered at all six transects.)

TAXON	SL 1		SL 2		SL 3		TOTAL
	A	C	A	C	A	C	
Clupeidae spp., eggs	4.656	0.273	5.593		9.385	0.339	2.734
Sciaenidae spp., eggs	0.094				0.154	0.068	0.042
Synodontidae spp., eggs				0.327		1.153	0.251
Unidentified fish eggs	11.406	13.273	15.220	7.000	19.923	16.203	13.374
Albunea sp., zoea	0.031	0.052	0.085	0.020			0.036
Callinectes spp., megalops	1.094		0.051	0.020	1.000	0.610	0.407
Callinectes spp., juvenile					0.038		0.003
Callinectes spp., zoea		0.623	0.068	6.224	1.038	0.339	1.210
Emerita talpoida, zoea		0.104			0.308	0.407	0.120
Hippidae spp., zoea	0.031						0.006
Menippe mercenaria, zoea		1.403	0.017	0.020	0.115	0.136	0.362
Penaeidae spp., mysis					0.154	0.068	0.024
Penaeidae spp., protozoea	0.063	0.104	0.085	0.490			0.123
TOTAL	31.906	17.013	21.678	15.694	33.423	20.881	22.458

Table 10. Number of Individuals of Each Species of Sea Turtle Sighted During Each of Two Passes Along Three One-Kilometer-Long Transects, Baseline Sampling Event 4 (February 2012), St. Lucie Plant EPU Biological Study.

SPECIES	SL 1		SL 2		SL 3	
	Pass 1	Pass 2	Pass 1	Pass 2	Pass 1	Pass 2
Chelonia mydas (green turtle)	0	0	6	3	0	0