

**Florida Power & Light Company
Biological Plan of Study Implementation
for St. Lucie Plant EPU
Baseline Event 8 Data Report**

**Report to
Florida Power & Light Company**

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**Submitted by
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INTRODUCTION

During October and November 2012, Ecological Associates, Inc. (EAI) conducted the eighth baseline field sampling event in accordance with the St. Lucie Plant EPU Biological Plan of Study. During this eighth event, sampling was conducted on six days between October 19 and November 5, 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 eighth 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 34-45 ft, and Transect C was located approximately 8,000 ft. from shore in water depths of 31-47 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 specific 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 invertebrate 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 8 (October/November 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	10/31/2012	2-4 ft swell	17.2-19.1°C	5-15 mph/W	Partly Cloudy
Trawls/ Ichthyoplankton	11/1/2012	1-2 ft swell, light chop	21.1-23.3°C	3-15 mph/W to SSW	Clear to Partly Cloudy
Gill Nets	11/1/2012	Calm to light chop	20.8-27.9°C	0-12 mph/SW to NW	Clear to Mostly Cloudy
Gill Nets	11/2/2012	3-4 ft swell, choppy	20.0-29.0°C	5-12 mph/N	Clear
Beach Seines	11/3/2012	2-3 ft swell	20.9-22.7°C	5-10 mph/N	Clear
Beach Seines	11/5/2012	1-2 ft swell	24.7-27.4°C	3-7 mph/W to NW	Overcast
Sea Turtle Transects	10/19/2012	calm	29.0°C	0-5 mph/N to SSW	Clear

Table 2. Water Quality Data, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Specific Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL1 A	North	Surface	54.7	22.4	36.1	8.1	6.8
		Mid-Depth	54.6	22.4	36.1	8.1	6.7
		Bottom	54.7	22.2	36.0	8.1	6.7
	Middle	Surface	54.6	22.4	36.0	8.1	6.7
		Mid-Depth	54.6	22.4	36.0	8.1	6.5
		Bottom	54.7	22.4	36.0	8.1	6.5
	South	Surface	54.6	22.4	36.1	7.8	6.7
		Mid-Depth	54.6	22.4	36.0	7.9	6.3
		Bottom	54.6	22.4	36.0	8.0	6.4
Trawl SL1 B	North	Surface	54.6	22.6	36.1	8.1	6.7
		Mid-Depth	54.7	22.6	36.1	8.1	6.4
		Bottom	54.7	22.7	36.1	8.1	6.1
	Middle	Surface	54.7	22.6	36.1	8.1	6.6
		Mid-Depth	54.7	22.7	36.0	8.1	6.2
		Bottom	54.6	22.7	36.1	8.1	6.8
	South	Surface	54.7	22.7	36.1	8.1	6.2
		Mid-Depth	54.7	22.7	36.1	8.1	6.1
		Bottom	54.7	22.7	36.0	8.1	6.0
Trawl SL1 C	North	Surface	54.8	22.6	36.1	8.1	6.7
		Mid-Depth	54.8	22.6	36.1	8.1	6.3
		Bottom	54.7	22.7	36.1	8.0	6.1
	Middle	Surface	54.8	22.6	36.1	8.0	6.3
		Mid-Depth	54.7	22.6	36.1	8.1	6.2
		Bottom	54.7	22.7	36.1	8.0	6.1
	South	Surface	54.8	22.6	36.1	8.0	6.5
		Mid-Depth	54.8	22.6	36.1	8.0	6.2
		Bottom	54.8	22.7	36.1	8.0	6.1
Trawl SL2 A	North	Surface	54.6	22.1	36.0	8.1	6.9
		Mid-Depth	54.6	22.1	36.0	8.1	6.5
		Bottom	54.6	22.1	36.0	8.0	6.3
	Middle	Surface	54.6	22.2	36.0	8.0	6.5
		Mid-Depth	54.6	22.2	36.0	8.0	6.4
		Bottom	54.6	22.2	36.0	8.0	6.3
	South	Surface	54.6	22.2	36.0	8.0	6.6
		Mid-Depth	54.6	22.2	36.0	8.0	6.3
		Bottom	54.6	22.2	36.0	8.0	6.2

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Specific Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL2 B	North	Surface	54.7	22.7	36.0	8.0	6.0
		Mid-Depth	54.6	22.8	36.0	8.0	5.9
		Bottom	54.6	22.8	36.0	8.0	5.8
	Middle	Surface	54.6	22.7	36.0	8.0	6.1
		Mid-Depth	54.6	22.8	36.0	8.0	5.8
		Bottom	54.6	22.8	36.0	8.0	5.8
	South	Surface	54.7	22.7	36.1	8.0	5.9
		Mid-Depth	54.6	22.8	36.0	8.0	5.8
		Bottom	54.7	22.8	36.0	8.0	6.4
Trawl SL2 C	North	Surface	54.3	26.5	36.0	8.1	5.8
		Mid-Depth	54.2	26.5	36.0	8.1	5.8
		Bottom	54.3	26.5	36.0	8.1	5.7
	Middle	Surface	54.3	26.5	36.0	8.1	6.0
		Mid-Depth	54.3	26.5	36.0	8.1	5.8
		Bottom	54.3	26.5	36.0	8.1	5.8
	South	Surface	54.3	26.5	36.0	8.1	6.8
		Mid-Depth	54.3	26.5	36.0	8.1	6.1
		Bottom	54.3	26.6	36.0	8.1	6.0
Trawl SL3 A	North	Surface	53.9	24.7	35.6	8.1	6.1
		Mid-Depth	53.9	24.7	35.6	8.1	6.0
		Bottom	53.9	24.7	35.6	8.1	5.9
	Middle	Surface	54.0	25.0	35.7	8.1	6.4
		Mid-Depth	53.9	24.9	35.6	8.1	6.2
		Bottom	53.9	24.9	35.6	8.1	6.0
	South	Surface	54.1	25.2	35.8	8.0	6.2
		Mid-Depth	54.0	25.1	35.7	8.0	6.0
		Bottom	53.9	24.8	35.7	8.1	5.9
Trawl SL3 B	North	Surface	54.0	26.4	35.8	8.1	6.2
		Mid-Depth	54.2	26.6	35.8	8.1	5.8
		Bottom	54.2	26.1	35.8	8.1	5.7
	Middle	Surface	54.0	26.4	35.8	8.1	6.0
		Mid-Depth	54.3	26.6	35.8	8.1	5.8
		Bottom	54.2	26.1	35.9	8.1	5.7
	South	Surface	53.8	25.9	35.6	8.1	6.1
		Mid-Depth	53.8	26.0	35.7	8.1	5.8
		Bottom	54.2	26.0	35.9	8.1	5.7

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Specific Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Trawl SL3 C	North	Surface	54.2	27.0	35.9	8.1	5.8
		Mid-Depth	54.3	27.0	35.9	8.1	5.6
		Bottom	54.2	27.1	35.9	8.1	5.6
	Middle	Surface	54.2	27.0	35.9	8.1	5.7
		Mid-Depth	54.3	27.0	35.9	8.1	5.6
		Bottom	54.2	27.1	36.0	8.1	5.5
	South	Surface	54.3	26.9	36.0	8.1	5.5
		Mid-Depth	54.2	27.0	36.0	8.1	5.5
		Bottom	54.2	27.0	35.9	8.1	5.5
Gill Net SL1 A	West	Surface	54.7	22.2	36.0	7.9	5.9
		Mid-Depth	54.6	22.2	36.0	7.9	5.7
		Bottom	54.7	22.2	36.0	7.9	5.6
	Middle	Surface	54.7	22.1	36.0	8.0	6.1
		Mid-Depth	54.7	22.1	36.0	8.0	6.1
		Bottom	54.7	21.7	36.0	8.0	6.1
	East	Surface	54.7	22.0	36.0	8.0	6.1
		Mid-Depth	54.6	22.0	36.0	8.0	6.1
		Bottom	54.7	21.6	36.0	8.0	6.3
Gill Net SL1 B	West	Surface	54.6	22.8	36.0	7.5	6.4
		Mid-Depth	54.6	22.8	36.0	7.8	5.8
		Bottom	54.6	22.8	36.0	7.9	5.8
	Middle	Surface	54.5	22.8	36.0	8.0	6.3
		Mid-Depth	54.6	22.7	36.0	8.0	5.8
		Bottom	54.6	22.7	36.0	8.0	5.8
	East	Surface	54.6	22.8	36.0	8.0	5.9
		Mid-Depth	54.6	22.7	36.0	8.0	5.9
		Bottom	54.6	22.7	36.0	8.0	5.8
Gill Net SL1 C	West	Surface	54.3	23.5	35.8	8.1	5.8
		Mid-Depth	54.3	23.2	35.8	8.0	5.7
		Bottom	54.4	23.0	35.8	8.0	5.6
	Middle	Surface	54.3	23.5	35.8	8.0	6.0
		Mid-Depth	54.3	23.2	35.9	8.0	5.8
		Bottom	54.4	23.0	35.8	8.0	5.7
	East	Surface	54.3	23.4	35.8	7.9	6.2
		Mid-Depth	54.3	23.2	35.8	8.0	5.9
		Bottom	54.4	22.9	35.9	8.0	5.8

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Specific Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Gill Net SL2 A	West	Surface	54.2	23.3	35.7	8.1	6.6
		Mid-Depth	54.2	23.1	35.7	8.1	6.5
		Bottom	54.2	23.0	35.7	8.1	6.4
	Middle	Surface	54.1	24.6	35.7	8.0	6.3
		Mid-Depth	54.1	23.8	35.7	8.1	6.1
		Bottom	54.2	23.2	35.7	8.1	6.2
	East	Surface	54.1	24.6	35.7	7.9	6.4
		Mid-Depth	54.2	23.7	35.8	8.0	7.2
		Bottom	54.2	23.2	35.7	8.0	6.0
Gill Net SL2 B	West	Surface	54.2	25.4	35.9	8.1	6.2
		Mid-Depth	54.3	25.2	35.9	8.1	5.9
		Bottom	54.3	25.0	35.9	8.1	5.7
	Middle	Surface	54.2	25.4	35.9	8.1	6.2
		Mid-Depth	54.3	25.1	35.9	8.1	5.9
		Bottom	54.4	23.8	35.9	8.1	5.6
	East	Surface	54.0	25.5	35.7	8.0	6.3
		Mid-Depth	54.1	25.2	35.8	8.1	5.9
		Bottom	54.3	24.7	35.8	8.1	5.6
Gill Net SL2 C	West	Surface	54.3	26.8	36.0	8.1	6.1
		Mid-Depth	54.3	26.8	36.0	8.1	6.0
		Bottom	54.3	26.8	36.0	8.1	5.9
	Middle	Surface	54.3	26.8	36.0	8.1	6.3
		Mid-Depth	54.3	26.8	36.0	8.1	6.0
		Bottom	54.3	26.8	36.0	8.1	6.0
	East	Surface	54.4	26.8	36.0	8.0	6.9
		Mid-Depth	54.3	26.8	36.0	8.1	6.4
		Bottom	54.3	26.8	36.0	8.1	6.2
Gill Net SL3 A	West	Surface	54.3	26.5	36.0	8.2	6.4
		Mid-Depth	54.3	26.4	36.0	8.1	6.3
		Bottom	54.2	25.6	35.8	8.1	6.3
	Middle	Surface	54.4	26.4	36.0	8.1	6.6
		Mid-Depth	54.3	26.4	36.0	8.1	6.4
		Bottom	54.2	24.7	35.7	8.1	6.5
	East	Surface	54.3	26.5	36.0	7.6	7.3
		Mid-Depth	54.3	26.4	36.0	8.0	6.8
		Bottom	54.2	25.5	35.9	8.1	6.5

Table 2 (Continued). Water Quality Data, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

Transect	Station	Depth	Specific Conductivity (mS/cm)	Water Temp (°C)	Salinity (PSU)	pH	DO (mg/l)
Gill Net SL3 B	West	Surface	54.5	27.1	36.2	8.2	6.2
		Mid-Depth	54.5	27.0	36.2	8.1	6.1
		Bottom	54.0	25.3	35.9	8.1	6.1
	Middle	Surface	54.5	27.1	36.2	8.1	6.2
		Mid-Depth	54.5	27.0	36.2	8.1	6.1
		Bottom	54.4	26.3	36.1	8.1	6.0
	East	Surface	54.5	27.1	36.2	8.0	7.0
		Mid-Depth	54.5	27.1	36.2	8.1	6.3
		Bottom	54.5	27.0	36.2	8.1	6.1
Gill Net SL3 C	West	Surface	54.5	27.2	36.2	8.2	6.3
		Mid-Depth	54.5	27.2	36.2	8.2	6.2
		Bottom	54.5	27.1	36.2	8.2	6.3
	Middle	Surface	54.5	27.2	36.1	8.2	6.8
		Mid-Depth	54.5	27.2	36.2	8.2	6.3
		Bottom	54.5	27.1	36.2	8.2	6.1
	East	Surface	54.5	27.3	36.2	8.0	6.6
		Mid-Depth	54.5	27.2	36.2	8.1	6.5
		Bottom	54.5	27.1	36.2	8.1	6.4

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 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Arenaeus cribrarius</i> (speckled swimming crab)	1			1			3			5
<i>Farfantepenaeus duorarum</i> (pink shrimp)	2									2
Penaeidae	1	7								8
<i>Rimapenaeus</i> sp.	13	5		4	1		22	1		46
<i>Sicyonia typica</i> (kinglet rock shrimp)						1				1
<i>Achirus lineatus</i> (lined sole)							1			1
<i>Anchoa cubana</i> (Cuban anchovy)	144	77	8	40	8			10		287
<i>Automate</i> sp.	1					1				2
<i>Caranx hippos</i> (crevalle jack)				2						2
<i>Centropristis philadelphica</i> (rock sea bass)						1				1
<i>Chloroscombrus chrysurus</i> (Atlantic bumper)	2	8	3	3	19	3				38
<i>Citharichthys macrops</i> (spotted whiff)				1		1	8			10
<i>Corvula sanctaeluciae</i> (striped croaker)	2						1			3
<i>Cynoscion nothus</i> (silver seatrout)			1		3	1	3			8
<i>Cynoscion regalis</i> (weakfish)	1					1				2
<i>Diapterus auratus</i> (Irish pompano)				1						1
<i>Diplectrum formosum</i> (sand perch)							1			1
Engraulidae		181		69	24	10		3	1	288
<i>Eucinostomus gula</i> (silver jenny)							7			7
<i>Gymnachirus melas</i> (naked sole)					1					1
<i>Haemulon aurolineatum</i> (tomtate)							1			1

Table 3 (continued). 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 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Harengula jaguana</i> (scaled sardine)	55	2	5	5	1					68
<i>Lutjanus synagris</i> (lane snapper)	3			1			1			5
<i>Menticirrhus littoralis</i> (gulf kingfish)							1			1
<i>Oligoplites saurus</i> (leatherjack)		1								1
<i>Ophidion holbrookii</i> (bank cusk-eel)		1					8			9
<i>Opisthonema oglinum</i> (Atlantic thread herring)		1		3						4
<i>Peprilus paru</i> (harvestfish)		1			1					2
<i>Polydactylus virginicus</i> (barbu)				1						1
<i>Prionotus scitulus</i> (leopard searobin)					2	2	1			5
<i>Sardinella aurita</i> (Spanish sardine)	1			7						8
<i>Scorpaena grandicornis</i> (plumed scorpionfish)	1									1
<i>Selene setapinnis</i> (Atlantic moonfish)			1	1	1		2			5
<i>Selene vomer</i> (lookdown)				2			1			3
<i>Stellifer lanceolatus</i> (star drum)		27	4		20	52	29	1		133
<i>Stephanolepis hispida</i> (planehead filefish)	2									2
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)		1			1					2
<i>Trinectes maculatus</i> (hogchoker)							1			1
<i>Umbrina coroides</i> (sand drum)							2			2
TOTAL	229	312	22	141	82	73	93	15	1	968

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 8 (October/November 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	
<i>Arenaeus cribrarius</i> (speckled swimming crab)	1.55	0.00	0.00	1.19	0.00	0.00	3.96	0.00	0.00	0.79
<i>Farfantepenaeus duorarum</i> (pink shrimp)	3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
Penaeidae	1.55	9.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27
<i>Rimapenaeus</i> sp.	20.11	7.09	0.00	4.75	1.47	0.00	29.02	1.41	0.00	7.29
<i>Sicyonia typica</i> (kinglet rock shrimp)	0.00	0.00	0.00	0.00	0.00	1.59	0.00	0.00	0.00	0.16
<i>Achirus lineatus</i> (lined sole)	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.16
<i>Anchoa cubana</i> (Cuban anchovy)	222.77	109.22	12.27	47.54	11.77	0.00	0.00	14.11	0.00	45.46
<i>Automate</i> sp.	1.55	0.00	0.00	0.00	0.00	1.59	0.00	0.00	0.00	0.32
<i>Caranx hippos</i> (crevalle jack)	0.00	0.00	0.00	2.38	0.00	0.00	0.00	0.00	0.00	0.32
<i>Centropristis philadelphica</i> (rock sea bass)	0.00	0.00	0.00	0.00	0.00	1.59	0.00	0.00	0.00	0.16
<i>Chloroscombrus chrysurus</i> (Atlantic bumper)	3.09	11.35	4.60	3.57	27.95	4.76	0.00	0.00	0.00	6.02
<i>Citharichthys macrops</i> (spotted whiff)	0.00	0.00	0.00	1.19	0.00	1.59	10.55	0.00	0.00	1.58
<i>Corvula sanctaeluciae</i> (striped croaker)	3.09	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.48
<i>Cynoscion nothus</i> (silver seatrout)	0.00	0.00	1.53	0.00	4.41	1.59	3.96	0.00	0.00	1.27
<i>Cynoscion regalis</i> (weakfish)	1.55	0.00	0.00	0.00	0.00	1.59	0.00	0.00	0.00	0.32
<i>Diapterus auratus</i> (Irish pompano)	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.16
<i>Diplectrum formosum</i> (sand perch)	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.16
Engraulidae	0.00	256.74	0.00	82.01	35.30	15.88	0.00	4.23	1.44	45.61
<i>Eucinostomus gula</i> (silver jenny)	0.00	0.00	0.00	0.00	0.00	0.00	9.23	0.00	0.00	1.11
<i>Gymnachirus melas</i> (naked sole)	0.00	0.00	0.00	0.00	1.47	0.00	0.00	0.00	0.00	0.16
<i>Haemulon aurolineatum</i> (tomtate)	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.16

Table 4 (continued). 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 8 (October/November 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	
<i>Harengula jaguana</i> (scaled sardine)	85.09	2.84	7.67	5.94	1.47	0.00	0.00	0.00	0.00	10.77
<i>Lutjanus synagris</i> (lane snapper)	4.64	0.00	0.00	1.19	0.00	0.00	1.32	0.00	0.00	0.79
<i>Menticirrhus littoralis</i> (gulf kingfish)	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.16
<i>Oligoplites saurus</i> (leatherjack)	0.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
<i>Ophidion holbrookii</i> (bank cusk-eel)	0.00	1.42	0.00	0.00	0.00	0.00	10.55	0.00	0.00	1.43
<i>Opisthonema oglinum</i> (Atlantic thread herring)	0.00	1.42	0.00	3.57	0.00	0.00	0.00	0.00	0.00	0.63
<i>Peprilus paru</i> (harvestfish)	0.00	1.42	0.00	0.00	1.47	0.00	0.00	0.00	0.00	0.32
<i>Polydactylus virginicus</i> (barbu)	0.00	0.00	0.00	1.19	0.00	0.00	0.00	0.00	0.00	0.16
<i>Prionotus scitulus</i> (leopard searobin)	0.00	0.00	0.00	0.00	2.94	3.18	1.32	0.00	0.00	0.79
<i>Sardinella aurita</i> (Spanish sardine)	1.55	0.00	0.00	8.32	0.00	0.00	0.00	0.00	0.00	1.27
<i>Scorpaena grandicornis</i> (plumed scorpionfish)	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
<i>Selene setapinnis</i> (Atlantic moonfish)	0.00	0.00	1.53	1.19	1.47	0.00	2.64	0.00	0.00	0.79
<i>Selene vomer</i> (lookdown)	0.00	0.00	0.00	2.38	0.00	0.00	1.32	0.00	0.00	0.48
<i>Stellifer lanceolatus</i> (star drum)	0.00	38.30	6.14	0.00	29.42	82.55	38.26	1.41	0.00	21.06
<i>Stephanolepis hispidus</i> (planehead filefish)	3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)	0.00	1.42	0.00	0.00	1.47	0.00	0.00	0.00	0.00	0.32
<i>Trinectes maculatus</i> (hogchoker)	0.00	0.00	0.00	0.00	0.00	0.00	1.32	0.00	0.00	0.16
<i>Umbrina coroides</i> (sand drum)	0.00	0.00	0.00	0.00	0.00	0.00	2.64	0.00	0.00	0.32
TOTAL	354.27	442.55	33.75	167.58	120.62	115.89	122.69	21.17	1.44	153.31

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 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Arenaeus cribrarius</i> (speckled swimming crab)				4			2		2	8
<i>Aetobatus narinari</i> (spotted eagle ray)								1		1
<i>Anisotremus virginicus</i> (porkfish)	2									2
<i>Archosargus probatocephalus</i> (sheepshead)	3		1	1					1	6
<i>Bagre marinus</i> (gafftopsail catfish)		11	7		7	13	3	99	1	141
<i>Brevoortia smithi</i> (yellowfin menhaden)				6			17			23
<i>Caranx crysos</i> (blue runner)		3	2	4			5		3	17
<i>Caranx hippos</i> (crevalle jack)			1	9						10
<i>Caranx latus</i> (horse-eye jack)	22			18			16	4	3	63
<i>Carcharhinus acronotus</i> (blacknose shark)					1	1				2
<i>Carcharhinus brevipinna</i> (spinner shark)			1					8		9
<i>Carcharhinus limbatus</i> (blacktip shark)			1							1
<i>Centropomus undecimalis</i> (common Snook)								2		2
<i>Centropristis striata</i> (striped sea bass)			1							1
<i>Chloroscombrus chrysurus</i> (Atlantic bumper)	35	8	6		1		1			51
<i>Corvula sanctaeluciaae</i> (striped croaker)		1								1
<i>Cynoscion nothus</i> (silver seatrout)		11	24		25	5		2		67
<i>Cynoscion regalis</i> (gray trout)	7									7
<i>Diplodus holbrookii</i> (spottail pinfish)	2									2
<i>Elops saurus</i> (ladyfish)	1			2	1		3			7
<i>Haemulon aurolineatum</i> (tomtate)					1					1
<i>Larimus fasciatus</i> (banded drum)		14	7		32	5		4		62
<i>Leiostomus xanthurus</i> (spot)			2		2	2			1	7
<i>Lutjanus analis</i> (mutton snapper)							1			1
<i>Lutjanus synagris</i> (lane snapper)	1									1
<i>Menticirrhus americanus</i> (southern kingfish)					1	2			2	5

Table 5 (continued). Number of Individuals of Each Taxon of Fish and Commercially or Recreationally Important Shellfish Captured by Gill Net at Each Station, Baseline Sampling Event 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Micropogonias undulates</i> (Atlantic croaker)		1	14	1	1	3		43	11	74
<i>Myliobatis goodie</i> (southern eagle ray)								2		2
<i>Orthopristis chrysoptera</i> (pigfish)	1	2							1	4
<i>Peprilus paru</i> (harvestfish)	1		1							2
<i>Pomatomus saltatrix</i> (bluefish)	1		3	3					15	22
<i>Prionotus scitulus</i> (leopard searobin)			1		1			1		3
<i>Raja eglanteria</i> (clearnose skate)					1					1
<i>Rhizoprionodon terraenovae</i> (Atlantic sharpnose shark)	2	5	11		7	2		2	2	31
<i>Sciaenops ocellatus</i> (red drum)								1		1
<i>Scomberomorus maculatus</i> (Atlantic spanish mackerel)	9	2	1	1	3	3	18	7	25	69
<i>Selene setapinnis</i> (Atlantic moonfish)		3								3
<i>Sphyrna tiburo</i> (bonnethead)	4	3	1		7	17		23	54	109
<i>Trachinotus carolinus</i> (Florida pompano)				1			1			2
<i>Trachinotus falcatus</i> (permit)		1							1	2
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)	3	1			1				5	10
TOTAL	94	66	85	50	92	53	67	199	127	833

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 8 (October/November 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	
<i>Arenaeus cribrarius</i> (speckled swimming crab)	0.00	0.00	0.00	4.21	0.00	0.00	2.31	0.00	1.62	0.71
<i>Aetobatus narinari</i> (spotted eagle ray)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.09
<i>Anisotremus virginicus</i> (porkfish)	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
<i>Archosargus probatocephalus</i> (sheepshead)	2.86	0.00	0.72	1.05	0.00	0.00	0.00	0.00	0.81	0.53
<i>Bagre marinus</i> (gafftopsail catfish)	0.00	9.43	5.06	0.00	4.47	11.30	3.46	50.77	0.81	12.46
<i>Brevoortia smithi</i> (yellowfin menhaden)	0.00	0.00	0.00	6.32	0.00	0.00	19.62	0.00	0.00	2.03
<i>Caranx crysos</i> (blue runner)	0.00	2.57	1.45	4.21	0.00	0.00	5.77	0.00	2.43	1.50
<i>Caranx hippos</i> (crevalle jack)	0.00	0.00	0.72	9.47	0.00	0.00	0.00	0.00	0.00	0.88
<i>Caranx latus</i> (horse-eye jack)	20.95	0.00	0.00	18.95	0.00	0.00	18.46	2.05	2.43	5.57
<i>Carcharhinus acronotus</i> (blacknose shark)	0.00	0.00	0.00	0.00	0.64	0.87	0.00	0.00	0.00	0.18
<i>Carcharhinus brevipinna</i> (spinner shark)	0.00	0.00	0.72	0.00	0.00	0.00	0.00	4.10	0.00	0.80
<i>Carcharhinus limbatus</i> (blacktip shark)	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.09
<i>Centropomus undecimalis</i> (common Snook)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.18
<i>Centropristis striata</i> (striped sea bass)	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.09
<i>Chloroscombrus chrysurus</i> (Atlantic bumper)	33.33	6.86	4.34	0.00	0.64	0.00	1.15	0.00	0.00	4.51
<i>Corvula sanctaeluciae</i> (striped croaker)	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
<i>Cynoscion nothus</i> (silver seatrout)	0.00	9.43	17.35	0.00	15.96	4.35	0.00	1.03	0.00	5.92
<i>Cynoscion regalis</i> (gray trout)	6.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
<i>Diplodus holbrookii</i> (spottail pinfish)	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
<i>Elops saurus</i> (ladyfish)	0.95	0.00	0.00	2.11	0.64	0.00	3.46	0.00	0.00	0.62
<i>Haemulon aurolineatum</i> (tomtate)	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.09
<i>Larimus fasciatus</i> (banded drum)	0.00	12.00	5.06	0.00	20.43	4.35	0.00	2.05	0.00	5.48
<i>Leiostomus xanthurus</i> (spot)	0.00	0.00	1.45	0.00	1.28	1.74	0.00	0.00	0.81	0.62
<i>Lutjanus analis</i> (mutton snapper)	0.00	0.00	0.00	0.00	0.00	0.00	1.15	0.00	0.00	0.09
<i>Lutjanus synagris</i> (lane snapper)	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
<i>Menticirrhus americanus</i> (southern kingfish)	0.00	0.00	0.00	0.00	0.64	1.74	0.00	0.00	1.62	0.44

Table 6 (continued). 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 8 (October/November 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	
<i>Micropogonias undulates</i> (Atlantic croaker)	0.00	0.86	10.12	1.05	0.64	2.61	0.00	22.05	8.92	6.54
<i>Myliobatis goodie</i> (southern eagle ray)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	0.00	0.18
<i>Orthopristis chrysoptera</i> (pigfish)	0.95	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.35
<i>Peprilus paru</i> (harvestfish)	0.95	0.00	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.18
<i>Pomatomus saltatrix</i> (bluefish)	0.95	0.00	2.17	3.16	0.00	0.00	0.00	0.00	12.16	1.94
<i>Prionotus scitulus</i> (leopard searobin)	0.00	0.00	0.72	0.00	0.64	0.00	0.00	0.51	0.00	0.27
<i>Raja eglanteria</i> (clearnose skate)	0.00	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.09
<i>Rhizoprionodon terraenovae</i> (Atlantic sharpnose shark)	1.90	4.29	7.95	0.00	4.47	1.74	0.00	1.03	1.62	2.74
<i>Sciaenops ocellatus</i> (red drum)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.09
<i>Scomberomorus maculatus</i> (Atlantic spanish mackerel)	8.57	1.71	0.72	1.05	1.91	2.61	20.77	3.59	20.27	6.10
<i>Selene setapinnis</i> (Atlantic moonfish)	0.00	2.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
<i>Sphyrna tiburo</i> (bonnethead)	3.81	2.57	0.72	0.00	4.47	14.78	0.00	11.79	43.78	9.63
<i>Trachinotus carolinus</i> (Florida pompano)	0.00	0.00	0.00	1.05	0.00	0.00	1.15	0.00	0.00	0.18
<i>Trachinotus falcatus</i> (permit)	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.18
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)	2.86	0.86	0.00	0.00	0.64	0.00	0.00	0.00	4.05	0.88
TOTAL	89.52	56.57	61.45	52.63	58.72	46.09	77.31	102.05	102.97	73.61

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 8 (October/November 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Centropomus undecimalis</i> (common snook)					1					1
<i>Menticirrhus littoralis</i> (Gulf kingfish)				2			2	4		8
<i>Mugil curema</i> (white mullet)		1						2		3
<i>Polydactylus virginicus</i> (barbu)				1						1
<i>Trachinotus carolinus</i> (Florida pompano)				1	2		1			4
<i>Trachinotus falcatus</i> (permit)					6					6
<i>Umbrina coroides</i> (sand drum)					1		3			4
TOTAL	0	1	0	4	10	0	6	6	0	27

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 8 (October/November 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
<i>Anchoa cubana</i> (Cuban anchovy)					54.5	1.1	100	287				
<i>Brevoortia smithi</i> (yellowfin menhaden)	353.0	563.7	23	23								
<i>Cynoscion nothus</i> (silver seatrout)	248.4	149.6	67	67	221.0	137.2	8	8				
Engaulidae					36.1	0.3	76	288				
<i>Harengula jaguana</i> (scaled sardine)					125.9	21.6	38 ¹	68				
<i>Leiostomus xanthurus</i> (spot)	243.6	187.9	7	7								
<i>Menticirrhus americanus</i> (southern kingfish)	295.2	340.0	5	5								
<i>Menticirrhus littoralis</i> (Gulf kingfish)					171.0	54.4	1	1	116.6	18.2	8	8
<i>Micropogonias undulatus</i> (Atlantic croaker)	276.2	253.1	55	74								
<i>Opisthonema oglinum</i> (Atlantic thread herring)					102.2	10.8	4	4				
<i>Orthopristis chrysoptera</i> (pigfish)	236.0	227.5	4	4								
<i>Pomatomus saltatrix</i> (bluefish)	378.8	539.1	22	22								
<i>Prionotus scitulus</i> (leopard searobin)	178.7	30.0	3	3	25.6	0.2	5	5				
<i>Sardinella aurita</i> (Spanish sardine)					91.9	10.8	8	8				
<i>Scomberomorus maculatus</i> (Atlantic spanish mackerel)	466.8	622.2	68	69								
<i>Trachinotus carolinus</i> (Florida pompano)	259.0	215.0	2	2					134.8	39.4	4	4
<i>Umbrina coroides</i> (sand drum)					81.0	14.9	2	2	91.0	9.5	4	4

¹Total length was determined for 38 individuals, weight was determined for 33.

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 8 (October/November 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	
<i>Acanthurus</i> sp., post yolk-sac larvae						0.014	0.003
<i>Citharichthys</i> sp., juvenile				0.015			0.003
Clupeidae, post yolk-sac larvae		0.050					0.008
<i>Cyclothone</i> sp., post yolk-sac larvae						0.014	0.003
Labridae, post yolk-sac larvae						0.029	0.006
Microdesmidae, post yolk-sac larvae					0.020		0.003
<i>Ophidion</i> sp., post yolk-sac larvae				0.045			0.008
<i>Ophidion</i> sp., yolk-sac larvae				0.045			0.008
Sciaenidae, post yolk-sac larvae					0.020	0.014	0.006
Sciaenidae, yolk-sac larvae				0.015			0.003
Sparidae, post yolk-sac larvae				0.015			0.003
Unidentified fish, post yolk-sac larvae				0.030		0.029	0.011
Unidentified fish, yolk-sac larvae					0.020		0.003
Sciaenidae, eggs						0.043	0.008
Synodontidae, eggs						0.014	0.003
Unidentified fish eggs		0.017		0.060		0.514	0.114
<i>Albunea</i> sp., zoea					0.040	0.029	0.011
<i>Callinectes sapidus</i> , megalops	0.067		0.072		0.320		0.066
<i>Callinectes</i> sp., zoea		0.200		0.134			0.058
<i>Callinectes</i> sp., juvenile						0.014	0.003
<i>Emerita talpoida</i> , juvenile					0.060		0.008
<i>Emerita talpoida</i> , zoea				0.149	0.660	0.071	0.133
<i>Farfantepenaeus aztecus</i> , postlarvae					0.020		0.003
<i>Farfantepenaeus duorarum</i> , postlarvae	0.067						0.008
<i>Farfantepenaeus</i> sp., mysis		0.100	1.696				0.341
<i>Farfantepenaeus</i> sp., postlarvae					0.100		0.014
<i>Lepidopa</i> sp., zoea						0.014	0.003

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 8 (October/November 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	
<i>Menippe mercenaria</i> , zoea	0.022		0.116	0.209	0.040	0.057	0.080
Penaeidae, mysis				0.015			0.003
<i>Scyllarus americanus</i> , phyllosoma				0.015			0.003
TOTAL	0.156	0.367	1.884	0.746	1.300	0.857	0.925

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 8 (October/November 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
<i>Chelonia mydas</i> (green turtle)	0	0	1	4	0	0