

**Florida Power & Light Company  
Biological Plan of Study Implementation  
for St. Lucie Plant EPU  
Baseline Event 7 Data Report**

**Report to  
Florida Power & Light Company**

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**Submitted by  
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## INTRODUCTION

During August 2012, Ecological Associates, Inc. (EAI) conducted the seventh baseline field sampling event in accordance with the St. Lucie Plant EPU Biological Plan of Study. During this sixth event, sampling was conducted on four days between August 9 and August 17, 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 seventh 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 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 7 (August 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	8/7/2012	1-2 ft swell	26.5-27.5°C	3-7 mph/SE	Clear to Partly Cloudy
Trawls/ Ichthyoplankton	8/8/2012	1-3 ft swell	27.0-28.5°C	6-15 mph/SSE	Clear to Partly Cloudy
Gill Nets	8/7/2012	1-3 ft swell	28.9-32.0°C	3-10 mph/SE	Partly Cloudy
Gill Nets	8/8/2012	1-2 ft swell	29.0-34.0°C	3-5 mph/S to SE	Partly Cloudy
Beach Seines	8/17/2012	Calm to 1 ft swell	29.7-32.6°C	3-12 mph/W to E	Clear to Mostly Cloudy
Sea Turtle Transects	8/9/2012	1-2 ft swell	28.0-32.8°C	3-5 mph/SE to SSE	Partly Cloudy

**Table 2.** Water Quality Data, Baseline Sampling Event 7 (August 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	55.0	26.6	36.5	7.8	6.8
		Mid-Depth	55.1	26.5	36.6	8.1	6.8
		Bottom	55.1	25.7	36.7	8.1	7.0
	Middle	Surface	55.0	26.7	36.5	8.1	6.6
		Mid-Depth	55.1	26.2	36.6	8.1	6.9
		Bottom	55.1	26.0	36.6	8.1	6.8
	South	Surface	55.0	26.9	36.5	8.1	6.5
		Mid-Depth	55.1	26.6	36.5	8.1	6.6
		Bottom	55.2	25.5	36.5	8.1	6.9
Trawl SL1 B	North	Surface	55.1	25.6	36.5	8.1	6.8
		Mid-Depth	55.3	23.0	36.5	8.1	7.0
		Bottom	55.5	21.6	36.7	8.2	7.1
	Middle	Surface	55.1	25.5	36.5	8.1	7.3
		Mid-Depth	55.4	22.1	36.7	8.1	7.2
		Bottom	55.5	21.6	36.6	8.1	7.2
	South	Surface	55.0	25.5	36.5	7.9	7.1
		Mid-Depth	55.3	22.7	36.6	8.1	7.0
		Bottom	55.5	21.7	36.6	8.1	7.1
Trawl SL1 C	North	Surface	55.1	25.7	36.5	8.2	7.0
		Mid-Depth	55.4	23.5	36.6	8.2	7.3
		Bottom	55.5	21.3	36.6	8.2	7.3
	Middle	Surface	55.1	25.7	36.5	8.1	6.9
		Mid-Depth	55.3	23.3	36.6	8.2	7.6
		Bottom	55.5	21.3	36.6	8.2	7.4
	South	Surface	55.0	25.5	36.5	8.0	7.1
		Mid-Depth	55.5	22.5	36.5	8.1	7.9
		Bottom	55.5	21.3	36.6	8.1	7.4
Trawl SL2 A	North	Surface	55.1	25.0	36.6	8.2	6.6
		Mid-Depth	55.2	24.8	36.5	8.2	6.6
		Bottom	55.3	24.6	36.6	8.2	6.7
	Middle	Surface	55.1	25.0	36.5	8.2	6.7
		Mid-Depth	55.2	24.5	36.5	8.2	6.9
		Bottom	55.3	23.9	36.6	8.2	7.0
	South	Surface	55.1	25.1	36.5	8.1	7.1
		Mid-Depth	55.2	24.6	36.6	8.1	6.8
		Bottom	55.2	23.9	36.6	8.2	7.0

**Table 2 (Continued).** Water Quality Data, Baseline Sampling Event 7 (August 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	55.1	25.5	36.5	8.2	7.2
		Mid-Depth	55.3	24.2	36.6	8.2	7.3
		Bottom	55.5	21.9	36.6	8.2	7.6
	Middle	Surface	55.1	25.4	36.6	8.2	7.0
		Mid-Depth	55.5	22.0	36.6	8.2	7.6
		Bottom	55.5	22.0	36.6	8.2	7.6
	South	Surface	55.1	25.4	36.5	8.1	7.2
		Mid-Depth	55.2	24.0	36.5	8.2	7.4
		Bottom	55.5	22.0	36.6	8.2	7.5
Trawl SL2 C	North	Surface	55.0	26.7	36.6	8.2	7.2
		Mid-Depth	55.3	24.1	36.6	8.2	7.3
		Bottom	55.4	22.1	36.6	8.2	7.2
	Middle	Surface	55.1	26.7	36.6	8.2	7.1
		Mid-Depth	55.1	25.1	36.5	8.2	7.4
		Bottom	55.4	22.3	36.6	8.2	7.3
	South	Surface	55.0	26.7	36.5	8.0	7.1
		Mid-Depth	55.2	24.1	36.5	8.1	7.5
		Bottom	55.4	21.8	36.5	8.1	7.0
Trawl SL3 A	North	Surface	55.0	26.2	36.5	8.2	7.1
		Mid-Depth	55.0	26.1	36.5	8.2	7.0
		Bottom	55.0	26.0	36.5	8.2	6.9
	Middle	Surface	55.0	26.4	36.5	8.1	6.8
		Mid-Depth	55.0	26.2	36.5	8.2	6.9
		Bottom	55.0	25.9	36.5	8.2	7.0
	South	Surface	54.9	26.4	36.4	8.1	7.1
		Mid-Depth	54.9	26.4	36.4	8.1	7.0
		Bottom	55.0	26.2	36.4	8.1	6.9
Trawl SL3 B	North	Surface	55.0	25.6	36.5	8.2	7.0
		Mid-Depth	55.3	23.0	36.5	8.2	7.2
		Bottom	55.4	21.8	36.5	8.1	6.4
	Middle	Surface	55.1	25.7	36.5	8.2	7.0
		Mid-Depth	55.2	22.9	36.5	8.2	7.2
		Bottom	55.4	21.9	36.5	8.2	6.4
	South	Surface	55.0	25.6	36.5	8.2	7.2
		Mid-Depth	55.3	22.7	36.5	8.2	7.1
		Bottom	55.4	21.8	36.5	8.2	6.5

**Table 2 (Continued).** Water Quality Data, Baseline Sampling Event 7 (August 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	55.1	25.7	36.5	8.2	7.1
		Mid-Depth	55.4	22.5	36.6	8.2	7.3
		Bottom	55.5	21.0	36.6	8.2	6.9
	Middle	Surface	55.1	25.7	36.5	8.2	7.1
		Mid-Depth	55.4	22.6	36.6	8.2	7.4
		Bottom	55.5	21.0	36.6	8.2	6.9
	South	Surface	55.1	25.6	36.6	8.2	7.1
		Mid-Depth	55.4	22.7	36.6	8.2	7.5
		Bottom	55.5	21.2	36.6	8.2	6.7
Gill Net SL1 A	West	Surface	55.2	24.6	36.6	8.1	6.9
		Mid-Depth	55.3	23.6	36.6	8.1	7.2
		Bottom	55.4	23.3	36.6	8.1	6.8
	Middle	Surface	55.3	24.5	36.5	8.1	6.8
		Mid-Depth	55.3	23.6	36.6	8.1	7.4
		Bottom	55.4	23.2	36.6	8.1	6.9
	East	Surface	55.1	24.5	36.6	7.9	6.9
		Mid-Depth	55.3	23.5	36.6	8.0	7.2
		Bottom	55.4	22.8	36.6	8.0	6.9
Gill Net SL1 B	West	Surface	55.2	24.6	36.6	8.2	7.2
		Mid-Depth	55.3	23.4	36.6	8.2	7.4
		Bottom	55.5	21.7	36.6	8.2	7.6
	Middle	Surface	55.4	24.6	36.5	8.2	7.2
		Mid-Depth	55.4	23.3	36.6	8.2	7.4
		Bottom	55.5	21.7	36.6	8.2	7.7
	East	Surface	55.0	24.8	36.4	8.0	7.4
		Mid-Depth	55.3	23.2	36.6	8.1	7.4
		Bottom	55.5	21.6	36.6	8.2	7.7
Gill Net SL1 C	West	Surface	55.2	25.0	36.6	8.2	7.1
		Mid-Depth	55.2	24.4	36.5	8.2	7.1
		Bottom	55.6	21.2	36.6	8.2	7.6
	Middle	Surface	55.1	24.9	36.6	8.1	7.2
		Mid-Depth	55.2	24.4	36.5	8.1	7.2
		Bottom	55.5	21.1	36.6	8.2	7.6
	East	Surface	55.0	25.0	36.3	7.7	7.5
		Mid-Depth	55.2	24.4	36.5	8.0	7.4
		Bottom	55.6	21.1	36.6	8.1	7.8

**Table 2 (Continued).** Water Quality Data, Baseline Sampling Event 7 (August 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	55.1	25.7	36.5	8.1	6.9
		Mid-Depth	55.2	24.5	36.4	8.1	7.0
		Bottom	55.2	24.0	36.6	8.2	7.1
	Middle	Surface	55.0	25.8	36.5	8.1	7.0
		Mid-Depth	55.1	24.3	36.5	8.1	7.2
		Bottom	55.2	23.8	36.5	8.1	7.2
	East	Surface	55.0	25.5	36.5	7.2	7.4
		Mid-Depth	55.1	24.3	36.5	7.9	7.5
		Bottom	55.2	23.6	36.4	8.1	7.4
Gill Net SL2 B	West	Surface	55.1	25.7	36.5	8.2	7.0
		Mid-Depth	55.2	24.2	36.5	8.2	7.1
		Bottom	55.3	24.0	36.6	8.2	7.3
	Middle	Surface	55.0	25.9	36.5	8.1	7.4
		Mid-Depth	55.1	24.4	36.6	8.1	7.4
		Bottom	55.1	23.8	36.5	8.2	7.6
	East	Surface	55.0	25.9	36.5	7.8	7.4
		Mid-Depth	55.1	24.4	36.5	8.0	7.7
		Bottom	55.1	24.1	36.5	8.1	7.6
Gill Net SL2 C	West	Surface	55.2	25.7	36.6	8.2	7.0
		Mid-Depth	55.1	24.5	36.6	8.2	7.3
		Bottom	55.4	22.3	36.6	8.2	7.4
	Middle	Surface	55.2	25.6	36.6	8.1	7.2
		Mid-Depth	55.3	25.0	36.7	8.2	7.3
		Bottom	55.5	22.1	36.6	8.1	7.5
	East	Surface	55.1	25.7	36.5	7.8	7.2
		Mid-Depth	55.3	25.0	36.7	8.0	7.4
		Bottom	55.4	22.4	36.6	8.1	7.6
Gill Net SL3 A	West	Surface	55.1	25.7	36.5	8.2	7.0
		Mid-Depth	55.1	24.8	36.6	8.2	7.3
		Bottom	55.2	24.7	36.6	8.2	7.4
	Middle	Surface	55.1	25.4	36.6	8.2	7.2
		Mid-Depth	55.2	24.9	36.6	8.2	7.2
		Bottom	55.2	24.3	36.5	8.2	7.2
	East	Surface	55.1	25.5	36.6	8.0	7.3
		Mid-Depth	55.1	25.1	36.5	8.1	7.3
		Bottom	55.2	23.7	36.6	8.1	7.1



**Table 2 (Continued).** Water Quality Data, Baseline Sampling Event 7 (August 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	55.2	26.2	36.6	8.2	6.9
		Mid-Depth	55.3	23.4	36.6	8.2	7.3
		Bottom	55.4	22.7	36.6	8.2	6.9
	Middle	Surface	55.1	26.2	36.6	8.2	7.0
		Mid-Depth	55.3	23.6	36.6	8.2	7.4
		Bottom	55.4	22.6	36.5	8.1	6.9
	East	Surface	55.1	26.2	36.6	7.2	7.0
		Mid-Depth	55.3	23.2	36.5	8.0	7.4
		Bottom	55.3	22.6	36.5	8.1	7.0
Gill Net SL3 C	West	Surface	55.0	27.5	36.6	8.2	6.8
		Mid-Depth	55.3	24.4	36.6	8.2	7.4
		Bottom	55.4	22.2	36.6	8.2	7.5
	Middle	Surface	54.9	27.3	36.5	8.2	6.9
		Mid-Depth	55.3	24.1	36.6	8.2	7.4
		Bottom	55.4	22.2	36.6	8.2	7.4
	East	Surface	54.9	27.2	36.4	7.7	7.0
		Mid-Depth	55.1	24.5	36.6	8.1	7.6
		Bottom	55.3	22.3	36.5	8.1	7.4

**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 7 (August 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
<i>Farfantepenaeus duorarum</i> (pink shrimp)	8			1			7			16
<i>Rimapenaeus</i> sp.	3					6	6			15
<i>Bothus robinsi</i> (twospot flounder)						10				10
<i>Citharichthys macrops</i> (spotted whiff)	5			3			5			13
<i>Decapterus punctatus</i> (round scad)						2				2
<i>Eucinostomus gula</i> (silver jenny)	34			3			3			40
<i>Eucinostomus harengulus</i> (tidewater mojarra)	1									1
<i>Eucinostomus jonesii</i> (slender mojarra)	8	1								9
<i>Haemulon aurolineatum</i> (tomtate)	53						10			63
<i>Lutjanus synagris</i> (lane snapper)	2						2			4
<i>Prionotus rubio</i> (blackwing searobin)		1								1
<i>Umbrina coroides</i> (sand drum)	45			2			6			53
TOTAL	159	2	0	9	0	18	40	0	0	228

**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 7 (August 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)	0.00	0.00	0.00	0.00	0.00	0.00	1.29	0.00	0.00	0.15
<i>Farfantepenaeus duorarum</i> (pink shrimp)	11.64	0.00	0.00	1.31	0.00	0.00	9.03	0.00	0.00	2.37
<i>Rimapenaeus</i> sp.	4.37	0.00	0.00	0.00	0.00	9.63	7.74	0.00	0.00	2.22
<i>Bothus robinsi</i> (twospot flounder)	0.00	0.00	0.00	0.00	0.00	16.05	0.00	0.00	0.00	1.48
<i>Citharichthys macrops</i> (spotted whiff)	7.28	0.00	0.00	3.94	0.00	0.00	6.45	0.00	0.00	1.93
<i>Decapterus punctatus</i> (round scad)	0.00	0.00	0.00	0.00	0.00	3.21	0.00	0.00	0.00	0.30
<i>Eucinostomus gula</i> (silver jenny)	49.48	0.00	0.00	3.94	0.00	0.00	3.87	0.00	0.00	5.93
<i>Eucinostomus harengulus</i> (tidewater mojarra)	1.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
<i>Eucinostomus jonesii</i> (slender mojarra)	11.64	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33
<i>Haemulon aurolineatum</i> (tomtate)	77.14	0.00	0.00	0.00	0.00	0.00	12.89	0.00	0.00	9.34
<i>Lutjanus synagris</i> (lane snapper)	2.91	0.00	0.00	0.00	0.00	0.00	2.58	0.00	0.00	0.59
<i>Prionotus rubio</i> (blackwing searobin)	0.00	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
<i>Umbrina coroides</i> (sand drum)	65.49	0.00	0.00	2.63	0.00	0.00	7.74	0.00	0.00	7.86
TOTAL	231.41	2.60	0.00	11.83	0.00	28.89	51.58	0.00	0.00	33.80

**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 7 (August 2012), St. Lucie Plant EPU Biological Study.

TAXON	SL1			SL2			SL3			TOTAL
	A	B	C	A	B	C	A	B	C	
<i>Anisotremus virginicus</i> (porkfish)	7									7
<i>Caranx crysos</i> (blue runner)		2	2		6	2		3	1	16
<i>Carcharhinus acronotus</i> (blacknose shark)								1		1
<i>Centropristis striata</i> (striped sea bass)	3									3
<i>Citharichthys macrops</i> (spotted whiff)								4		4
<i>Euthynnus alletteratus</i> (little tunny)				1						1
<i>Orthopristis chrysoptera</i> (pigfish)	3									3
<i>Prionotus scitulus</i> (leopard searobin)								4	1	5
<i>Rhizoprionodon terraenovae</i> (Atlantic sharpnose shark)	3	2	14		6			12	5	42
<i>Selene setapinnis</i> (Atlantic moonfish)			1							1
<i>Sphyrna tiburo</i> (bonnethead)	22		2				1	1		26
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)			1							1
TOTAL	38	4	20	1	12	2	1	25	7	110

**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 7 (August 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>Anisotremus virginicus</i> (porkfish)	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
<i>Caranx crysos</i> (blue runner)	0.0	2.8	2.4	0.0	6.4	3.0	0.0	3.3	1.2	2.2
<i>Carcharhinus acronotus</i> (blacknose shark)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.1
<i>Centropristis striata</i> (striped sea bass)	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
<i>Citharichthys macrops</i> (spotted whiff)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0	0.5
<i>Euthynnus alletteratus</i> (little tunny)	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.1
<i>Orthopristis chrysoptera</i> (pigfish)	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
<i>Prionotus scitulus</i> (leopard searobin)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	1.2	0.7
<i>Rhizoprionodon terraenovae</i> (Atlantic sharpnose shark)	2.7	2.8	16.5	0.0	6.4	0.0	0.0	13.1	6.0	5.7
<i>Selene setapinnis</i> (Atlantic moonfish)	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
<i>Sphyrna tiburo</i> (bonnethead)	19.7	0.0	2.4	0.0	0.0	0.0	1.5	1.1	0.0	3.6
<i>Trichiurus lepturus</i> (Atlantic cutlassfish)	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
TOTAL	34.0	5.6	23.5	1.6	12.9	3.0	1.5	27.3	8.4	15.0

**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 7 (August 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	1			1	1		5
<i>Bagre marinus</i> (gafftopsail catfish)		1								1
<i>Caranx crysos</i> (blue runner)				1						1
<i>Caranx latus</i> (horse-eye jack)									1	1
<i>Caranx</i> spp.	1									1
<i>Centropomus undecimalis</i> (common snook)						1				1
<i>Chloroscombrus chrysurus</i> (Atlantic bumper)								1		1
<i>Citharichthys macrops</i> (spotted whiff)								1		1
<i>Eucinostomus argenteus</i> (spotfin mojarra)	14	7				5			2	28
<i>Eucinostomus gula</i> (silver jenny)	16	2		352			113	19	2	504
<i>Eucinostomus harengulus</i> (tidewater mojarra)	24	4		10		5	1			44
<i>Eucinostomus jonesii</i> (slender mojarra)	4		1				2			7
<i>Harengula humeralis</i> (redeer sardine)		5		1			7885	6952	3545	18388
<i>Hemiramphus brasiliensis</i> (ballyhoo)				1						1
<i>Menticirrhus littoralis</i> (Gulf kingfish)	1	2	12	17	4	2	2	6	4	50
<i>Menticirrhus saxatilis</i> (northern kingfish)						1				1
<i>Micropogonias undulatus</i> (Atlantic croaker)		1								1
<i>Opisthonema oglinum</i> (Atlantic thread herring)				2						2
<i>Polydactylus virginicus</i> (barbu)			1	1						2
<i>Pomatomus saltatrix</i> (bluefish)								1		1
<i>Sardinella aurita</i> (Spanish sardine)								3	1	4
<i>Selar crumenophthalmus</i> (bigeye scad)				1			16	3	11	31
<i>Selene vomer</i> (lookdown)		1								1
<i>Trachinotus carolinus</i> (Florida pompano)			3	13	5	3	9	2	30	65
<i>Trachinotus falcatus</i> (permit)	1		4	1	5	2		1		14
<i>Umbrina coroides</i> (sand drum)		39	85	38	3	8	2	5	2	182
TOTAL	61	63	107	439	17	27	8031	6995	3598	19338

**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 7 (August 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>Harengula humeralis</i> (redear sardine)									85.3	7.2	86	18,388
<i>Menticirrhus littoralis</i> (Gulf kingfish)									93.8	14.5	50	50
<i>Menticirrhus saxatilis</i> (northern kingfish)									78.0	4.2	1	1
<i>Micropogonias undulatus</i> (Atlantic croaker)									240.0	380.0	1	1
<i>Opisthonema oglinum</i> (Atlantic thread herring)									92.5	6.6	2	2
<i>Orthopristis chrysoptera</i> (pigfish)	239.0	211.7	3	3								
<i>Pomatomus saltatrix</i> (bluefish)									132.0	27.0	1	1
<i>Prionotus scitulus</i> (leopard searobin)	238.2	200.0	5	5								
<i>Sardinella aurita</i> (Spanish sardine)									75.5	3.6	4	4
<i>Trachinotus carolinus</i> (Florida pompano)									102.6	19.6	65	65
<i>Umbrina coroides</i> (sand drum)					76.9	6.5	33	53	126.3	57.8	105	182

**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 7 (August 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>Achirus lineatus</i> , post yolk-sac larvae	0.044		0.125				0.027
<i>Anchoa mitchilli</i> , post yolk-sac larvae	0.089						0.013
Atheriniformes, post larvae	0.044						0.007
Atheriniformes, post yolk-sac larvae					0.019		0.003
Clupeidae, post yolk-sac larvae	0.356	0.182		0.848	0.259		0.257
<i>Diplectrum</i> sp., post yolk-sac larvae	0.044						0.007
<i>Epinephelus</i> sp., post yolk-sac larvae	0.044						0.007
<i>Eucinostomus</i> sp., post yolk-sac larvae	0.178			0.022	0.019		0.033
<i>Gobiosox strumosus</i> , post yolk-sac larvae	0.044		0.042				0.013
Gobiidae, post yolk-sac larvae	0.089			0.065			0.023
<i>Gobiosoma</i> sp., post yolk-sac larvae				0.196		0.095	0.050
<i>Harengula jaguana</i> , post yolk-sac larvae					0.111		0.020
<i>Larimus fasciatus</i> , post yolk-sac larvae		0.023		0.174			0.030
<i>Menticirrhus</i> sp., post yolk-sac larvae	0.044						0.007
<i>Microdesmus</i> sp., post yolk-sac larvae	0.044						0.007
<i>Microgobius gulosus</i> , post yolk-sac larvae		0.068					0.010
<i>Microgobius thalassinus</i> , post yolk-sac larvae	0.044	0.614	0.042				0.103
<i>Micropogonias undulates</i> , post yolk-sac larvae	0.044						0.007
Myctophidae, post yolk-sac larvae					0.019		0.003
Paralichthyidae, post yolk-sac larvae		0.023					0.003
<i>Pareques</i> sp., post yolk-sac larvae		0.023					0.003
<i>Prionotus</i> sp., post yolk-sac larvae					0.019		0.003
<i>Saurida brasiliensis</i> , post yolk-sac larvae				0.022			0.003
Scaridae, post yolk-sac larvae	0.044		0.042				0.013
Sciaenidae, post yolk-sac larvae						0.016	0.003
Unidentified fish, post yolk-sac larvae						0.016	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 7 (August 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	
Unidentified fish fragment, post yolk-sac larvae				0.087			0.013
Synodontidae, eggs				0.196	0.296	0.190	0.123
Unidentified fish eggs	8.444	0.250	3.667	0.848	81.185	22.921	21.447
<i>Albunea</i> sp., zoea		0.159	0.292	0.217	0.204	0.111	0.163
<i>Callinectes sapidus</i> , megalops	3.111		0.292	0.283	0.222	0.159	0.630
<i>Callinectes</i> sp., zoea		1.250		0.261	0.074	0.159	0.270
<i>Emerita talpoida</i> , megalops				0.174		0.016	0.030
<i>Emerita talpoida</i> , zoea	0.089	0.114		0.370	0.074		0.100
<i>Farfantepenaeus duorarum</i> , postlarvae	0.267		0.292				0.087
<i>Farfantepenaeus</i> sp., mysis		0.068	0.500	0.217			0.123
<i>Farfantepenaeus</i> sp., postlarvae	0.044						0.007
<i>Lepidopa</i> sp., zoea		0.068					0.010
<i>Menippe mercenaria</i> , megalops	0.311	0.023					0.050
<i>Menippe mercenaria</i> , zoea	0.044	0.159		0.022	0.019	0.016	0.040
Penaeidae, mysis		0.023	0.042		0.019		0.013
<i>Rimapenaeus constrictus</i> , mysis			0.500				0.080
<i>Rimapenaeus constrictus</i> , postlarvae	0.133			0.022			0.023
<i>Scyllarus americanus</i> , phyllosoma						0.016	0.003
TOTAL	13.600	3.045	5.833	4.022	82.537	23.714	23.873

**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 7 (August 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)	1	0	5	5	0	0