Florida Power & Light Company
Biological Plan of Study Implementation for St. Lucie Plant EPU
Post-Uprate Event 2 Data Report

Report to
Florida Power & Light Company

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Submitted by
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INTRODUCTION

During March through May 2013, Ecological Associates, Inc. (EAI) conducted the first post-uprate field sampling event in accordance with the St. Lucie Plant EPU Biological Plan of Study. Sampling was conducted on six days between March 20 and May 10, 2013. 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 second post-uprate 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 scientific and common names of all specimens captured by all gear types are listed in Table 3. The numbers of fish and invertebrates collected in each 15-minute tow are presented in Table 4. 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 5.

The numbers of fish and invertebrates collected by gill net on each of the nine transects is given in Table 6. 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 7.

Beach seines were deployed at each of the nine stations previously described. The numbers of fish and invertebrates collected at each station are presented in Table 8.

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 9.

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 10.

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 11.

Table 1. Environmental Data, Post-Uprate Sampling Event 2 (March/May, 2013), 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	4/2/13	1-2 ft swell	23.2-23.9°C	7-10 mph/ESE to NNE	Clear
Trawls/ Ichthyoplankton	4/3/12	1-3 ft swell	23.1-24.7°C	10-15 mph/E to S	Clear to Partly Cloudy
Gill Nets	4/2/13	2-3 ft swell, light chop	24.0-27.2°C	3-10 mph/N to NE	Clear
Gill Nets	4/3/13	3-4 ft swell, light chop	24.8-26.2°C	10-15 mph/E to ESE	Clear to Partly Cloudy
Beach Seines	3/20/13	1-2 ft swell, light chop	22.5-29.2°C	0-6 mph/N to S	Mostly Cloudy to Overcast
Sea Turtle Transects	5/10/13	2-3 ft swell	26.3-26.8°C	5-7 mph/SE	Partly Cloudy

Table 2. Water Quality Data, Post-Uprate Sampling Event 2 (March/May, 2013), 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	54.9	22.9	36.2	8.2	6.5
		Mid-Depth	55.0	22.9	36.2	8.2	6.5
		Bottom	54.9	22.9	36.3	8.2	6.7
	Middle	Surface	54.9	22.9	36.2	8.2	6.7
		Mid-Depth	55.0	22.9	36.2	8.2	6.7
		Bottom	54.9	22.9	36.2	8.2	6.7
	South	Surface	55.0	23.0	36.3	8.1	6.8
		Mid-Depth	55.0	23.0	36.3	8.2	6.8
		Bottom	55.0	23.0	36.3	8.2	7.0
Trawl SL1 B	North	Surface	54.9	22.8	36.2	8.2	6.6
		Mid-Depth	55.0	22.8	36.2	8.2	6.7
		Bottom	55.0	22.4	36.3	8.1	6.9
	Middle	Surface	54.9	22.9	36.2	8.2	6.7
		Mid-Depth	54.9	22.9	36.3	8.2	6.8
		Bottom	54.9	22.9	36.2	8.2	6.8
	South	Surface	54.9	22.8	36.3	8.1	6.6
		Mid-Depth	55.0	22.8	36.3	8.1	6.8
		Bottom	55.0	22.8	36.3	8.1	6.8
Trawl SL1 C	North	Surface	54.9	22.7	36.2	8.2	6.8
		Mid-Depth	54.9	22.7	36.2	8.2	6.8
		Bottom	54.9	22.4	36.3	8.1	6.7
	Middle	Surface	54.9	22.7	36.2	8.1	6.6
		Mid-Depth	54.9	22.7	36.2	8.1	6.7
		Bottom	54.9	22.6	36.2	8.1	6.8
	South	Surface	54.9	22.7	36.2	8.1	6.7
		Mid-Depth	54.9	22.7	36.2	8.1	6.8
		Bottom	55.0	22.7	36.3	8.1	6.8
Trawl SL2 A	North	Surface	54.9	23.3	36.3	8.1	6.3
		Mid-Depth	55.0	23.3	36.3	8.1	6.3
		Bottom	55.0	32.3	36.3	8.1	6.4
	Middle	Surface	54.9	23.3	36.3	8.1	6.4
		Mid-Depth	55.0	23.3	36.3	8.1	6.4
		Bottom	55.0	23.3	36.3	8.1	6.5
	South	Surface	55.1	23.6	36.4	8.1	6.9
		Mid-Depth	55.0	23.6	36.4	8.1	6.7
		Bottom	55.0	23.4	36.3	8.1	6.6

Table 2 (Continued). Water Quality Data, Post-Uprate Sampling Event 2 (March/May, 2013), 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	54.9	23.5	36.3	8.2	6.8
		Mid-Depth	55.0	23.0	36.2	8.2	6.8
		Bottom	55.0	21.8	36.2	8.2	7.2
	Middle	Surface	54.9	23.4	36.3	8.2	7.0
		Mid-Depth	55.0	22.9	36.3	8.2	7.1
		Bottom	55.0	21.9	36.2	8.2	7.4
	South	Surface	55.4	23.4	36.6	8.2	7.2
		Mid-Depth	55.1	23.1	36.4	8.3	7.2
		Bottom	55.1	23.0	36.4	8.2	7.1
Trawl SL2 C	North	Surface	55.5	23.1	36.6	8.0	7.0
		Mid-Depth	55.1	23.0	36.4	8.2	7.2
		Bottom	55.1	21.8	36.3	8.2	7.5
	Middle	Surface	54.9	23.0	36.2	8.2	6.6
		Mid-Depth	55.0	22.9	36.3	8.2	6.8
		Bottom	54.9	21.9	36.2	8.2	7.2
	South	Surface	54.9	23.0	36.3	8.2	6.6
		Mid-Depth	55.0	22.7	36.2	8.2	6.8
		Bottom	55.0	21.8	36.2	8.2	7.1
Trawl SL3 A	North	Surface	54.8	23.5	36.3	8.1	6.8
		Mid-Depth	54.9	23.4	36.2	8.1	6.9
		Bottom	54.9	23.4	36.3	8.1	7.0
	Middle	Surface	54.8	23.7	36.3	8.1	6.8
		Mid-Depth	54.8	23.7	36.2	8.1	6.8
		Bottom	54.8	23.7	36.3	8.1	6.8
	South	Surface	54.9	24.2	36.3	8.0	6.8
		Mid-Depth	54.9	24.2	36.3	8.0	6.7
		Bottom	54.9	24.1	36.3	8.0	6.9
Trawl SL3 B	North	Surface	54.9	23.3	36.3	8.1	6.6
		Mid-Depth	54.9	23.2	36.3	8.1	6.7
		Bottom	54.9	22.5	36.2	8.1	7.2
	Middle	Surface	54.8	23.4	36.2	8.1	6.7
		Mid-Depth	54.8	23.2	36.2	8.1	7.0
		Bottom	54.9	22.4	36.1	8.1	7.4
	South	Surface	54.8	23.4	36.2	8.1	6.9
		Mid-Depth	54.8	23.4	36.2	8.1	6.7
		Bottom	54.8	22.5	36.2	8.1	7.3

Table 2 (Continued). Water Quality Data, Post Uprate Sampling Event 2 (March/May, 2013), 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	54.8	23.4	36.2	8.1	6.4
		Mid-Depth	54.8	23.2	36.2	8.1	6.5
		Bottom	54.8	22.5	36.2	8.1	6.8
	Middle	Surface	54.8	23.5	36.2	8.1	6.5
		Mid-Depth	54.8	23.3	36.2	8.1	6.6
		Bottom	54.9	22.5	36.2	8.1	6.9
	South	Surface	54.8	23.5	36.2	8.1	6.6
		Mid-Depth	54.8	23.2	36.2	8.1	6.7
		Bottom	54.8	22.5	36.2	8.1	6.9
Gill Net SL1 A	West	Surface	54.9	22.8	36.3	8.3	6.7
		Mid-Depth	55.0	22.8	36.3	8.3	6.8
		Bottom	55.0	22.6	36.3	8.3	6.7
	Middle	Surface	55.0	22.8	36.2	8.3	6.7
		Mid-Depth	55.0	22.8	36.3	8.3	6.8
		Bottom	55.0	22.3	36.4	8.3	7.0
	East	Surface	55.4	22.8	36.5	8.3	6.8
		Mid-Depth	55.3	22.8	36.5	8.3	6.8
		Bottom	55.1	22.7	36.4	8.3	6.7
Gill Net SL1 B	West	Surface	55.0	22.8	36.3	8.3	6.6
		Mid-Depth	54.9	22.6	36.2	8.3	6.5
		Bottom	54.9	22.4	36.3	8.3	6.5
	Middle	Surface	55.0	22.8	36.3	8.3	6.7
		Mid-Depth	55.0	22.6	36.3	8.3	6.6
		Bottom	55.0	22.5	36.3	8.3	6.6
	East	Surface	55.3	22.8	36.5	8.2	6.7
		Mid-Depth	55.1	22.7	36.4	8.3	6.7
		Bottom	55.1	22.5	36.4	8.3	6.7
Gill Net SL1 C	West	Surface	55.0	22.9	36.3	8.3	6.5
		Mid-Depth	55.0	22.7	36.3	8.3	6.6
		Bottom	55.0	22.7	36.3	8.3	6.7
	Middle	Surface	55.0	22.8	36.3	8.3	6.6
		Mid-Depth	55.0	22.7	36.3	8.3	6.7
		Bottom	55.0	22.7	36.3	8.3	6.6
	East	Surface	55.4	22.9	36.5	8.2	6.6
		Mid-Depth	55.2	22.7	36.4	8.3	6.7
		Bottom	55.1	33.7	36.4	8.3	6.7

Table 2 (Continued). Water Quality Data, Post Uprate Sampling Event 2 (March/May, 2013), 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	55.0	22.8	36.3	8.2	6.7
		Mid-Depth	55.0	22.7	36.3	8.2	6.6
		Bottom	55.0	22.4	36.3	8.2	6.6
	Middle	Surface	55.1	22.6	36.3	8.1	6.7
		Mid-Depth	55.0	22.4	36.3	8.1	6.6
		Bottom	55.0	22.4	36.3	8.1	6.6
	East	Surface	55.2	22.7	36.4	8.1	6.7
		Mid-Depth	55.2	22.6	36.4	8.1	6.7
		Bottom	55.1	22.5	36.4	8.1	6.7
Gill Net SL2 B	West	Surface	55.0	22.7	36.3	8.2	6.5
		Mid-Depth	55.0	22.5	36.3	8.2	6.6
		Bottom	55.0	22.0	36.3	8.2	6.5
	Middle	Surface	55.0	22.8	36.3	8.2	6.6
		Mid-Depth	55.0	22.7	36.3	8.2	6.7
		Bottom	55.0	22.1	36.3	8.2	6.7
	East	Surface	55.3	22.7	36.5	8.2	6.6
		Mid-Depth	55.2	22.7	36.4	8.2	6.7
		Bottom	55.1	22.1	36.4	8.2	6.7
Gill Net SL2 C	West	Surface	55.0	22.5	36.3	8.3	6.5
		Mid-Depth	55.0	22.4	36.3	8.3	6.6
		Bottom	55.1	22.0	36.3	8.3	6.4
	Middle	Surface	55.0	22.6	36.3	8.3	6.6
		Mid-Depth	55.0	22.5	36.3	8.3	6.7
		Bottom	55.1	22.0	36.3	8.2	6.6
	East	Surface	55.3	22.6	36.4	8.3	6.7
		Mid-Depth	55.2	22.5	36.4	8.3	6.7
		Bottom	55.2	22.0	36.4	8.3	6.6
Gill Net SL3 A	West	Surface	54.9	22.9	36.2	8.2	6.6
		Mid-Depth	54.9	22.9	36.3	8.2	6.7
		Bottom	54.9	22.9	36.3	8.2	6.8
	Middle	Surface	54.9	22.9	36.2	8.2	6.7
		Mid-Depth	54.9	22.9	36.2	8.2	6.7
		Bottom	54.9	22.9	36.2	8.2	6.8
	East	Surface	54.8	22.9	36.2	8.2	6.8
		Mid-Depth	54.9	22.9	36.2	8.2	6.8
		Bottom	54.8	22.8	36.2	8.2	6.8

Table 2 (Continued). Water Quality Data, Post Uprate Sampling Event 2 (March/May, 2013), 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	54.9	22.7	36.3	8.2	6.8
		Mid-Depth	54.9	22.7	36.3	8.2	7.0
		Bottom	54.9	22.7	36.2	8.2	7.0
	Middle	Surface	54.9	22.7	36.2	8.2	6.8
		Mid-Depth	55.0	22.7	36.2	8.2	6.8
		Bottom	55.0	22.7	36.3	8.2	6.8
	East	Surface	55.0	22.7	36.3	8.2	6.9
		Mid-Depth	55.0	22.7	36.2	8.2	6.8
		Bottom	55.0	22.7	36.2	8.2	6.8
Gill Net SL3 C	West	Surface	54.9	22.7	36.2	8.3	6.9
		Mid-Depth	55.0	22.7	36.3	8.3	6.8
		Bottom	54.9	22.6	36.2	8.3	6.8
	Middle	Surface	55.0	22.7	36.2	8.3	6.9
		Mid-Depth	55.0	22.7	36.2	8.3	6.8
		Bottom	55.0	22.6	36.2	8.3	6.8
	East	Surface	54.9	22.7	36.2	8.3	6.9
		Mid-Depth	54.9	22.7	36.2	8.3	6.9
		Bottom	55.0	22.6	36.2	8.3	6.8

Table 3. Scientific and Common Names of Taxa Captured by Trawl, Plankton Netting, Gill Netting, and Beach Seining or Observed in Sea Turtle Surveys, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Scientific Name	Common Name
Cephalopods	
Loliginidae	squid
Crustaceans	
Albunea sp.*	mole crabs
*Arenaeus cribrarius**	speckled swimming crab
Calappa flammea	flame box crab
*Callinectes sapidus**	blue crab
Callinectes sp.*	swimming crabs
Emerita sp.*	mole crab
*Emerita talpoida**	Atlantic sand crab
*Farfantepenaeus aztecus**	brown shrimp
*Farfantepenaeus duorarum**	pink shrimp
Farfantepenaeus sp.*	penaeid shrimp
Lepidopa sp.*	mole crab
Leptochela carinata	carinate glass shrimp
Melita sp.	sand dollar
*Menippe mercenaria**	Florida stone crab
Paguroidea	hermit crab
Portunus gibbesii	iridescent swimming crab
Portunus sp.	portunid crab
*Rimapenaeus constrictus**	roughneck shrimp
Rimapenaeus sp.*	roughneck shrimp
Echinoderms	
Encope sp.	sand dollar
Lytechinus variegatus	green sea urchin
Melita sp.	sand dollar
Fish and Eggs	
Astrapogon puncticulatus	blackfin cardinalfish
Bairdiella chrysoura	silver perch
Balistidae	triggerfish
Bathygobius soporator	frillfin goby

Table 3. Scientific and Common Names of Taxa Captured by Trawl, Plankton Netting, Gill Netting, and Beach Seining or Observed in Sea Turtle Surveys, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Scientific Name	Common Name
Blenniidae	combtooth blennies
Bothidae	Lefteyed flounders
*Brevoortia tyrannus***	Atlantic menhaden
Caranx crysos	blue runner
Caranx hippos	crevalle jack
Centropristis striata	black sea bass
Chloroscombrus chrysurus	Atlantic bumper
Citharichthys spilopterus	bay whiff
Clupeidae**	herrings and sardines
Ctenogobius boleosoma	darter goby
Cynoscion sp.	seatrouts
Diogenichthys atlanticus	lanternfish
Eleotridae	sleepers
Eleotris pisonis	Spinycheek sleeper
Elops saurus	ladyfish
Engraulidae**	anchovies
*Etrumeus teres***	round herring
Eucinostomus sp.	mojarra
Gerreidae	mojarra
Gobiidae	gobies
Gobiosoma robustum	code goby
Haemulidae	grunts
Haemulon macrostomum	spanish grunt
Larimus fasciatus	banded drum
Lutjanidae	snappers
Lutjanus synagris	lane snapper
*Menticirrhus americanus***	southern kingfish
*Menticirrhus littoralis***	Gulf kingfish
Microgobius thalassinus	green goby
Mugil curema	silver mullet
Myctophidae	lanternfishes

Table 3. Scientific and Common Names of Taxa Captured by Trawl, Plankton Netting, Gill Netting, and Beach Seining or Observed in Sea Turtle Surveys, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Scientific Name	Common Name
Ostraciidae	boxfishes/truckfishes
Paralichthyidae	sand flounders
Perciformes	perch-like fishes
Polydactylus virginicus	barbu
*Prionotus scitulus***	leopard searobin
Prionotus sp.	North American searobins
Rachycentron canadum	cobia
Rhinobatos lentiginosus	Atlantic guitarfish
Rhizoprionodon terraenovae	Atlantic sharpnose shark
Scarus sp.	Parrotfish
Sciaenidae	drums and croakers
*Scomberomorus maculatus***	Atlantic spanish mackerel
Selene vomer	lookdown
Serranidae	sea basses and groupers
Sparisoma sp.	Parrotfish
Sphoeroides sp.	puffer
Syngnathus louisianae	chain pipefish
Tetraodontidae	puffers
Trachinotus falcatus	permit
*Umbrina coroides***	sand drum
Unidentified fish	unidentified fish
Unidentified fragment	unidentified fragment
Uranoscopidae	stargazers
Unidentified eggs	unidentified eggs
Sea Turtles	
*Chelonia mydas***	green sea turtle

*Commercially and recreationally important (CRI) decapod crustaceans
**Representative Important Species (RIS)

Table 4. Number of Individuals of Each Taxon of Fish and Invertebrates Captured by Trawl during One 15-minute Tow at Each Station, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Taxon	SL1			SL2			SL3			Total
	A	B	C	A	B	C	A	B	C	
Crustaceans										
Rimapenaeus sp.*	11	2		6						**19**
Portunus gibbesii		5		8	3	2				**18**
Paguroidea	5			1				1		**7**
Melita sp.		1	1		1					**3**
*Arenaeus cribrarius**				2						**2**
Portunus sp.	2									**2**
Calappa flammea		1								**1**
Leptochela carinata								1		**1**
Echinoderms										
Encope sp.			2			2				**4**
Lytechinus variegatus					1					**1**
Fish										
*Umbrina coroides***	8	1		4						**13**
Haemulon macrostomum							1			**1**
Total	**26**	**10**	**3**	**21**	**5**	**4**	**1**	**2**	**0**	**72**

*Commercially and Recreationally Important Crustaceans

**Representative Important Species (RIS)

Table 5. Number of Individuals of Each Taxon of Fish and Invertebrates Captured per Kilometer by Trawl at Each Station, Post-Uprate Sampling Event 2 (March/May, 2013), 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	
Crustaceans										
Rimapenaeus sp.*	14.41	2.20	0.00	7.38	0.00	0.00	0.00	0.00	0.00	**2.62**
Portunus gibbesii	0.00	5.49	0.00	9.84	3.40	2.21	0.00	0.00	0.00	**2.48**
Paguroidea	6.55	0.00	0.00	1.23	0.00	0.00	0.00	1.06	0.00	**0.96**
Melita sp.	0.00	1.10	1.16	0.00	1.13	0.00	0.00	0.00	0.00	**0.41**
*Arenaeus cribrarius**	0.00	0.00	0.00	2.46	0.00	0.00	0.00	0.00	0.00	**0.28**
Portunus sp.	2.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.28**
Calappa flammea	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.14**
Leptochela carinata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	**0.14**
Echinoderms										
Encope sp.	0.00	0.00	2.33	0.00	0.00	2.21	0.00	0.00	0.00	**0.55**
Lytechinus variegatus	0.00	0.00	0.00	0.00	1.13	0.00	0.00	0.00	0.00	**0.14**
Fish										
*Umbrina coroides***	10.48	1.10	0.00	4.92	0.00	0.00	0.00	0.00	0.00	**1.79**
Haemulon macrostomum	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.00	0.00	**0.14**
Total	**34.07**	**10.98**	**3.49**	**25.84**	**5.66**	**4.42**	**2.50**	**2.13**	**0.00**	**9.92**

*Commercially and Recreationally Important Crustaceans

**Representative Important Species (RIS)

Table 6. Number of Individuals of Each Taxon of Fish Captured by Gill Net at Each Station, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Taxon	SL1			SL2			SL3			Total
	A	B	C	A	B	C	A	B	C	
*Scomberomorus maculatus**	1	1		4			1			**7**
Caranx crysos	1	2	1							**4**
Lutjanus synagris	2									**2**
*Prionotus scitulus**						1			1	**2**
Rachycentron canadum			2							**2**
Centropristis striata	1									**1**
Chloroscombrus chrysurus		1								**1**
Rhinobatos lentiginosus	1									**1**
Rhizoprionodon terraenovae			1							**1**
Total	**6**	**4**	**4**	**4**	**0**	**1**	**1**	**0**	**1**	**21**

*Representative Important Species (RIS)

Table 7. Catch Per Unit Effort (Number of Individuals Per Hour of Soak Time) for Each Taxon of Fish Captured by Gill Net at Each Station, Post-Uprate Sampling Event 2 (March/May, 2013), 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	
*Scomberomorus maculatus**	0.97	1.36	0.00	6.32	0.00	0.00	1.58	0.00	0.00	**1.09**
Caranx crysos	0.97	2.73	1.28	0.00	0.00	0.00	0.00	0.00	0.00	**0.62**
Lutjanus synagris	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.31**
*Prionotus scitulus**	0.00	0.00	0.00	0.00	0.00	1.50	0.00	0.00	0.02	**0.31**
Rachycentron canadum	0.00	0.00	2.55	0.00	0.00	0.00	0.00	0.00	0.00	**0.31**
Centropristis striata	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.16**
Chloroscombrus chrysurus	0.00	1.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.16**
Rhinobatos lentiginosus	0.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.16**
Rhizoprionodon terraenovae	0.00	0.00	1.28	0.00	0.00	0.00	0.00	0.00	0.00	**0.16**
Total	5.81	5.45	5.11	6.32	0.00	1.50	1.58	0.00	0.02	**3.26**

*Representative Important Species (RIS)

Table 8. Number of Individuals of Each Taxon of Fish and Invertebrates Captured by Beach Seine at Each Station, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study.

Taxa	SL1			SL2			SL3			Total
	A	B	C	A	B	C	A	B	C	
Crustaceans										
Emerita sp.*							1			**1**
Fish										
*Menticirrhus littoralis***		2	53							**55**
*Umbrina coroides***		1	7					15	1	**24**
Chloroscombrus chrysurus			9					1		**10**
Selene vomer			1	1				4		**6**
Trachinotus falcatus			2				4			**6**
*Menticirrhus americanus***								3		**3**
Elops saurus				2						**2**
Caranx crysos			1							**1**
Caranx hippos			1							**1**
Mugil curema			1							**1**
Polydactylus virginicus		1								**1**
Total	**0**	**4**	**75**	**3**	**0**	**0**	**5**	**23**	**1**	**111**

*Commercially and Recreationally Important Crustaceans

**Representative Important Species (RIS)

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, Post Uprate Sampling Event 2 (March/May 2013), 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.)

Taxa	LifeStage	SL1		SL2		SL3		Total
		A	C	A	C	A	C	
Cephalopods								
Loliginidae	Juvenile					0.015		**0.003**
Crustaceans								
Callinectes sapidus	Megalops	1.029	0.103	2.468	0.217	0.877		**0.743**
Albunea sp.	Zoea	0.400	0.077	0.043	0.130	0.800	0.441	**0.357**
Emerita talpoida	Zoea				0.065	0.846	0.265	**0.253**
Callinectes sp.	Zoea	0.029	1.179	0.106	0.196	0.015	0.029	**0.213**
Farfantepenaeus duorarum	Post Larvae	0.057	0.051	0.702		0.215		**0.170**
Menippe mercenaria	Zoea	0.029	0.103		0.022	0.431	0.118	**0.140**
Farfantepenaeus aztecus	Post Larvae	0.086	0.026	0.170	0.043	0.123		**0.073**
Farfantepenaeus sp.	Post Larvae			0.064		0.092		**0.030**
Lepidopa sp.	Zoea	0.057				0.046		**0.017**
Rimapenaeus constrictus	Mysis		0.026			0.015		**0.007**
Callinectes sp.	Megalops				0.022			**0.003**
Eggs								
Unidentified eggs	Egg	11.086	2.846	0.872	2.022	7.154	8.279	**5.537**
Engraulidae	Egg	0.486						**0.057**
Clupeidae	Egg			0.085				**0.013**

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, Post Uprate Sampling Event 2 (March/May 2013), 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.)

Taxa	LifeStage	SL1		SL2		SL3		Total
		A	C	A	C	A	C	
Fish								
Clupeidae	Post Yolk-Sac Larvae	6.857	0.103				0.015	**0.817**
Etrumeus teres	Post Yolk-Sac Larvae			0.872		0.692		**0.287**
Unidentified fragment	Post Yolk-Sac Larvae		0.154	0.681		0.154	0.059	**0.173**
Gobiidae	Post Yolk-Sac Larvae	0.057	0.077	0.128		0.031	0.015	**0.047**
Citharichthys spilopterus	Post Yolk-Sac Larvae			0.128		0.046		**0.030**
Ctenogobius boleosoma	Post Yolk-Sac Larvae	0.143		0.085				**0.030**
Sciaenidae	Post Yolk-Sac Larvae		0.077	0.043		0.015	0.029	**0.027**
Bathygobius soporator	Post Yolk-Sac Larvae	0.057				0.062		**0.020**
Myctophidae	Post Yolk-Sac Larvae		0.128			0.015		**0.020**
Eleotridae	Post Yolk-Sac Larvae					0.077		**0.017**
Cynoscion sp.	Post Yolk-Sac Larvae		0.103					**0.013**
Labridae	Post Yolk-Sac Larvae			0.064		0.015		**0.013**
Perciformes	Post Yolk-Sac Larvae	0.057				0.031		**0.013**
Prionotus sp.	Post Yolk-Sac Larvae					0.062		**0.013**
Scarus sp.	Post Yolk-Sac Larvae					0.062		**0.013**
Serranidae	Post Yolk-Sac Larvae		0.026		0.065			**0.013**
Tetraodontidae	Post Yolk-Sac Larvae					0.046	0.015	**0.013**
Balistidae	Post Yolk-Sac Larvae					0.046		**0.010**

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, Post Uprate Sampling Event 2 (March/May 2013), 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.)

Taxa	LifeStage	SL1		SL2		SL3		Total
		A	C	A	C	A	C	
Paralichthyidae	Post Yolk-Sac Larvae	0.029				0.015	0.015	**0.010**
Bairdiella chrysoura	Post Yolk-Sac Larvae					0.031		**0.007**
Blenniidae	Post Yolk-Sac Larvae	0.029			0.022			**0.007**
Brevoortia tyrannus	Post Yolk-Sac Larvae			0.043				**0.007**
Larimus fasciatus	Post Yolk-Sac Larvae		0.051					**0.007**
Lutjanidae	Post Yolk-Sac Larvae		0.051					**0.007**
Sparisoma sp.	Post Yolk-Sac Larvae					0.031		**0.007**
Astrapogon puncticulatus	Post Yolk-Sac Larvae	0.029						**0.003**
Bothidae	Post Yolk-Sac Larvae				0.022			**0.003**
Diogenichthys atlanticus	Post Yolk-Sac Larvae		0.026					**0.003**
Eleotris pisonis	Post Yolk-Sac Larvae					0.015		**0.003**
Eucinostomus sp.	Post Yolk-Sac Larvae					0.015		**0.003**
Gerreidae	Post Yolk-Sac Larvae			0.021				**0.003**
Gobiosoma robustum	Post Yolk-Sac Larvae					0.015		**0.003**
Haemulidae	Post Yolk-Sac Larvae					0.015		**0.003**
Microgobius thalassinus	Post Yolk-Sac Larvae						0.015	**0.003**
Ostraciidae	Post Yolk-Sac Larvae						0.015	**0.003**
Sphoeroides sp.	Post Yolk-Sac Larvae	0.029						**0.003**
Syngnathus louisianae	Post Yolk-Sac Larvae					0.015		**0.003**

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, Post Uprate Sampling Event 2 (March/May 2013), 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.)

Taxa	LifeStage	SL1		SL2		SL3		Total
		A	C	A	C	A	C	
Umbrina coroides	Post Yolk-Sac Larvae	0.029						**0.003**
Unidentified fish	Post Yolk-Sac Larvae				0.022			**0.003**
Uranoscopidae	Post Yolk-Sac Larvae		0.026					**0.003**
Total		**20.571**	**5.231**	**6.574**	**2.848**	**12.138**	**9.309**	**9.287**

Table 10. Average total length (TL) and average weight (Wt) of each Representative Important Species Captured by Gill Net, Trawl, and Beach Seine, Post-Uprate Sampling Event 2 (March/May, 2013), St. Lucie Plant EPU Biological Study. For each species the number weighed/measured (n) and the total number collected (N) are given.

Taxa	Gill Net				Trawl				Beach Seine			
	TL (mm)	W (g)	n	N	TL (mm)	W (g)	n	N	TL (mm)	W (g)	n	N
Fish												
Menticirrhus littoralis									92.4	1.1	5	55
Umbrina coroides					38.9	0.8	13	13	69.8	7.3	24	24
Scomberomorus maculatus	499.4	555.7	7	7								
Menticirrhus americanus									71.0	5.2	3	3
Prionotus scitulus	190.0	60.0	2	2								

Table 11. Number of Individuals of Each Species of Sea Turtle Sighted During Each of Two Passes Along Three One-Kilometer-Long Transects, Post-Uprate Sampling Event 2 (March/May, 2013), 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	3	3	0	2	0	0