

RAI 3-3 Crystal River Impingement Report Mar 3 2008



CRYSTAL RIVER POWER PLANT FISH IMPINGEMENT STUDY REPORT

Kinectrics Report: 012974-001-RA-0001-R00

March 3, 2008

D.D. Ager, S. Rkman-Filipovic, S. Mac
Environmental and Aquatic Management Services

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EXECUTIVE SUMMARY

Section 316(b) of the Clean Water Act (CWA) requires that cooling water intake structures reflect the best technology available to protect aquatic organisms from being killed or injured by impingement (being pinned against screens or outer part of a cooling water intake structure) or entrainment (being drawn into cooling water systems and subjected to thermal, physical and/or chemical stresses). Phase II of the 316(b) rule for existing electric generating plants is designed to reduce impingement mortality by 80-95% and entrainment by 60-90%.

In March 2007, the Second U.S. Circuit Court of Appeals remanded several provisions of the Phase II rule on various grounds. The provisions remanded included:

- EPA's determination of the Best Technology Available under Section 316(b);
- The rule's performance standard ranges;
- The cost-cost and cost-benefit compliance alternatives;
- The Technology Installation and Operation Plan provision;
- The restoration provisions; and
- The "independent supplier" provision.

Shortly thereafter, USEPA issued a memorandum to provide guidance on the status of the Cooling Water Intake Structures Phase II regulation under 316(b) of the Clean Water Act. With so many provisions of the Phase II rule affected by the decision, the rule should be considered suspended. In the meantime, all permits for Phase II facilities should include conditions under Section 316(b) of the Clean Water Act developed on a Best Professional Judgment basis.

This report provides of a summary of the baseline assessment fish and invertebrates impinged at Crystal River Power Plant located in Citrus County, Florida over the December, 2006 to November, 2007 time period.

Results for the impingement sampling program can be summarized as follows:

Fish Impingement:

- Approximately 4% of all fish impinged at Crystal River were impinged at Unit 1. It is estimated that a total of 40,930 fish (1,102 kg) were impinged at Unit 1. The most abundant species were silver perch (17.9%), spotfin mojarra (16.9%) and polka-dot batfish (15.5%).
- Approximately 9% of all fish impinged at Crystal River were impinged at Unit 2. It is estimated that a total of 83,556 fish (3,251 kg) were impinged at Unit 2. The most abundant species were polka-dot batfish (24.9%), pigfish (13.9%) and silver perch (11.5%).
- Approximately 87% of all fish impinged at Crystal River were impinged at Unit 3. It is estimated that a total of 821,144 fish (14,896 kg) were impinged at Unit 3. The most abundant species were Atlantic thread herring (23.6%), bay anchovy (15.7%) and scaled sardine (12.7%).
- It is estimated that a total of 945,631 fish (19,249 kg) were impinged at Crystal River (all units combined). The most abundant species were Atlantic thread herring (21.6%), bay anchovy (14.7%) and scaled sardine (11.4%).
- Peak levels of impingement were observed in February-March, 2007. Approximately 69% of all fish impinged (649,503 out of a total of 945,631 fish) at Crystal River Power Plant were impinged during these two months. In terms of biomass, approximately 46% of the total annual biomass impinged during these months.
- The initial condition of the fish was recorded as part of the impingement abundance study. The majority of fish (79.5% to 92.6%) were categorized as recently dead. The percentages of live fish varied between the three units. Approximately 7.3% of fish collected at Unit 3 were live while 17.3% to 19.9% of fish collected at Units 1 and 2, respectively, were live. This difference in survivability may be related to the increased flows observed at Unit 3 compared to Units 1 and 2. With an increase in flow, fish may be subjected more to abrasions.
- Differences were observed in survivability among species. For instance, approximately 78% of the polka-dot batfish collected at Crystal River were alive. Survival levels for Units 1, 2 and 3 were comparable at 79%, 70% and 80%, respectively. This is typically a hardier species compared to some of the pelagic types such as bay anchovy or blue-back herring.

Invertebrate Impingement:

- Approximately 10% of all invertebrates impinged at Crystal River were impinged at Unit 1. It is estimated that a total of 35,165 invertebrates (529 kg) were impinged at Unit 1. The most abundant species were pink shrimp (44.9%), Atlantic brief squid (11.9%) and iridescent swimming crab (11.2%).
- Approximately 15% of all invertebrates impinged at Crystal River were impinged at Unit 2. It is estimated that a total of 50,178 invertebrates (663 kg) were impinged at Unit 2. The most abundant species were pink shrimp (46.3%), iridescent swimming crab (14.2%) and Atlantic brief squid (11.3%).

- Approximately 75% of all invertebrates impinged at Crystal River were impinged at Unit 3. It is estimated that a total of 256,437 invertebrates (2,633 kg) were impinged at Unit 3. The most abundant species were pink shrimp (44.6%), Atlantic brief squid (17.3%) and false arrow crab (10.8%).
- It is estimated that a total of 341,780 invertebrates (3,826 kg) were impinged at Crystal River (all units combined). The most abundant species were pink shrimp (43.8%), Atlantic brief squid (15.9%) and false arrow crab (10.5%).
- The initial condition of the invertebrates was recorded as part of the impingement abundance study. The majority of invertebrates (57.4% to 66.1%) were categorized as alive. The percentage of live invertebrates was comparable for the three units. This is different from that observed from fish, which indicates the hardiness of most invertebrate species. Very few long dead invertebrates were recorded.

Trawl Collections:

- A total of 141 trawls were conducted at central, south and north locations.
- A total of 581 specimens (137 invertebrates, 444 fish) were collected at the central location in the vicinity of the intake channel with a mean density of 4.1 specimens per 1,000 m³.
- A total of 961 specimens (130 invertebrates, 831 fish) were collected at the south trawl location, with a mean density of 6.8 specimens per 1,000 m³.
- A total of 1,137 specimens (275 invertebrates, 862 fish) were collected at the north trawl location, with a mean density of 8.0 specimens per 1,000 m³.
- The mean densities of invertebrates collected at the central and south trawl locations were comparable (0.9 – 1.0 invertebrates per 1,000 m³). The mean density of invertebrates collected at the north location (1.9 invertebrates per 1,000 m³) was approximately twice that observed at the central and south trawl locations.
- The mean fish density at the central trawl location (3.1 fish per 1,000 m³) was approximately half of that observed for the south and north (5.9 - 6.1 per 1,000 m³) trawl locations. The reduced fish density observed for the central trawl location may be due to avoidance of the intake channel partly because of the configuration, or alternatively may be related to barge traffic.

Historical Levels of Impingement:

- The most recent impingement study at Crystal River Power Plant was conducted over 20 years ago. As part of this study, it was estimated that a total of 2,628,484 fish and invertebrates (33,953 kg) were impinged at Crystal River in 1985. Over the duration of the 1985 impingement study, a total of 61,195 fish were collected. The most commonly impinged fish were bay anchovy (18.3%), polka-dot batfish (14.6%) and bighead searobin (13.0%). A total of 171,907 invertebrates were also collected over the duration of the impingement study. The most commonly impinged invertebrates were pink shrimp (44.7%), blue crab (24.2%) and false arrow crab (9.6%).
- The number of fish and invertebrates impinged at Crystal River in 2006-2007 (1,287,720) was approximately one-half of that estimated to be impinged in 1985. The number of blue crab impinged at Crystal River in 2006-2007 (32,567) was an order of magnitude lower than that observed in 1985 (383,560). Similarly, the number of pink shrimp impinged at Crystal River in 2006-2007 (149,710) was substantially lower than that observed in 1985 (640,887).
- Spot represented the third most abundant fish species impinged at Crystal River Power Plant in 1985 (28,094 fish, 62.7 kg). While spot was collected during central (2 fish), north (7 fish) and south (2 fish) trawls, this species was not impinged during the 2006-2007 sampling program. In 2005, statewide landings of spot in Florida were 65% lower than the average landings in the previous five years (2000-2004) and were 96% lower than the 1982-2005 historical average landings.

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CRYSTAL RIVER POWER PLANT FISH IMPINGEMENT STUDY REPORT

1.0 INTRODUCTION

Section 316(b) of the Clean Water Act (CWA) requires that cooling water intake structures reflect the best technology available to protect aquatic organisms from being killed or injured by impingement (being pinned against screens or outer part of a cooling water intake structure) or entrainment (being drawn into cooling water systems and subjected to thermal, physical and/or chemical stresses). Phase II of the 316(b) rule for existing electric generating plants is designed to reduce impingement mortality by 80-95% and entrainment by 60-90%.

In March 2007, the Second U.S. Circuit Court of Appeals remanded several provisions of the Phase II rule on various grounds. The provisions remanded included:

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This report provides of a summary of the baseline assessment fish impinged at Crystal River Power Plant located in Citrus County, Florida over the December, 2006 to November, 2007 time period.

1.1 Facility Description

The Crystal River Power Plant (Figure 1) is located in Citrus County, Florida, about 13.7 km north of the town of Crystal River. Two coal-fired units (CR1 and CR2) and one nuclear unit (CR3) utilize once through condenser cooling with water drawn through a common canal located south of the units and extending generally westward into the Gulf of Mexico.



Figure 1. Crystal River Power Plant

1.1.1 Units 1 and 2 (Fossil Side)

The intakes for Units 1 and 2 are very similar in construction and are immediately adjacent on the northern bank of the canal. They are located at the head of a slight embayment with the Unit 2 screenwell to the west. A floating barrier and a coarse mesh wire fence extend across the embayment to keep floating or partially submerged debris away from the intakes. The combined intakes are about 43 meters across with external bar racks. The racks have 10 cm (5 in) spacing between bars and are continuous from the slab of the screenwell to above the surface of the water. Each intake has four bays with a circulating water pump and traveling water screens in each bay.

The traveling water screens are the same in Units 1 and 2. Screen trays are 3 meters wide and are equipped with standard 9.5 mm (3/8 inch), square opening, wire mesh. The screens are generally operated once every 8 hours to keep the screens clean but this depends on debris loading. When operating, the screens are cleaned by an internal spray was directed at the front surface of the screens. Debris and any impinged organisms are washed. From all screens of each unit into a common trough and directed to sumps located adjacent to the intakes (Stone & Webster Engineering Corporation, 1985).

1.1.2 Unit 3 (Nuclear Side)

The intake structure for Unit 3 is separate from the intakes of Units 1 and 2. A chain link fence extends across the entire width of the intake canal upstream of the intakes for Units 1 and 2. The fence both restricts access to the Unit 3 intake and collects floating debris.

This intake is about 36 meters across and has external bar racks. The racks have 10 cm (5 in) spacing between bars and are continuous from above the surface of the water to the slab. There are 4 pump bays and seven traveling screen bays separated from the pump bays by a common plenum. An eighth traveling screen bay provides service water.

The traveling water screens are similar to those in Units 1 and 2. The screen trays are 3 meters wide and have 9.5 mm mesh. They are generally operated once every 8 hours, and they are cleaned by a front wash system. The screenwash trough slopes to the west where material is collected in a sump. The trough receives combined wash water from all screens. (Stone & Webster Engineering Corporation, 1985).

Operating data for Crystal River Units 1, 2 and 3 are summarized in Table 1.

Table 1. Crystal River Units 1, 2, and 3 Operating Data

Unit	MWe	Cooling Water Flow (gpm)	Condenser ΔT	Startup
1	440	310,000	8.3°C	1966
2	524	328,000	9.4°C	1969
3	855	680,000	9.7°C	1977

2.0 METHODS

2.1 Impingement Sampling Protocol

2.1.1 Frequency and Duration

Impingement sampling was conducted on a bi-weekly basis at Crystal River Energy Complex Units 1, 2 and 3 from December 2006 to November 2006. The 24-hour monitoring period was broken into daytime and nighttime intervals. From December 2006 to February 2007 two day and two night samples were collected at each sample location (4 samples per event). However, it was physically challenging to collect samples from all locations prior to each event so the sampling was modified. Gantry cranes were used to lift the sample which on occasion exceeded 1500 lbs (mostly consisting of debris). From March 2007 to November 2007 one day and one night sample were collected at each sample location (2 samples per event). Using this revised methodology, no loss of information occurred. On occasion, impingement samples could not be collected due to plant operation (e.g. Unit outage) or unsafe working conditions. An impingement sampling schedule is presented in Table 2. Over the sampling period, there were 20-24 events (dependent on Unit), and a total of 164 samples collected. Forty-five (45) samples were collected from Unit 1, fifty-four (54) from Unit 2 and sixty-three (63) from Unit 3.

2.1.2 Location

Impingement samples were collected from the traveling screen wash debris collection sumps for Units 1, 2 and 3 (total of 3 locations). The design of the baskets had to be modified since the mesh size exceeded 3/8 inch which would have resulted in loss of sample especially some invertebrate species. The baskets for each sump were therefore modified with a 3/8 in lining which was similar in mesh size to the traveling screens. All Impinged organisms and debris off the screens were therefore collected. The screens were rotated and washed prior to the beginning of the 24-hour sampling event. During the 24-hour sampling event the screens were fixed for the sampling period unless operational circumstances (such as debris load) required otherwise. Once the sampling period time interval was complete, the screens were rotated with debris and aquatic organisms being washed into the sluiceway and hence into the sampling basket. The basket was removed from the sumps and the content of the basket was emptied on the deck. All fish and other organisms were separated from debris for processing.

2.1.3 Taxonomy

Organisms were identified to the lowest practicable taxonomic level, sorted (typically by species), and enumerated. The batch weight was obtained for each species. Up to 25 organisms per species were individually measured for length (total length, mm) and weight. For sample sizes greater than 25, 25 organisms were randomly selected for measurements. Organisms were counted, identified, measured and weighed, and surviving organisms that could be identified in the field were released. Immediate mortality was noted and recorded.

2.1.4 Fish and Invertebrate Condition

Condition of impinged organisms (live, recently dead, long dead) was assessed using a modification of the criteria developed by White (1986).

Live or Recently Dead: Live organism. Recently dead- Fish with the eyes clear, gills red, and body mucus layer fresh and intact. The flesh is firm. All fish that look like they may have been alive just prior to sampling are included in this category.

Long Dead: This category includes all dead fishes or invertebrates that have been dead for more than several hours. For fish, the eyes are cloudy, body mucus spotty or nonexistent, gills very light pink or white. The body is in rigor mortis and coloration had paled. For some fish the body texture is softer than in living or recently dead specimens. In some cases, individuals had been obviously dead for more than twenty-four hours, often days. The body is extremely soft and partially decomposed. The body colour is completely gone and often the specimen will be covered with decomposer fungi and bacteria.

Table 2. Impingement Sampling Plan for Crystal River Energy Complex

Month	Unit 1			Unit 2			Unit 3			Total Samples
	Events per Month	Intervals per Event	Total Samples	Events per Month	Intervals per Event	Total Samples	Events per Month	Intervals per Event	Total Samples	
December 2006	2	4	8	2	4	8	2	4	8	24
January, 2007	2	4	8	2	4	8	2	4	8	24
February, 2007	0	0	0	2	2-4	6	2	3-4	7	13
March, 2007	1	2	2	2	4	8	3	2-4	10	20
April, 2007	0	0	0	0	0	0	2	2	4	4
May, 2007	2	2	4	0	0	0	2	2	4	8
June, 2007	2	2	4	1	2	2	2	2	4	10
July, 2007	2	2	4	2	2	4	2	2	4	12
August, 2007	3	1-2	5	3	2	6	3	2	6	17
September, 2007	2	2	4	2	2	4	2	2	4	12
October, 2007	2	2	4	2	2	4	2	2	4	12
November, 2007	2	2	4	2	2	4	0	0	0	8
TOTAL	20		47	20		54	24		63	164

2.1.5 Data Analysis

Data was collected during both the day and night so that an assessment of diel variation could be made. These time periods were approximately 12-h each although some adjustment was required over the course of the study. Day and night abundance estimates were summed to obtain 24-hour impingement estimates.

To calculate the base density of impinged organisms (ρ_{i-base}), the number impinged during each sampling period (day versus night) was divided by the corresponding volume through each screenhouse.¹ This is expressed as:

$$\rho_{i-base} = N_i / V_i$$

where:

ρ_{i-base} = Base impingement density (#/m³)

N_i = Number of organisms impinged

V_i = Volume of impingement sample (m³).

Day and night abundance estimates were summed to obtain 24-hour impingement estimates. Monthly impingement estimates were calculated using the following formula:

$$\text{Estimated Number Impinged per Month} = \frac{\text{Monthly Number of Organisms}}{\text{Monthly Sample Volume}} \times \text{Total Monthly Flow}^1$$

2.2 Nearfield Trawling

Trawl catch data were collected to describe the spatial and temporal trends in abundance (general community characterization) nearfield, and to identify the fish and invertebrates that potentially may enter the intake channel and become impinged.

2.2.1 Frequency and Duration

Nearfield sampling was scheduled to be conducted monthly. However, inclement weather prevented sampling on certain dates. Each of three stations was sampled during the day and the night. A summary of trawl samples collected is presented in Table 3. Over the 10 sampling events, there was a total of 141 samples collected, 66 during the day and 75 during the night. Replicate trawls (typically 3 trawls per station) were run for approximately 5 minutes. This time period was considered adequate based on earlier trawl work conducted by FIT.

2.2.2 Location

Nearfield trawling was conducted at three stations (Figure 2) in the vicinity of the intake canal. Two of these locations were positioned south and north of the intake channel whereas the central location was near the intake entrance:

¹ Daily cooling water flow volumes in million gallons per day (MGD) are summarized in Appendix 1. Cooling water flow volumes corresponding to sample collection periods are summarized in Appendix 2.

- North: 28° 56.802' N, 082° 48.160' W
- Central: 28° 56.272' N, 082° 48.046' W
- South: 28° 55.909' N, 082° 48.077' W

Trawl sampling was conducted using a 4.3 x 1.2 meter trawl net constructed of 2.5 cm mesh in the body and 2.0 cm mesh at the cod end. The length of the net was 4.9 meters.

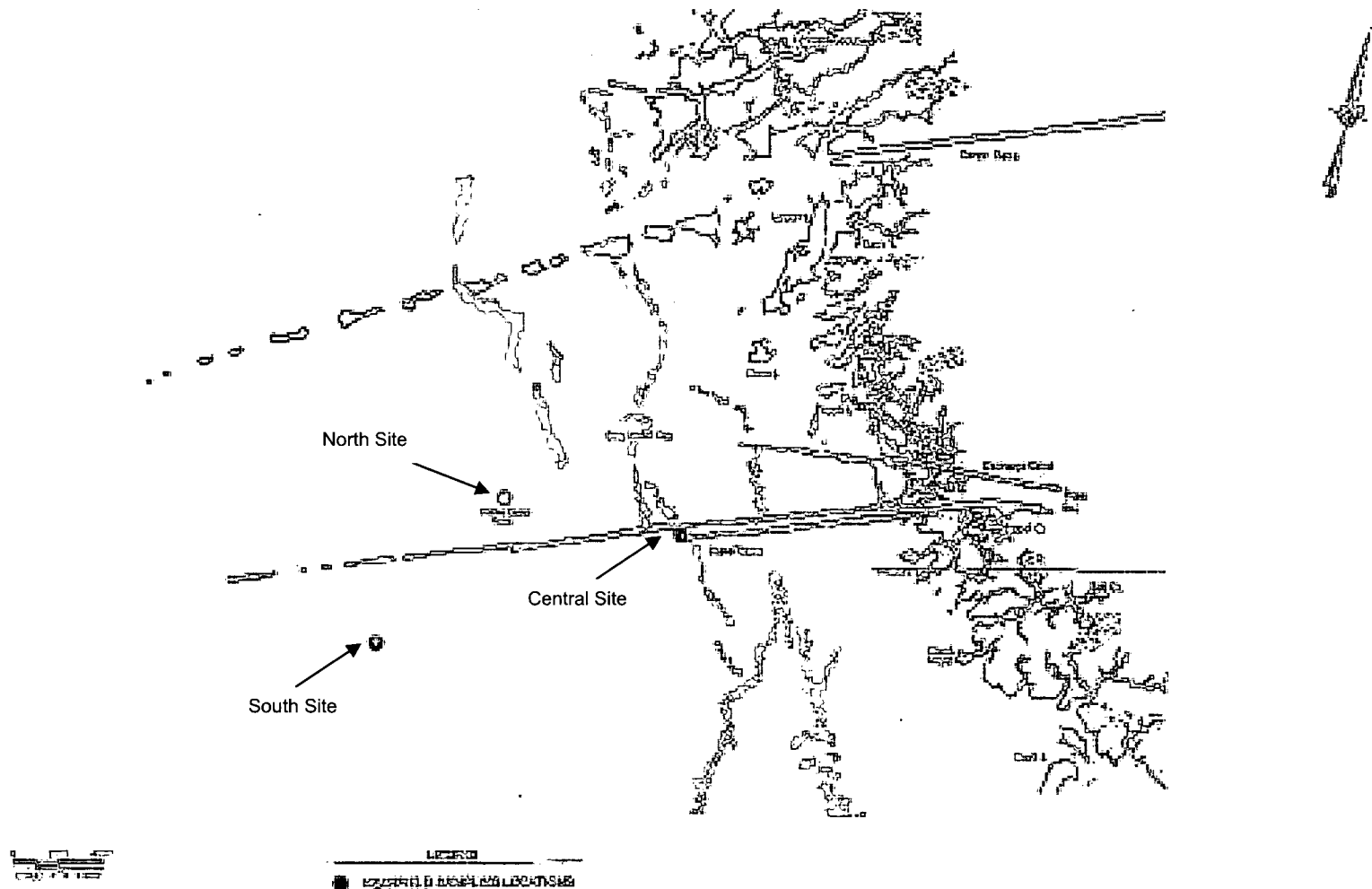
2.3 Water Quality and Meteorological Parameters

Water quality was assessed at the intake of Unit 3, and was considered representative for all Units because of their close proximity to each other. Intake water temperature, conductivity, dissolved oxygen (DO) and salinity was determined. Water quality measurements were obtained using a YSI Multiparameter meter. Measurements and weekly calibrations as per ISO 9001 requirements were carried out as described in the manufacturer's instruction manual.

Table 3. Nearfield Trawl Sampling Plan for Crystal River Energy Complex

Month	CENTRAL 28° 56.272' N, 082° 48.046' W			NORTH 28° 56.802' N, 082° 48.160' W			SOUTH 28° 55.909' N, 082° 48.077' W			DAY TOTAL	NIGHT TOTAL	TOTAL SAMPLES
	Events per Month	Night Samples	Day Samples	Events per Month	Night Samples	Day Samples	Events per Month	Night Samples	Day Samples			
December 2006	1	3	3	1	3	3	1	3	3	9	9	18
January, 2007	1	3	3	1	3	3	1	3	3	9	9	18
February, 2007	1	3	2	1	3	2	1	3	2	6	9	15
March, 2007	1	0	1	1	0	1	1	0	1	3	0	3
April, 2007	1	3	0	1	3	0	1	3	0	0	9	9
May, 2007	0	0	0	0	0	0	0	0	0	0	0	0
June, 2007	1	3	3	1	3	3	1	3	3	9	9	18
July, 2007	1	3	3	1	3	3	1	3	3	9	9	18
August, 2007	1	1	1	1	1	1	1	1	1	3	3	6
September, 2007	0	0	0	0	0	0	0	0	0	0	0	0
October, 2007	1	3	3	1	3	3	1	3	3	9	9	18
November, 2007	1	3	3	1	3	3	1	3	3	9	9	18
TOTAL	10	25	22	10	25	22	10	25	22	66	75	141

Figure 2. Nearfield Sampling Locations



3.0 RESULTS AND DISCUSSION

3.1 Fish Impingement

A total of 26 impingement events were carried out between December 7, 2006 and November 30, 2007.² A summary of fish collected is presented in Appendix 3 (Unit 1), Appendix 4 (Unit 2) and Appendix 5 (Unit 3).

The total extrapolated number and weight of fish estimated to be impinged at Crystal River Unit 1 is presented in Tables 4-5. Approximately 4% of all fish impinged at Crystal River were impinged at Unit 1. It is estimated that a total of 40,930 fish (1,102 kg) were impinged at Unit 1. The most abundant species were silver perch (17.9%), spotfin mojarra (16.9%) and polka-dot batfish (15.5%).

The total extrapolated number and weight of fish estimated to be impinged at Crystal River Unit 2 is presented in Tables 6-7. Approximately 9% of all fish impinged at Crystal River were impinged at Unit 2. It is estimated that a total of 83,556 fish (3,251 kg) were impinged at Unit 2. The most abundant species were polka-dot batfish (24.9%), pigfish (13.9%) and silver perch (11.5%).

The total extrapolated number and weight of fish estimated to be impinged at Crystal River Unit 3 is presented in Tables 8-9. Approximately 87% of all fish impinged at Crystal River were impinged at Unit 3. It is estimated that a total of 821,144 fish (14,896 kg) were impinged at Unit 3. The most abundant species were Atlantic thread herring (23.6%), bay anchovy (15.7%) and scaled sardine (12.7%).

The total extrapolated number and weight of fish estimated to be impinged at Crystal River (All Units Combined) is presented in Tables 10-11 and Figures 3-4. It is estimated that a total of 945,631 fish (19,249 kg) were impinged. The most abundant species were Atlantic thread herring (21.6%), bay anchovy (14.7%) and scaled sardine (11.4%).

Peak levels of impingement were observed in February-March, 2007. Approximately 69% of all fish impinged (649,503 out of a total of 945,631 fish) at Crystal River Power Plant were impinged during these two months (Figure 3). In terms of biomass, approximately 46% of the total annual biomass impinged during these months (Figure 4).

² Due to plant operation or unsafe working conditions, it was not possible to sample all units for each of the 26 impingement events. A summary of units sampled is provided in Table 2.

Table 4
Estimated Number of Fish Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Silver Perch	3,196	2,164	232	17		254	486	431	499	31			7,310	17.86%
Spotfin Mojarra	3,410	3,454	61										6,925	16.92%
Polka-dot Batfish	980	258	120	123	530	1,363	668	1,028	128	216	404	505	6,322	15.45%
Bay Anchovy	455	344	2,706	17	402			33				72	4,030	9.85%
Atlantic Thread Herring			2,611	22	20	63	30	33	16				2,796	6.83%
Pigfish			15	77		919	213	199	42				1,464	3.58%
Scaled Sardine	554	86	609		20								1,268	3.10%
Pinfish	156	430	23			95	30	99	21				855	2.09%
Leopard Searobin	14	745	14										774	1.89%
Orange Filefish	71				39		638						748	1.83%
Atlantic Bumper									523		31	36	590	1.44%
Atlantic Croaker	270	158	3		39	95							565	1.38%
Striped Mojarra	256	143	43	34									476	1.16%
Gulf Toadfish		430	20		20								470	1.15%
Blackcheek Tonguefish	57	158			39	190							444	1.08%
Striped Burrfish	128	14		31	108	32	30				31	36	410	1.00%
Striped Anchovy			34		235	32	61						361	0.88%
Inland Silverside	57	86	83						62	31		36	355	0.87%
Planehead Filefish		14				32	243	33					322	0.79%
Gafftopsail Catfish				17	255								272	0.66%
Atlantic Pomfret	57				157	32							245	0.60%
Atlantic Needlefish					29		213						242	0.59%
Hardhead Catfish	142				59						31		232	0.57%
Feather Blenny	57		34		20			66	21		31		228	0.56%
Southern Puffer				4	59		61	99					223	0.55%
Lane Snapper	142				20							36	198	0.48%
Lookdown							30	99	62				192	0.47%
Lined Seahorse					69		121						190	0.46%
Scrawled Cowfish		14	3		39	127							183	0.45%
Black Sea Bass	14					32	30	99					176	0.43%

Table 4 (cont'd)
Estimated Number of Fish Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Halfbeak			54				121						175	0.43%
Flounder sp.						158							158	0.39%
Inshore Lizardfish		143											143	0.35%
Leatherjacket			55						83				138	0.34%
Bighead Searobin	14	43	28			32							117	0.29%
Atlantic Spadefish	71				39								110	0.27%
Gulf Pipefish			14				91						105	0.26%
Leopard Toadfish					20	63			21				104	0.25%
Silver Seatrout					10				83				93	0.23%
Spotted Seatrout	28		3		10		30		21				92	0.23%
Bigeye Searobin			47	9		32							87	0.21%
Chain Pipefish								66					66	0.16%
Florida Blenny		14		52									66	0.16%
Great Barracuda					29			33					63	0.15%
Spiny Searobin	57												57	0.14%
Smooth Butterfly Ray				4	20	32							56	0.14%
Mojarra sp. (juvenile)									21	31			52	0.13%
Striped Mullet					10		30						40	0.10%
Gulf Flounder												36	36	0.09%
Ocellated Flounder						32							32	0.08%
Southern Kingfish						32							32	0.08%
Yellow Conger						32							32	0.08%
Harvestfish											31		31	0.08%
Oyster Toadfish											31		31	0.08%
American Eel		29											29	0.07%
Blueback Herring									21				21	0.05%
Hogchoker					20								20	0.05%
Ladyfish					20								20	0.05%
Scrawled Filefish		14											14	0.04%
Atlantic Stingray	14												14	0.03%
Spanish Grunt			13										13	0.03%
Spanish Sardine			13										13	0.03%
Total	10,200	8,744	6,840	407	2,334	3,676	3,128	2,321	1,625	308	591	757	40,930	100.00%

Table 5
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Polka-dot Batfish	81,623	17,244	9,863	9,406	58,601	179,731	73,009	96,134	12,425	19,107	43,116	63,462	663,722	60.22%
Striped Burrfish	14,059	2,345		7,361	23,032	11,494	2,827				16	19,827	80,960	7.35%
Atlantic Thread Herring			57,662	595	1,051	551	30	229	70				60,190	5.46%
Spotfin Mojarra	26,236	29,634	67										55,937	5.07%
Silver Perch	27,275	13,403	3,132	103		284	516	842	539	382			46,476	4.22%
Orange Filefish	27,376				153		653						28,182	2.56%
Smooth Butterfly Ray				8,872	1,747	4,307							14,925	1.35%
Pigfish			273	861		8,585	1,518	1,886	227				13,351	1.21%
Gafftopsail Catfish				488	12,788								13,276	1.20%
Scaled Sardine	5,043	241	4,011		24								9,319	0.85%
Ladyfish					8,660								8,660	0.79%
Scrawled Cowfish		148	38		5,990	2,253							8,429	0.76%
Pinfish	1,223	3,856	316			545	82	1,071	551				7,645	0.69%
Striped Mullet					6,834		128						6,961	0.63%
Leopard Searobin	54	6,546	17										6,617	0.60%
Atlantic Bumper									687		31	5,410	6,129	0.56%
Hardhead Catfish	1,314				1,187						3,326		5,827	0.53%
Spotted Seatrout	371		84		5,135		76		35				5,701	0.52%
Atlantic Croaker	3,947	939	49		127	615							5,677	0.52%
Striped Mojarra	1,968	1,819	655	726									5,168	0.47%
Bay Anchovy	1,000	423	2,725	17	656			30				72	4,923	0.45%
Inshore Lizardfish		4,802											4,802	0.44%
Great Barracuda					21			3,803					3,824	0.35%
Feather Blenny	239		483		90			1,442	362		768		3,384	0.31%
Gulf Toadfish		2,566	58		14								2,638	0.24%
Leopard Toadfish					1,289	143			1,078				2,509	0.23%
Gulf Flounder												2,427	2,427	0.22%
Black Sea Bass	337					114	67	1,631					2,149	0.19%

Table 5 (cont'd)
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Atlantic Spadefish	531				1,510								2,042	0.19%
Florida Blenny		1,734		127									1,861	0.17%
Blackcheek Tonguefish	273	771			133	608							1,786	0.16%
Flounder sp.						1,727							1,727	0.16%
Striped Anchovy			285		1,155	48	67						1,554	0.14%
Inland Silverside	226	364	554						110	68		146	1,468	0.13%
Southern Puffer				24	508		161	743					1,435	0.13%
Yellow Conger						1,264							1,264	0.11%
Atlantic Stingray	1,216												1,216	0.11%
American Eel		1,124											1,124	0.10%
Lane Snapper	703				29							22	754	0.07%
Planehead Filefish		14				31	638	63					746	0.07%
Bighead Searobin	85	162	41			368							656	0.06%
Blueback Herring									591				591	0.05%
Bigeye Searobin			339	13		222							573	0.05%
Lined Seahorse					368		131						498	0.05%
Oyster Toadfish											473		473	0.04%
Lookdown							52	252	137				441	0.04%
Spiny Searobin	324												324	0.03%
Silver Seatrout					186				96				282	0.03%
Harvestfish											255		255	0.02%
Atlantic Pomfret	28				133	41							203	0.02%
Leatherjacket			81						102				183	0.02%
Halfbeak			130				52						182	0.02%
Atlantic Needlefish					38		137						175	0.02%
Spanish Sardine			138										138	0.01%
Ocellated Flounder						120							120	0.01%
Chain Pipefish								73					73	0.01%
Gulf Pipefish			13				55						67	0.01%
Hogchoker					67								67	0.01%
Mojarra sp. (juvenile)									19	28			46	0.004%
Spanish Grunt			35										35	0.003%
Southern Kingfish						35							35	0.003%
Scrawled Filefish		13											13	0.001%
Total	195,451	88,146	81,049	28,594	131,527	213,087	80,197	108,199	17,030	19,585	47,984	91,367	1,102,216	100.00%

Table 6
Estimated Number of Fish Impinged each Month at Crystal River Power Plant - Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Polka-dot Batfish	4,240	1,506	742	2,556		1,221	3,736	2,088	789	931	1,343	1,622	20,772	24.86%
Pigfish			98	10,885		611	38		19				11,650	13.94%
Silver Perch	4,978	2,710	787	208		130	434	151	212				9,609	11.50%
Atlantic thread herring			5,510	1,440		65	29	61	19				7,124	8.53%
Spotfin Mojarra	5,056	1,838	113	104									7,112	8.51%
Bay Anchovy	126	79	5,421	130						30		29	5,815	6.96%
Pinfish		650	42	4,398		65					33		5,188	6.21%
Striped Mojarra	754	63	196	2,387								29	3,430	4.10%
Scaled Sardine	1,005		1,115	337									2,457	2.94%
Orange Filefish	393						791						1,183	1.42%
Planehead filefish	251						360	61					672	0.80%
Bighead Searobin			59	402									461	0.55%
Atlantic Spadefish		317		143									460	0.55%
Atlantic Bumper								61	135	60	164	29	448	0.54%
Lookdown							57	272	96				426	0.51%
Striped Burrfish	267			26		30		30				59	412	0.49%
Hardhead Catfish	377									30			407	0.49%
Gulf Toadfish		317	28					61					405	0.49%
Atlantic Croaker	251		14			95		30					390	0.47%
Flounder sp.		333				33							365	0.44%
Blackcheek Tonguefish	251					98							349	0.42%
Leopard Searobin			29	311									341	0.41%
Atlantic Needlefish							264	30				29	323	0.39%
Silver Seatrout	251			65									316	0.38%
Feather Blenny		32	85	26			57				98		299	0.36%
Striped Anchovy		16	56	104		33	75						283	0.34%
Scrawled Cowfish			42	65			57				33	59	256	0.31%
Halfbeak			84				151						235	0.28%

Table 6 (cont'd)
Estimated Number of Fish Impinged each Month at Crystal River Power Plant - Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Lane Snapper		158										59	217	0.26%
Lined Seahorse	31						142				33		206	0.25%
Inland Silverside		16	174										190	0.23%
Southern Puffer				39			104	30					173	0.21%
American Eel		158											158	0.19%
Leatherjacket			115									29	144	0.17%
Gulf Pipefish			29				113						142	0.17%
Spiny Searobin	126												126	0.15%
Bigeye Searobin			84	26									110	0.13%
Spanish Mackerel				104									104	0.12%
Leopard Toadfish						65	29						94	0.11%
Florida Blenny		16										59	75	0.09%
Smooth Butterfly Ray				13		33	29						74	0.09%
Spotted Seatrout			42					30					72	0.09%
Atlantic Stingray									38	30			68	0.08%
Gray Snapper				39									39	0.05%
Striped Mullet							38						38	0.05%
Spottail Pinfish											33		33	0.04%
Black Sea Bass						33							33	0.04%
Ocellated Flounder						33							33	0.04%
Atlantic Silverside		32											32	0.04%
Great Barracuda								30					30	0.04%
Scrawled Filefish								30					30	0.04%
Hogchoker										30			30	0.04%
Spanish Grunt			28										28	0.03%
Spanish Sardine			28										28	0.03%
White Grunt				26									26	0.03%
Sergeant Major									19				19	0.02%
Bluefish	16												16	0.02%
Total	18,373	8,241	14,923	23,832	0	2,543	6,500	2,965	1,327	1,111	1,736	2,006	83,556	100.00%

Table 7
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant - Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Polka-dot Batfish	476,862	112,829	68,478	198,772		167,377	402,131	220,619	71,554	90,671	124,078	158,313	2,091,686	64.34%
Atlantic thread herring			122,540	44,590		567	103	233	83				168,115	5.17%
Pigfish			1,638	158,400		2,897	256		69				163,261	5.02%
Scaled Sardine	146,378		7,743	4,331									158,451	4.87%
Striped Burrfish	95,079			5,919		10,828		3,183				7,117	122,125	3.76%
Orange Filefish	117,943						809						118,752	3.65%
Silver Perch	35,773	22,987	11,166	2,314		61	406	693	1,079				74,479	2.29%
Pinfish		6,536	585	59,621		332					2,290		69,364	2.13%
Spotfin Mojarra	48,103	11,263	130	1,173									60,668	1.87%
Striped Mojarra	7,814	371	2,982	38,120								537	49,824	1.53%
Smooth Butterfly Ray				26,482		4,426	5,561						36,468	1.12%
American Eel		16,656											16,656	0.51%
Gulf Toadfish		285	81					13,735					14,102	0.43%
Leopard Searobin			35	12,942									12,978	0.40%
Spanish Mackerel				11,365									11,365	0.35%
Scrawled Cowfish			525	289			6,058				940	2,194	10,007	0.31%
Blackcheek Tonguefish	7,638					401							8,039	0.25%
Silver Seatrout	3,593			3,111									6,704	0.21%
Bay Anchovy	917	78	5,520	117						21		29	6,682	0.21%
Hardhead Catfish	2,940									3,371			6,311	0.19%
Atlantic Spadefish		2,250		2,444									4,695	0.14%
Atlantic Croaker	3,693		224			619		133					4,669	0.14%
Atlantic Needlefish							169	236				4,058	4,464	0.14%
Atlantic Stingray									1,531	2,828			4,359	0.13%
Feather Blenny		412	1,136	402			720				1,163		3,834	0.12%
Atlantic Bumper								64	1,411	171	1,418	56	3,120	0.10%
Bighead Searobin			85	2,279									2,365	0.07%
Planehead filefish	301						1,052	399					1,753	0.05%
Spotted Seatrout			1,155					360					1,515	0.05%

Table 7 (cont'd)
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant - Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Lane Snapper		1,331										153	1,485	0.05%
Striped Anchovy		16	476	820		49	83						1,443	0.04%
Spottail Pinfish											1,307		1,307	0.04%
Inland Silverside		92	1,156										1,248	0.04%
Florida Blenny		585										392	977	0.03%
Lookdown							71	581	288				941	0.03%
Hogchoker										880			880	0.03%
Halfbeak			720				64						784	0.02%
Southern Puffer				186			428	169					783	0.02%
Leopard Toadfish						147	635						781	0.02%
Bigeye Searobin			496	39									535	0.02%
Flounder sp.		285				215							500	0.02%
Spiny Searobin	427												427	0.01%
Lined Seahorse	82						187				26		295	0.01%
Spanish Sardine			288										288	0.01%
Leatherjacket			169									68	237	0.01%
Gray Snapper				202									202	0.01%
Atlantic Silverside		187											187	0.01%
Striped Mullet							158						158	0.005%
Ocellated Flounder						124							124	0.004%
Black Sea Bass						117							117	0.004%
Gulf Pipefish			26				68						94	0.003%
Spanish Grunt			73										73	0.002%
Sergeant Major									67				67	0.002%
Bluefish	60												60	0.002%
Great Barracuda								54					54	0.002%
White Grunt				44									44	0.001%
Scrawled Filefish								42					42	0.001%
Total	947,602	176,163	227,428	573,963		188,158	418,962	240,502	76,082	97,942	131,223	172,919	3,250,944	100.00%

Table 8
Estimated Number of Fish Impinged each Month at Crystal River Power Plant - Unit 3 (December 2006 - November 2007)

Crystal River Unit 3: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Atlantic thread herring		2,170	158,959	32,766	60	31		31	124				194,141	23.64%
Bay Anchovy	3,488	35,945	85,348	2,834	1,230	62	30					84	129,020	15.71%
Scaled Sardine	1,891	1,054	100,641	359	60								104,005	12.67%
Silver Perch	49,089	7,409	5,080	2,351		217	2,760	806	1,178				68,889	8.39%
Blueback Herring			63,478										63,478	7.73%
Polka-dot Batfish	6,061	2,806	4,083	11,186	1,620	10,416	10,140	4,867	2,335	2,520	2,201	2,220	60,454	7.36%
Pigfish		465		50,498		1,240	630	496	310	30			53,669	6.54%
Pinfish	2,356	1,395	1,105	21,964		186	420		21				27,446	3.34%
Spotfin Mojarra	3,627	7,642	2,884	2,611									16,763	2.04%
Striped Mojarra	5,131	109	2,425	8,154		124						22	15,965	1.94%
Bighead Searobin		713	1,159	6,038		434							8,344	1.02%
Atlantic Bumper								372	7,047	30		84	7,534	0.92%
Striped Anchovy		837	3,382	1,275	720	310			21				6,544	0.80%
Leopard Searobin	93	2,108	2,506	668		186							5,561	0.68%
Inland Silverside	62	217	5,066								62		5,407	0.66%
Bigeye Searobin			3,032	198		62							3,292	0.40%
Scrawled Cowfish	155	202	862	1,250	120	372	60					107	3,127	0.38%
Leatherjacket	31		2,681						62		62	84	2,921	0.36%
Southern Puffer		310	485	396	180	310	90	310	21				2,102	0.26%
Orange Filefish	403	465			120		1,050		21				2,059	0.25%
Feather Blenny	31	155	701	841	60		30		21		186		2,025	0.25%
Atlantic Silverside	93		1,913										2,006	0.24%
Silver Seatrout				1,547	30	31	30	62	186		31		1,917	0.23%
Atlantic Croaker	1,085	248	27	235	120	62							1,777	0.22%
Gafftopsail Catfish				965	780					30			1,775	0.22%
Inshore Lizardfish	248		337			1,116							1,701	0.21%
Striped Burrfish	496	62	337	198	330	31	120	31				45	1,649	0.20%
Halfbeak			1,428				90	93					1,611	0.20%
Flounder sp.		155	108	631		682		31					1,607	0.20%
Atlantic Spadefish	450	155	54	656	120				83				1,517	0.18%
Leopard Toadfish	31	186		928	60	124			83				1,412	0.17%
Gulf Toadfish		310	916		60			31					1,317	0.16%
Lane Snapper	543	465	27	99	60	62						45	1,300	0.16%
Spotted Seatrout	496	465	108	25	30		30	93	21				1,267	0.15%
Atlantic Pomfret	465			309	480								1,254	0.15%
Blackcheek Tonguefish	171			235	120	651	60						1,237	0.15%
Lined Seahorse		16	418	322	210	62	60	62					1,149	0.14%
Yellow Conger		31		309		713							1,053	0.13%
Hardhead Catfish	574	31		173	180						62		1,020	0.12%
Planehead Filefish		62		161		186	540		21		31		1,001	0.12%
Lookdown	341						90	217	269		31		948	0.12%
Spanish Sardine	434		445					31					910	0.11%
Irish Pompano		775											775	0.09%
Atlantic Needlefish			81	25	90		480					84	760	0.09%

Table 8 (cont'd)
Estimated Number of Fish Impinged each Month at Crystal River Power Plant - Unit 3 (December 2006 - November 2007)

Crystal River Unit 3: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Speckled Stargazer		248	337										585	0.07%
Gulf Pipefish		155	162	124			30	31					501	0.06%
Atlantic Midshipman				359		124							483	0.06%
Hogchoker				161	60	186			41				448	0.05%
Atlantic Stingray			337						83				420	0.05%
Great Barracuda		155			90	124							369	0.04%
Ocellated Flounder			337			31							368	0.04%
Spiny Searobin	341												341	0.04%
Spanish Grunt			337										337	0.04%
Smooth Butterfly Ray				25	60	248							333	0.04%
Scrawled Filefish				309					21				330	0.04%
Southern Kingfish		155		173									328	0.04%
Gulf Kingfish	279								21				300	0.04%
Gray Snapper			162	99							31		292	0.04%
Florida Blenny		62		25								107	193	0.02%
American Eel		155											155	0.02%
Vermilion Snapper		155											155	0.02%
Black Sea Bass	31	16				31	30	31					139	0.02%
Lined Sole				99									99	0.01%
Spiny Searobin	31	62											93	0.01%
Oyster Toadfish	31									60			91	0.01%
Balao							90						90	0.01%
Gulf Flounder			27			62							89	0.01%
Longfin Blenny	31	47											78	0.01%
Highfin Goby						62							62	0.01%
Sand Perch						62							62	0.01%
Spanish Mackerel						62							62	0.01%
Redfin Needlefish							30	31					61	0.01%
Ladyfish					60								60	0.01%
Bigscale Pomfret						31			21				52	0.01%
White Grunt								31	21				52	0.01%
Goldspotted Killifish				49									49	0.01%
Shrimp Eel				49									49	0.01%
Speckled Worm Eel				49									49	0.01%
Bluntnose Jack									41				41	0.01%
Bluntnose Stingray						31							31	0.00%
Harvestfish						31							31	0.00%
Florida Pompano						31							31	0.00%
Whitefin Sharksucker											31		31	0.00%
Sheepshead							30						30	0.00%
Striped Mullet					30								30	0.00%
Cobia									21				21	0.00%
Fringed Sole		16											16	0.00%
Total	78,585	68,185	451,773	151,728	7,140	18,786	16,920	7,657	12,090	2,670	2,728	2,882	821,144	100.00%

Table 9
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant - Unit 3 (December 2006 - November 2007)

Crystal River Unit 3: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Polka-dot Batfish	541,042	274,251	360,349	901,636	179,256	1,246,761	1,258,089	516,392	249,614	255,500	233,582	221,238	6,237,708	41.87%
Atlantic thread herring		27,773	2,282,940	1,003,458	3,216	195		22	1,912				3,319,516	22.28%
Scaled Sardine	21,681	6,916	848,911	4,840	72								882,419	5.92%
Pigfish		5,162		753,075		6,476	1,149	1,054	1,600	1,614			770,129	5.17%
Silver Perch	478,912	58,106	73,339	25,209		434	5,116	1,355	3,480				645,952	4.34%
Blueback Herring			376,503										376,503	2.53%
Pinfish	24,095	14,415	15,994	298,767		1,533	426		184				355,415	2.39%
Striped Burrfish	112,124	19,449	54,572	21,691	70,452	2,440	84	428				5,373	286,613	1.92%
Scrawled Cowfish	13,659	34,164	149,195	20,022	18,324	9,359	3,729					4,126	252,577	1.70%
Striped Mojarra	46,143	1,964	35,883	121,384		781						405	206,560	1.39%
Orange Filefish	149,343	41,060			468		1,154		29				192,053	1.29%
Spotfin Mojarra	34,604	72,056	9,353	25,296									141,309	0.95%
Bay Anchovy	4,483	34,945	74,190	3,584	2,007	437	39					84	119,769	0.80%
Silver Seatrout				63,010	570	6,429	177	14,713	312		5,971		91,182	0.61%
Atlantic Stingray			77,681						5,373				83,054	0.56%
Gafftopsail Catfish				36,625	39,117					3,267			79,009	0.53%
Striped Anchovy		2,795	62,034	7,292	3,534	456			62				76,172	0.51%
Atlantic Spadefish	6,151	38,564	1,199	14,934	4,620				3,542				69,011	0.46%
Inshore Lizardfish	6,969		10,207			43,176							60,352	0.41%
Leopard Searobin	583	19,976	6,842	19,919		2,203							49,524	0.33%
Bighead Searobin			9,249	31,003		2,040							42,291	0.28%
Spanish Mackerel						39,705							39,705	0.27%
Smooth Butterfly Ray				2,796	5,343	27,878							36,018	0.24%
Yellow Conger		893		8,414		23,222							32,529	0.22%
Spotted Seatrout	4,596	6,820	2,231	723	15,708		18	1,144	64				31,304	0.21%
Atlantic Midshipman				23,971		6,318							30,288	0.20%
Ladyfish					26,490								26,490	0.18%
Flounder sp.		1,488	485	9,958		10,315		81					22,327	0.15%
Blackcheek Tonguefish	3,342			3,524	408	14,700	294						22,268	0.15%
Southern Puffer		2,759	3,800	3,832	1,554	7,614	432	1,401	105				21,497	0.14%
Striped Mullet					20,904								20,904	0.14%
Feather Blenny	104	1,287	7,710	6,796	276		240		448		2,207		19,068	0.13%
Atlantic Croaker	13,595	1,770	1,577	1,482	390	217							19,031	0.13%
Leopard Toadfish	171	524		5,383	3,942	552			7,653				18,224	0.12%
Inland Silverside	276	1,755	15,256								198		17,485	0.12%
American Eel		13,966											13,966	0.09%
Hardhead Catfish	4,722	251		1,571	3,630						2,548		12,723	0.09%
Atlantic Needlefish			57	205	117		327					11,622	12,328	0.08%
Halfbeak			11,323				51	81					11,454	0.08%
Lane Snapper	2,573	5,549	1,434	742	90	198						116	10,702	0.07%
Spanish Sardine	1,612		8,346					22					9,980	0.07%
Atlantic Silverside	319		9,146										9,466	0.06%
Bigscale Pomfret						6,178			2,858				9,037	0.06%
Leatherjacket	50		8,091						107		109	194	8,551	0.06%
Hogchoker				1,783	204	5,245			1,250				8,483	0.06%
Lookdown	6,374						201	527	488		118		7,707	0.05%
Lined Seahorse		59	365	4,628	1,125	688	24	763					7,652	0.05%
Irish Pompano		7,549											7,549	0.05%

Table 9 (cont'd)
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant - Unit 3 (December 2006 - November 2007)

Crystal River Unit 3: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Harvestfish						6,708							6,708	0.05%
Atlantic Bumper								192	4,707	84		1,605	6,588	0.04%
Planehead Filefish		96		283		1,045	642		513		3,097		5,676	0.04%
Gulf Toadfish		1,364	3,321		42			9					4,737	0.03%
Sand Perch						4,671							4,671	0.03%
Atlantic Pomfret	378			3,217	408								4,003	0.03%
Bluntnose Stingray						3,835							3,835	0.03%
Gray Snapper			267	544							2,908		3,719	0.02%
Bighead Searobin		3,199											3,199	0.02%
Great Barracuda		279			63	2,784							3,126	0.02%
Southern Kingfish		930		2,096									3,026	0.02%
Bigeye Searobin			2,459	208		186							2,853	0.02%
Spiny Searobin	2,421												2,421	0.02%
Black Sea Bass	1,485	48				56	111	152					1,852	0.01%
Gulf Kingfish	1,603								60				1,663	0.01%
Goldspotted Killifish				1,447									1,447	0.01%
Speckled Stargazer		422	1,011										1,432	0.01%
Vermilion Snapper		1,380											1,380	0.01%
Ocellated Flounder			236			1,116							1,352	0.01%
Speckled Worm Eel				1,267									1,267	0.01%
Florida Blenny		660		77								508	1,245	0.01%
Scrawled Filefish				928					60				988	0.01%
Sheepshead							951						951	0.01%
Gulf Pipefish		248	121	223			24	68					684	0.005%
Spanish Grunt			674										674	0.005%
Shrimp Eel				569									569	0.004%
Fringed Sole		420											420	0.003%
Redfin Needlefish							303	56					359	0.002%
Highfin Goby						322							322	0.002%
Longfin Blenny	19	220											239	0.002%
Gulf Flounder			22			195							217	0.001%
Lined Sole				183									183	0.001%
Oyster Toadfish	59									84			143	0.001%
White Grunt								68	58				126	0.001%
Spiny Searobin	37	51											88	0.001%
Bluntnose Jack									87				87	0.001%
Balao							69						69	0.0005%
Whitefin Sharksucker											56		56	0.0004%
Cobia									0				0	0.00%
Florida Pompano						0							0	0.00%
Total	1,483,523	705,581	4,526,371	3,438,599	402,330	1,486,469	1,273,650	538,526	284,567	260,549	250,793	245,270	14,896,226	100.00%

Table 10
Estimated Number of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)

Crystal River Units 1, 2 & 3: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Atlantic thread herring		2,170	167,080	34,228	80	160	59	125	160				204,060	21.58%
Bay Anchovy	4,068	36,368	93,475	2,981	1,632	62	30	33		30		186	138,865	14.68%
Scaled Sardine	3,450	1,140	102,365	696	80								107,731	11.39%
Polka-dot Batfish	11,281	4,569	4,945	13,865	2,150	13,000	14,544	7,982	3,252	3,666	3,948	4,347	87,548	9.26%
Silver Perch	57,263	12,283	6,099	2,576		601	3,680	1,388	1,889	31			85,809	9.07%
Pigfish		465	113	61,459		2,770	880	695	371	30			66,783	7.06%
Blueback Herring			63,478						21				63,499	6.72%
Pinfish	2,512	2,475	1,170	26,362		346	450	99	41		33		33,489	3.54%
Spotfin Mojarra	12,093	12,934	3,058	2,715									30,800	3.26%
Striped Mojarra	6,140	315	2,664	10,576		124						52	19,871	2.10%
Bighead Searobin	14	756	1,246	6,441		466							8,922	0.94%
Atlantic Bumper								433	7,705	90	195	150	8,573	0.91%
Striped Anchovy		853	3,472	1,378	955	374	136		21				7,189	0.76%
Leopard Searobin	107	2,853	2,550	980		186							6,676	0.71%
Inland Silverside	119	319	5,323						62	31	62	36	5,952	0.63%
Orange Filefish	867	465			159		2,478		21				3,990	0.42%
Scrawled Cowfish	155	216	907	1,315	159	499	117				33	166	3,567	0.38%
Bigeye Searobin			3,163	233		94							3,489	0.37%
Leatherjacket	31		2,851						145		62	114	3,204	0.34%
Atlantic Croaker	1,606	406	44	235	159	252		30					2,733	0.29%
Feather Blenny	88	187	820	867	80		87	66	41		315		2,552	0.27%
Southern Puffer		310	485	439	239	310	255	440	21				2,498	0.26%
Striped Burrfish	891	76	337	254	438	93	150	61			31	140	2,471	0.26%
Silver Seatrout	251			1,612	40	31	30	62	269		31		2,326	0.25%
Gulf Toadfish		1,057	964		80			92					2,193	0.23%
Flounder sp.		488	108	631		873		31					2,131	0.23%
Atlantic Spadefish	521	472	54	799	159				83				2,087	0.22%
Gafftopsail Catfish				982	1,035					30			2,047	0.22%
Atlantic Silverside	93	32	1,913										2,038	0.22%
Blackcheek Tonguefish	479	158		235	159	939	60						2,029	0.21%
Halfbeak			1,566				362	93					2,021	0.21%
Planehead Filefish	251	76		161		218	1,143	94	21		31		1,994	0.21%
Inshore Lizardfish	248	143	337			1,116							1,844	0.20%
Lane Snapper	685	623	27	99	80	62						140	1,715	0.18%
Hardhead Catfish	1,092	31		173	239					30	93		1,659	0.18%
Leopard Toadfish	31	186		928	80	253	29		103				1,609	0.17%
Lookdown	341						178	589	427		31		1,566	0.17%
Lined Seahorse	31	16	418	322	279	62	323	62			33		1,545	0.16%
Atlantic Pomfret	522			309	637	32							1,500	0.16%
Spotted Seatrout	524	465	153	25	40		60	123	41				1,432	0.15%
Atlantic Needlefish			81	25	119		956	30				114	1,325	0.14%
Yellow Conger		31		309		745							1,085	0.11%
Spanish Sardine	434		486					31					951	0.10%
Irish Pompano		775											775	0.08%
Gulf Pipefish		155	205	124			234	31					749	0.08%
Speckled Stargazer		248	337										585	0.06%
Spiny Searobin	523												523	0.06%
Atlantic Stingray	14		337						121	30			502	0.05%
Hogchoker				161	80	186			41	30			498	0.05%

Table 10 (cont'd)
Estimated Number of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)

Crystal River Units 1, 2 & 3: Estimated Number of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Atlantic Midshipman				359		124							483	0.05%
Smooth Butterfly Ray				42	80	312	29						463	0.05%
Great Barracuda		155			119	124		63					462	0.05%
Ocellated Flounder			337			95							432	0.05%
Spanish Grunt			378										378	0.04%
Scrawled Filefish		14		309				30	21				375	0.04%
Southern Kingfish		155		173		32							360	0.04%
Black Sea Bass	45	16				95	60	130					347	0.04%
American Eel		342											342	0.04%
Florida Blenny		92		76								166	334	0.04%
Gray Snapper			162	138							31		331	0.03%
Gulf Kingfish	279								21				300	0.03%
Spanish Mackerel				104		62							166	0.02%
Vermilion Snapper		155											155	0.02%
Gulf Flounder			27			62						36	125	0.01%
Oyster Toadfish	31									60	31		122	0.01%
Striped Mullet					40		68						108	0.01%
Lined Sole				99									99	0.01%
Spiny Searobin	31	62											93	0.01%
Balao							90						90	0.01%
Ladyfish					80								80	0.01%
White Grunt				26				31	21				78	0.01%
Longfin Blenny	31	47											78	0.01%
Chain Pipefish								66					66	0.01%
Harvestfish						31					31		62	0.01%
Highfin Goby						62							62	0.01%
Sand Perch						62							62	0.01%
Redfin Needlefish							30	31					61	0.01%
Bigscale Pomfret						31			21				52	0.01%
Mojarra sp. (juvenile)									21	31			52	0.01%
Goldspotted Killifish				49									49	0.01%
Shrimp Eel				49									49	0.01%
Speckled Worm Eel				49									49	0.01%
Bluntnose Jack									41				41	0.004%
Spottail Pinfish											33		33	0.003%
Bluntnose Stingray						31							31	0.003%
Florida Pompano						31							31	0.003%
Whitefin Sharksucker											31		31	0.003%
Sheepshead							30						30	0.003%
Cobia									21				21	0.002%
Sergeant Major									19				19	0.002%
Bluefish	16												16	0.002%
Fringed Sole		16											16	0.002%
Total	107,158	85,169	473,536	175,967	9,474	25,005	26,548	12,942	15,042	4,089	5,055	5,645	945,631	100.00%

Table 11
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)

Crystal River Unit 1, 2 & 3: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Polka-dot Batfish	1,099,528	404,324	438,690	1,109,814	237,857	1,593,869	1,733,229	833,145	333,593	365,278	400,776	443,013	8,993,116	46.72%
Atlantic Thread Herring		27,773	2,463,142	1,048,643	4,267	1,313	133	483	2,065				3,547,821	18.43%
Scaled Sardine	173,102	7,157	860,665	9,170	96								1,050,190	5.46%
Pigfish		5,162	1,911	912,336		17,958	2,923	2,940	1,896	1,614			946,740	4.92%
Silver Perch	541,960	94,497	87,637	27,627		779	6,038	2,890	5,098	382			766,908	3.98%
Striped Burrfish	221,262	21,794	54,572	34,971	93,484	24,762	2,911	3,611			16	32,317	489,699	2.54%
Pinfish	25,318	24,806	16,896	358,388		2,410	508	1,071	735		2,290		432,423	2.25%
Blueback Herring			376,503						591				377,094	1.96%
Orange Filefish	294,661	41,060			621		2,617		29				338,987	1.76%
Scrawled Cowfish	13,659	34,311	149,758	20,311	24,314	11,612	9,787				940	6,320	271,014	1.41%
Striped Mojarra	55,924	4,154	39,519	160,231		781						942	261,552	1.36%
Spotfin Mojarra	108,943	112,953	9,550	26,469									257,914	1.34%
Bay Anchovy	6,400	35,446	82,434	3,718	2,663	437	39	30		21		186	131,374	0.68%
Silver Seatrout	3,593			66,121	756	6,429	177	14,713	408		5,971		98,168	0.51%
Gafftopsail Catfish				37,113	51,905					3,267			92,285	0.48%
Atlantic Stingray	1,216		77,681						6,904	2,828			88,629	0.46%
Smooth Butterfly Ray				38,150	7,090	36,611	5,561						87,411	0.45%
Striped Anchovy		2,810	62,795	8,112	4,689	552	150		62				79,170	0.41%
Atlantic Spadefish	6,683	40,814	1,199	17,378	6,130				3,542				75,747	0.39%
Leopard Searobin	637	26,522	6,895	32,862		2,203							69,119	0.36%
Inshore Lizardfish	6,969	4,802	10,207			43,176							65,153	0.34%
Spanish Mackerel				11,365		39,705							51,070	0.27%
Bighead Searobin	85	3,361	9,375	33,282		2,407							48,511	0.25%
Spotted Seatrout	4,967	6,820	3,470	723	20,843		94	1,504	99				38,520	0.20%
Ladyfish					35,150								35,150	0.18%
Yellow Conger		893		8,414		24,487							33,794	0.18%
Blackcheek Tonguefish	11,253	771		3,524	541	15,709	294						32,093	0.17%
American Eel		31,745											31,745	0.16%
Atlantic Midshipman				23,971		6,318							30,288	0.16%
Atlantic Croaker	21,234	2,709	1,850	1,482	517	1,451		133					29,377	0.15%
Striped Mullet					27,738		286						28,023	0.15%
Feather Blenny	343	1,699	9,329	7,198	366		960	1,442	811		4,138		26,285	0.14%
Hardhead Catfish	8,976	251		1,571	4,817					3,371	5,874		24,861	0.13%
Flounder sp.		1,773	485	9,958		12,257		81					24,554	0.13%
Southern Puffer		2,759	3,800	4,042	2,062	7,614	1,021	2,313	105				23,716	0.12%
Leopard Toadfish	171	524		5,383	5,231	841	635		8,731				21,514	0.11%
Gulf Toadfish		4,215	3,461		56			13,745					21,476	0.11%
Inland Silverside	502	2,211	16,966						110	68	198	146	20,201	0.10%
Atlantic Needlefish			57	205	155		633	236				15,680	16,966	0.09%
Atlantic Bumper								256	6,805	255	1,450	7,071	15,837	0.08%
Lane Snapper	3,276	6,880	1,434	742	119	198						291	12,941	0.07%
Halfbeak			12,172				167	81					12,420	0.06%
Spanish Sardine	1,612		8,773					22					10,406	0.05%
Atlantic Silverside	319	187	9,146										9,653	0.05%
Hogchoker				1,783	271	5,245			1,250	880			9,429	0.05%
Lookdown	6,374						324	1,360	914		118		9,089	0.05%
Bigscale Pomfret						6,178			2,858				9,037	0.05%
Leatherjacket	50		8,341						209		109	262	8,971	0.05%
Lined Seahorse	82	59	365	4,628	1,493	688	342	763			26		8,445	0.04%

Table 11 (cont'd)
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)

Crystal River Unit 1, 2 & 3: Estimated Weight (g) of Impinged Fish														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Planehead Filefish	301	110		283		1,076	2,332	462	513		3,097		8,174	0.04%
Irish Pompano		7,549											7,549	0.04%
Great Barracuda		279			84	2,784		3,858					7,004	0.04%
Harvestfish						6,708					255		6,963	0.04%
Sand Perch						4,671							4,671	0.02%
Atlantic Pomfret	407			3,217	541	41							4,206	0.02%
Black Sea Bass	1,822	48				287	178	1,783					4,118	0.02%
Florida Blenny		2,979		204								900	4,083	0.02%
Bigeye Searobin			3,293	260		408							3,961	0.02%
Gray Snapper			267	747							2,908		3,921	0.02%
Bluntnose Stingray						3,835							3,835	0.02%
Spiny Searobin	3,172												3,172	0.02%
Southern Kingfish		930		2,096		35							3,061	0.02%
Gulf Flounder			22			195						2,427	2,644	0.01%
Gulf Kingfish	1,603								60				1,663	0.01%
Ocellated Flounder			236			1,360							1,596	0.01%
Goldspotted Killifish				1,447									1,447	0.01%
Speckled Stargazer		422	1,011										1,432	0.01%
Vermilion Snapper		1,380											1,380	0.01%
Spottail Pinfish											1,307		1,307	0.01%
Speckled Worm Eel				1,267									1,267	0.01%
Scrawled Filefish		13		928				42	60				1,043	0.01%
Sheepshead							951						951	0.005%
Gulf Pipefish		248	160	223			146	68					846	0.004%
Spanish Grunt			781										781	0.004%
Oyster Toadfish	59									84	473		615	0.003%
Shrimp Eel				569									569	0.003%
Fringed Sole		420											420	0.002%
Redfin Needlefish							303	56					359	0.002%
Highfin Goby						322							322	0.002%
Longfin Blenny	19	220											239	0.001%
Lined Sole				183									183	0.001%
White Grunt				44				68	58				170	0.001%
Spiny Searobin	37	51											88	0.0005%
Bluntnose Jack									87				87	0.0005%
Chain Pipefish								73					73	0.0004%
Balao							69						69	0.0004%
Sergeant Major									67				67	0.0003%
Bluefish	60												60	0.0003%
Whitefin Sharksucker											56		56	0.0003%
Mojarra sp. (juvenile)									19	28			46	0.0002%
Cobia									0				0	0.0000%
Florida Pompano						0							0	0.0000%
Total	2,626,576	969,891	4,834,848	4,041,155	533,857	1,887,713	1,772,808	887,226	377,679	378,076	430,000	509,556	19,249,386	100.00%

Figure 3
Estimated Number of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)

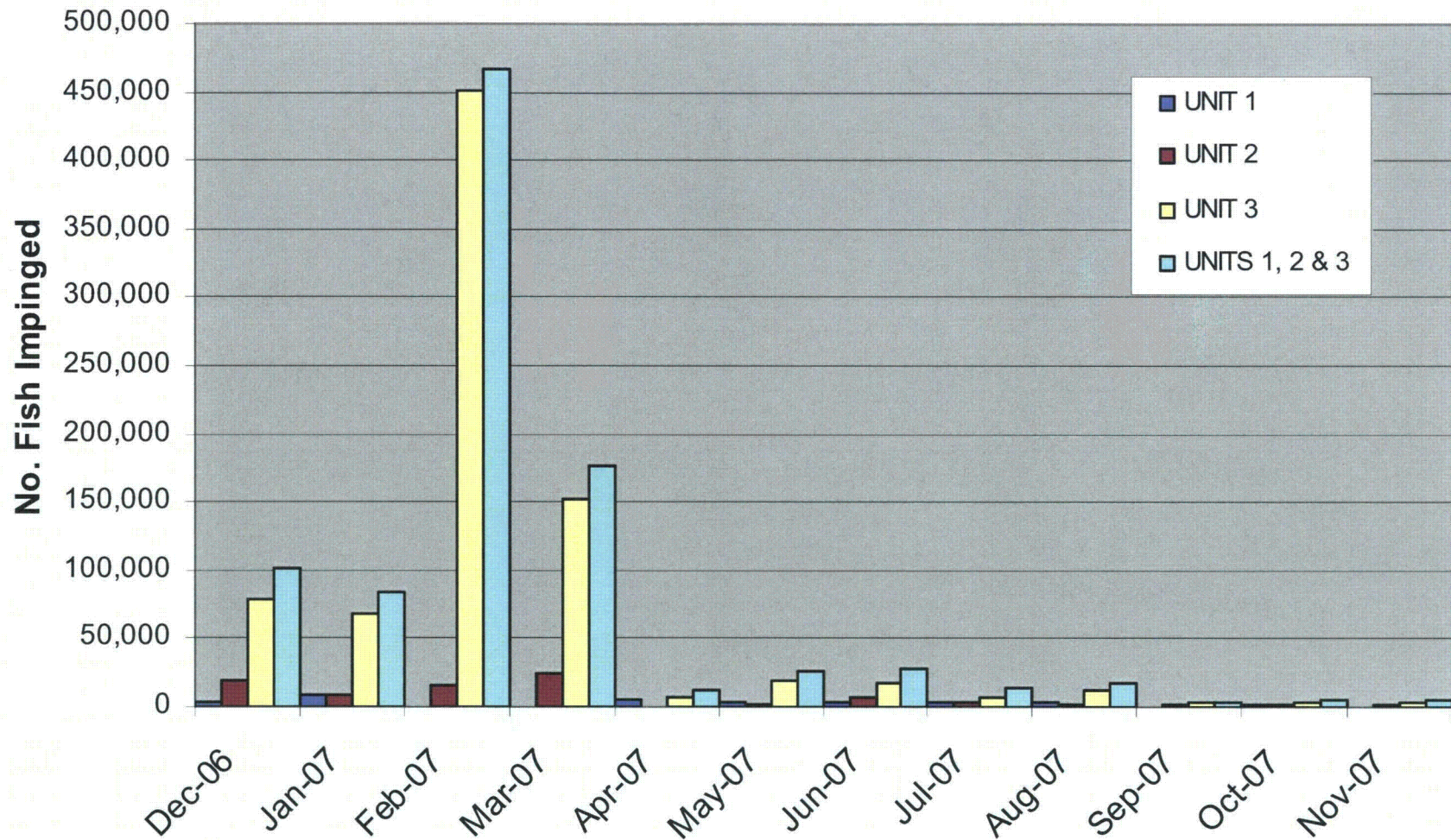
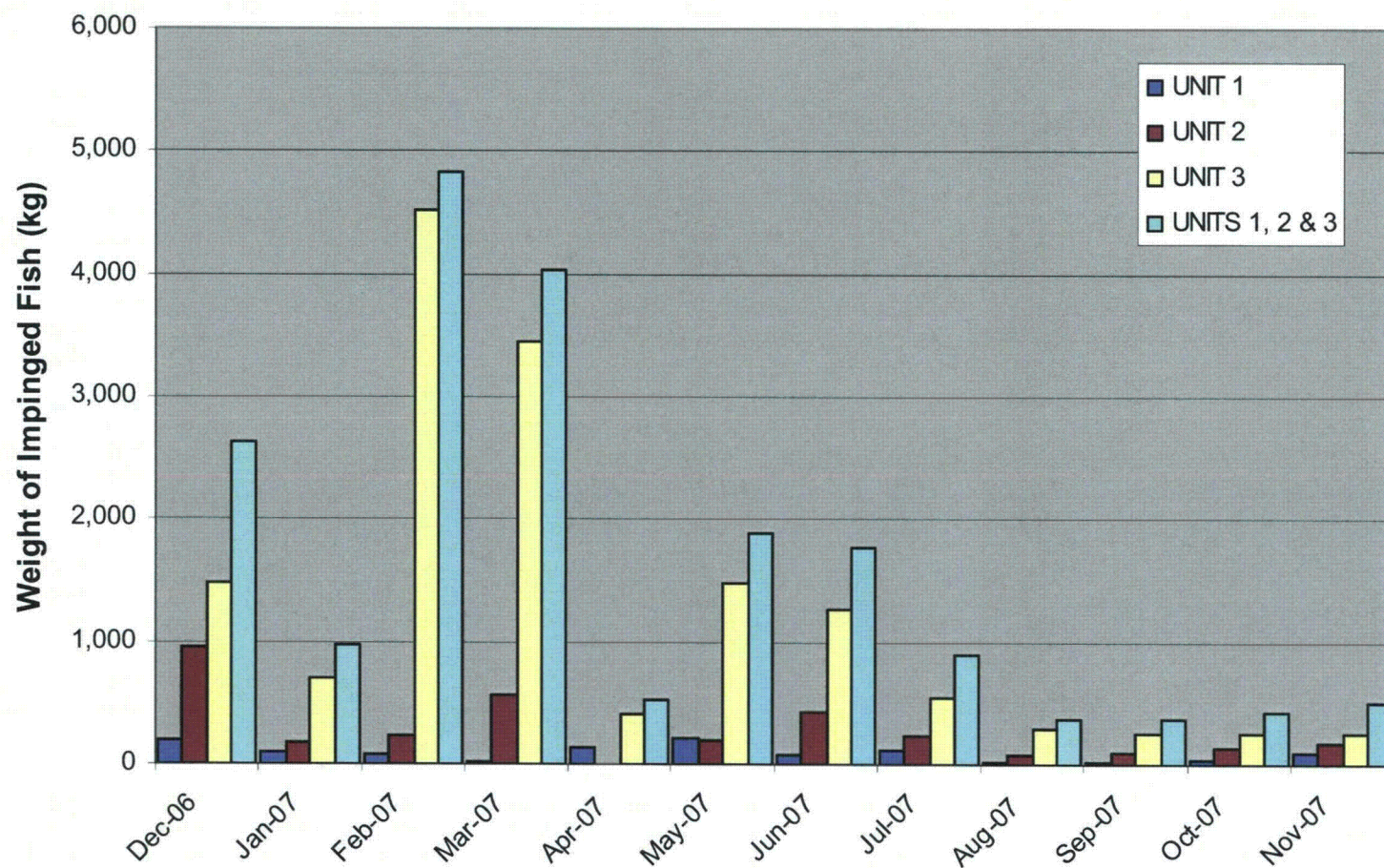


Figure 4
Estimated Weight of Fish Impinged each Month at Crystal River Power Plant – All Units (December 2006 - November 2007)



3.1.1 Condition of Impinged Fish

The initial condition of the fish was recorded as part of the impingement abundance study. The total extrapolated numbers of live, recently dead and long dead fish impinged at Crystal River on a daily and monthly basis are presented in Appendices 3-8. An annual summary of fish condition is presented in Table 12. The majority of fish (79.5% to 92.6%) were categorized as recently dead. The percentages of live fish varied between the three units. Approximately 7.3% of fish collected at Unit 3 were live while 17.3% to 19.9% of fish collected at Units 1 and 2, respectively, were live. This difference in survivability may be related to the increased flows observed at Unit 3 compared to Units 1 and 2 (Appendix 1). With an increase in flow, fish may be subjected more to abrasions.

Table 12. Condition of Fish Impinged at Crystal River Power Plant

Unit	Fish Condition		
	Live	Recently Dead	Long Dead
1	17.3%	82.5%	0.2%
2	19.9%	79.5%	0.6%
3	7.3%	92.6%	0.2%
Mean	14.8%	84.9%	0.3%

Differences were observed in survivability among species. For instance, approximately 78% of the polka-dot batfish collected at Crystal River were alive. Survival levels for Units 1, 2 and 3 were comparable at 79%, 70% and 80%, respectively. This is typically a hardier species compared to some of the pelagic types such as bay anchovy or blue-back herring. Extrapolated numbers of live versus dead polka-dot batfish impinged at Crystal River on a monthly basis are presented in Figure 5.

3.1.2 Length Distribution of Impinged Fish

The lengths of impinged fish were recorded as part of the impingement abundance study. Summaries of length distributions for commonly impinged species are presented in Appendix 9.

3.1.3 Diel Distribution of Impinged Fish

The diel distributions of fish impinged at Crystal River Power Plant Units 1, 2 and 3 are presented in Appendices 10-12 and Figures 6-8. Considerable variability in impingement between day and night occurred among the Units. For example, at Unit 1, a peak density of 0.62 fish per 1,000 m³ was observed during the day sampling event of January 5, 2007. At Unit 2, a peak density of 2.5 fish per 1,000 m³ was observed during the night sampling event of March 2, 2007. At Unit 3, a peak density of 15.7 fish per 1,000 m³ was observed during the night sampling event of February 2, 2007.

Figure 5. Condition of Polka-dot-batfish Impinged at Crystal River

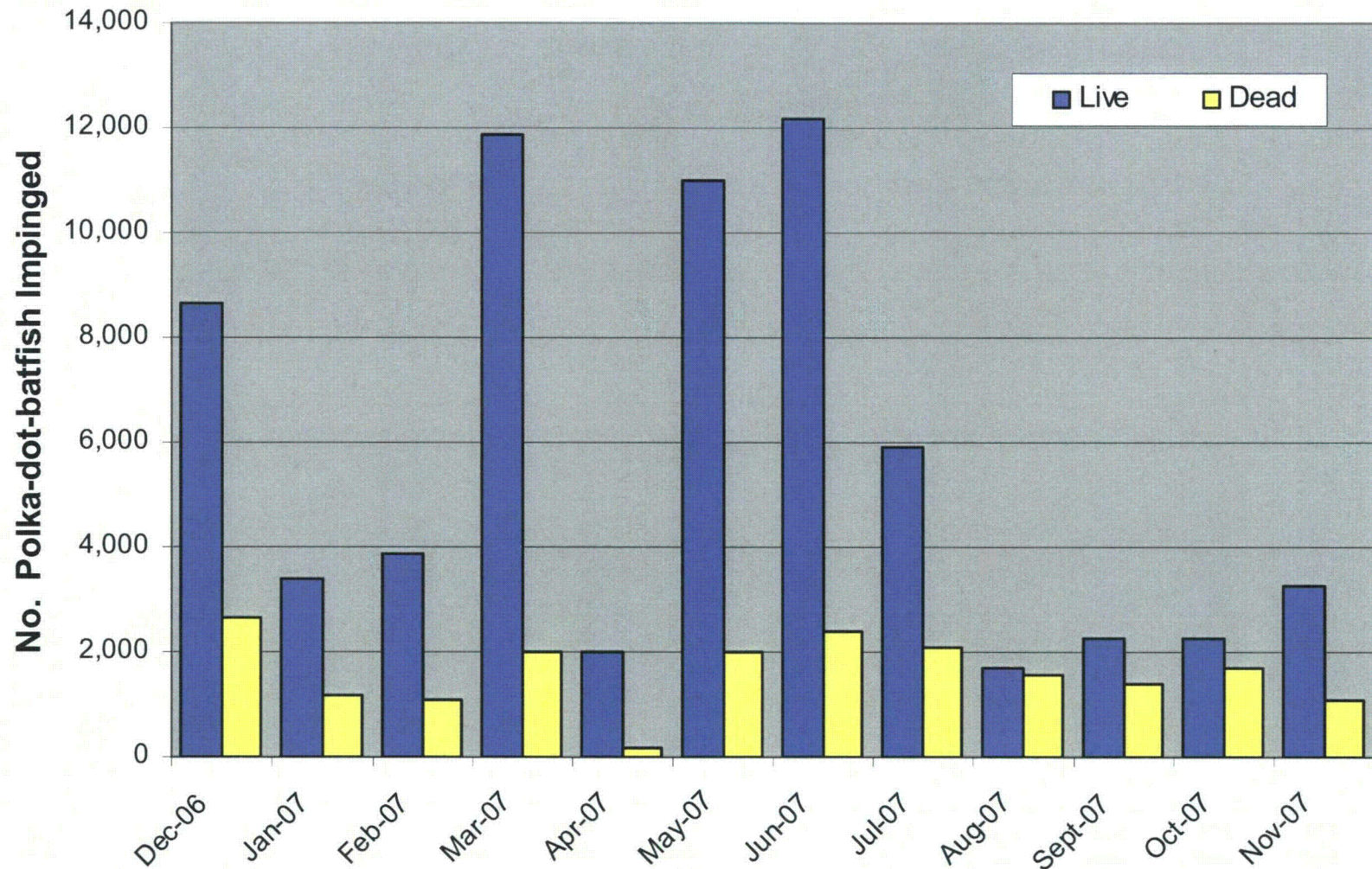


Figure 6. Diel Distribution of Fish Impinged at Crystal River Power Plant – Unit 1

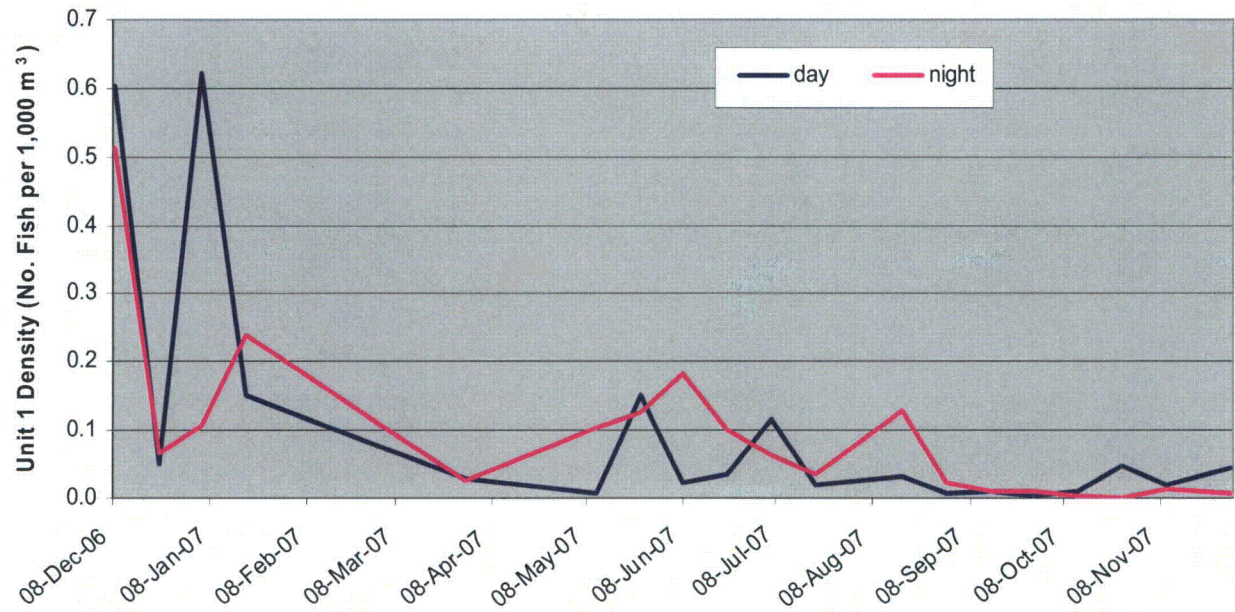


Figure 7. Diel Distribution of Fish Impinged at Crystal River Power Plant – Unit 2

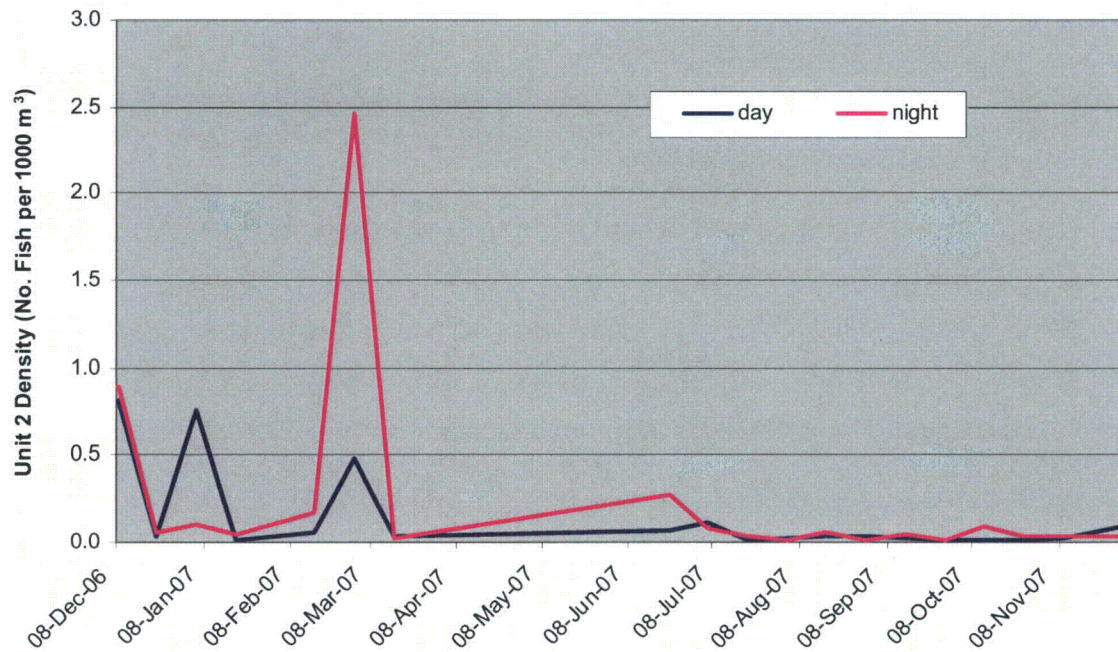
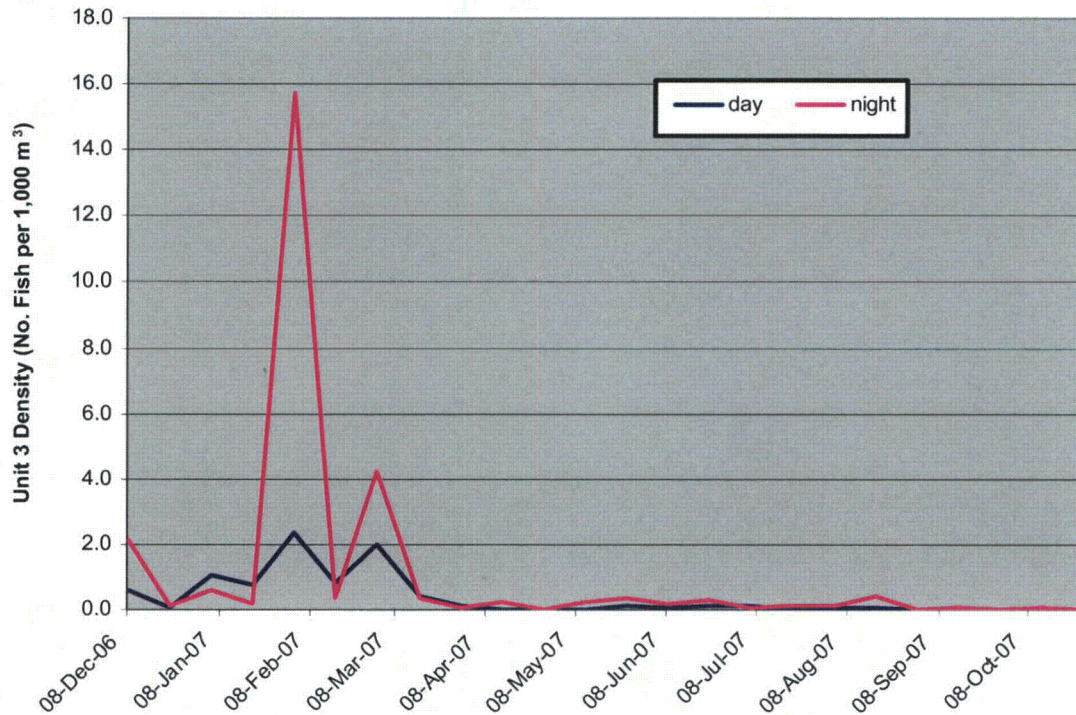


Figure 8. Diel Distribution of Fish Impinged at Crystal River Power Plant – Unit 3



3.2 Invertebrate Impingement

A total of 26 impingement events were carried out between December 7, 2006 and November 30, 2007. A summary of invertebrates collected is presented in Appendix 13 (Unit 1), Appendix 14 (Unit 2) and Appendix 15 (Unit 3).

The total extrapolated number and weight of invertebrates estimated to be impinged at Crystal River Unit 1 is presented in Tables 13-14. Approximately 10% of all invertebrates impinged at Crystal River were impinged at Unit 1. It is estimated that a total of 35,165 invertebrates (529 kg) were impinged at Unit 1. The most abundant species were pink shrimp (44.9%), Atlantic brief squid (11.9%) and iridescent swimming crab (11.2%).

The total extrapolated number and weight of invertebrates estimated to be impinged at Crystal River Unit 2 is presented in Tables 15-16. Approximately 15% of all invertebrates impinged at Crystal River were impinged at Unit 2. It is estimated that a total of 50,178 invertebrates (663 kg) were impinged at Unit 2. The most abundant species were pink shrimp (46.3%), iridescent swimming crab (14.2%) and Atlantic brief squid (11.3%).

The total extrapolated number and weight of invertebrates estimated to be impinged at Crystal River Unit 3 is presented in Tables 17-18. Approximately 75% of all invertebrates impinged at Crystal River were impinged at Unit 3. It is estimated that a total of 256,437 invertebrates (2,633 kg) were impinged at Unit 3. The most abundant species were pink shrimp (44.6%), Atlantic brief squid (17.3%) and false arrow crab (10.8%).

The total extrapolated number and weight of invertebrates estimated to be impinged at Crystal River (All Units Combined) is presented in Tables 19-20 and Figures 9-10. It is estimated that a total of 341,780 invertebrates (3,826 kg) were impinged. The most abundant species were pink shrimp (43.8%), Atlantic brief squid (15.9%) and false arrow crab (10.5%).

Table 13
Estimated Number of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Number of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Pink Shrimp	1,264	4,902	58	73	2,447	1,838	1,883	497	2,183	246	280	144	15,816	44.98%
Atlantic Brief Squid	1,648	487	226	198	539	634	121	199	120	31			4,204	11.96%
Iridescent Swimming Crab	568	143	127	17	216	412	182	1,790	282	31	124	36	3,930	11.18%
False Arrow Crab	57	889	332	228	304	190	1,336	166	204	62			3,767	10.71%
Blue Crab	227	1,046	63	47	667	127	30		140	92	31	36	2,508	7.13%
Florida Stone Crab	128	14	3	155	108	63	121	199	100		404	72	1,367	3.89%
Mantis Shrimp		502	20	17	20	412						36	1,007	2.86%
Blotched Swimming Crab				17	39	32	91	365	100	62		36	741	2.11%
Green Porcelain Crab					29	63	121	99			62		376	1.07%
Florida Grass Shrimp				34	127	158	30						351	1.00%
Narrow Mud Crab					20		30		100		93	36	279	0.79%
Sea Hare						32	91		83				206	0.59%
Longnosed Spider Crab				4	20			33		31	62		150	0.43%
Bareye Hermit		143											143	0.41%
Gulf Grassflat Crab				52	20	32							103	0.29%
Bigclaw Snapping Shrimp	57												57	0.16%
Portly Spider Crab					20				21				40	0.11%
Atlantic Horseshoe Crab						32							32	0.09%
Peppermint Shrimp							30						30	0.09%
Rock Shrimp							30						30	0.09%
Isopod sp.				17									17	0.05%
Common Mud Crab					10								10	0.03%
Total	3,949	8,127	831	860	4,585	4,025	4,099	3,348	3,332	554	1,057	397	35,165	100.00%

Table 14
Estimated Weight (g) of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 1
(December 2006 - November 2007)

Crystal River Unit 1: Estimated Weight (g) of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Pink Shrimp	5,327	25,651	2,207	42,858	77,378	19,312	13,354	3,776	5,895	693	939	516	197,906	37.37%
Blue Crab	1,142	13,801	1,056	3,854	66,344	5,121	237		11,072	7,273	1,874	848	112,622	21.26%
Atlantic Brief Squid	14,222	6,771	11,038	2,473	18,093	5,571	459	942	362	237			60,168	11.36%
Atlantic Horseshoe Crab						34,818							34,818	6.57%
Florida Stone Crab	7,250	22	194	596	2,806	1,778	1,283	3,882	620		3,376	9,086	30,892	5.83%
Longnosed Spider Crab				28,342	253			1,290		40	942		30,867	5.83%
Iridescent Swimming Crab	3,287	970	3,762	146	2,727	710	386	4,277	945	71	1,200	180	18,660	3.52%
Blotched Swimming Crab				27	189	612	1,625	4,694	2,397	2,162		1,876	13,582	2.56%
Sea Hare						3,698	5,715		1,199				10,612	2.00%
Mantis Shrimp		3,819	307	46	377	4,611						189	9,350	1.77%
False Arrow Crab	11	877	527	4,450	592	27	414	86	98	28			7,111	1.34%
Portly Spider Crab					495				620				1,115	0.21%
Narrow Mud Crab					200		12		81		81	43	418	0.08%
Florida Grass Shrimp				24	259	63	27						374	0.07%
Common Mud Crab					342								342	0.06%
Green Porcelain Crab					59	111	64	80			22		335	0.06%
Bareye Hermit		244											244	0.05%
Gulf Grassflat Crab				98	12	25							135	0.03%
Bigclaw Snapping Shrimp	28												28	0.01%
Isopod sp.				26									26	0.005%
Rock Shrimp							18						18	0.003%
Peppermint Shrimp							15						15	0.003%
Total	31,268	52,154	19,092	82,940	170,127	76,458	23,608	19,026	23,288	10,504	8,434	12,738	529,638	100.00%

Table 15
Estimated Number of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Number of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Pink Shrimp	502	158	129	2,231		309	3,807	2,088	10,309	2,702	819	177	23,232	46.30%
Iridescent Swimming Crab	47	254	273	623		220	561	1,755	2,827	90	164	324	7,138	14.23%
Atlantic Brief Squid	3,455	127	430	441		130	265	393	115			324	5,681	11.32%
False Arrow Crab	31	1,712	687	272		163	1,280		38	30		29	4,244	8.46%
Blue Crab	126	190	168	208		98	372	635	596	90	66		2,548	5.08%
Mantis Shrimp	251	1,315	28	246		62	114						2,018	4.02%
Blotched Swimming Crab		174				30	333	363	192	60	33	29	1,214	2.42%
Florida Stone Crab			42			62		30	77	120	590	29	951	1.89%
Florida Stone Crab		681											681	1.36%
Narrow Mud Crab								30	500		98	29	658	1.31%
Sea Hare							57	61	346				464	0.92%
Green Porcelain Crab						65	151				98	29	343	0.68%
Longnosed Spider Crab				13						60	229	29	332	0.66%
Atlantic Horseshoe Crab						33					164		196	0.39%
Portly Spider Crab	16	158											174	0.35%
Florida Grass Shrimp						130	38						168	0.33%
Peppermint Shrimp							38						38	0.08%
Rock Shrimp							38						38	0.08%
Gulf Grassflat Crab						30							30	0.06%
Common Mud Crab												29	29	0.06%
Total	4,428	4,770	1,757	4,035	0	1,332	7,053	5,355	15,001	3,152	2,260	1,032	50,178	100.00%

Table 16
Estimated Weight (g) of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 2
(December 2006 - November 2007)

Crystal River Unit 2: Estimated Weight (g) of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Atlantic Horseshoe Crab		2,742	750	3,321		463	1,993	3,827	1,337			1,947	211,935	31.97%
Blue Crab	1,219					31,978					179,957		167,600	25.28%
Pink Shrimp	2,889	241				562	4,492	3,755	2,693	1,291	1,864	1,062	138,615	20.91%
Atlantic Brief Squid	26,680	15,328	1,180	1,803		2,762	33,923	57,755	43,133	8,676	1,821		43,059	6.50%
Iridescent Swimming Crab	360											18	22,322	3.37%
Sea Hare		1,212	3,269	182		5	264		8	9		18	21,575	3.25%
Mantis Shrimp	904					44	26						18,889	2.85%
Blotched Swimming Crab		222											15,958	2.41%
Florida Stone Crab			189			1,633		1,271	606	696	7,685	77	12,157	1.83%
False Arrow Crab	14					102	60				121	24	4,981	0.75%
Longnosed Spider Crab						23							4,065	0.61%
Portly Spider Crab	64	2,008	2,632	1,993		157	1,104	3,637	7,420	297	878	1,837	572	0.09%
Narrow Mud Crab				45						156	2,866	997	513	0.08%
Green Porcelain Crab		4,054	300	2,711		1,024	9,895						307	0.05%
Florida Stone Crab								21	333		118	41	222	0.03%
Florida Grass Shrimp							14						69	0.01%
Gulf Grassflat Crab		8,371	15,162	23,853		2,721	34,495	11,660	28,385	7,233	3,482	363	23	0.004%
Common Mud Crab		507											18	0.003%
Rock Shrimp							17						17	0.003%
Peppermint Shrimp							9,749	194	11,632				14	0.002%
Total	32,130	34,685	23,482	33,909	0	41,473	96,032	82,118	95,545	18,359	198,793	6,383	662,908	100.00%

Table 17
Estimated Number of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 3
(December 2006 - November 2007)

Crystal River Unit 3: Estimated Number of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Pink Shrimp	2,170	7,223	3,113	13,438	7,470	32,085	13,380	2,883	28,231	3,540	527	382	114,442	44.61%
Atlantic Brief Squid	3,271	10,912	11,440	11,891	1,650	1,023	630	1,581	1,633		93	307	44,430	17.33%
False Arrow Crab	93	4,123	16,830	5,321	930	62	180	93	41	30	31	22	27,756	10.82%
Blue Crab	2,170	4,790	5,228	6,620	2,040	4,185	810	93	455	90	31		26,511	10.34%
Iridescent Swimming Crab	1,643	2,201	9,769	1,361	660	1,147	720	1,674	2,356	150	279	929	22,889	8.93%
Mantis Shrimp	93	2,170	296	2,165	60	1,891	120						6,796	2.65%
Florida Stone Crab	62	930	27	99	330	775	1,080	465	620	60	310	84	4,842	1.89%
Sea Hare						341	180	1,116	393	60			2,090	0.81%
Blotched Swimming Crab	62			74	120	341	120	651	475	30	31	22	1,927	0.75%
Florida Grass Shrimp				322	390	341	30						1,083	0.42%
Gulf Grassflat Crab				285	60	217	90	31					683	0.27%
Narrow Mud Crab				99	60			31	62	60	279	22	613	0.24%
Green Porcelain Crab	31			49	90		90	62		60	62	84	529	0.21%
Isopod sp.				445									445	0.17%
Portly Spider Crab	310	31			60	31							432	0.17%
Longnosed Spider Crab				37	60	31			41		62	84	316	0.12%
Urn Crab				25						60	31		116	0.05%
Stone Crab			108										108	0.04%
Cancellate Cantharus Snail							60						60	0.02%
Sea Roach							60						60	0.02%
Common Mud Crab					30								52	0.02%
Knotfinger Mud Crab						31			21				52	0.02%
Atlantic Horseshoe Crab						31							31	0.01%
Bigclaw Snapping Shrimp						31							31	0.01%
Shortfinger Neck Crab								31					31	0.01%
Spineback Hairy Crab											31		31	0.01%
Marsh Crab										30			30	0.01%
Speckled Swimming Crab			27										27	0.01%
Banded Dwarf Hermit Crab				25									25	0.01%
Total	9,905	32,380	46,837	42,257	14,010	42,563	17,550	8,711	34,327	4,170	1,767	1,961	256,437	100.00%

Table 18
Estimated Weight (g) of Invertebrates Impinged each Month at Crystal River Power Plant – Unit 3
(December 2006 - November 2007)

Crystal River Unit 3: Estimated Weight of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Blue Crab	170,113	97,470	77,492	41,129	67,523	428,765	54,516	7,285	36,357	6,450	617		987,717	37.51%
Pink Shrimp	28,139	44,487	27,507	176,265	78,753	392,991	80,618	12,531	68,305	10,700	1,693	659	922,646	35.04%
Atlantic Brief Squid	16,061	39,931	83,073	113,552	18,414	10,217	5,076	7,728	4,911		2,170	1,914	303,047	11.51%
Iridescent Swimming Crab	6,420	6,141	60,977	4,150	2,775	6,854	8,721	4,064	4,996	312	1,159	5,262	111,832	4.25%
Sea Hare						33,939	13,455	24,518	9,033	3,126			84,071	3.19%
Mantis Shrimp	1,628	21,173	1,932	23,586	384	27,861	1,938						78,501	2.98%
Florida Stone Crab	598	1,767	5	1,058	2,856	10,831	7,785	5,282	5,330	4,293	4,865	220	44,891	1.70%
Blotched Swimming Crab	62			84	192	9,219	4,359	10,779	9,149	804	1,659	802	37,109	1.41%
Atlantic Horseshoe Crab						34,060							34,060	1.29%
False Arrow Crab	62	4,743	4,324	3,615	603	99	60	47	29	18	37	13	13,650	0.52%
Longnosed Spider Crab				789	258	1,091			54		725	2,855	5,772	0.22%
Portly Spider Crab	2,362	133			504	911							3,911	0.15%
Gulf Grassflat Crab				1,443	12	180	111	19					1,765	0.07%
Florida Grass Shrimp				296	264	332	18						909	0.03%
Narrow Mud Crab				188	204			22	52	30	329	31	855	0.03%
Green Porcelain Crab	78			37	60		69	96		60	43	68	511	0.02%
Common Mud Crab					348							13	361	0.01%
Cancellate Cantharus Snail							354						354	0.01%
Knotfinger Mud Crab						211			2				213	0.01%
Spineback Hairy Crab											189		189	0.01%
Bigclaw Snapping Shrimp						171							171	0.01%
Um Crab				30						78	56		163	0.01%
Isopod sp.				120									120	0.00%
Stone Crab			75										75	0.00%
Speckled Swimming Crab			57										57	0.00%
Sea Roach							42						42	0.00%
Shortfinger Neck Crab								25					25	0.00%
Banded Dwarf Hermit Crab				7									7	0.00%
Marsh Crab										0			0	0.00%
Total	225,522	215,845	255,443	366,351	173,149	957,732	177,122	72,394	138,218	25,871	13,542	11,837	2,633,026	100.00%

Table 19
Estimated Number of Invertebrates Impinged each Month at Crystal River Power Plant – All Units Combined
(December 2006 - November 2007)

Crystal River Units 1, 2 & 3: Estimated Number of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	% of Total
Pink Shrimp	3,937	12,284	3,300	15,743	9,917	34,232	15,290	5,468	40,723	6,488	1,626	704	149,710	43.80%
Atlantic Brief Squid	8,373	11,526	12,096	12,530	2,189	1,787	1,017	2,173	1,868	31	93	632	54,316	15.89%
False Arrow Crab	181	6,723	17,849	5,821	1,234	415	2,796	259	283	122	31	52	35,767	10.46%
Iridescent Swimming Crab	2,258	2,598	10,169	2,001	876	1,779	1,464	5,219	5,466	271	567	1,290	33,957	9.94%
Blue Crab	2,523	6,026	5,460	6,875	2,707	4,409	1,212	728	1,191	272	128	36	31,567	9.24%
Mantis Shrimp	344	3,987	345	2,429	80	2,365	234					36	9,820	2.87%
Florida Stone Crab	190	944	72	254	438	901	1,201	694	797	180	1,304	186	7,161	2.10%
Portly Spider Crab	326	189			80	31	3,780		21				4,427	1.30%
Blotched Swimming Crab	62	174		91	159	403	544	1,379	767	152	64	88	3,882	1.14%
Sea Hare						373	68	1,177	822	60			2,499	0.73%
Florida Grass Shrimp				356	517	630	98						1,601	0.47%
Narrow Mud Crab				99	80		30	61	662	60	471	88	1,550	0.45%
Green Porcelain Crab	31			49	119	129	362	161		60	222	114	1,248	0.37%
Gulf Grassflat Crab				336	80	279	90	31					815	0.24%
Longnosed Spider Crab				54	80	31		33	41	91	353	114	798	0.23%
Florida Stone Crab		681											681	0.20%
Isopod sp.				463									463	0.14%
Sea Roach							328						328	0.10%
Atlantic Horseshoe Crab						95					164		259	0.08%
Bareye Hermit		143											143	0.04%
Urn Crab				25						60	31		116	0.03%
Stone Crab			108										108	0.03%
Common Mud Crab					40							52	92	0.03%
Shortfinger Neck Crab							60	31					91	0.03%
Bigclaw Snapping Shrimp	57					31							88	0.03%
Peppermint Shrimp							68						68	0.02%
Cancellate Cantharus Snail							60						60	0.02%
Knotfinger Mud Crab						31			21				52	0.02%
Spineback Hairy Crab											31		31	0.01%
Marsh Crab										30			30	0.01%
Speckled Swimming Crab			27										27	0.01%
Banded Dwarf Hermit Crab				25									25	0.01%
Rock Shrimp													NA	NA
Total	18,282	45,277	49,425	47,151	18,595	47,920	28,703	17,414	52,661	7,877	5,084	3,390	341,780	100.00%

Table 20
Estimated Weight (g) of Invertebrates Impinged each Month at Crystal River Power Plant – All Units Combined
(December 2006 - November 2007)

Crystal River Units 1, 2 & 3: Estimated Weight (g) of Impinged Invertebrates														
Species	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	% of Total
Blue Crab	172,473	111,271	78,548	44,983	133,867	465,864	54,753	7,285	47,429	13,723	182,448	848	1,267,938	33.14%
Pink Shrimp	36,356	70,378	29,714	219,124	78,753	412,865	62,385	20,061	76,892	12,684	4,495	2,237	1,145,711	29.95%
Atlantic Brief Squid	56,963	62,030	95,292	117,828	36,507	18,550	39,457	66,424	48,406	8,913	3,991	1,914	406,274	10.62%
Atlantic Horseshoe Crab		2,742	750	3,321		69,341	1,993	3,827	1,337			1,947	280,813	7.34%
Iridescent Swimming Crab	10,067	7,112	64,739	4,296	5,502	7,564	9,107	8,341	5,941	383	2,359	5,460	152,814	3.99%
Sea Hare		1,212	3,269	182		37,642	19,434	24,518	10,240	3,135		18	116,258	3.04%
Pink Shrimp					77,378		36,078						113,456	2.97%
Mantis Shrimp	2,532	24,992	2,240	23,632	761	32,516	1,964					189	106,741	2.79%
Florida Stone Crab	7,848	1,789	388	1,654	5,662	14,242	9,068	10,435	6,556	4,989	15,926	9,382	87,940	2.30%
Blotched Swimming Crab	62	222		112	381	9,831	5,984	15,473	11,546	2,966	1,659	2,677	66,648	1.74%
Longnosed Spider Crab				29,132	511	1,114		1,290	54	40	1,667	2,855	40,704	1.06%
False Arrow Crab	87	5,620	4,851	8,065	1,195	228	534	133	127	46	158	37	25,742	0.67%
Portly Spider Crab	2,427	2,141	2,632	1,993	999	1,069	1,104	3,637	8,040	297	878	1,837	5,598	0.15%
Gulf Grassflat Crab		8,371	15,162	25,394	24	2,926	34,606	11,678	28,385	7,233	3,482	363	1,923	0.05%
Narrow Mud Crab				233	404		12	22	133	186	3,276	1,071	1,786	0.05%
Florida Grass Shrimp				320	523	395	60						1,353	0.04%
Green Porcelain Crab	78	4,054	300	2,749	119	1,135	10,028	176		60	65	68	1,152	0.03%
Common Mud Crab		507			690							13	721	0.02%
Cancellate Cantharus Snail							354						354	0.01%
Bareye Hermit		244											244	0.01%
Florida Stone Crab							21	333		118	41		222	0.01%
Knotfinger Mud Crab						211		2					213	0.01%
Bigclaw Snapping Shrimp	28					171							199	0.01%
Spineback Hairy Crab										189			189	0.005%
Urn Crab				30						78	56		163	0.004%
Isopod sp.				146									146	0.004%
Stone Crab			75										75	0.002%
Speckled Swimming Crab			57										57	0.001%
Sea Roach							42						42	0.001%
Rock Shrimp							35						35	0.001%
Peppermint Shrimp							9,765	194	11,632				29	0.001%
Shortfinger Neck Crab								25					25	0.001%
Banded Dwarf Hermit Crab				7									7	0.0002%
Total	288,920	302,684	298,017	483,200	343,276	1,075,664	296,762	173,538	257,051	54,734	220,769	30,957	3,825,572	100.00%

Figure 9
Estimated Number of Invertebrates Impinged each Month at Crystal River Power Plant – All Units
(December 2006 - November 2007)

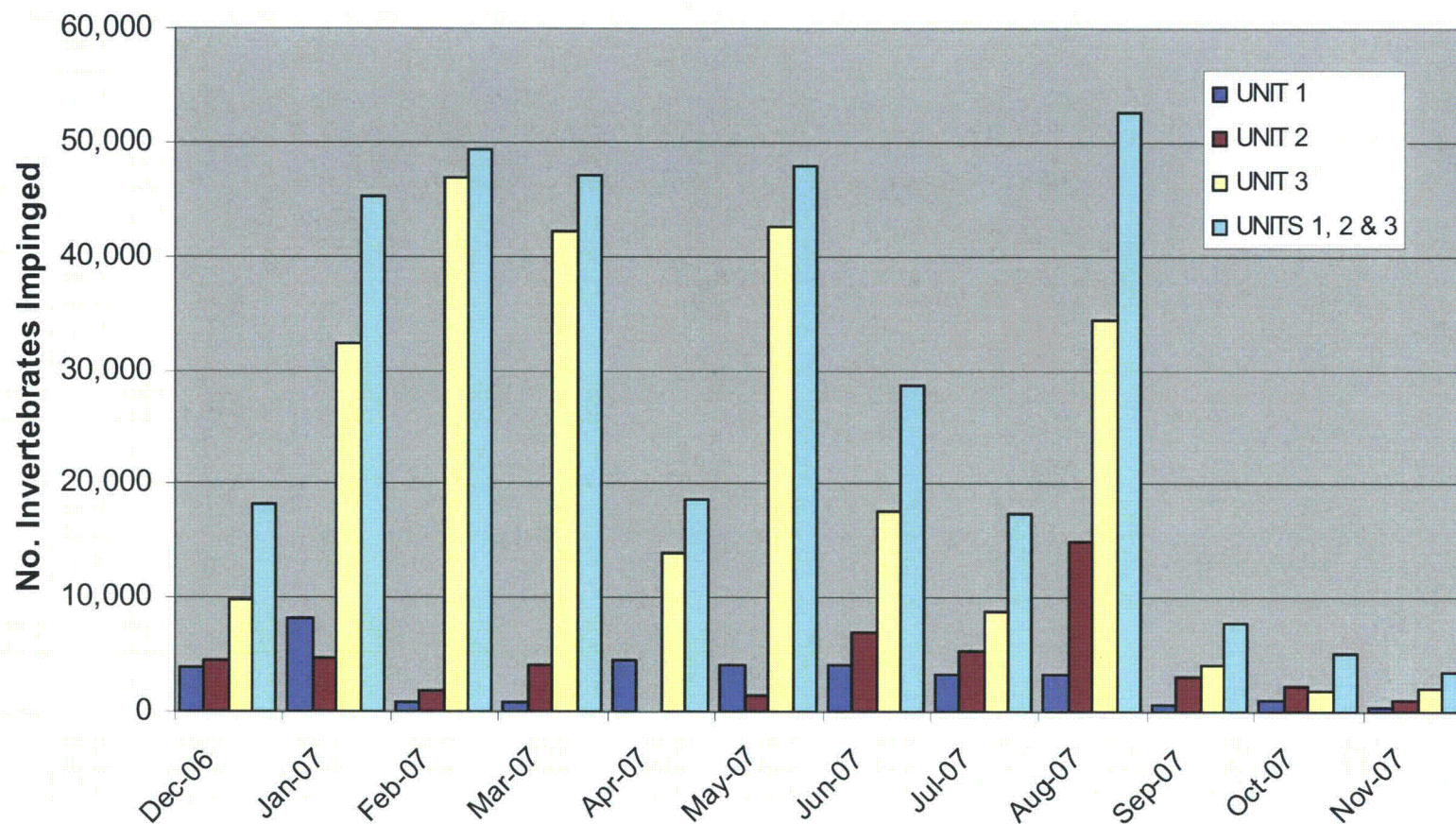
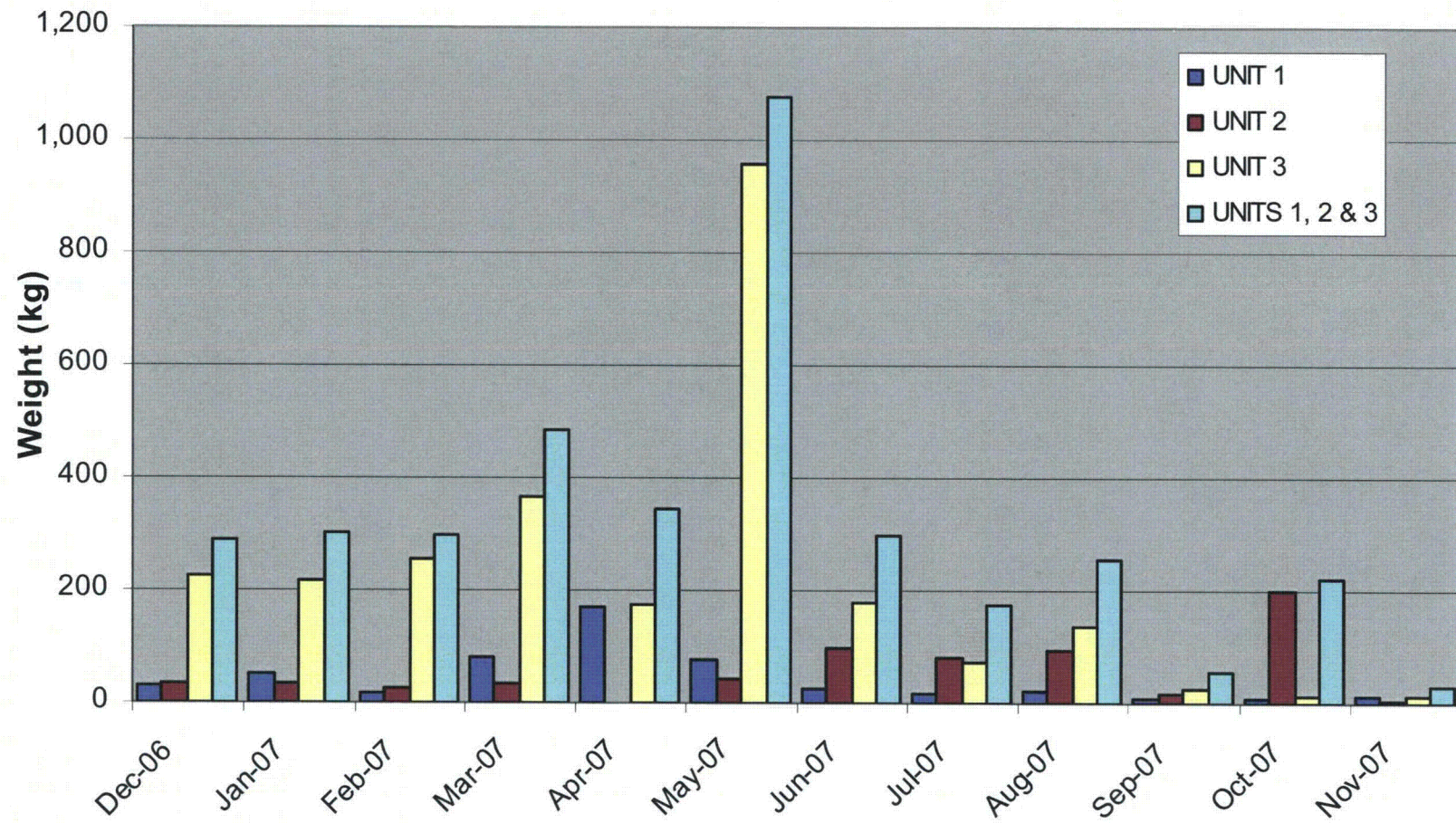


Figure 10
Estimated Weight of Invertebrates Impinged each Month at Crystal River Power Plant – All Units
(December 2006 - November 2007)



3.2.1 Condition of Impinged Invertebrates

The initial condition of the invertebrates was recorded as part of the impingement abundance study. The total extrapolated numbers of live, recently dead and long dead invertebrates impinged at Crystal River on a daily and monthly basis are presented in Appendices 13-18. An annual summary of invertebrate condition is presented in Table 21. The majority of invertebrates (57.4% to 66.1%) were categorized as alive. The percentage of live invertebrates was comparable for the three units. This is different from that observed from fish (Table 12) which indicates the hardiness of most invertebrate species. Very few long dead invertebrates were recorded (Table 21).

Table 21
Condition of Invertebrates Impinged at Crystal River Power Plant

Unit	Invertebrate Condition		
	Live	Recently Dead	Long Dead
1	65.9%	34.0%	0.05%
2	66.1%	33.9%	0.00%
3	57.4%	42.5%	0.02%
Mean	63.1%	36.8%	0.02%

3.2.2 Length Distribution of Impinged Invertebrates

The lengths of impinged invertebrates were recorded as part of the impingement abundance study. Summaries of length distributions for commonly impinged species are presented in Appendix 19.

3.2.3 Diel Distribution of Impinged Invertebrates

The diel distributions of invertebrates impinged at Crystal River Power Plant Units 1, 2 and 3 are presented in Appendices 20-22 and Figures 11-13. Similar to fish impingement, considerable variability in diel distribution occurred for each Unit. At Unit 1, a peak density of 0.81 invertebrates per 1,000 m³ was observed during the day sampling event of January 5, 2007. At Unit 2, a peak density of 0.76 invertebrates per 1,000 m³ was observed during the day sampling event of August 17, 2007. At Unit 3, a peak density of 1.6 invertebrates per 1,000 m³ was observed during the night sampling event of February 2, 2007. At Unit 3, there appeared to be higher numbers impinged at night compared to the day (Figure 13), but was less obvious at Units 2 and 1. This preference for higher collections during the night at Unit 3 is likely related to the higher flows.

Figure 11. Diel Distribution of Invertebrates Impinged at Crystal River Power Plant – Unit 1

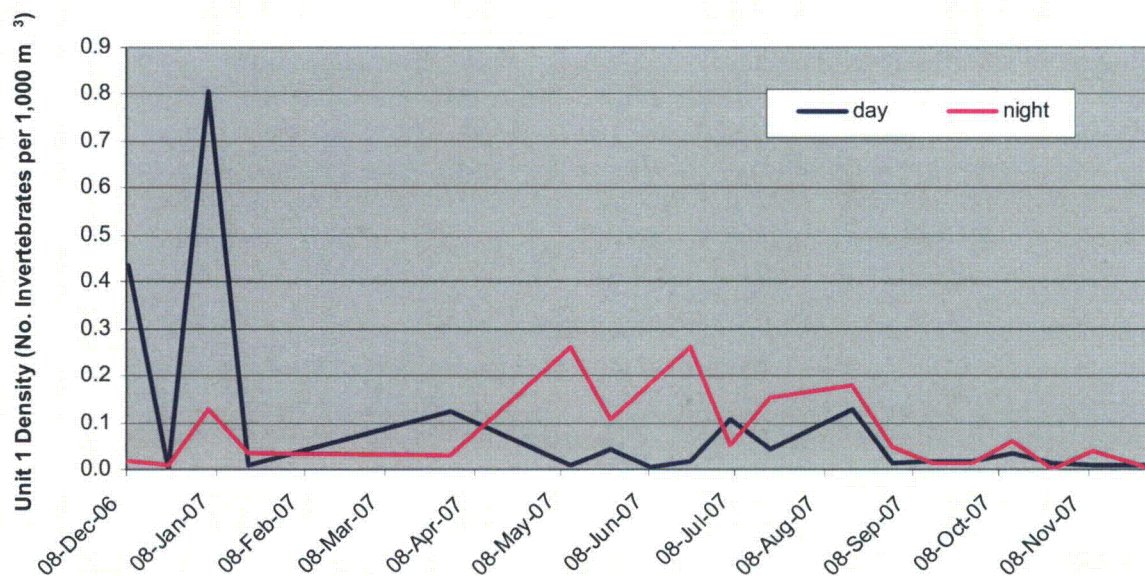


Figure 12. Diel Distribution of Invertebrates Impinged at Crystal River Power Plant – Unit 2

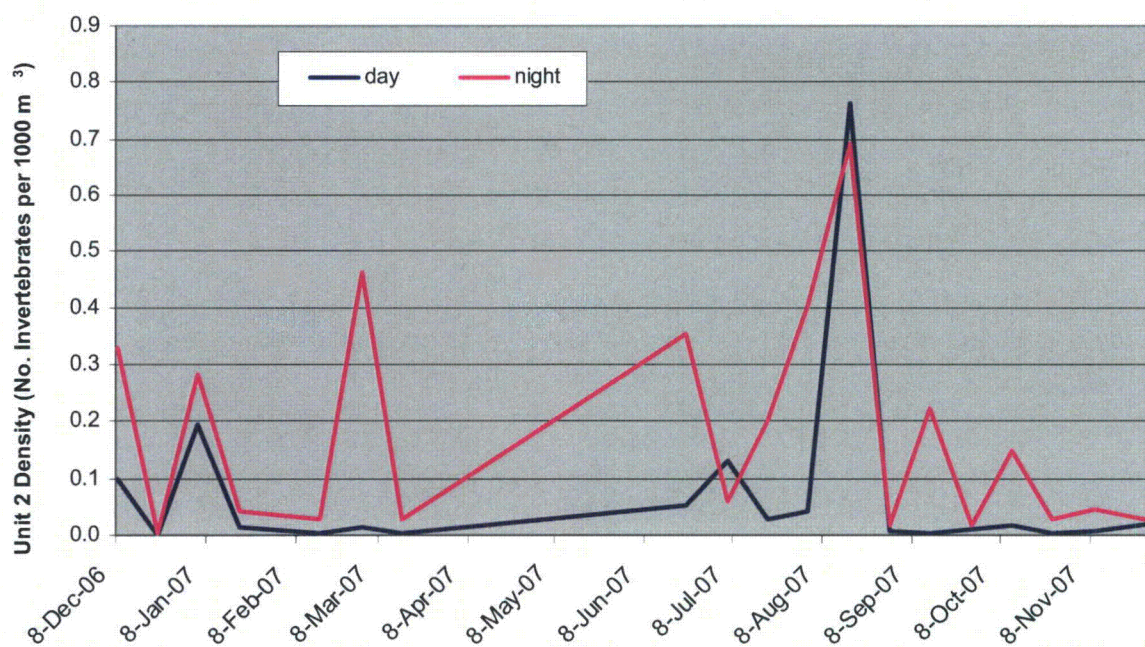
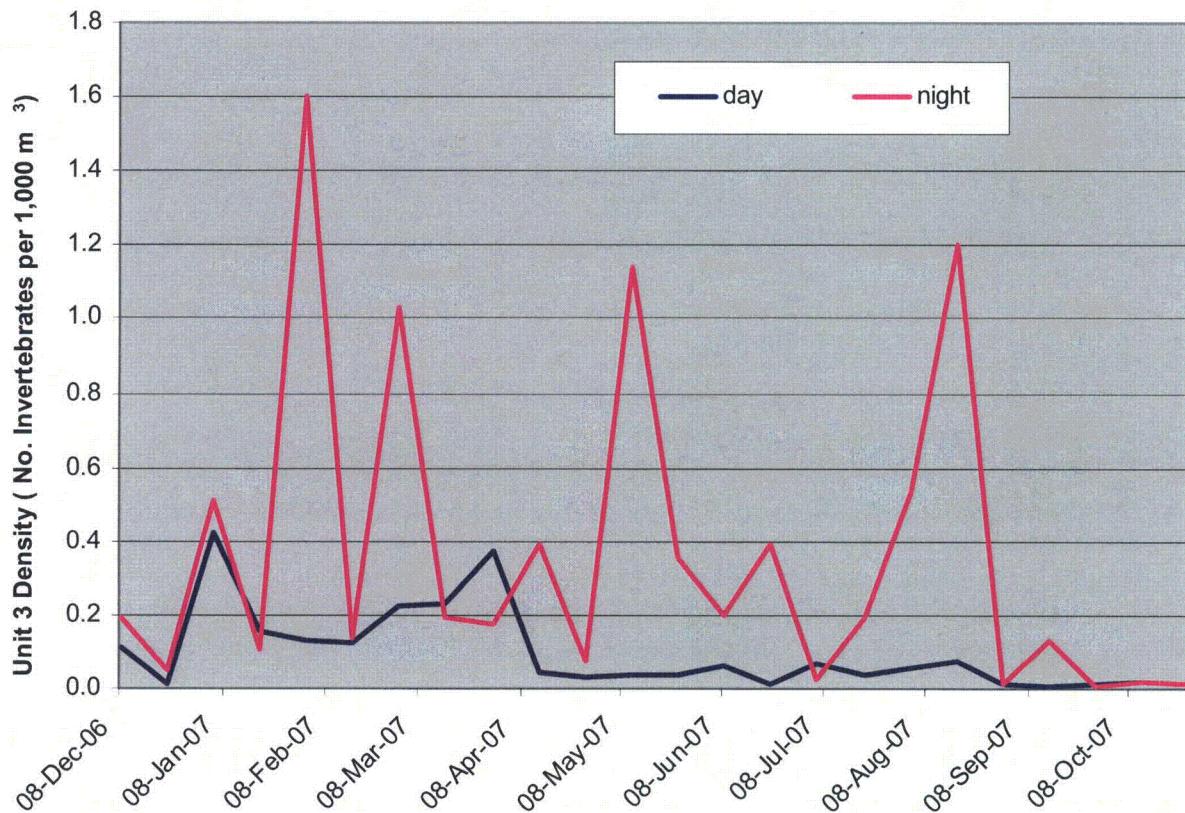


Figure 13. Diel Distribution of Invertebrates Impinged at Crystal River Power Plant – Unit 3



3.3 Nearfield Trawl Studies

Trawl catch data were collected to describe the spatial and temporal trends in abundance (general community characterization) and to identify the fish and invertebrates that may enter the plant and become impinged. Summaries of fish and invertebrates collected for each sampling event and time-period (day versus night) are summarized in Appendices 23-28.

3.3.1 North Trawl

The North trawls captured a total of 37 species (27.5 kg) of fish and 14 species (1.9 kg) of invertebrates. The most abundant fish species included pinfish (29.7%), pigfish (27.3%) and spotfin mojarra (9.3%). The most abundant invertebrate species included iridescent swimming crab (60.0%), pink shrimp (16.0%) and mantis shrimp (8.7%). Summaries of fish and invertebrates collected during the North trawl surveys are summarized in Tables 22-25. In comparison to species actually impinged, there was a reduction in the number of pelagic species collected by trawl. This is likely related to the sampling technique which is less efficient in sampling pelagic species than benthic ones.

The diel distributions of fish and invertebrates collected during the North trawl surveys are presented in Appendix 29 and Figures 14-15. Peak densities of 13 invertebrates per 1,000 m³ and 25 fish per 1,000 m³ were observed during the night sampling event of January 19, 2007. Overall, the preference for higher catch at night is very consistent over the sampling period.

3.3.2 South Trawl

The South trawls captured a total of 43 species (29 kg) of fish and 14 species (0.9 kg) of invertebrates. The most abundant fish species included pinfish (37.1%), pigfish (17.4%) and silver perch (15.4%). The most abundant invertebrate species included pink shrimp (24.6%), yellowline arrow crab (24.6%) and iridescent swimming crab (21.5%). Summaries of fish and invertebrates collected during the South trawl surveys are summarized in Tables 26-29.

The diel distributions of fish and invertebrates collected during the South trawl surveys are presented in Appendix 30 and Figures 16-17. Peak densities of 5.4 invertebrates per 1,000 m³ and 22.1 fish per 1,000 m³ were observed during the night sampling event of January 19, 2007. An elevated fish density (21 fish per 1,000 m³) was also during the day sampling event of October 26, 2007. Overall, the preference for higher catch at night is very consistent over the sampling period.

3.3.2 Central Trawl (Intake Location)

The Central Trawl location is directly in front of the intake and somewhat more comparable to impingement results than the other two trawl locations. The Central trawls captured a total of 30 species (20.3 kg) of fish and 16 species (1.7 kg) of invertebrates. The most abundant fish species included pinfish (35.1%), pigfish (16.0%) and silver perch (15.3%). The most abundant invertebrate species included iridescent swimming crab (38.0%), false arrow crab (21.2%) and pink shrimp (15.3%). Summaries of fish and invertebrates collected during the Central trawl surveys are summarized in Tables 30-33.

The diel distributions of fish and invertebrates collected during the Central trawl surveys are presented in Appendix 31 and Figures 18-19. A peak density of 5.4 invertebrates per 1,000 m³ was observed during the night sampling event of December 22, 2006. A peak density of 10.7 fish per 1,000 m³ was observed during the day sampling event of November 9, 2007. Overall, the preference for higher catch at night is very consistent over the sampling period.

Table 22. Summary of Fish Collected During North Trawl Surveys

Species	Fish Collected During North Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	March-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total #	
Pinfish	9	165	18		9		4	20	2		19	10	256	29.70%
Pigfish	4	34	69	4	2		1	79	12		20	10	235	27.26%
Spotfin Mojarra	2	3	2					9	1		37	26	80	9.28%
Hardhead Catfish	54	3			1		2	3					63	7.31%
Silver Perch			4	9	2		1	9			2	17	44	5.10%
Atlantic Thread Herring		2	17		1	N*	1		1	N**	2		24	2.78%
Leopard Searobin	10	1	4			O		2		O			17	1.97%
Atlantic Bumper											9	7	16	1.86%
Orange Filefish			11			S	1			S			12	1.39%
Blackcheek Tonguefish	8	2	1			A				A			11	1.28%
Scrawled Cowfish		3	1		1	M	1	3		M	2		11	1.28%
Grass Porgy						P				P	1	9	10	1.16%
Polka-dot Batfish	3	1	4			L	1			L	1		10	1.16%
Flounder sp.		8				I	1			I			9	1.04%
Planehead Filefish		1	1			N	3	2		N			7	0.81%
Spot		2	1			G		3		G	1		7	0.81%
Atlantic Croaker	2	2					1						5	0.58%
Gulf Kingfish	1	1	3			C				C			5	0.58%
Lane Snapper						O		3		O		1	4	0.46%
Southern Kingfish		2		2		N				N			4	0.46%
Striped Mojarra		1		2		D	1			D			4	0.46%
Atlantic Spadefish						U	3			U			3	0.35%
Southern Puffer			1			C	1	1		C			3	0.35%
Striped Burrfish		2				T				T	1		3	0.35%
White Grunt						E		1		E	2		3	0.35%
Bank Cusk-eel		1	1			D				D			2	0.23%
Gulf Flounder	1							1					2	0.23%
Inshore Lizardfish			1									1	2	0.23%
Lined Seahorse	1		1										2	0.23%
Bay Anchovy									1				1	0.12%
Bighead Searobin			1										1	0.12%
Black Sea Bass							1						1	0.12%
Fringed Filefish			1										1	0.12%
Scaled Sardine			1										1	0.12%
Spottail Pinfish												1	1	0.12%
Spottail Tonguefish		1											1	0.12%
Spotted Seatrout			1										1	0.12%
Total	95	235	144	17	16		23	136	17		97	82	862	100.00%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 23. Weight (g) of Fish Collected During North Trawl Surveys

Species	Weight of Fish (g) Collected During North Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	March-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	
Pinfish	161	4387	515		260		56	525	77		770	234	6985	25.4%
Pigfish	91	984	1452	79	61		62	2089	447		761	230	6256	22.7%
Orange Filefish			1891				231						2122	7.7%
Spotfin Mojarra	35	63	45					267	17		890	752	2070	7.5%
Silver Perch			171	243	37		39	347			101	640	1578	5.7%
Scrawled Cowfish		277	148		45	N*	76	345		N**	160		1051	3.8%
Hardhead Catfish	590	44			66	O	200	92		O			992	3.6%
Atlantic Thread Herring		101	682		46		40		81		30		980	3.6%
Polka-dot Batfish	76	119	493			S	73			S	205		965	3.5%
Grass Porgy						A				A	36	557	593	2.2%
Gulf Kingfish	45	87	265			M				M			397	1.4%
Southern Kingfish		124		265		P				P			389	1.4%
Atlantic Croaker	141	172				L	47			L			360	1.3%
Spot		68	50			I		180		I	61		359	1.3%
Striped Burrfish		118				N				N	193		311	1.1%
Leopard Searobin	124	10	86			G		50		G			270	1.0%
Inshore Lizardfish			128									138	265	1.0%
Blackcheek Tonguefish	128	36	21			C				C			185	0.7%
Atlantic Spadefish						O	165			O			165	0.6%
Bank Cusk-eel		29	133			N				N			162	0.6%
Lane Snapper						D		97		D		64	161	0.6%
White Grunt						U		55		U	75		130	0.5%
Southern Puffer			102			C	6	17		C			125	0.5%
Atlantic Bumper						T				T	63	57	120	0.4%
Gulf Flounder	96					E		22		E			118	0.4%
Flounder sp.		88				D	9			D			97	0.4%
Striped Mojarra		14		53			28						95	0.3%
Spotted Seatrout			69										69	0.3%
Black Sea Bass							32						32	0.1%
Spottail Tonguefish		31											31	0.1%
Planehead Filefish		2	5				7	13					28	0.1%
Scaled Sardine			20										20	0.1%
Bighead Searobin			12										12	0.0%
Spottail Pinfish												9	9	0.0%
Fringed Filefish			5										5	0.0%
Lined Seahorse	2		1										3	0.0%
Bay Anchovy									1				1	0.0%
Total	1,487	6,754	6,294	640	515		1,071	4,100	624		3,345	2,681	27,510	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 24. Summary of Invertebrates Collected During North Trawl Surveys

Species	Invertebrates Collected During North Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	7-May	Jun-07	Jul-07	Aug-07	7-Sep	Oct-07	Nov-07	Total #	
Iridescent Swimming Crab	76	68	14				4	3					165	60.00%
Pink Shrimp	10	31	2					1					44	16.00%
Mantis Shrimp	5	15	3			N*			1	N**			24	8.73%
False Arrow Crab		7	4			O				O			11	4.00%
Atlantic Brief Squid	2	4	1				1						8	2.91%
Starfish sp.						S		6		S			6	2.18%
Blotched Swimming Crab						A	1	2		A	1		4	1.45%
Yellowline Arrow Crab	3		1			M				M			4	1.45%
Blue Crab	1				1	P		1		P			3	1.09%
Portly Spider Crab			2			L				L			2	0.73%
Cancellate Cantharus Snail						I	1			I			1	0.36%
Longnosed Spider Crab						N	1			N			1	0.36%
Long-wristed Hermit Crab					1	G				G			1	0.36%
Sea Hare								1					1	0.36%
Total	97	125	27	0	2		8	14	1		1	0	275	100.00%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 25. Weight (g) of Invertebrates Collected During North Trawl Surveys

Species	Weight of Invertebrates (g) Collected During North Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	7-May	Jun-07	Jul-07	Aug-07	7-Sep	Oct-07	Nov-07	Total (g)	
Iridescent Swimming Crab	422	385	51				8	11					877	44.0%
Pink Shrimp	82	261	16					8					366	18.4%
Mantis Shrimp	61	176	30			N*			19	N**			285	14.3%
Atlantic Brief Squid	24	59	25			O	25			O			134	6.7%
Starfish sp.								110					110	5.5%
Blue Crab	81				21	S		3		S			104	5.2%
Blotched Swimming Crab						A	16	15		A	16		46	2.3%
Longnosed Spider Crab						M	44			M			44	2.2%
False Arrow Crab		4	4			P				P			8	0.4%
Portly Spider Crab			7			L				L			7	0.4%
Sea Hare						I		4		I			4	0.2%
Yellowline Arrow Crab	2		1			N				N			4	0.2%
Cancellate Cantharus Snail						G	4			G			4	0.2%
Long-wristed Hermit Crab					1								1	0.1%
Total	671	885	134	0	22		96	150	19		16	0	1,993	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 26. Summary of Fish Collected During South Trawl Surveys

Species	Fish Collected During South Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total #	
Pinfish		118	13		4		12				103	58	308	37.1%
Pigfish		58	7		7		2				49	22	145	17.4%
Silver Perch		6	2				8				53	59	128	15.4%
Spotfin Mojarra		1					1				29	26	57	6.9%
Grass Porgy											16	15	31	3.7%
Black Sea Bass		5		N	2	N*		N	1	N**	12	1	21	2.5%
Hardhead Catfish	15			O		O		O		O	2		17	2.0%
Scrawled Cowfish	1	1	4		1		1		1		3	2	14	1.7%
Polka-dot Batfish	2	3		F		S		F		S	4	1	10	1.2%
Whitebone Porgy		1		I		A	7	I	1	A			9	1.1%
Lane Snapper				S		M		S		M	3	4	7	0.8%
Orange Filefish			2	H		P	3	H	1	P		1	7	0.8%
Inshore Lizardfish	2		3			L				L	1		6	0.7%
Leopard Searobin	2	3	1	C		I		C		I			6	0.7%
Planehead Filefish		1		O		N	1	O	4	N			6	0.7%
Atlantic Thread Herring		2		L		G		L		G	3		5	0.6%
Spottail Pinfish				E				E			5		5	0.6%
Atlantic Spadefish				C	1	C		C		C		3	4	0.5%
Gafftopsail Catfish		4		T		O		T		O			4	0.5%
Striped Burrfish		1	1	E		N		E		N		2	4	0.5%
White Grunt				D		D		D	1	D	3		4	0.5%
Atlantic Bumper						U				U	3		3	0.4%
Atlantic Croaker		2				C	1			C			3	0.4%
Atlantic Stingray	1	1				T				T			2	0.2%
Bighead Searobin						E				E	2		2	0.2%
Blackcheek Tonguefish	1	1				D				D			2	0.2%
Fringed Filefish									2				2	0.2%
Gulf Flounder		1							1				2	0.2%
Southern Puffer	1										1		2	0.2%
Spot												2	2	0.2%
Bigeye Scad												1	1	0.1%
Emerald Parrotfish											1		1	0.1%
Flounder sp.		1											1	0.1%
Fringed Sole			1										1	0.1%
Gray Snapper											1		1	0.1%
Gulf Kingfish	1												1	0.1%
Hogfish												1	1	0.1%
Leopard Toadfish					1								1	0.1%
Pygmy Filefish		1											1	0.1%
Sand Perch		1											1	0.1%
Scrawled Filefish	1												1	0.1%
Summer Flounder												1	1	0.1%
Yellowfin Menhaden											1		1	0.1%
Total	27	212	34		16		36		12		295	199	831	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 27. Weight of Fish (g) Collected During South Trawl Surveys

Species	Weight of Fish (g) Collected During South Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	March-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total	
Pinfish		3,315	354		97		167				2,653	1,331	7,916	26.7%
Silver Perch		173	112				304				2,138	2,282	5,008	16.9%
Pigfish		1,324	241		171		51				1,789	618	4,192	14.1%
Grass Porgy											801	744	1,545	5.2%
Atlantic Stingray	789	755											1,544	5.2%
Spotfin Mojarra		13		N		N*	21	N		N**	806	702	1,542	5.2%
Scrawled Cowfish	3	17	668	O	9	O	22	O	27	O	262	132	1,140	3.8%
Black Sea Bass		101			58				53		494	63	769	2.6%
Polka-dot Batfish	95	113		F		S		F		S	289	186	684	2.3%
Orange Filefish			192	I		A	20	I	20	A		434	666	2.2%
Inshore Lizardfish	129		269	S		M		S		M	106		503	1.7%
Striped Burrfish		19	71	H		P		H		P		378	468	1.6%
Lane Snapper						L				L	152	226	379	1.3%
Summer Flounder				C		I		C		I		372	372	1.3%
Whitebone Porgy		26		O		N	278	O	67	N			372	1.3%
Yellowfin Menhaden				L		G		L		G	367		367	1.2%
Hardhead Catfish	122			L				L			182		303	1.0%
Leopard Searobin	117	42	79	E		C		E		C			237	0.8%
White Grunt				C		O		C	67	O	145		212	0.7%
Atlantic Thread Herring		82		T		N		T		N	115		196	0.7%
Atlantic Spadefish				E	35	D		E		D		129	164	0.6%
Atlantic Croaker		84		D		U	37	D		U			121	0.4%
Gulf Flounder		16				C			90	C			106	0.4%
Emerald Parrotfish						T				T	105		105	0.4%
Spot						E				E		103	103	0.3%
Southern Puffer	27					D				D	61		89	0.3%
Gulf Kingfish	82												82	0.3%
Planehead Filefish		5					9		63				77	0.3%
Gray Snapper											65		65	0.2%
Bighead Searobin											49		49	0.2%
Spottail Pinfish											47		47	0.2%
Bigeye Scad												45	45	0.2%
Gafftopsail Catfish		38											38	0.1%
Blackcheek Tonguefish	22	14											37	0.1%
Hogfish												27	27	0.1%
Sand Perch		23											23	0.1%
Atlantic Bumper											23		23	0.1%
Fringed Filefish									18				18	0.1%
Flounder sp.		11											11	0.04%
Fringed Sole			6										6	0.02%
Pygmy Filefish		3											3	0.01%
Leopard Toadfish					3								3	0.01%
Scrawled Filefish	3												3	0.01%
Total	1,388	6,172	1,992		371		910		405		10,649	7,773	29,660	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 28. Summary of Invertebrates Collected During South Trawl Surveys

Species	Invertebrates Collected During South Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	7-May	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total #	
Pink Shrimp	5	21	3				1					2	32	24.6%
Yellowline Arrow Crab	3	29				N*				N**			32	24.6%
Iridescent Swimming Crab	12	13	2			O				O	1		28	21.5%
Blue Crab		11	1				2						14	10.8%
False Arrow Crab	8		3			S				S			11	8.5%
Starfish sp.			1			A		2		A			3	2.3%
Atlantic Brief Squid	1					M				M	1		2	1.5%
Gulf Grassflat Crab					2	P				P			2	1.5%
Flatclaw Hermit Crab	1					L				L			1	0.8%
Florida Stone Crab						I		1		I			1	0.8%
Hermit crab species		1				N				N			1	0.8%
Keyhole Sand Dollar						G				G		1	1	0.8%
Longnosed Spider Crab			1										1	0.8%
Sand Snapping Shrimp					1								1	0.8%
Total	30	75	11	0	3		3	3	0		2	3	130	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 29. Weight of Invertebrates (g) Collected During South Trawl Surveys

Species	Weight of Invertebrates (g) Collected During South Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	7-May	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Total (g)	
Hermit crab species	66	162	20				10					13	272	28.5%
Yellowline Arrow Crab		93	104			N*	56			N**			253	26.6%
Gulf Grassflat Crab	81	94	5			O				O	9		190	19.9%
Longnosed Spider Crab			20					59					79	8.3%
Florida Stone Crab			46			S				S			46	4.8%
Sand Snapping Shrimp	1	29				A				A			30	3.1%
Pink Shrimp	3					M				M	26		29	3.0%
Blue Crab	28					P				P			28	2.9%
Flatclaw Hermit Crab						L				L		9	9	0.9%
Iridescent Swimming Crab	4		4			I				I			7	0.8%
Atlantic Brief Squid		5				N				N			5	0.5%
False Arrow Crab						G		4		G			4	0.5%
Starfish spp.					1								1	0.1%
Keyhole Sand Dollar					0								0	0.0%
Total	184	382	199	0	1		66	63	0		35	22	952	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 30. Summary of Fish Collected During Central Trawl Surveys

Species	Fish Collected During Central Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sept-07	Oct-07	Nov-07	Total	
Pinfish	12	35	29	1			30	2	1		10	36	156	35.1%
Pigfish	2		32		2		4	11	1		6	13	71	16.0%
Silver Perch	4	6	4		1	N*	1	3		N**	1	48	68	15.3%
Spotfin Mojarra	3					O				O	19	13	35	7.9%
Scrawled Cowfish	6	4	4									12	26	5.9%
Polka-dot Batfish	3	1	3		1	S	5	4		S		1	18	4.1%
Grass Porgy						A				A	4	11	15	3.4%
Hardhead Catfish	9				1	M	2			M		1	13	2.9%
Black Sea Bass			2			P	3			P			5	1.1%
Leopard Searobin	3					L		1		L			4	0.9%
Atlantic Spadefish					1	I				I	2		3	0.7%
Atlantic Stingray	1		1			N				N		1	3	0.7%
Sand Perch		1	1			G				G	1		3	0.7%
Spotted Seatrout	1	2											3	0.7%
Striped Burrfish	1				1	C	1			C			3	0.7%
Gulf Flounder	2					O				O			2	0.5%
Spot			1			N				N		1	2	0.5%
White Grunt						D		1		D	1		2	0.5%
Atlantic Bumper						U				U	1		1	0.2%
Atlantic Croaker			1			C				C			1	0.2%
Atlantic Threadfin Herring						T				T	1		1	0.2%
Bighead Searobin			1			E				E			1	0.2%
Blackcheek Tonguefish	1					D				D			1	0.2%
Gulf Kingfish	1												1	0.2%
Inshore Lizardfish	1												1	0.2%
Lane Snapper								1					1	0.2%
Leopard Toadfish							1						1	0.2%
Orange Filefish			1										1	0.2%
Planehead Filefish			1										1	0.2%
Southern Puffer												1	1	0.2%
Total	50	49	81	1	7		47	23	2		46	138	444	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 31. Weight of Fish (g) Collected During Central Trawl Surveys

Species	Weight of Fish (g) Collected During Central Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sept-07	Oct-07	Nov-07	Total (g)	
Pinfish	159	806	877	26			327	62	40		495	743	3,534	17.4%
Scrawled Cowfish	418	775	640									1,603	3,434	16.9%
Silver Perch	111	233	163		27		43	129			57	2,017	2,779	13.7%
Atlantic Stingray	837		824			N*				N**		890	2,551	12.6%
Pigfish	35		1,012		56	O	85	273	100	O	239	299	2,098	10.3%
Polka-dot Batfish	59	79	86		74		585	294				14	1,191	5.9%
Spotfin Mojarra	57					S				S	524	388	969	4.8%
Grass Porgy						A				A	216	649	865	4.3%
Striped Burrfish	419				270	M	81			M			770	3.8%
Hardhead Catfish	150				70	P	134			P		11	365	1.8%
Orange Filefish			343			L				L			343	1.7%
Spotted Seatrout	59	224				I				I			283	1.4%
Sand Perch		44	45			N				N	52		140	0.7%
Inshore Lizardfish	135					G				G			135	0.7%
White Grunt								51			81		133	0.7%
Atlantic Spadefish					48	C				C	73		121	0.6%
Leopard Searobin	66					O		43		O			109	0.5%
Planehead Filefish			109			N				N			109	0.5%
Spot			30			D				D		54	83	0.4%
Black Sea Bass			35			U	46			U			81	0.4%
Atlantic Croaker			61			C				C			61	0.3%
Atlantic Threadfin Herring						T				T	30		30	0.1%
Leopard Toadfish						E	24			E			24	0.1%
Gulf Flounder	22					D				D			22	0.1%
Lane Snapper								20					20	0.1%
Blackcheek Tonguefish	17												17	0.1%
Southern Puffer												14	14	0.1%
Atlantic Bumper											8		8	0.0%
Gulf Kingfish	7												7	0.0%
Bighead Searobin			7										7	0.0%
Total	2,550	2,161	4,230	26	545		1,324	872	140		1,774	6,681	20,301	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect;

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 32. Summary of Invertebrates Collected During Central Trawl Surveys

Species	Invertebrates Collected During Central Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	7-Sep	Oct-07	Nov-07	Total #	
Iridescent Swimming Crab	35		15						1		1		52	38.0%
False Arrow Crab	4		22		3	N*				N**			29	21.2%
Pink Shrimp	7	2	7		2	O	3			O			21	15.3%
Longnosed Spider Crab	1						8						9	6.6%
Mantis Shrimp	5		3			S				S			8	5.8%
Blotched Swimming Crab					1	A	3			A			4	2.9%
Atlantic Brief Squid	1		2			M				M			3	2.2%
Florida Grass Shrimp					2	P				P			2	1.5%
Starfish sp.			1			L				L		1	2	1.5%
Florida Stone Crab			1			I				I			1	0.7%
Hermit crab species	1					N				N			1	0.7%
Keyhole Sand Dollar						G				G		1	1	0.7%
Sea Hare								1					1	0.7%
Spineback Hairy Crab								1					1	0.7%
Starfish spp.	1												1	0.7%
Urn Crab					1								1	0.7%
Total	55	2	51	0	9		14	2	1		1	2	137	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Table 33. Weight of Invertebrates (g) Collected During Central Trawl Surveys

Species	Weight of Invertebrates (g) Collected During Central Trawl Surveys													% of Total
	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sept-07**	Oct-07	Nov-07	Total (g)	
Iridescent Swimming Crab	657		118						3		8		786	47.6%
Pink Shrimp	36	22	153		13		9						232	14.1%
Longnosed Spider Crab	6					N*	193			N**			199	12.1%
Florida Stone Crab			168			O				O			168	10.2%
Mantis Shrimp	36		57										93	5.7%
Atlantic Brief Squid	11		47			S				S			58	3.5%
Spineback Hairy Crab						A		30		A			30	1.8%
False Arrow Crab	2		20		3	M				M			26	1.5%
Blotched Swimming Crab					1	P	11			P			12	0.7%
Starfish spp.	11					L				L			11	0.7%
Keyhole Sand Dollar						I				I		10	10	0.6%
Hermit crab species	10					N				N			10	0.6%
Sea Hare						G		8		G			8	0.5%
Starfish sp.			1									5	6	0.3%
Florida Grass Shrimp					2								2	0.1%
Urn Crab					1								1	0.1%
Total	769	22	564		20		213	38	3		8	15	1,650	100.0%

* No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas); small craft advisory was in effect.

**No trawls were conducted on September 27, 2007 due to boat engine failure.

Figure 14. Diel Distribution of Fish Collected During North Trawl Surveys

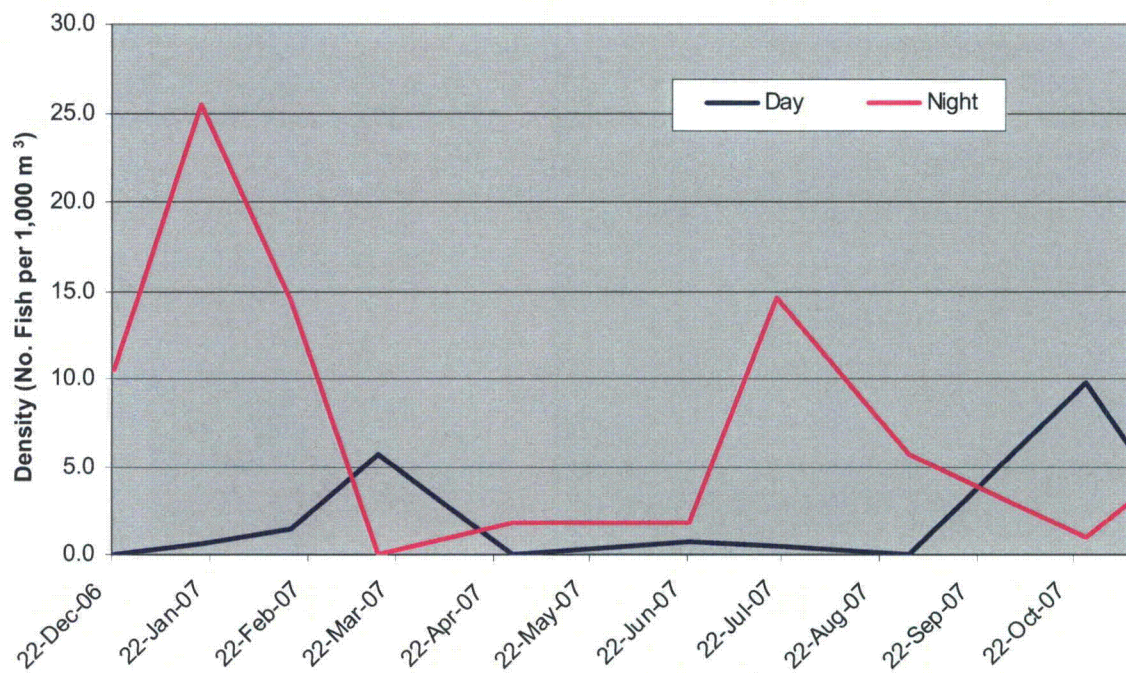


Figure 15. Diel Distribution of Invertebrates Collected During North Trawl Surveys

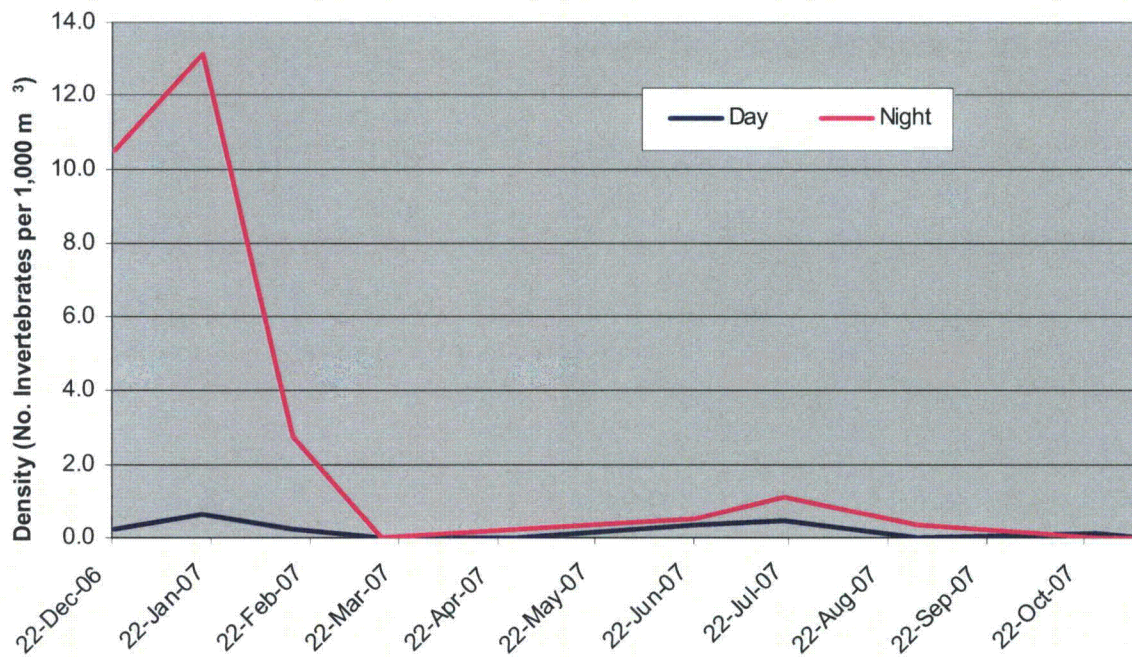


Figure 16. Diel Distribution of Fish Collected During South Trawl Surveys

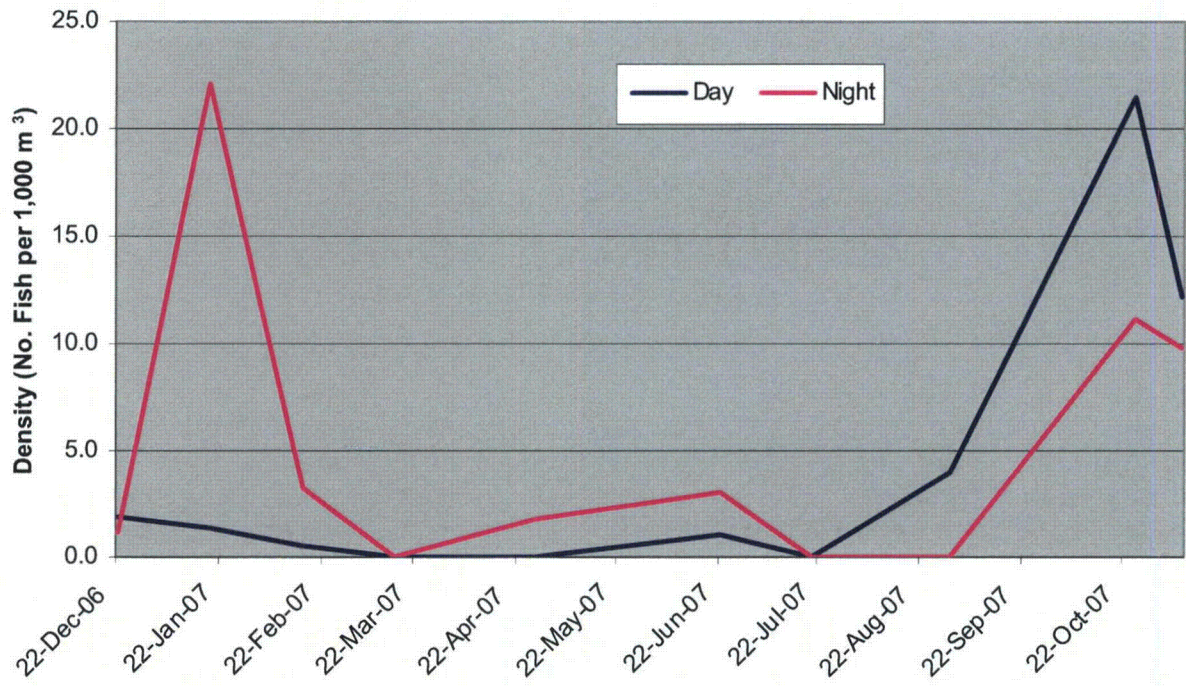


Figure 17. Diel Distribution of Invertebrates Collected During South Trawl Surveys

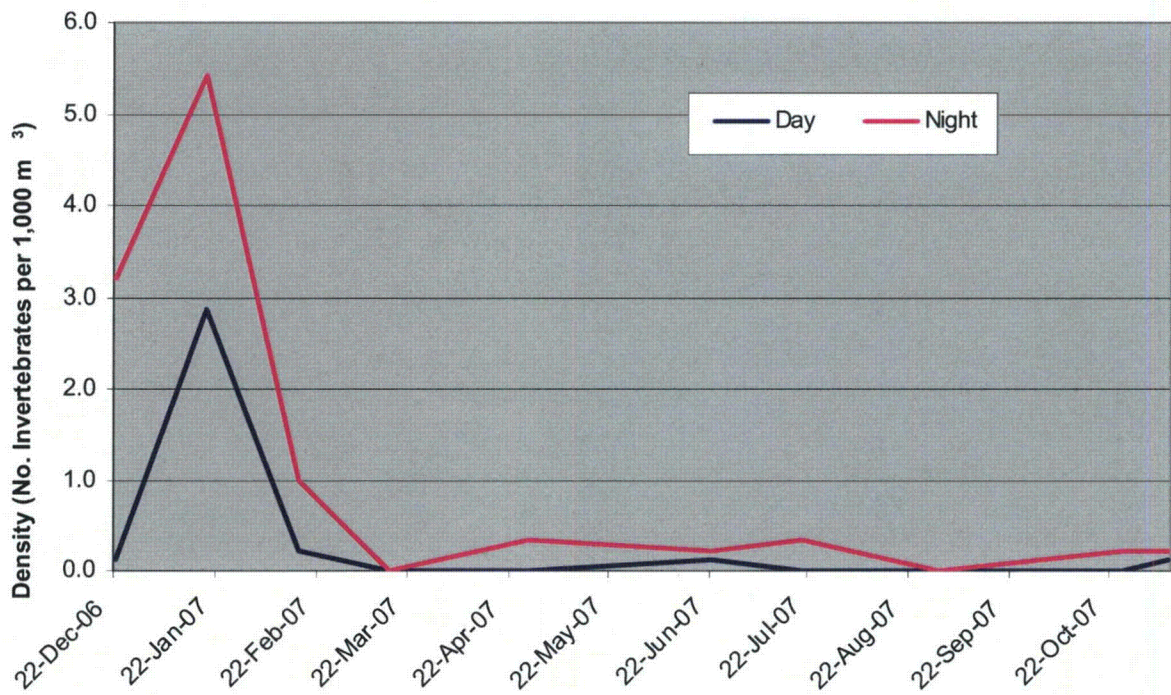


Figure 18. Diel Distribution of Fish Collected During Central Trawl Surveys

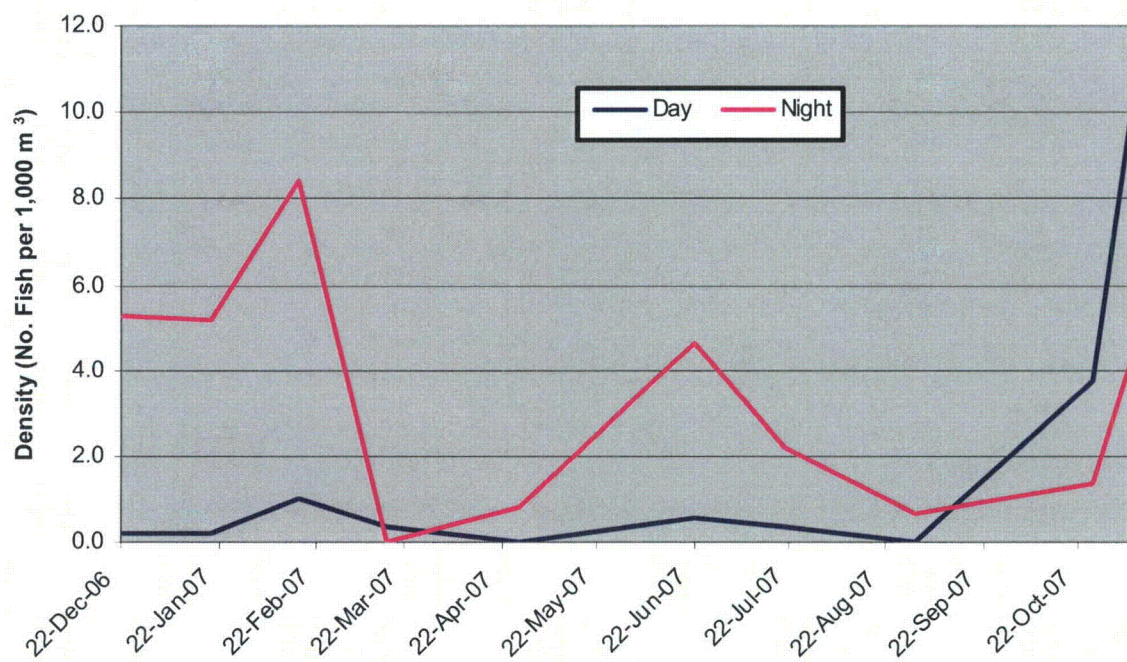
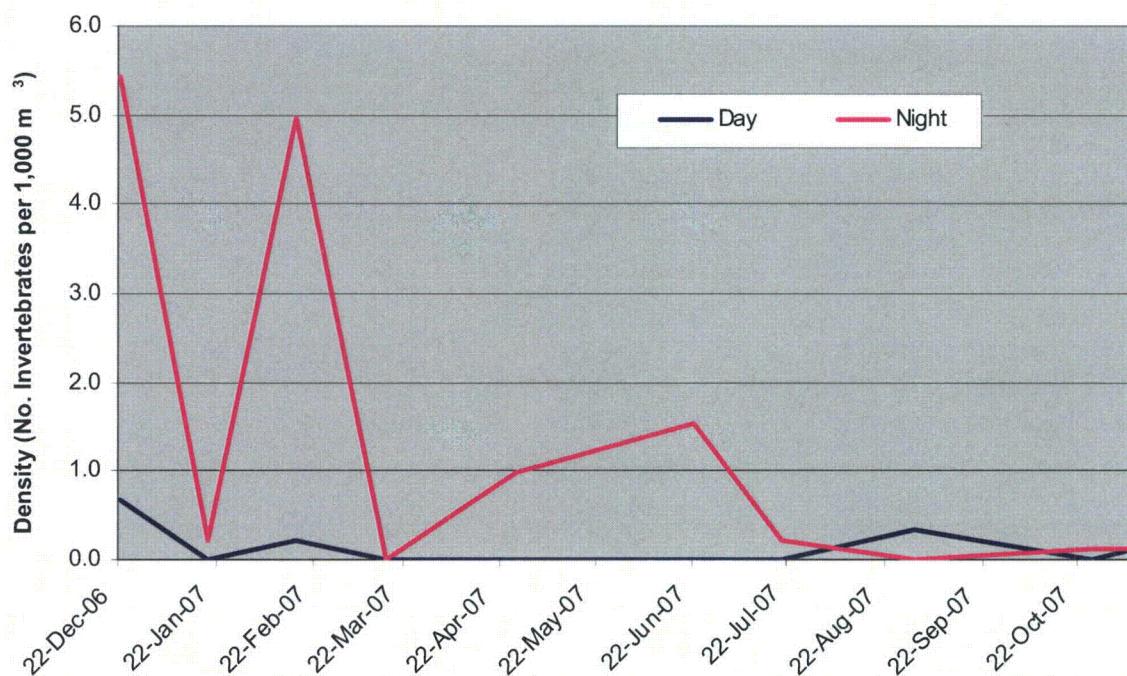


Figure 19. Diel Distribution of Invertebrates Collected During Central Trawl Surveys



3.3.4 Comparison of Trawl Locations

A total of 141 trawls were conducted at central, south and north locations. A summary of specimens collected over the course of the study is provided in Table 34. A total of 581 specimens (137 invertebrates, 444 fish) were collected at the central location in the vicinity of the intake channel with a mean density of 4.1 specimens per 1,000 m³. A total of 961 specimens (130 invertebrates, 831 fish) were collected at the south trawl location, with a mean density of 6.8 specimens per 1,000 m³. A total of 1,137 specimens (275 invertebrates, 862 fish) were collected at the north trawl location, with a mean density of 8.0 specimens per 1,000 m³.

The mean densities of invertebrates collected at the central and south trawl locations were comparable (0.9 – 1.0 invertebrates per 1,000 m³). The mean density of invertebrates collected at the north location (1.9 invertebrates per 1,000 m³) was approximately twice that observed at the central and south trawl locations.

The mean fish density at the central trawl location (3.1 fish per 1,000 m³) was approximately half of that observed for the south and north (5.9 - 6.1 per 1,000 m³) trawl locations. The reduced fish density observed for the central trawl location may be due to avoidance of the intake channel partly because of the configuration, or alternatively may be related to barge traffic.

Table 34. Comparison of Trawl Collections at North, South and Central Locations

Location	No. Specimens Collected			Mean Density (No. per 1,000 m ³)		
	Invertebrates	Fish	Total	Invertebrates	Fish	Total
Central	137	444	581	1.0	3.1	4.1
South	130	831	961	0.9	5.9	6.8
North	275	862	1137	1.9	6.1	8.0

The number of fish species collected at the south, north and central trawl locations were 42, 36 and 30, respectively. Fish species collected at the south trawl location, but not observed at north or central trawl locations, or as part of the impingement collections, included:

- Bigeye scad
- Emerald parrotfish
- Hogfish
- Pygmy filefish
- Summer flounder
- Whitebone porgy
- Yellowfin menhaden

The number of invertebrate species collected at the south, north and central locations were comparable (13-14).

3.4 Historical Levels of Impingement

The most recent impingement study at Crystal River Power Plant was conducted over 20 years ago (Stone & Webster Engineering Corporation, 1985). Impingement sampling was conducted for one, randomly chosen, 24-hr period once a week for 12 months at Units 1, 2 and 3. During each 24-hr sampling period, samples were taken at each unit at 6-hr intervals for a total of four samples per unit.

Over the duration of the 1985 impingement study, a total of 61,195 fish were collected. The most commonly impinged fish were bay anchovy (18.3%), polka-dot batfish (14.6%) and bighead searobin (13.0%). A total of 171,907 invertebrates were also collected over the duration of the impingement study. The most commonly impinged invertebrates were pink shrimp (44.7%), blue crab (24.2%) and false arrow crab (9.6%).

It was estimated that a total of 2,628,484 fish and invertebrates (33,953 kg) were impinged at Crystal River in 1985. Total impingement by unit for Selected Important Organisms (SIO) is presented in Table 35. The number of SIO invertebrates impinged was much greater than the number of fish. SIO invertebrates represented 83.2% of the total number of SIO impinged annually and 42.3% of the total number of organisms impinged.

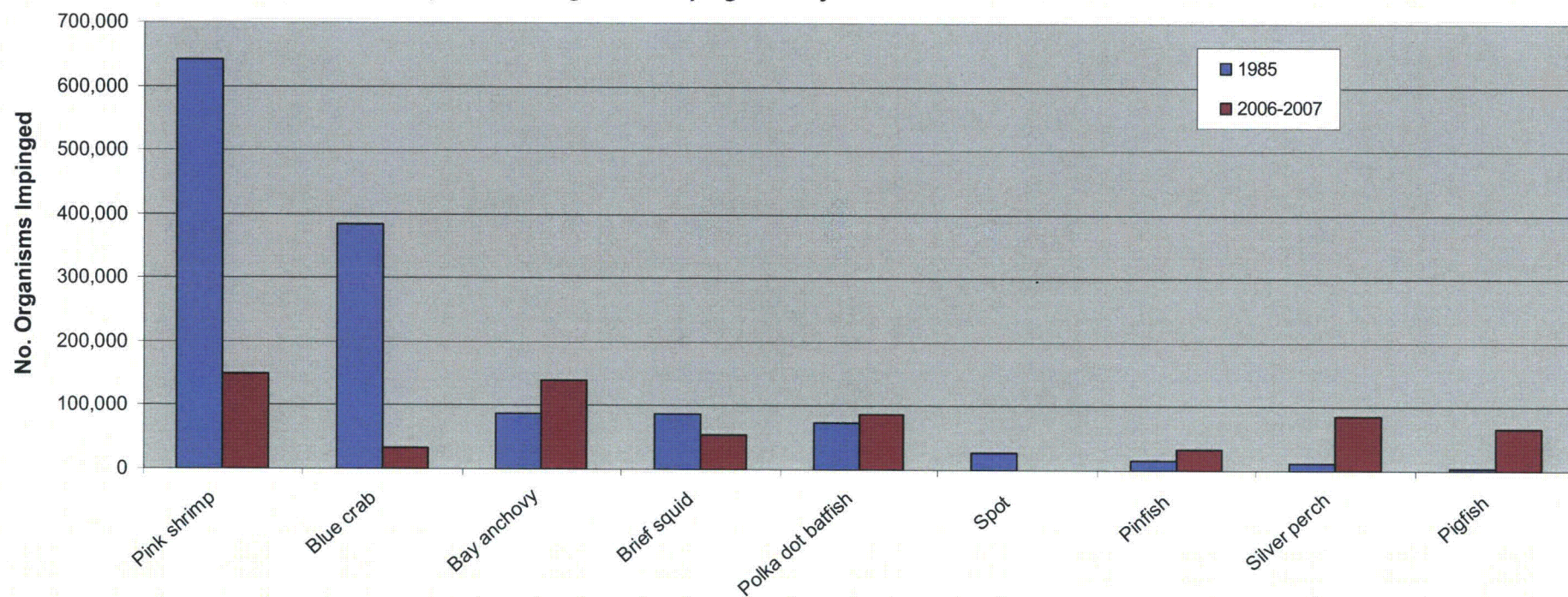
Table 35. Annual Impingement by Unit for Selected Important Organisms (SIO) – 1985*

Species	Unit 1		Unit 2		Unit 3		All Units	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Pink shrimp	100,043	449.9	149,387	676.2	391,457	1,952.6	640,887	3,078.7
Blue crab	45,488	350.3	82,554	3,570.4	255,518	9,186.0	383,560	13,106.7
Bay anchovy	7,224	14.0	16,236	29.8	64,518	114.6	87,978	158.4
Brief squid	4,323	23.5	26,916	90.1	55,715	309.0	86,954	422.6
Polka dot batfish	11,983	712.6	21,772	1,284.2	40,728	1,978.0	74,483	3,974.8
Spot	1,550	2.2	13,800	31.0	12,744	29.5	28,094	62.7
Pinfish	1,990	6.5	7,056	39.0	6,189	33.5	15,235	79.0
Silver perch	960	4.6	4,826	24.1	6,214	35.6	12,000	64.3
Pigfish	487	1.2	2,254	5.2	956	9.3	3,697	15.7
Spotted seatrout	257	1.2	940	3.3	1,607	8.2	2,804	12.7
Stone crab	400	16.4	527	11.2	608	34.5	1,535	62.1
Striped mullet	68	4.3	690	24.2	362	5.1	1,120	33.6
Red drum	0	0.0	0	0.0	8	0.0	8	0.0
Total	278,854	2,256.3	747,830	10,191.9	1,601,800	21,505.6	2,628,484	33,953.8

* Stone & Webster Engineering Corporation (1985).

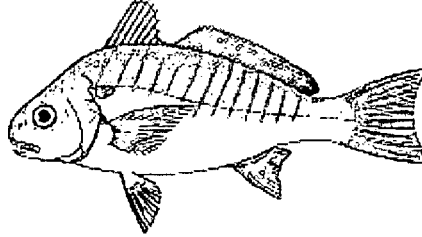
The number of fish and invertebrates impinged at Crystal River in 2006-2007 (1,287,720) was approximately one-half of that estimated to be impinged in 1985. A comparison of selected important organisms impinged in 1985 versus 2006-2007 is presented in Figure 20. The number of blue crab impinged at Crystal River in 2006-2007 (32,567) was an order of magnitude lower than that observed in 1985 (383,560). Similarly, the number of pink shrimp impinged at Crystal River in 2006-2007 (149,710) was substantially lower than that observed in 1985 (640,887).

Figure 20. Comparison of Organisms Impinged at Crystal River Power Plant. 1985 versus 2006-2007



Spot (Figure 21) represented the third most abundant fish species impinged at Crystal River Power Plant in 1985 (28,094 fish, 62.7 kg). In 2005, statewide landings of spot in Florida were 65% lower than the average landings in the previous five years (2000-2004) and were 96% lower than the 1982-2005 historical average landings (Figure 21) (FWRI, 2006). While spot was collected during central (2 fish), north (7 fish) and south (2 fish) trawls, this species was not impinged during the 2006-2007 sampling program.

Figure 21. Spot (*Leiostomus xanthurus*)



3.5 Water Quality and Meteorological Parameters

Water quality was assessed at the intake of Crystal River Power Plant Unit 3. Daily water quality is summarized in Appendix 32.

3.6 Species List

Over the course of this study 120 fish and invertebrate species were impinged at Crystal River Power Plant (Tables 36-37). By comparison, the number of fish and invertebrate species collected during Central, North and South trawl surveys were 45, 51, and 57 respectively. ***None of the species collected over the duration of this study are listed as endangered, threatened or of special concern.***³

Eighteen species collected as part of the trawl surveys, but not collected as part of the impingement collections included:

1. Bank cusk-eel
2. Bigeye scad
3. Emerald parrotfish
4. Flatclaw hermit crab
5. Fringed filefish
6. Grass porgy
7. Hermit crab
8. Hogfish
9. Keyhole sand dollar
10. Long-wristed hermit crab
11. Pygmy file fish
12. Sand snapping shrimp
13. Spot
14. Spottail tonguefish
15. Summer flounder

³ <http://myfwc.com/imperiledspecies/pdf/Endangered-Threatened-Special-Concern-2004.pdf>

16. Whitebone porgy
17. Yellowfin menhaden
18. Yellowline arrow crab

**Table 36. List of Fish Species Collected in the Vicinity of
Crystal River Power Plant**

Common Species Name	Scientific Name	Impingement	Trawl Survey		
		Units 1, 2 & 3	Central	North	South
American Eel	<i>Anguilla rostrata</i>	Yes			
Atlantic Bumper	<i>Chloroscombrus chrysurus</i>	Yes	Yes	Yes	Yes
Atlantic Croaker	<i>Micropogonias undulatus</i>	Yes	Yes	Yes	Yes
Atlantic Midshipman	<i>Porichthys plectrodon</i>	Yes			
Atlantic Needlefish	<i>Strongylura marina</i>	Yes			
Atlantic Pomfret	<i>Brama brama</i>	Yes			
Atlantic Silverside	<i>Menidia menidia</i>	Yes			
Atlantic Spadefish	<i>Chaetodipterus faber</i>	Yes	Yes	Yes	Yes
Atlantic Stingray	<i>Dasyatis sabina</i>	Yes	Yes		Yes
Atlantic Thread Herring	<i>Opisthonema oglinum</i>	Yes	Yes	Yes	Yes
Balao	<i>Hemiramphus balao</i>	Yes			
Bank Cusk-eel	<i>Ophidion grayi</i>			Yes	
Bay Anchovy	<i>Anchoa mitchilli</i>	Yes		Yes	
Bigeye Scad	<i>Selar crumenophthalmus</i>				Yes
Bigeye Searobin	<i>Prionotus longispinosus</i>	Yes			
Bighead Searobin	<i>Prionotus tribulus</i>	Yes	Yes	Yes	Yes
Bigscale Pomfret	<i>Taractichthys longipinnis</i>	Yes			
Black Sea Bass	<i>Centropristis striata</i>	Yes	Yes	Yes	Yes
Blackcheek Tonguefish	<i>Symphurus plagiosa</i>	Yes	Yes	Yes	Yes
Blueback Herring	<i>Alosa aestivalis</i>	Yes			
Bluefish	<i>Pomatomus saltatrix</i>	Yes			
Bluntnose Jack	<i>Hemicaranx amblyrhynchus</i>	Yes			
Bluntnose Stingray	<i>Dasyatis sayi</i>	Yes			
Chain Pipefish	<i>Syngnathus louisianae</i>	Yes			
Cobia	<i>Rachycentron canadum</i>	Yes			
Emerald Parrotfish	<i>Nicholsina usta</i>				Yes
Feather Blenny	<i>Hypsoblennius hentzi</i>	Yes			
Florida Blenny	<i>Chasmodes saburrae</i>	Yes			
Florida Pompano	<i>Trachinotus carolinus</i>	Yes			
Fringed Filefish	<i>Monocanthus ciliatus</i>			Yes	Yes
Fringed Sole	<i>Gymnachirus texae</i>	Yes			Yes
Gafftopsail Catfish	<i>Bagre marinus</i>	Yes			Yes
Goldspotted Killifish	<i>Floridichthys carpio</i>	Yes			
Grass Porgy	<i>Calamus arctifrons</i>		Yes	Yes	Yes
Gray Snapper	<i>Lutjanus griseus</i>	Yes			Yes
Great Barracuda	<i>Sphyrna barracuda</i>	Yes			
Gulf Flounder	<i>Paralichthys albigutta</i>	Yes	Yes	Yes	Yes
Gulf Kingfish	<i>Menticirrhus littoralis</i>	Yes	Yes	Yes	Yes
Gulf Pipefish	<i>Syngnathus scovelli</i>	Yes			
Gulf Toadfish	<i>Opsanus beta</i>	Yes			
Halfbeak	<i>Hyporhamphus unifasciatus</i>	Yes			
Hardhead Catfish	<i>Ariopsis felis</i>	Yes	Yes	Yes	Yes
Harvestfish	<i>Peprilus alepidotus</i>	Yes			
Highfin Goby	<i>Gobionellus oceanicus</i>	Yes			
Hogchoker	<i>Trinectes maculatus</i>	Yes			
Hogfish	<i>Lachnolaimus maximus</i>				Yes
Inland Silverside	<i>Menidia beryllina</i>	Yes			
Inshore Lizardfish	<i>Synodus foetens</i>	Yes	Yes	Yes	Yes
Irish Pompano	<i>Diapterus auratus</i>	Yes			

Table 36 (Cont'd)
List of Fish Species Collected in the Vicinity of
Crystal River Power Plant

Common Species Name	Scientific Name	Impingement	Trawl Survey		
		Units 1, 2 & 3	Central	North	South
Ladyfish	<i>Elops saurus</i>	Yes			
Lane Snapper	<i>Lutjanus synagris</i>	Yes	Yes	Yes	Yes
Leatherjacket	<i>Oligoplites saurus</i>	Yes			
Leopard Searobin	<i>Prionotus scitulus</i>	Yes	Yes	Yes	Yes
Leopard Toadfish	<i>Opsanus pardus</i>	Yes	Yes		Yes
Lined Seahorse	<i>Hippocampus erectus</i>	Yes		Yes	
Lined Sole	<i>Achirus lineatus</i>	Yes			
Longfin Blenny	<i>Labrisomus haitiensis</i>	Yes			
Lookdown	<i>Selene vomer</i>	Yes			
Ocellated Flounder	<i>Ancylosetta quadrocellata</i>	Yes			
Orange Filefish	<i>Aluterus schoepfii</i>	Yes	Yes	Yes	Yes
Oyster Toadfish	<i>Opsanus tau</i>	Yes			
Pigfish	<i>Orthopristis chrysoptera</i>	Yes	Yes	Yes	Yes
Pinfish	<i>Lagodon rhomboides</i>	Yes	Yes	Yes	Yes
Planehead Filefish	<i>Monacanthus hispidus</i>	Yes	Yes	Yes	Yes
Polka-dot Batfish	<i>Ogcocephalus cubifrons</i>	Yes	Yes	Yes	Yes
Pygmy Filefish	<i>Monacanthus setifer</i>				Yes
Redfin Needlefish	<i>Strongylura notata</i>	Yes			
Sand Perch	<i>Diplectrum formosum</i>	Yes	Yes		Yes
Scaled Sardine	<i>Harengula jaguana</i>	Yes		Yes	
Scrawled Cowfish	<i>Acanthostracion quadricornis</i>	Yes	Yes	Yes	Yes
Scrawled Filefish	<i>Aluterus scriptus</i>	Yes			Yes
Sergeant Major	<i>Abudefduf saxatilis</i>	Yes			
Sheepshead	<i>Archosargus probatocephalus</i>	Yes			
Shrimp Eel	<i>Ophichthus gomesi</i>	Yes			
Silver Perch	<i>Bairdiella chrysoura</i>	Yes	Yes	Yes	Yes
Silver Seatrout	<i>Cynoscion nothus</i>	Yes			
Smooth Butterfly Ray	<i>Gymnura micrura</i>	Yes			
Southern Kingfish	<i>Menticirrhus americanus</i>	Yes		Yes	
Southern Puffer	<i>Sphoeroides nephelus</i>	Yes	Yes	Yes	Yes
Spanish Grunt	<i>Haemulon macrostomum</i>	Yes			
Spanish Mackerel	<i>Scomberomorus maculatus</i>	Yes			
Spanish Sardine	<i>Sardinella aurita</i>	Yes			
Speckled Stargazer	<i>Dactyloscopus moorei</i>	Yes			
Speckled Worm Eel	<i>Myrophis punctatus</i>	Yes			
Spiny Searobin	<i>Prionotus alatus</i>	Yes			
Spot	<i>Leiostomus xanthurus</i>		Yes	Yes	Yes
Spotfin Mojarra	<i>Eucinostomus argenteus</i>	Yes	Yes	Yes	Yes
Spottail Pinfish	<i>Diplodus holbrooki</i>	Yes		Yes	Yes
Spottail Tonguefish	<i>Symphurus urospilus</i>			Yes	
Spotted Seatrout	<i>Cynoscion nebulosus</i>	Yes	Yes	Yes	
Striped Anchovy	<i>Anchoa hepsetus</i>	Yes			
Striped Burrfish	<i>Chilomycterus schoepfii</i>	Yes	Yes	Yes	Yes
Striped Mojarra	<i>Eugerres plumieri</i>	Yes		Yes	
Striped Mullet	<i>Mugil cephalus</i>	Yes			
Summer Flounder	<i>Gastropsetta frontalis</i>				Yes
Vermilion Snapper	<i>Rhomboplites aurorubens</i>	Yes			
White Grunt	<i>Haemulon plumieri</i>	Yes	Yes	Yes	Yes
Whitebone Porgy	<i>Calamus leucosteus</i>				Yes
Whitefin Sharksucker	<i>Echeneis neucratoides</i>	Yes			
Yellow Conger	<i>Hildebrandia flava</i>	Yes			
Yellowfin Menhaden	<i>Brevoortia smithi</i>				Yes
Common Name	Scientific Name				
Mojarra	Gerreidae	Yes			
Flounder	<i>Etropus</i> spp.	Yes		Yes	Yes

Table 37
List of Invertebrate Species Collected in the Vicinity of
Crystal River Power Plant

Common Species Name	Scientific Name	Impingement	Trawl Survey		
		Units 1, 2 & 3	Central	North	South
Atlantic Brief Squid	<i>Lolliguncula brevis</i>	Yes	Yes	Yes	Yes
Atlantic Horseshoe Crab	<i>Limulus polyphemus</i>	Yes			
Banded Dwarf Hermit Crab	<i>Pagurus annulipes</i>	Yes			
Bareye Hermit	<i>Dardanus fucosus</i>	Yes			
Bigclaw Snapping Shrimp	<i>Alpheus heterochaelis</i>	Yes			
Blotched Swimming Crab	<i>Portunus spinimanus</i>	Yes	Yes	Yes	
Blue Crab	<i>Callinectes sapidus</i>	Yes		Yes	Yes
Cancellate Cantharus Snail	<i>Cantharus cancellarius</i>	Yes		Yes	
Common Mud Crab	<i>Panopeus herbstii</i>	Yes			
False Arrow Crab	<i>Metoporphaphis calcarata</i>	Yes	Yes	Yes	Yes
Flatclaw Hermit Crab	<i>Pagurus pollicarus</i>				Yes
Florida Grass Shrimp	<i>Palaemon floridanus</i>	Yes	Yes		
Florida Stone Crab	<i>Menippe mercenaria</i>	Yes	Yes		Yes
Green Porcelain Crab	<i>Petrolisthes armatus</i>	Yes			
Gulf Grassflat Crab	<i>Neopanope texana</i>	Yes			Yes
Hermit Crab	<i>Manucomplanus unguatus</i>		Yes		Yes
Iridescent Swimming Crab	<i>Portunus gibbesii</i>	Yes	Yes	Yes	Yes
Keyhole Sand Dollar	<i>Mellita quinquesperforata</i>		Yes		Yes
Knotfinger Mud Crab	<i>Panopeus lacustris</i>	Yes			
Longnosed Spider Crab	<i>Libinia dubia</i>	Yes	Yes	Yes	Yes
Long-wristed Hermit Crab	<i>Pagurus longicarpus</i>			Yes	
Mantis Shrimp	<i>Squilla empusa</i>	Yes	Yes	Yes	
Marsh Crab	<i>Sesarma</i> sp.	Yes			
Narrow Mud Crab	<i>Hexapanopeus angustifrons</i>	Yes			
Peppermint Shrimp	<i>Lysmata wurdemanni</i>	Yes			
Pink Shrimp	<i>Farfantepenaeus duorarum</i>	Yes	Yes	Yes	Yes
Portly Spider Crab	<i>Libinia emarginata</i>	Yes		Yes	
Rock Shrimp	<i>Sicyonia laevigata</i>	Yes			
Sand Snapping Shrimp	<i>Alpheus floridanus</i>				Yes
Sea Hare	<i>Aplysia brasiliana</i>	Yes	Yes	Yes	
Sea Roach	<i>Ligia exotica</i>	Yes			
Shortfinger Neck Crab	<i>Podocheila sidneyi</i>	Yes			
Speckled Swimming Crab	<i>Arenaeus cribrarius</i>	Yes			
Spineback Hairy Crab	<i>Pilumnus sayi</i>	Yes	Yes		
Urn Crab	<i>Pitho quadridentata</i>	Yes	Yes		
Yellowline Arrow Crab	<i>Stenorhynchus seticornis</i>			Yes	Yes
Common Name	Scientific Name				
Isopod	Isopod spp.	Yes			
Starfish	<i>Echinaster</i> spp.		Yes	Yes	Yes

3.7 Calculation Baseline

The calculation baseline is defined as an estimate of impingement mortality that would occur at a facility assuming:

- a once-through cooling system
- a CWIS opening located at the shoreline near the surface of the source water body, with the face of a standard 3/8-inch mesh traveling screen oriented parallel to the shoreline and
- baseline practices, procedures, and structural configurations that would be maintained in the absence of any structural or operational controls, including flow or velocity reductions, implemented in whole or in part for purposes of reducing impingement mortality and entrainment.

In concept, the calculation baseline is an attempt to give credit to facilities that may already have installed fish protection technologies or have adopted procedures or intake modifications such as an extended intake canal. The impingement reduction resulting from the existing CWIS can be evaluated by comparing impingement levels at Crystal River Units 1, 2 and 3 versus trawl catch data at the entrance to the intake canal. The central trawl location is likely the most appropriate for comparison since it is located directly in front of the intake channel. This location also provides the most conservative estimate since the mean fish density at the central trawl location (3.1 fish per 1,000 m³) was approximately half of that observed for the south and north (5.9 - 6.1 per 1,000 m³) trawl locations. As noted earlier (Section 3.3.4), the reduced fish density observed for the central trawl location may be due to avoidance of the intake channel partly because of the configuration, or alternatively may be related to barge traffic.

Summaries of fish and invertebrate densities at the entrance to the intake canal compared to the immediate vicinity of Crystal River Units 1, 2 and 3 are presented in Tables 38-39. On average, fish densities at the entrance to the intake canal were, 7 to 62-times greater than that observed in the immediate vicinity of Units 1, 2 and 3. Similarly, invertebrate densities at the entrance to the intake canal were, on average, 2 to 19-times greater than that observed in the immediate vicinity of Units 1, 2 and 3. Overall, the extended intake canal appears to offer an impingement reduction of approximately 95% (Table 40).

Table 38.
Comparison of Fish Densities at the Entrance to the Intake Canal versus
Crystal River Power Plant (Units 1-3)

Date	Central Trawl: Fish Density (No. per 1,000 m ³)		Crystal River Unit 1: Fish Density (No. per 1,000 m ³)		Crystal River Unit 2: Fish Density (No. per 1,000 m ³)		Crystal River Unit 3: Fish Density (No. per 1,000 m ³)	
	Day	Night	Day	Night	Day	Night	Day	Night
22-Dec-06	0.22	5.30	0.050	0.065	0.039	0.056	0.065	0.141
19-Jan-07	0.22	5.19	0.151	0.240	0.011	0.042	0.737	0.150
16-Feb-07	0.99	8.40	NA	NA	0.054	0.176	0.804	0.340
16-Mar-07	0.33	NA	NA	NA	0.029	0.020	0.392	0.353
27-Apr-07	NA	0.77	NA	NA	NA	NA	0.016	0.025
22-Jun-07	0.55	4.64	0.035	0.102	0.070	0.274	0.140	0.272
20-Jul-07	0.33	2.21	0.020	0.034	0.010	0.036	0.023	0.103
31-Aug-07	0.00	0.66	0.006	0.021	0.029	0.011	0.024	0.014
26-Oct-07	3.76	1.33	0.046	0.000	0.010	0.032	0.006	0.018
9-Nov-07	10.72	4.53	0.019	0.013	0.022	0.039	NA	NA
Mean	1.90	3.67	0.05	0.07	0.03	0.08	0.24	0.16
Adjustment Factor (No Intake Canal)			40.82	54.02	62.85	48.11	7.77	23.31

Table 39.
Comparison of Invertebrate Densities at the Entrance to the Intake Canal versus
Crystal River Power Plant (Units 1-3)

Date	Central Trawl: Invertebrates (No. per 1,000 m ³)		Crystal River Unit 1: Invertebrates (No. per 1,000 m ³)		Crystal River Unit 2: Invertebrates (No. per 1,000 m ³)		Crystal River Unit 3: Invertebrates (No. per 1,000 m ³)	
	Day	Night	Day	Night	Day	Night	Day	Night
22-Dec-06	0.66	5.41	0.00	0.01	0.00	0.00	0.01	0.05
19-Jan-07	0.00	0.22	0.01	0.03	0.01	0.04	0.16	0.10
16-Feb-07	0.22	4.97	NA	NA	0.00	0.03	0.12	0.14
16-Mar-07	0.00	NA	NA	NA	0.00	0.03	0.23	0.19
27-Apr-07	NA	0.99	NA	NA	NA	NA	0.03	0.07
22-Jun-07	0.00	1.55	0.02	0.26	0.05	0.35	0.01	0.39
20-Jul-07	0.00	0.22	0.04	0.16	0.03	0.20	0.03	0.19
31-Aug-07	0.33	0.00	0.01	0.05	0.01	0.02	0.01	0.01
26-Oct-07	0.00	0.11	0.01	0.00	0.00	0.03	0.01	0.01
9-Nov-07	0.11	0.11	0.01	0.04	0.01	0.04	NA	NA
MEAN	0.15	1.51	0.02	0.08	0.01	0.08	0.07	0.13
Adjustment Factor (No Intake Canal)			9.72	19.35	10.98	18.03	2.10	11.59

Table 40.
Estimated Impingement Reduction Associated with the Existing Intake Configuration

Annual No. Impinged (2006-2007)	Crystal River Unit 1: No. Impinged			Crystal River Unit 2: No. Impinged			Crystal River Unit 3: No. Impinged			Crystal River Units 1,2& 3: No. Impinged		
	Day	Night	Total	Day	Night	Total	Day	Night	Total	Day	Night	Total
Fish	21,310	19,620	40,930	30,928	52,628	83,556	208,886	612,537	821,423	261,124	684,785	945,909
Invertebrates	20,352	14,813	35,165	14,397	35,781	50,178	58,977	197,491	256,468	93,726	248,085	341,811
Total	41,662	34,433	76,095	45,325	88,409	133,734	267,863	810,028	1,077,891	354,850	932,870	1,287,720
Fish Adjustment Factor	40.82	54.02	*	62.85	48.11	*	7.77	23.31	*	*	*	*
Invertebrate Adjustment Factor	9.72	19.35	*	10.98	18.03	*	2.10	11.59	*	*	*	*
Adjusted Impingement (No Intake Canal)	Crystal River Unit 1: Adjusted No. Impinged			Crystal River Unit 2: Adjusted No. Impinged			Crystal River Unit 3: Adjusted No. Impinged			Crystal River Units 1,2& 3: Adjusted No. Impinged		
	Day	Night	Total	Day	Night	Total	Day	Night	Total	Day	Night	Total
Fish	869,816	1,059,839	1,929,655	1,943,907	2,532,067	4,475,974	1,622,146	14,281,158	15,903,303	4,435,870	17,873,063	22,308,933
Invertebrates	197,839	286,686	484,525	158,142	645,106	803,248	123,829	2,287,945	2,411,774	479,810	3,219,737	3,699,547
Total	1,067,656	1,346,524	2,414,180	2,102,049	3,177,173	5,279,222	1,745,975	16,569,103	18,315,078	4,915,680	21,092,800	26,008,480
% Reduction	96%	97%	97%	98%	97%	97%	85%	95%	94%	93%	96%	95%

4.0 REFERENCES

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A.M. White (1986). The condition of fishes impinged at the Ohio Edison Edgewater Generating Facility April 15, 1985 – October 15, 1985. Report prepared for Ohio Edison Company, Akron, Ohio.

Appendix 1
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
1-Dec-06	254.7	372.9	923.0	1-Jan-07	233.7	299.3	923.0
2-Dec-06	180.3	372.9	923.0	2-Jan-07	233.7	299.3	923.0
3-Dec-06	163.2	372.9	923.0	3-Jan-07	233.7	299.1	923.0
4-Dec-06	296.7	339.2	923.0	4-Jan-07	233.7	299.3	923.0
5-Dec-06	316.9	358.8	923.0	5-Jan-07	233.7	299.3	923.0
6-Dec-06	301.5	381.7	923.0	6-Jan-07	233.7	299.3	923.0
7-Dec-06	316.5	370.5	923.0	7-Jan-07	233.7	299.3	923.0
8-Dec-06	302.1	348.6	923.0	8-Jan-07	233.7	299.3	923.0
9-Dec-06	316.9	372.9	923.0	9-Jan-07	233.7	299.3	923.0
10-Dec-06	316.9	372.9	923.0	10-Jan-07	233.7	299.3	923.0
11-Dec-06	316.9	337.3	923.0	11-Jan-07	233.7	299.3	923.0
12-Dec-06	316.9	328.3	923.0	12-Jan-07	233.7	299.3	923.0
13-Dec-06	297.8	328.3	923.0	13-Jan-07	233.7	299.3	923.0
14-Dec-06	284.2	328.8	923.0	14-Jan-07	233.7	299.3	923.0
15-Dec-06	290.2	341.8	923.0	15-Jan-07	278.3	299.3	923.0
16-Dec-06	308.8	299.3	923.0	16-Jan-07	308.8	299.3	923.0
17-Dec-06	308.8	299.3	923.0	17-Jan-07	305.6	299.3	923.0
18-Dec-06	291.8	320.5	923.0	18-Jan-07	281.1	299.3	923.0
19-Dec-06	280.5	299.3	923.0	19-Jan-07	249.5	299.3	923.0
20-Dec-06	299.7	299.3	923.0	20-Jan-07	292.8	300.6	923.0
21-Dec-06	297.7	299.3	923.0	21-Jan-07	309.0	318.3	923.0
22-Dec-06	308.8	299.3	923.0	22-Jan-07	305.1	344.8	923.0
23-Dec-06	308.8	299.3	923.0	23-Jan-07	221.3	280.7	923.0
24-Dec-06	308.8	299.3	923.0	24-Jan-07	174.8	291.6	923.0
25-Dec-06	308.8	299.3	923.0	25-Jan-07	306.0	323.4	923.0
26-Dec-06	304.9	299.3	923.0	26-Jan-07	283.7	323.4	923.0
27-Dec-06	233.7	299.3	923.0	27-Jan-07	307.1	323.3	923.0
28-Dec-06	233.7	299.3	923.0	28-Jan-07	307.1	323.4	923.0
29-Dec-06	233.7	299.3	923.0	29-Jan-07	307.1	323.4	923.0
30-Dec-06	233.7	299.3	923.0	30-Jan-07	307.1	323.4	923.0
31-Dec-06	233.7	299.3	923.0	31-Jan-07	228.6	323.4	923.0
Total	8,768	10,138	28,614		8,045	9,486	28,614

Appendix 1 (cont'd)
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
1-Feb-07	151.0	323.4	923.0	1-Mar-07	0.0	323.4	923.0
2-Feb-07	235.0	323.4	923.0	2-Mar-07	0.0	323.4	923.0
3-Feb-07	307.1	323.4	923.0	3-Mar-07	0.0	323.4	923.0
4-Feb-07	196.3	323.4	923.0	4-Mar-07	0.0	323.4	923.0
5-Feb-07	151.0	323.4	923.0	5-Mar-07	0.0	323.4	923.0
6-Feb-07	282.6	323.4	923.0	6-Mar-07	0.0	323.4	923.0
7-Feb-07	297.4	323.2	923.0	7-Mar-07	0.0	323.4	923.0
8-Feb-07	307.1	323.4	923.0	8-Mar-07	0.0	323.4	923.0
9-Feb-07	294.0	323.4	923.0	9-Mar-07	0.0	323.4	923.0
10-Feb-07	231.9	323.4	923.0	10-Mar-07	32.5	323.4	923.0
11-Feb-07	216.9	323.4	923.0	11-Mar-07	66.3	309.3	884.6
12-Feb-07	132.4	323.4	923.0	12-Mar-07	76.1	323.4	923.0
13-Feb-07	69.2	323.4	923.0	13-Mar-07	81.8	323.4	901.2
14-Feb-07	69.2	323.4	923.0	14-Mar-07	81.8	323.4	923.0
15-Feb-07	69.2	323.4	923.0	15-Mar-07	81.8	323.4	923.0
16-Feb-07	11.5	323.4	923.0	16-Mar-07	148.3	323.4	923.0
17-Feb-07	0.0	323.4	923.0	17-Mar-07	231.9	323.4	923.0
18-Feb-07	0.0	323.4	923.0	18-Mar-07	231.9	323.4	923.0
19-Feb-07	0.0	323.4	923.0	19-Mar-07	231.9	323.4	923.0
20-Feb-07	0.0	323.4	923.0	20-Mar-07	231.9	323.4	923.0
21-Feb-07	0.0	323.4	788.1	21-Mar-07	231.9	323.4	923.0
22-Feb-07	0.0	323.4	739.4	22-Mar-07	231.9	323.4	923.0
23-Feb-07	0.0	323.4	808.9	23-Mar-07	231.9	323.4	923.0
24-Feb-07	0.0	323.4	679.7	24-Mar-07	231.9	323.4	923.0
25-Feb-07	0.0	323.4	679.7	25-Mar-07	231.9	323.4	923.0
26-Feb-07	0.0	323.4	872.4	26-Mar-07	231.9	263.9	923.0
27-Feb-07	0.0	323.4	923.0	27-Mar-07	231.9	56.4	923.0
28-Feb-07	0.0	323.4	923.0	28-Mar-07	231.9	0.0	923.0
				29-Mar-07	262.9	0.0	923.0
				30-Mar-07	307.1	0.0	923.0
				31-Mar-07	307.1	0.0	923.0
Total	3,022	9,055	24,875		4,229	8,391	28,554

Appendix 1 (cont'd)
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
1-Apr-07	307.1	0.0	923.0	1-May-07	307.1	0.0	923.0
2-Apr-07	307.1	0.0	923.0	2-May-07	316.4	0.0	923.0
3-Apr-07	307.1	0.0	923.0	3-May-07	330.6	0.0	923.0
4-Apr-07	307.1	0.0	923.0	4-May-07	330.6	0.0	923.0
5-Apr-07	307.1	0.0	923.0	5-May-07	330.6	0.0	923.0
6-Apr-07	307.1	0.0	923.0	6-May-07	330.6	0.0	923.0
7-Apr-07	307.1	0.0	923.0	7-May-07	330.6	0.0	923.0
8-Apr-07	307.1	0.0	923.0	8-May-07	330.6	0.0	923.0
9-Apr-07	307.1	0.0	923.0	9-May-07	330.6	0.0	923.0
10-Apr-07	307.1	0.0	923.0	10-May-07	330.6	0.0	923.0
11-Apr-07	307.1	0.0	923.0	11-May-07	330.6	0.0	923.0
12-Apr-07	307.1	0.0	923.0	12-May-07	330.6	0.0	923.0
13-Apr-07	307.1	0.0	923.0	13-May-07	330.6	0.0	923.0
14-Apr-07	307.1	0.0	923.0	14-May-07	330.6	0.0	923.0
15-Apr-07	307.1	0.0	923.0	15-May-07	330.6	33.5	923.0
16-Apr-07	307.1	0.0	923.0	16-May-07	330.6	116.3	923.0
17-Apr-07	307.1	0.0	923.0	17-May-07	330.6	116.3	923.0
18-Apr-07	153.5	0.0	923.0	18-May-07	330.6	79.8	923.0
19-Apr-07	300.0	0.0	923.0	19-May-07	330.6	217.5	923.0
20-Apr-07	307.1	0.0	923.0	20-May-07	330.6	328.3	923.0
21-Apr-07	307.1	0.0	923.0	21-May-07	330.6	326.6	923.0
22-Apr-07	307.1	0.0	923.0	22-May-07	330.6	325.7	923.0
23-Apr-07	307.1	0.0	923.0	23-May-07	327.5	325.7	923.0
24-Apr-07	307.1	0.0	923.0	24-May-07	303.0	325.7	923.0
25-Apr-07	307.1	0.0	923.0	25-May-07	314.9	342.0	923.0
26-Apr-07	307.1	0.0	923.0	26-May-07	330.6	383.3	923.0
27-Apr-07	307.1	0.0	923.0	27-May-07	330.6	383.3	923.0
28-Apr-07	307.1	0.0	923.0	28-May-07	330.6	383.3	923.0
29-Apr-07	307.1	0.0	923.0	29-May-07	330.6	383.3	923.0
30-Apr-07	307.1	0.0	923.0	30-May-07	330.6	383.3	923.0
				31-May-07	330.2	383.3	923.0
Total	9,053	0	27,691		10,165	4,838	28,614

Appendix 1 (cont'd)
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
1-Jun-07	309.7	383.3	923.0	1-Jul-07	330.6	439.7	923.0
2-Jun-07	330.6	383.3	923.0	2-Jul-07	330.6	439.7	923.0
3-Jun-07	330.6	383.3	923.0	3-Jul-07	330.6	439.7	923.0
4-Jun-07	326.8	430.8	923.0	4-Jul-07	330.6	439.7	923.0
5-Jun-07	308.7	439.7	923.0	5-Jul-07	330.6	411.1	923.0
6-Jun-07	311.6	439.7	923.0	6-Jul-07	330.6	439.7	923.0
7-Jun-07	310.8	437.4	923.0	7-Jul-07	330.6	439.7	923.0
8-Jun-07	330.6	437.6	923.0	8-Jul-07	330.6	439.7	923.0
9-Jun-07	330.6	348.5	923.0	9-Jul-07	330.6	436.1	923.0
10-Jun-07	330.6	354.3	923.0	10-Jul-07	330.6	405.3	923.0
11-Jun-07	330.6	404.7	923.0	11-Jul-07	330.6	411.2	923.0
12-Jun-07	330.6	371.9	923.0	12-Jul-07	328.1	406.7	923.0
13-Jun-07	330.6	402.7	923.0	13-Jul-07	305.0	439.7	923.0
14-Jun-07	330.6	410.8	923.0	14-Jul-07	330.6	439.7	923.0
15-Jun-07	330.6	403.5	923.0	15-Jul-07	330.6	439.7	923.0
16-Jun-07	330.6	439.7	923.0	16-Jul-07	330.6	439.6	923.0
17-Jun-07	330.6	439.7	923.0	17-Jul-07	326.7	417.7	923.0
18-Jun-07	330.6	439.7	923.0	18-Jul-07	303.5	439.7	923.0
19-Jun-07	327.7	387.8	923.0	19-Jul-07	310.2	440.9	923.0
20-Jun-07	303.8	439.7	923.0	20-Jul-07	259.8	442.7	923.0
21-Jun-07	304.8	439.7	923.0	21-Jul-07	259.8	442.7	923.0
22-Jun-07	312.9	439.7	923.0	22-Jul-07	259.8	439.8	923.0
23-Jun-07	330.6	439.7	923.0	23-Jul-07	259.8	410.0	923.0
24-Jun-07	330.6	439.7	923.0	24-Jul-07	310.2	391.0	923.0
25-Jun-07	330.6	439.7	923.0	25-Jul-07	347.9	408.9	923.0
26-Jun-07	327.3	439.7	923.0	26-Jul-07	347.1	417.9	923.0
27-Jun-07	309.1	436.5	923.0	27-Jul-07	322.8	442.7	923.0
28-Jun-07	330.6	407.8	923.0	28-Jul-07	331.7	442.7	923.0
29-Jun-07	330.6	439.7	923.0	29-Jul-07	347.9	442.7	923.0
30-Jun-07	330.6	439.7	923.0	30-Jul-07	347.9	441.3	923.0
				31-Jul-07	343.8	420.3	923.0
Total	9,735	12,540	27,691		9,941	13,348	28,614

Appendix 1 (cont'd)
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
1-Aug-07	323.5	442.7	923.0	1-Sep-07	347.9	425.0	923.0
2-Aug-07	321.5	438.3	923.0	2-Sep-07	347.9	442.7	923.0
3-Aug-07	323.4	413.0	923.0	3-Sep-07	347.9	440.7	923.0
4-Aug-07	329.2	442.7	923.0	4-Sep-07	344.8	421.1	923.0
5-Aug-07	347.9	442.7	923.0	5-Sep-07	336.7	437.9	923.0
6-Aug-07	347.9	442.7	923.0	6-Sep-07	347.9	416.5	923.0
7-Aug-07	342.2	410.7	923.0	7-Sep-07	347.9	413.7	923.0
8-Aug-07	347.9	411.7	923.0	8-Sep-07	347.9	442.7	923.0
9-Aug-07	347.9	413.7	923.0	9-Sep-07	347.9	442.7	923.0
10-Aug-07	347.9	420.9	923.0	10-Sep-07	347.9	440.4	923.0
11-Aug-07	322.2	423.4	923.0	11-Sep-07	340.3	422.7	923.0
12-Aug-07	310.2	423.0	923.0	12-Sep-07	319.6	442.7	923.0
13-Aug-07	324.7	442.7	923.0	13-Sep-07	317.5	442.7	923.0
14-Aug-07	347.9	442.7	923.0	14-Sep-07	323.5	442.7	923.0
15-Aug-07	347.9	442.7	923.0	15-Sep-07	347.9	442.7	923.0
16-Aug-07	347.9	442.7	923.0	16-Sep-07	347.9	439.9	923.0
17-Aug-07	347.9	442.7	923.0	17-Sep-07	343.3	413.9	923.0
18-Aug-07	347.9	352.4	923.0	18-Sep-07	324.9	437.2	923.0
19-Aug-07	347.9	315.0	923.0	19-Sep-07	347.9	417.1	923.0
20-Aug-07	347.9	315.0	923.0	20-Sep-07	347.9	406.3	923.0
21-Aug-07	347.9	315.0	923.0	21-Sep-07	347.9	410.9	923.0
22-Aug-07	347.9	315.0	923.0	22-Sep-07	347.9	442.7	923.0
23-Aug-07	347.9	315.0	923.0	23-Sep-07	347.9	442.7	923.0
24-Aug-07	347.9	314.8	923.0	24-Sep-07	347.9	441.9	923.0
25-Aug-07	347.9	315.0	923.0	25-Sep-07	347.9	407.3	923.0
26-Aug-07	347.9	315.0	923.0	26-Sep-07	345.5	409.2	923.0
27-Aug-07	347.9	315.0	923.0	27-Sep-07	318.7	441.4	923.0
28-Aug-07	347.9	427.1	923.0	28-Sep-07	347.9	420.1	923.0
29-Aug-07	347.9	424.9	923.0	29-Sep-07	347.9	442.7	923.0
30-Aug-07	347.9	414.6	923.0	30-Sep-07	347.9	439.8	923.0
31-Aug-07	347.0	415.8	923.0				
Total	10,599	12,209	28,614		10,274	12,930	27,691

Appendix 1 (cont'd)
Cooling Water Volumes for Crystal River Power Plant

Date	MGD			Date	MGD		
	UNIT 1	UNIT 2	UNIT 3		UNIT 1	UNIT 2	UNIT 3
01-Oct-07	347.9	407.9	923.0	01-Nov-07	309.7	380.2	923.0
02-Oct-07	345.8	420.4	923.0	02-Nov-07	309.7	380.2	923.0
03-Oct-07	315.0	442.7	923.0	03-Nov-07	309.7	380.2	923.0
04-Oct-07	331.7	440.9	923.0	04-Nov-07	309.7	380.2	923.0
05-Oct-07	347.9	415.7	923.0	05-Nov-07	309.7	375.1	923.0
06-Oct-07	347.9	442.7	923.0	06-Nov-07	307.6	348.6	923.0
07-Oct-07	347.9	442.7	923.0	07-Nov-07	309.7	357.3	923.0
08-Oct-07	347.9	439.7	923.0	08-Nov-07	189.7	380.2	923.0
09-Oct-07	347.9	415.7	923.0	09-Nov-07	218.1	380.2	923.0
10-Oct-07	347.9	405.2	923.0	10-Nov-07	309.7	380.2	923.0
11-Oct-07	347.9	416.7	923.0	11-Nov-07	309.7	380.2	923.0
12-Oct-07	347.9	400.3	923.0	12-Nov-07	309.7	380.2	923.0
13-Oct-07	347.9	442.7	923.0	13-Nov-07	308.7	376.1	923.0
14-Oct-07	347.9	442.7	923.0	14-Nov-07	309.7	356.5	923.0
15-Oct-07	342.3	442.7	923.0	15-Nov-07	308.3	357.0	923.0
16-Oct-07	328.3	442.7	923.0	16-Nov-07	293.4	380.2	923.0
17-Oct-07	347.9	440.7	923.0	17-Nov-07	309.7	380.2	923.0
18-Oct-07	347.9	418.5	923.0	18-Nov-07	309.7	380.2	923.0
19-Oct-07	347.9	415.0	923.0	19-Nov-07	309.7	379.7	923.0
20-Oct-07	347.9	442.7	923.0	20-Nov-07	309.7	364.2	923.0
21-Oct-07	347.9	442.7	923.0	21-Nov-07	309.7	380.2	580.0
22-Oct-07	346.5	426.4	923.0	22-Nov-07	309.7	380.2	0.0
23-Oct-07	336.7	442.7	923.0	23-Nov-07	309.7	380.2	0.0
24-Oct-07	347.9	438.8	923.0	24-Nov-07	309.7	380.2	0.0
25-Oct-07	347.9	413.7	923.0	25-Nov-07	309.7	380.2	30.9
26-Oct-07	339.2	420.5	923.0	26-Nov-07	309.7	380.2	243.4
27-Oct-07	347.9	442.7	923.0	27-Nov-07	309.7	373.9	243.4
28-Oct-07	347.9	442.7	923.0	28-Nov-07	309.7	344.9	243.4
29-Oct-07	346.0	440.7	923.0	29-Nov-07	309.7	356.5	243.4
30-Oct-07	347.9	405.0	923.0	30-Nov-07	309.7	380.2	243.4
31-Oct-07	342.3	408.9	923.0				
Total	10,681	13,303	28,614		9,060	11,214	20,289

Appendix 2
Cooling Water Volumes for Impingement Study
(December 2006 – November 2007)

Event No.	Start Date/Time	End Date/Time	CIRCULATING WATER VOLUMES (MGAL)		
			UNIT 1	UNIT 2	UNIT 3
1	12/7/06 20:00	12/8/06 2:00	79.2	81.7	230.8
	12/8/06 2:00	12/8/06 8:00	70.6	78.2	230.8
	12/8/06 8:00	12/8/06 14:00	79.2	93.2	230.8
	12/8/06 14:00	12/8/06 20:00	79.2	93.2	230.8
2	12/21/06 14:00	12/21/06 20:00	77.2	74.8	230.8
	12/21/06 20:00	12/22/06 2:00	77.2	74.8	230.8
	12/22/06 2:00	12/22/06 8:00	77.2	74.8	230.8
	12/22/06 8:00	12/22/06 14:00	77.2	74.8	230.8
3	1/4/07 14:00	1/4/07 20:00	77.2	74.8	230.8
	1/4/07 20:00	1/5/07 2:00	77.2	74.8	230.8
	1/5/07 2:00	1/5/07 8:00	77.2	74.8	230.8
	1/5/07 8:00	1/5/07 14:00	77.2	74.8	230.8
4	1/18/07 14:00	1/18/07 20:00	72.3	74.8	230.8
	1/18/07 20:00	1/19/07 2:00	58.9	74.8	230.8
	1/19/07 2:00	1/19/07 8:00	62.3	74.8	230.8
	1/19/07 8:00	1/19/07 14:00	58.9	74.8	230.8
5	2/1/07 14:00	2/1/07 20:00	37.8	80.8	230.8
	2/1/07 20:00	2/2/07 2:00	37.8	80.8	230.8
	2/2/07 2:00	2/2/07 8:00	37.8	80.8	230.8
	2/2/07 8:00	2/2/07 14:00	56.7	80.8	230.8
6	2/15/07 14:00	2/15/07 20:00	17.3	80.8	230.8
	2/15/07 20:00	2/16/07 2:00	17.3	80.8	230.8
	2/16/07 2:00	2/16/07 8:00	5.7	80.8	230.8
	2/16/07 8:00	2/16/07 14:00	0.0	80.8	230.8
7	3/1/07 14:00	3/1/07 20:00	0.0	80.8	230.8
	3/1/07 20:00	3/2/07 2:00	0.0	80.8	230.8
	3/2/07 2:00	3/2/07 8:00	0.0	80.8	230.8
	3/2/07 8:00	3/2/07 14:00	0.0	80.8	230.8
8	3/15/07 14:00	3/15/07 20:00	20.5	80.8	230.8
	3/15/07 20:00	3/16/07 2:00	20.5	80.8	230.8
	3/16/07 2:00	3/16/07 8:00	20.5	80.8	230.8
	3/16/07 8:00	3/16/07 14:00	31.5	80.8	230.8
9	3/29/07 14:00	3/30/07 2:00	76.6	0.0	230.8
	3/30/07 2:00	3/30/07 14:00	76.8	0.0	230.8

Appendix 2 (cont'd)
Cooling Water Volumes for Impingement Study
(December 2006 – November 2007)

Event No.	Start Date/Time	End Date/Time	CIRCULATING WATER VOLUMES (MGAL)		
			UNIT 1	UNIT 2	UNIT 3
10	4/12/07 20:00	4/13/07 8:00	76.8	0.0	230.8
	4/13/07 8:00	4/13/07 20:00	76.8	0.0	230.8
11	4/26/07 20:00	4/27/07 8:00	76.8	0.0	230.8
	4/27/07 8:00	4/27/07 20:00	76.8	0.0	230.8
12	5/10/07 20:00	5/11/07 8:00	82.7	0.0	230.8
	5/11/07 8:00	5/11/07 20:00	82.7	0.0	230.8
13	5/24/07 20:00	5/25/07 8:00	72.8	81.4	230.8
	5/25/07 8:00	5/25/07 20:00	82.7	84.8	230.8
14	6/7/07 20:00	6/8/07 8:00	82.7	108.8	230.8
	6/8/07 8:00	6/8/07 20:00	82.7	109.9	230.8
15	6/21/07 20:00	6/22/07 8:00	72.6	109.9	230.8
	6/22/07 8:00	6/22/07 20:00	82.7	109.9	230.8
16	7/5/07 20:00	7/6/07 8:00	82.7	109.9	230.8
	7/6/07 8:00	7/6/07 20:00	82.7	109.9	230.8
17	7/19/07 20:00	7/20/07 8:00	69.6	110.7	230.8
	7/20/07 8:00	7/20/07 20:00	64.9	110.7	230.8
18	8/2/07 20:00	8/3/07 8:00	74.9	93.6	230.8
	8/3/07 8:00	8/3/07 20:00	87.0	110.7	230.8
19	8/16/07 20:00	8/17/07 8:00	87.0	110.7	230.8
	8/17/07 8:00	8/17/07 20:00	87.0	110.7	230.8
20	8/30/07 20:00	8/31/07 8:00	86.5	98.4	230.8
	8/31/07 8:00	8/31/07 20:00	87.0	110.7	230.8
21	9/13/07 20:00	9/14/07 8:00	72.6	110.7	230.8
	9/14/07 8:00	9/14/07 20:00	87.0	110.7	230.8
22	9/27/07 20:00	9/28/07 8:00	87.0	98.7	230.8
	9/28/07 8:00	9/28/07 20:00	87.0	110.7	230.8
23	10/11/07 20:00	10/12/07 8:00	87.0	88.0	230.8
	10/12/07 8:00	10/12/07 20:00	87.0	108.8	230.8
24	10/25/07 20:00	10/26/07 8:00	82.6	98.5	230.8
	10/26/07 8:00	10/26/07 20:00	87.0	110.7	230.8
25	11/8/07 20:00	11/9/07 8:00	39.3	95.0	230.8
	11/9/07 8:00	11/9/07 20:00	57.0	95.0	230.8
26	11/29/07 20:00	11/30/07 8:00	77.4	95.0	60.8
	11/30/07 8:00	11/30/07 20:00	77.4	95.0	60.8

Appendix 3

Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	07-Dec-06	1	9:20 PM	Atlantic Croaker		16		16	239.6
	07-Dec-06	1	9:20 PM	Atlantic Pomfret		4		4	2.0
	07-Dec-06	1	9:20 PM	Atlantic Spadefish		4		4	30.4
	07-Dec-06	1	9:20 PM	Bay Anchovy		28		28	56.4
	07-Dec-06	1	9:20 PM	Blackcheek Tonguefish	4			4	19.2
	07-Dec-06	1	9:20 PM	Feather Blenny	4			4	16.8
	07-Dec-06	1	9:20 PM	Hardhead Catfish	8			8	79.6
	07-Dec-06	1	9:20 PM	Lane Snapper		8		8	40.8
	07-Dec-06	1	9:20 PM	Orange Filefish		4		4	1,923.2
	07-Dec-06	1	9:20 PM	Pinfish		4		4	34.4
	07-Dec-06	1	9:20 PM	Polka-dot Batfish	16			16	1,297.2
	07-Dec-06	1	9:20 PM	Scaled Sardine		32		32	296.8
	07-Dec-06	1	9:20 PM	Silver Perch		108		108	695.2
	07-Dec-06	1	9:20 PM	Spiny Searobin	4			4	22.8
	07-Dec-06	1	9:20 PM	Spotfin Mojarra		96		96	632.4
	07-Dec-06	1	9:20 PM	Striped Burrfish	8			8	864.0
	07-Dec-06	1	9:20 PM	Striped Mojarra		4		4	28.8
				Interval 1 Total	44	308	0	352	6,279.6
	08-Dec-06	2	3:30 AM	Atlantic Spadefish		1		1	7.0
	08-Dec-06	2	3:30 AM	Atlantic Stingray	1			1	85.6
	08-Dec-06	2	3:30 AM	Bighead Searobin		1		1	6.0
	08-Dec-06	2	3:30 AM	Black Sea Bass	1			1	23.7
	08-Dec-06	2	3:30 AM	Lane Snapper		2		2	8.7
	08-Dec-06	2	3:30 AM	Pinfish		3		3	35.3
	08-Dec-06	2	3:30 AM	Polka-dot Batfish		7		7	419.9
	08-Dec-06	2	3:30 AM	Silver Perch		109		109	1,159.3
	08-Dec-06	2	3:30 AM	Spotfin Mojarra		131		131	1,125.0
	08-Dec-06	2	3:30 AM	Spotted Seatrout		2		2	26.1
	08-Dec-06	2	3:30 AM	Striped Mojarra		14		14	109.7
				Interval 2 Total	2	270	0	272	3,006.4
	08-Dec-06	3	9:00 AM	Atlantic Croaker		3		3	38.2
	08-Dec-06	3	9:00 AM	Polka-dot Batfish	5			5	452.8
	08-Dec-06	3	9:00 AM	Scaled Sardine		4		4	34.9
	08-Dec-06	3	9:00 AM	Silver Perch		3		3	29.3
	08-Dec-06	3	9:00 AM	Spotfin Mojarra		3		3	28.6
				Interval 3 Total	5	13		18	583.8
	08-Dec-06	4	3:00 PM	Polka-dot Batfish		7		7	425.3
	08-Dec-06	4	3:00 PM	Silver Perch		2		2	16.6
				Interval 4 Total	0	9	0	9	441.9
1				24-Hour Total	51	600	0	651	10,311.7

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	21-Dec-06	1	9:10 PM	Orange Filefish		1		1	3.8
	21-Dec-06	1	9:10 PM	Polka-dot Batfish	8			8	738.4
	21-Dec-06	1	9:10 PM	Silver Perch		1		1	5.6
	21-Dec-06	1	9:10 PM	Spotfin Mojarra		6		6	24.1
				Interval 1 Total	8	8	0	16	771.9
	22-Dec-06	2	2:51 AM	Inland Silverside		3		3	14.7
	22-Dec-06	2	2:51 AM	Pinfish		4		4	16.4
	22-Dec-06	2	2:51 AM	Polka-dot Batfish	11			11	909.5
	22-Dec-06	2	2:51 AM	Scaled Sardine		1		1	8.7
				Interval 2 Total	11	8	0	19	949.3
	22-Dec-06	3	8:30 AM	Bay Anchovy		4		4	14.0
	22-Dec-06	3	8:30 AM	Hardhead Catfish		2		2	12.9
	22-Dec-06	3	8:30 AM	Leopard Searobin		1		1	3.8
	22-Dec-06	3	8:30 AM	Polka-dot Batfish	8			8	822.4
	22-Dec-06	3	8:30 AM	Spotfin Mojarra		4		4	36.6
				Interval 3 Total	8	11	0	19	889.7
	22-Dec-06	4	2:30 PM	Inland Silverside		1		1	1.2
	22-Dec-06	4	2:30 PM	Polka-dot Batfish	7			7	680.0
	22-Dec-06	4	2:30 PM	Scaled Sardine		2		2	14.6
	22-Dec-06	4	2:30 PM	Silver Perch		2		2	13.9
	22-Dec-06	4	2:30 PM	Striped Burrfish	1			1	125.6
				Interval 4 Total	8	5	0	13	835.3
2				24-Hour Total	35	32	0	67	3,446.2
	04-Jan-07	1	9:00 PM	Atlantic Croaker		10		10	51.0
	04-Jan-07	1	9:00 PM	Bay Anchovy		10		10	13.0
	04-Jan-07	1	9:00 PM	Blackcheek Tonguefish	3	7		10	51.0
	04-Jan-07	1	9:00 PM	Gulf Toadfish	10	20		30	179.0
	04-Jan-07	1	9:00 PM	Inshore Lizardfish		10		10	335.0
	04-Jan-07	1	9:00 PM	Leopard Searobin	15	35		50	441.3
	04-Jan-07	1	9:00 PM	Pinfish		30		30	269.0
	04-Jan-07	1	9:00 PM	Polka-dot Batfish	7	3		10	709.0
	04-Jan-07	1	9:00 PM	Spotfin Mojarra		200		200	1,647.0
				Interval 1 Total	35	325	0	360	3,695.3
	05-Jan-07	2	2:37 AM	American Eel	1			1	25.3
	05-Jan-07	2	2:37 AM	Atlantic Croaker		1		1	14.5
	05-Jan-07	2	2:37 AM	Bay Anchovy		2		2	1.3
	05-Jan-07	2	2:37 AM	Blackcheek Tonguefish	1			1	2.8
	05-Jan-07	2	2:37 AM	Inland Silverside		3		3	10.2
	05-Jan-07	2	2:37 AM	Leopard Searobin		2		2	15.4
	05-Jan-07	2	2:37 AM	Polka-dot Batfish	2	3		5	275.9
	05-Jan-07	2	2:37 AM	Scaled Sardine		6		6	16.8
	05-Jan-07	2	2:37 AM	Scrawled Cowfish		1		1	10.3
	05-Jan-07	2	2:37 AM	Silver Perch		6		6	43.1
	05-Jan-07	2	2:37 AM	Spotfin Mojarra		24		24	242.4
				Interval 2 Total	4	48	0	52	658.0
	05-Jan-07	3	8:40 AM	Bay Anchovy		2		2	2.6
	05-Jan-07	3	8:40 AM	Polka-dot Batfish	1	2		3	218.1
	05-Jan-07	3	8:40 AM	Silver Perch		1		1	10.6
	05-Jan-07	3	8:40 AM	Spotfin Mojarra		4		4	37.7
				Interval 3 Total	1	9	0	10	269.0
	05-Jan-07	4	2:30 PM	Bay Anchovy		1		1	0.8
	05-Jan-07	4	2:30 PM	Scrawled Filefish		1		1	0.9
	05-Jan-07	4	2:30 PM	Spotfin Mojarra		1		1	1.1
				Interval 4 Total	0	3	0	3	2.8
3				24-Hour Total	40	385	0	425	4,625.1

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	18-Jan-07	1	8:20 PM	Bay Anchovy		1		1	1.5
	18-Jan-07	1	8:20 PM	Silver Perch		55		55	333.1
	18-Jan-07	1	8:20 PM	Striped Mojarra		10		10	126.9
				Interval 1 Total	0	66	0	66	461.5
	19-Jan-07	2	2:20 AM	American Eel	1			1	53.1
	19-Jan-07	2	2:20 AM	Bay Anchovy		7		7	9.0
	19-Jan-07	2	2:20 AM	Florida Blenny		1		1	121.0
	19-Jan-07	2	2:20 AM	Inland Silverside		3		3	15.2
	19-Jan-07	2	2:20 AM	Silver Perch		26		26	156.4
	19-Jan-07	2	2:20 AM	Spotfin Mojarra		10		10	115.2
				Interval 2 Total	1	47	0	48	469.9
	19-Jan-07	3	8:56 AM	Bay Anchovy		1		1	1.3
	19-Jan-07	3	8:56 AM	Silver Perch		58		58	357.0
	19-Jan-07	3	8:56 AM	Spotfin Mojarra		2		2	24.0
	19-Jan-07	3	8:56 AM	Striped Burrfish	1			1	163.6
				Interval 3 Total	1	61	0	62	545.9
	19-Jan-07	4	2:30 PM	Bighead Searobin		3		3	11.3
	19-Jan-07	4	2:30 PM	Planehead Filefish		1		1	1.0
	19-Jan-07	4	2:30 PM	Silver Perch		5		5	34.8
				Interval 4 Total	0	9	0	9	47.1
4				24-Hour Total	2	183	0	185	1,524.4

Appendix 3 (cont'd)

Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	01-Feb-07	1 ³	8:00 PM	Atlantic Thread Herring		46		46	1,249.2
	01-Feb-07	1 ³	8:00 PM	Bay Anchovy		54		54	64.4
	01-Feb-07	1 ³	8:00 PM	Bighead Searobin		1		1	1.4
	01-Feb-07	1 ³	8:00 PM	Feather Blenny		0		0	12.3
	01-Feb-07	1 ³	8:00 PM	Gulf Pipefish		0		0	0.4
	01-Feb-07	1 ³	8:00 PM	Inland Silverside		2		2	15.2
	01-Feb-07	1 ³	8:00 PM	Leatherjacket		1		1	1.5
	01-Feb-07	1 ³	8:00 PM	Leopard Searobin		0		0	0.6
	01-Feb-07	1 ³	8:00 PM	Scaled Sardine		13		13	101.8
	01-Feb-07	1 ³	8:00 PM	Silver Perch		1		1	13.4
	01-Feb-07	1 ³	8:00 PM	Spotfin Mojarra		0		0	0.4
				Interval 1 Total	0	120	0	120	1,460.6
	02-Feb-07	2 ³	2:00 AM	Atlantic Thread Herring		46		46	1,249.2
	02-Feb-07	2 ³	2:00 AM	Bay Anchovy		54		54	64.4
	02-Feb-07	2 ³	2:00 AM	Bighead Searobin		1		1	1.4
	02-Feb-07	2 ³	2:00 AM	Feather Blenny		0		0	12.3
	02-Feb-07	2 ³	2:00 AM	Gulf Pipefish		0		0	0.4
	02-Feb-07	2 ³	2:00 AM	Inland Silverside		2		2	15.2
	02-Feb-07	2 ³	2:00 AM	Leatherjacket		1		1	1.5
	02-Feb-07	2 ³	2:00 AM	Leopard Searobin		0		0	0.6
	02-Feb-07	2 ³	2:00 AM	Scaled Sardine		13		13	101.8
	02-Feb-07	2 ³	2:00 AM	Silver Perch		1		1	13.4
	02-Feb-07	2 ³	2:00 AM	Spotfin Mojarra		0		0	0.4
				Interval 2 Total	0	120	0	120	1,460.6
	02-Feb-07	3 ²	9:30 AM	Atlantic Thread Herring		78		78	1,293.0
	02-Feb-07	3 ²	9:30 AM	Bay Anchovy		58		58	44.5
	02-Feb-07	3 ²	9:30 AM	Bigeye Searobin		2		2	2.5
	02-Feb-07	3 ²	9:30 AM	Feather Blenny		1		1	5.4
	02-Feb-07	3 ²	9:30 AM	Halfbeak		1		1	6.8
	02-Feb-07	3 ²	9:30 AM	Inland Silverside		2		2	8.1
	02-Feb-07	3 ²	9:30 AM	Leatherjacket		2		2	2.6
	02-Feb-07	3 ²	9:30 AM	Spanish Grunt		1		1	2.4
	02-Feb-07	3 ²	9:30 AM	Spanish Sardine		1		1	9.6
	02-Feb-07	3 ²	9:30 AM	Spotfin Mojarra		2		2	2.9
	02-Feb-07	3 ²	9:30 AM	Striped Anchovy		1		1	8.0
				Interval 3 Total	0	149	0	149	1,386.0
	02-Feb-07	4 ²	2:45 PM	Atlantic Thread Herring		8		8	156.7
	02-Feb-07	4 ²	2:45 PM	Bay Anchovy		22		22	16.4
	02-Feb-07	4 ²	2:45 PM	Bigeye Searobin		1		1	21.0
	02-Feb-07	4 ²	2:45 PM	Gulf Toadfish		1		1	4.1
	02-Feb-07	4 ²	2:45 PM	Halfbeak		3		3	2.2
	02-Feb-07	4 ²	2:45 PM	Pinfish		1		1	18.8
	02-Feb-07	4 ²	2:45 PM	Polka-dot Batfish	3			3	148.6
	02-Feb-07	4 ²	2:45 PM	Scaled Sardine		17		17	75.5
	02-Feb-07	4 ²	2:45 PM	Silver Perch		6		6	63.3
	02-Feb-07	4 ²	2:45 PM	Spotfin Mojarra		1		1	1.0
	02-Feb-07	4 ²	2:45 PM	Striped Anchovy		1		1	11.8
				Interval 4 Total	3	63	0	66	519.4
5				24-Hour Total	3	451	0	454	4,826.6

³ Impingement data for February 01 and 02, 2007 - sampling intervals 1,2 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

² Impingement data for February 01 and 02, 2007 - sampling intervals 3, 4 - was estimated using impingement data from Unit 2 - intervals 3 and 4 (adjusted for cooling water volume).

Appendix 3 (cont'd)

Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	15-Feb-07	1 ²	8:37 PM	Atlantic Croaker		0		0	3.4
	15-Feb-07	1 ²	8:37 PM	Atlantic Thread Herring		1		1	25.8
	15-Feb-07	1 ²	8:37 PM	Pinfish		0		0	3.2
	15-Feb-07	1 ²	8:37 PM	Polka-dot Batfish	2			2	184.6
	15-Feb-07	1 ²	8:37 PM	Silver Perch		1		1	16.7
	15-Feb-07	1 ²	8:37 PM	Striped Mojarra		0		0	6.6
				Interval 1 Total	2	3	0	5	240.3
	16-Feb-07	2 ²	2:45 AM	Atlantic Thread Herring		1		1	27.6
	16-Feb-07	2 ²	2:45 AM	Feather Blenny	0	0		0	3.6
	16-Feb-07	2 ²	2:45 AM	Pigfish		1		1	16.0
	16-Feb-07	2 ²	2:45 AM	Polka-dot Batfish	2	0		2	223.6
	16-Feb-07	2 ²	2:45 AM	Silver Perch		7		7	105.7
	16-Feb-07	2 ²	2:45 AM	Striped Mojarra	3	0		3	38.9
				Interval 2 Total	5	9	0	14	415.5
	16-Feb-07	3 ²	8:45 AM	Atlantic Thread Herring		0		0	11.5
	16-Feb-07	3 ²	8:45 AM	Pigfish		0		0	3.0
	16-Feb-07	3 ²	8:45 AM	Polka-dot Batfish	1	0		1	129.6
	16-Feb-07	3 ²	8:45 AM	Scrawled Cowfish	0	0		0	2.7
	16-Feb-07	3 ²	8:45 AM	Silver Perch		0		0	5.5
	16-Feb-07	3 ²	8:45 AM	Spotted Seatrout		0		0	5.8
				Interval 3 Total	1	2	0	3	158.1
	16-Feb-07	4*	2:30 PM	Interval 4 Total	0	0	0	0	0.0
6				24-Hour Total	8	14	0	22	813.9
7	Unit 1 not operating March 1-2, 2007								
	15-Mar-07	1 ²	9:30 PM	Atlantic Thread Herring		1		1	16.8
	15-Mar-07	1 ²	9:30 PM	Pigfish		2		2	14.8
	15-Mar-07	1 ²	9:30 PM	Polka-dot Batfish	0			0	45.7
	15-Mar-07	1 ²	9:30 PM	Smooth Butterfly Ray	0			0	516.6
				Interval 1 Total	1	2	0	3	593.9
	16-Mar-07	2 ²	2:28 AM	Atlantic Thread Herring		1		1	12.5
	16-Mar-07	2 ²	2:28 AM	Bigeye Searobin	1			1	0.8
	16-Mar-07	2 ²	2:28 AM	Pigfish	0	1		1	6.2
				Interval 2 Total	1	1	0	2	19.5
	16-Mar-07	3 ²	9:23 AM	Atlantic Thread Herring		0		0	5.3
	16-Mar-07	3 ²	9:23 AM	Pigfish		1		1	8.0
	16-Mar-07	3 ²	9:23 AM	Polka-dot Batfish	1			1	28.1
	16-Mar-07	3 ²	9:23 AM	Southern Puffer	0			0	1.4
				Interval 3 Total	1	1	0	2	42.9
	16-Mar-07	4 ²	2:30 PM	Pigfish		2		2	21.1
	16-Mar-07	4 ²	2:30 PM	Polka-dot Batfish	0			0	2.6
	16-Mar-07	4 ²	2:30 PM	Striped Burrfish	1			1	177.7
				Interval 4 Total	1	2	0	3	201.3
8				24-Hour Total	3	6	0	9	857.7
	30-Mar-07	1	2:35 AM	Polka-dot Batfish	3		1	4	264.5
	30-Mar-07	1	2:35 AM	Silver Perch			1	1	6.0
	30-Mar-07	1	2:35 AM	Striped Burrfish		1		1	251.0
	30-Mar-07	1	2:35 AM	Striped Mojarra			1	1	11.1
				Interval 1 Total	3	1	3	7	532.6
	30-Mar-07	2	2:57 PM	Bay Anchovy		1		1	1.0
	30-Mar-07	2	2:57 PM	Florida Blenny	2	1		3	7.4
	30-Mar-07	2	2:57 PM	Gafftopsail Catfish		1		1	28.4
	30-Mar-07	2	2:57 PM	Polka-dot Batfish	2			2	206.8
	30-Mar-07	2	2:57 PM	Striped Mojarra		1		1	31.2
				Interval 2 Total	4	4	0	8	274.8
9				24-Hour Total	7	5	3	15	807.4

² Impingement data for February 15-16, 2007 and March 15-16, 2007 - sampling intervals 1,2,3,4 - was estimated from Unit 2 – intervals 1,2 3, 4 (adjusted for cooling water volume).

* No flow data for sampling interval 4 on March 15-16, 2007

Appendix 3 (cont'd)

Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	13-Apr-07	1 ³	8:30 AM	Atlantic Pomfret		5		5	4.5
	13-Apr-07	1 ³	8:30 AM	Bay Anchovy		12		12	20.3
	13-Apr-07	1 ³	8:30 AM	Blackcheek Tonguefish		1		1	4.5
	13-Apr-07	1 ³	8:30 AM	Feather Blenny	1			1	3.1
	13-Apr-07	1 ³	8:30 AM	Gafftopsail Catfish	1	7		7	292.6
	13-Apr-07	1 ³	8:30 AM	Great Barracuda		1		1	0.6
	13-Apr-07	1 ³	8:30 AM	Gulf Toadfish	1			1	0.5
	13-Apr-07	1 ³	8:30 AM	Hardhead Catfish		2		2	40.3
	13-Apr-07	1 ³	8:30 AM	Hogchoker	1			1	2.3
	13-Apr-07	1 ³	8:30 AM	Ladyfish		1		1	293.8
	13-Apr-07	1 ³	8:30 AM	Lane Snapper		1		1	1.0
	13-Apr-07	1 ³	8:30 AM	Lined Seahorse	1	1		1	3.9
	13-Apr-07	1 ³	8:30 AM	Orange Filefish		1		1	5.2
	13-Apr-07	1 ³	8:30 AM	Polka-dot Batfish	10	1		11	1,264.6
	13-Apr-07	1 ³	8:30 AM	Scaled Sardine		1		1	0.8
	13-Apr-07	1 ³	8:30 AM	Scrawled Cowfish	0	1		1	203.2
	13-Apr-07	1 ³	8:30 AM	Southern Puffer	2			2	17.2
	13-Apr-07	1 ³	8:30 AM	Striped Anchovy		8		8	39.2
	13-Apr-07	1 ³	8:30 AM	Striped Burrfish	1	1		2	289.5
				Interval 1 Total	16	44	0	60	2,487.0
	13-Apr-07	2 ³	8:30 PM	Atlantic Spadefish		1		1	51.2
	13-Apr-07	2 ³	8:30 PM	Atlantic Thread Herring		1		1	35.7
	13-Apr-07	2 ³	8:30 PM	Bay Anchovy		1		1	1.1
	13-Apr-07	2 ³	8:30 PM	Gafftopsail Catfish		1		1	32.9
	13-Apr-07	2 ³	8:30 PM	Polka-dot Batfish	3			3	372.6
	13-Apr-07	2 ³	8:30 PM	Striped Burrfish	1			1	279.7
				Interval 2 Total	4	3	0	7	773.2
10				24-Hour Total	20	47	0	67	3,260.3
	27-Apr-07	1 ³	8:30 AM	Atlantic Croaker		1		1	1.5
	27-Apr-07	1 ³	8:30 AM	Atlantic Needlefish		0		0	0.7
	27-Apr-07	1 ³	8:30 AM	Bay Anchovy		1		1	0.9
	27-Apr-07	1 ³	8:30 AM	Gafftopsail Catfish		1		1	108.3
	27-Apr-07	1 ³	8:30 AM	Great Barracuda		0		0	0.1
	27-Apr-07	1 ³	8:30 AM	Leopard Toadfish	0			0	41.5
	27-Apr-07	1 ³	8:30 AM	Lined Seahorse		0		0	1.0
	27-Apr-07	1 ³	8:30 AM	Polka-dot Batfish	2			2	233.8
	27-Apr-07	1 ³	8:30 AM	Silver Seatrout		0		0	6.3
	27-Apr-07	1 ³	8:30 AM	Smooth Butterfly Ray		1		1	59.3
				Interval 1 Total	3	5	0	7	453.4
	27-Apr-07	2 ³	8:30 PM	Atlantic Croaker		0		0	2.8
	27-Apr-07	2 ³	8:30 PM	Atlantic Needlefish		1		1	0.6
	27-Apr-07	2 ³	8:30 PM	Leopard Toadfish	0			0	2.3
	27-Apr-07	2 ³	8:30 PM	Lined Seahorse	1			1	7.5
	27-Apr-07	2 ³	8:30 PM	Polka-dot Batfish	1			1	117.1
	27-Apr-07	2 ³	8:30 PM	Spotted Seatrout		0		0	174.2
	27-Apr-07	2 ³	8:30 PM	Striped Burrfish	1	0		1	212.2
	27-Apr-07	2 ³	8:30 PM	Striped Mullet		0		0	231.8
				Interval 2 Total	3	2	0	5	748.5
11				24-Hour Total	5	7		12	1,201.9

³ Impingement data for April 13 and 27, 2007- sampling intervals 1 and 2 was estimated using impingement data from Unit 3- interval 1 and 2 (adjusted for cooling water volume).

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	11-May-07	1	9:15 AM	Bigeye Searobin		1		1	7.0
	11-May-07	1	9:15 AM	Bighead Searobin		1		1	11.6
	11-May-07	1	9:15 AM	Blackcheek Tonguefish		2		2	3.5
	11-May-07	1	9:15 AM	Flounder sp.		4		4	47.9
	11-May-07	1	9:15 AM	Planehead Filefish		1		1	1.0
	11-May-07	1	9:15 AM	Pigfish		9		9	174.6
	11-May-07	1	9:15 AM	Pinfish		1		1	7.0
	11-May-07	1	9:15 AM	Polka-dot Batfish	3			3	186.5
	11-May-07	1	9:15 AM	Scrawled Cowfish	3	1		4	71.1
	11-May-07	1	9:15 AM	Silver Perch		4		4	7.1
	11-May-07	1	9:15 AM	Southern Kingfish		1		1	1.1
	11-May-07	1	9:15 AM	Yellow Conger		1		1	39.9
				Interval 1 Total	6	26	0	32	558.3
	11-May-07	2	9:10 PM	Atlantic Pomfret		1		1	1.3
	11-May-07	2	9:10 PM	Blackcheek Tonguefish	1			1	3.4
				Interval 2 Total	1	1	0	2	4.7
12				24-Hour Total	7	27	0	34	563.0
	25-May-07	1	9:09 AM	Atlantic Croaker		2		2	14.6
	25-May-07	1	9:09 AM	Atlantic Thread Herring		2		2	17.4
	25-May-07	1	9:09 AM	Black Sea Bass		1		1	3.6
	25-May-07	1	9:09 AM	Blackcheek Tonguefish	2	1		3	12.3
	25-May-07	1	9:09 AM	Flounder sp.		1		1	6.6
	25-May-07	1	9:09 AM	Leopard Toadfish	2			2	4.5
	25-May-07	1	9:09 AM	Ocellated Flounder	1			1	3.8
	25-May-07	1	9:09 AM	Pigfish		5		5	8.3
	25-May-07	1	9:09 AM	Pinfish		2		2	10.2
	25-May-07	1	9:09 AM	Polka-dot Batfish	10			10	1,339.8
	25-May-07	1	9:09 AM	Silver Perch		4		4	1.9
	25-May-07	1	9:09 AM	Smooth Butterfly Ray		1		1	135.9
	25-May-07	1	9:09 AM	Striped Anchovy		1		1	1.5
				Interval 1 Total	15	20	0	35	1,560.4
	25-May-07	2	9:06 PM	Atlantic Croaker		1		1	4.8
	25-May-07	2	9:06 PM	Pigfish		15		15	88.0
	25-May-07	2	9:06 PM	Polka-dot Batfish	20	10		30	4,145.2
	25-May-07	2	9:06 PM	Striped Burrfish		1		1	362.7
				Interval 2 Total	20	27	0	47	4,600.7
13				24-Hour Total	35	47	0	82	6,161.0
	08-Jun-07	1	9:21 AM	Atlantic Needlefish		7		7	4.5
	08-Jun-07	1	9:21 AM	Gulf Pipefish	1	2		3	1.8
	08-Jun-07	1	9:21 AM	Halfbeak		4		4	1.7
	08-Jun-07	1	9:21 AM	Lined Seahorse		3		3	3.0
	08-Jun-07	1	9:21 AM	Orange Filefish		21		21	21.5
	08-Jun-07	1	9:21 AM	Pigfish		1		1	6.8
	08-Jun-07	1	9:21 AM	Planehead Filefish		4		4	2.4
	08-Jun-07	1	9:21 AM	Silver Perch		9		9	7.1
	08-Jun-07	1	9:21 AM	Southern Puffer	2			2	5.3
	08-Jun-07	1	9:21 AM	Striped Anchovy		2		2	2.2
	08-Jun-07	1	9:21 AM	Striped Mullet		1		1	4.2
				Interval 1 Total	3	54	0	57	60.5
	08-Jun-07	2	9:30 PM	Planehead Filefish		4		4	18.6
	08-Jun-07	2	9:30 PM	Polka-dot Batfish	2			2	246.0
	08-Jun-07	2	9:30 PM	Silver Perch		1		1	1.7
				Interval 2 Total	2	5	0	7	266.3
14				24-Hour Total	5	59	0	64	326.8

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	22-Jun-07	1	9:08 AM	Atlantic Thread Herring		1		1	1.0
	22-Jun-07	1	9:08 AM	Black Sea Bass		1		1	2.2
	22-Jun-07	1	9:08 AM	Lookdown		1		1	1.7
	22-Jun-07	1	9:08 AM	Pigfish		2		2	4.2
	22-Jun-07	1	9:08 AM	Polka-dot Batfish	12	4		16	1,710.8
	22-Jun-07	1	9:08 AM	Silver Perch		6		6	8.2
	22-Jun-07	1	9:08 AM	Spotted Seatrout		1		1	2.5
				Interval 1 Total	12	16	0	28	1,730.6
	22-Jun-07	2	9:15 PM	Lined Seahorse		1		1	1.3
	22-Jun-07	2	9:15 PM	Pigfish		4		4	39.0
	22-Jun-07	2	9:15 PM	Pinfish		1		1	2.7
	22-Jun-07	2	9:15 PM	Polka-dot Batfish	4			4	447.5
	22-Jun-07	2	9:15 PM	Striped Burrfish		1		1	93.1
				Interval 2 Total	4	7	0	11	583.6
15				24-Hour Total	16	23	0	39	2,314.2
	06-Jul-07	1	9:08 AM	Black Sea Bass		2		2	6.9
	06-Jul-07	1	9:08 AM	Chain Pipefish	1			1	1.1
	06-Jul-07	1	9:08 AM	Lookdown		2		2	5.2
	06-Jul-07	1	9:08 AM	Planehead Filefish		1		1	1.9
	06-Jul-07	1	9:08 AM	Polka-dot Batfish	1			1	11.3
	06-Jul-07	1	9:08 AM	Silver Perch		13		13	25.4
				Interval 1 Total	2	18	0	20	51.8
	06-Jul-07	2	9:15 PM	Atlantic Thread Herring		1		1	6.9
	06-Jul-07	2	9:15 PM	Feather Blenny	2			2	43.5
	06-Jul-07	2	9:15 PM	Pigfish		5		5	38.7
	06-Jul-07	2	9:15 PM	Polka-dot Batfish	20	6		26	2,822.1
	06-Jul-07	2	9:15 PM	Southern Puffer	2			2	5.8
				Interval 2 Total	24	12	0	36	2,917.0
16				24-Hour Total	26	30	0	56	2,968.8
	20-Jul-07	1	9:25 AM	Bay Anchovy		1		1	0.9
	20-Jul-07	1	9:25 AM	Black Sea Bass		1		1	42.3
	20-Jul-07	1	9:25 AM	Chain Pipefish	1			1	1.1
	20-Jul-07	1	9:25 AM	Great Barracuda		1		1	114.7
	20-Jul-07	1	9:25 AM	Polka-dot Batfish	4			4	66.4
	20-Jul-07	1	9:25 AM	Southern Puffer	1			1	16.6
				Interval 1 Total	6	3	0	9	242.0
	20-Jul-07	2	9:06 PM	Lookdown		1		1	2.4
	20-Jul-07	2	9:06 PM	Pigfish		1		1	18.2
	20-Jul-07	2	9:06 PM	Pinfish		3		3	32.3
				Interval 2 Total	0	5	0	5	52.9
17				24-Hour Total	6	8	0	14	294.9
	03-Aug-07	1	10:00 AM	Inland Silverside		2		2	3.2
	03-Aug-07	1	10:00 AM	Leatherjacket		3		3	3.8
	03-Aug-07	1	10:00 AM	Leopard Toadfish	1			1	51.8
	03-Aug-07	1	10:00 AM	Lookdown		1		1	3.9
	03-Aug-07	1	10:00 AM	Pinfish		1		1	26.5
	03-Aug-07	1	10:00 AM	Polka-dot Batfish	2			2	172.6
				Interval 1 Total	3	7	0	10	261.8
	03-Aug-07	2 ²	9:15 PM	Atlantic Bumper		3		3	1.5
	03-Aug-07	2 ²	9:15 PM	Atlantic Thread Herring		1		1	3.4
	03-Aug-07	2 ²	9:15 PM	Polka-dot Batfish	3			3	319.4
				Interval 2 Total	3	4	0	7	324.3
18				24-Hour Total	6	11	0	17	586.1

² Impingement data for August 03, 2007- sampling interval 2 - was estimated using impingement data from Unit 2 – interval 2 (adjusted for cooling water volume).

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	17-Aug-07	1	9:30 AM	Atlantic Bumper		11		11	4.1
	17-Aug-07	1	9:30 AM	Leatherjacket		1		1	1.1
	17-Aug-07	1	9:30 AM	Mojarra sp. (juvenile)		1		1	0.9
	17-Aug-07	1	9:30 AM	Pigfish		1		1	4.8
	17-Aug-07	1	9:30 AM	Polka-dot Batfish		1		1	105.1
	17-Aug-07	1	9:30 AM	Silver Perch		22		22	19.8
	17-Aug-07	1	9:30 AM	Silver Seatrout		4		4	4.6
	17-Aug-07	1	9:30 AM	Spotted Seatrout		1		1	1.7
				Interval 1 Total	0	42	0	42	142.1
	17-Aug-07	2	9:45 PM	Atlantic Bumper		7		7	11.2
	17-Aug-07	2	9:45 PM	Blueback Herring		1		1	28.4
	17-Aug-07	2	9:45 PM	Lookdown		1		1	1.2
	17-Aug-07	2	9:45 PM	Pigfish		1		1	6.1
				Interval 2 Total	0	10	0	10	46.9
19				24-Hour Total	0	52	0	52	189.0
	31-Aug-07	1	8:54 AM	Atlantic Bumper		3		3	13.2
	31-Aug-07	1	8:54 AM	Feather Blenny	1			1	17.4
	31-Aug-07	1	8:54 AM	Inland Silverside		1		1	2.1
	31-Aug-07	1	8:54 AM	Lookdown		1		1	1.5
	31-Aug-07	1	8:54 AM	Silver Perch		1		1	1.7
				Interval 1 Total	1	6	0	7	35.9
	31-Aug-07	2	9:20 PM	Atlantic Bumper		1		1	3.1
	31-Aug-07	2	9:20 PM	Silver Perch		1		1	4.4
				Interval 2 Total	0	2	0	2	7.5
20				24-Hour Total	1	8	0	9	43.4
	14-Sep-07	1	9:00 AM	Mojarra sp. (juvenile)		1		1	0.9
	14-Sep-07	1	9:00 AM	Polka-dot Batfish	1	1		2	175.2
				Interval 1 Total	1	2	0	3	176.1
	14-Sep-07	2	9:15 PM	Polka-dot Batfish	3			3	272.2
				Interval 2 Total	3	0	0	3	272.2
21				24-Hour Total	4	2	0	6	448.3
	28-Sep-07	1	8:54 AM	Inland Silverside		1		1	2.2
	28-Sep-07	1	8:54 AM	Polka-dot Batfish	1			1	83.4
	28-Sep-07	1	8:54 AM	Silver Perch		1		1	12.4
				Interval 1 Total	1	2	0	3	98.0
	28-Sep-07	2	9:37 PM	Polka-dot Batfish			1	1	89.5
				Interval 2 Total	0		1	1	89.5
22				24-Hour Total	1	2	1	4	187.5
	12-Oct-07	1	9:20 AM	Oyster Toadfish	1			1	15.2
				Interval 1 Total	1	0	0	1	15.2
	12-Oct-07	2	9:45 PM	Polka-dot Batfish	2			2	270.5
	12-Oct-07	2	9:45 PM	Striped Burrfish	1			1	0.5
				Interval 2 Total	3	0	0	3	271.0
23				24-Hour Total	4	0	0	4	286.2
	26-Oct-07	1	9:15 AM		0	0	0	0	0.0
				Interval 1 Total	0	0	0	0	0.0
	26-Oct-07	2	9:15 PM	Atlantic Bumper		1		1	1.0
	26-Oct-07	2	9:15 PM	Feather Blenny	1			1	24.7
	26-Oct-07	2	9:15 PM	Hardhead Catfish		1		1	107.0
	26-Oct-07	2	9:15 PM	Harvestfish		1		1	8.2
	26-Oct-07	2	9:15 PM	Polka-dot Batfish	6	5		11	1,116.5
				Interval 2 Total	7	8	0	15	1,257.4
24				24-Hour Total	7	8	0	15	1,257.4

Appendix 3 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	09-Nov-07	1	8:35 AM	Polka-dot Batfish	2			2	251.4
				Interval 1 Total	2	0	0	2	251.4
	09-Nov-07	2	8:25 PM	Atlantic Bumper		1		1	150.0
	09-Nov-07	2	8:25 PM	Bay Anchovy		1		1	1.8
	09-Nov-07	2	8:25 PM	Inland Silverside		1		1	4.1
	09-Nov-07	2	8:25 PM	Polka-dot Batfish	1			1	125.4
				Interval 2 Total	1	3	0	4	281.3
25				24-Hour Total	3	3	0	6	532.7
	30-Nov-07	1	8:30 AM	Bay Anchovy		1		1	0.2
	30-Nov-07	1	8:30 AM	Lane Snapper		1		1	0.6
				Interval 1 Total	0	2	0	2	0.8
	30-Nov-07	2	8:15 PM	Gulf Flounder	1			1	67.3
	30-Nov-07	2	8:15 PM	Polka-dot Batfish	9	2		11	1,382.7
	30-Nov-07	2	8:15 PM	Striped Burrfish	1			1	549.7
				Interval 2 Total	11	2	0	13	1,999.7
26				24-Hour Total	11	4	0	15	2,000.5
	Grand Total				307	2,013	4	2,324	49,835

Appendix 4

Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	07-Dec-06	1	10:00 PM	Atlantic Croaker		16		16	235.2
	07-Dec-06	1	10:00 PM	Blackcheek Tonguefish		16		16	486.4
	07-Dec-06	1	10:00 PM	Hardhead Catfish	16			16	134.4
	07-Dec-06	1	10:00 PM	Orange Filefish		16		16	6,054.4
	07-Dec-06	1	10:00 PM	Planehead filefish		16		16	19.2
	07-Dec-06	1	10:00 PM	Polka-dot Batfish	96	16		112	8,646.4
	07-Dec-06	1	10:00 PM	Scaled Sardine		16		16	1,123.2
	07-Dec-06	1	10:00 PM	Silver Perch		96		96	590.4
	07-Dec-06	1	10:00 PM	Silver Seatrout		16		16	228.8
	07-Dec-06	1	10:00 PM	Spotfin Mojarra		160		160	1,493.1
	07-Dec-06	1	10:00 PM	Striped Mojarra		48		48	497.6
				Interval 1 Total	112	416	0	528	19,509.1
	08-Dec-06	2	4:25 AM	Bay Anchovy		8		8	58.4
	08-Dec-06	2	4:25 AM	Hardhead Catfish	8			8	52.8
	08-Dec-06	2	4:25 AM	Orange Filefish		8		8	1,433.6
	08-Dec-06	2	4:25 AM	Polka-dot Batfish		104		104	16,404.8
	08-Dec-06	2	4:25 AM	Scaled Sardine		48		48	8,198.4
	08-Dec-06	2	4:25 AM	Silver Perch		208		208	1,522.6
	08-Dec-06	2	4:25 AM	Spiny Searobin		8		8	27.2
	08-Dec-06	2	4:25 AM	Spotfin Mojarra		152		152	1,418.4
	08-Dec-06	2	4:25 AM	Striped Burrfish		16		16	5,976.0
				Interval 2 Total	8	552	0	560	35,092.2
	08-Dec-06	3	9:45 AM	Polka-dot Batfish	5			5	383.8
	08-Dec-06	3	9:45 AM	Silver Perch		6		6	42.7
	08-Dec-06	3	9:45 AM	Spotfin Mojarra		5		5	98.3
				Interval 3 Total	5	11	0	16	524.8
	08-Dec-06	4	4:00 PM	Polka-dot Batfish		4		4	342.4
	08-Dec-06	4	4:00 PM	Silver Perch		4		4	32.2
	08-Dec-06	4	4:00 PM	Spotfin Mojarra		4		4	41.3
				Interval 4 Total	0	12	0	12	415.9
1				24-Hour Total	125	991	0	1,116	55,541.9
	21-Dec-06	1	9:37 PM	Polka-dot Batfish	8			8	642.9
				Interval 1 Total	8		0	8	642.9
	22-Dec-06	2	3:08 AM	Bluefish		1		1	3.8
	22-Dec-06	2	3:08 AM	Lined Seahorse		2		2	5.2
	22-Dec-06	2	3:08 AM	Polka-dot Batfish	6			6	729.0
	22-Dec-06	2	3:08 AM	Silver Perch		3		3	90.2
				Interval 2 Total	6	6	0	12	828.2
	22-Dec-06	3	8:54 AM	Polka-dot Batfish	19			19	1,959.5
	22-Dec-06	3	8:54 AM	Spotfin Mojarra		1		1	12.2
				Interval 3 Total	19	1	0	20	1,971.7
	22-Dec-06	4	2:47 PM	Orange Filefish		1		1	22.8
	22-Dec-06	4	2:47 PM	Polka-dot Batfish	12			12	1,258.6
	22-Dec-06	4	2:47 PM	Striped Burrfish	1			1	78.8
				Interval 4 Total	13	1	0	14	1,360.2
2				24-Hour Total	46	8	0	54	4,803.0

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	04-Jan-07	1	9:30 PM	Atlantic Spadefish		20		20	142.0
	04-Jan-07	1	9:30 PM	Flounder sp.		20		20	8.0
	04-Jan-07	1	9:30 PM	Gulf Toadfish		20		20	18.0
	04-Jan-07	1	9:30 PM	Pinfish		20		20	188.0
	04-Jan-07	1	9:30 PM	Polka-dot Batfish	30	10		40	2,008.0
	04-Jan-07	1	9:30 PM	Silver Perch		160		160	1,384.0
	04-Jan-07	1	9:30 PM	Spotfin Mojarra		100		100	546.0
				Interval 1 Total	30	350	0	380	4,294.0
	05-Jan-07	2	3:00 AM	Lane Snapper		10		10	84.0
				Interval 2 Total	0	10	0	10	84.0
	05-Jan-07	3	9:15 AM	American Eel	10			10	1,051.0
	05-Jan-07	3	9:15 AM	Pinfish		10		10	91.0
	05-Jan-07	3	9:15 AM	Polka-dot Batfish	20	10		30	2,257.0
				Interval 3 Total	30	20	0	50	3,399.0
	05-Jan-07	4	3:00 PM	Pinfish		10		10	114.0
	05-Jan-07	4	3:00 PM	Polka-dot Batfish	10	10		20	2,299.0
	05-Jan-07	4	3:00 PM	Silver Perch		10		10	61.0
	05-Jan-07	4	3:00 PM	Spotfin Mojarra		10		10	129.0
				Interval 4 Total	10	40	0	50	2,603.0
3				24-Hour Total	70	420	0	490	10,380.0
	18-Jan-07	1	8:37 PM	Bay Anchovy		1		1	1.3
	18-Jan-07	1	8:37 PM	Flounder sp.		1		1	10.0
	18-Jan-07	1	8:37 PM	Spotfin Mojarra		1		1	6.3
				Interval 1 Total	0	3	0	3	17.6
	19-Jan-07	2	2:35 AM	Feather Blenny		2		2	26.0
	19-Jan-07	2	2:35 AM	Inland Silverside		1		1	5.8
	19-Jan-07	2	2:35 AM	Polka-dot Batfish	1			1	103.5
	19-Jan-07	2	2:35 AM	Silver Perch		1		1	5.5
	19-Jan-07	2	2:35 AM	Spotfin Mojarra		1		1	6.4
				Interval 2 Total	1	5	0	6	147.2
	19-Jan-07	3	9:11 AM	Atlantic Silverside		2		2	11.8
	19-Jan-07	3	9:11 AM	Bay Anchovy		4		4	3.6
	19-Jan-07	3	9:11 AM	Polka-dot Batfish	4			4	452.0
	19-Jan-07	3	9:11 AM	Spotfin Mojarra		4		4	23.0
	19-Jan-07	3	9:11 AM	Striped Mojarra		4		4	23.4
				Interval 3 Total	4	14	0	18	513.8
	19-Jan-07	4	2:55 PM	Florida Blenny		1		1	36.9
	19-Jan-07	4	2:55 PM	Pinfish		1		1	19.4
	19-Jan-07	4	2:55 PM	Striped Anchovy		1		1	1.0
				Interval 4 Total	0	3	0	3	57.3
4				24-Hour Total	5	25	0	30	735.9

Appendix 4 (cont'd)

Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
* 8:00 PM sampling on Feb 1 (Interval 1) was cancelled due to tornado watch									
* 2:00 AM sampling on 2-2-07 (Interval 2) was cancelled due to tornado warning									
	01-Feb-07	1 ³	8:00 PM	Atlantic thread herring		99		99	2,674.7
	01-Feb-07	1 ³	8:00 PM	Bay Anchovy		116		116	137.8
	01-Feb-07	1 ³	8:00 PM	Bighead Searobin		2		2	3.0
	01-Feb-07	1 ³	8:00 PM	Feather Blenny		1		1	26.3
	01-Feb-07	1 ³	8:00 PM	Gulf Pipefish		1		1	0.9
	01-Feb-07	1 ³	8:00 PM	Inland Silverside		4		4	32.6
	01-Feb-07	1 ³	8:00 PM	Leatherjacket		2		2	3.2
	01-Feb-07	1 ³	8:00 PM	Leopard Searobin		1		1	1.3
	01-Feb-07	1 ³	8:00 PM	Scaled Sardine		27		27	218.1
	01-Feb-07	1 ³	8:00 PM	Silver Perch		2		2	28.7
	01-Feb-07	1 ³	8:00 PM	Spotfin Mojarra		1		1	0.8
				Interval 1 Total	0	256	0	256	3,127.5
	02-Feb-07	2 ³	2:00 AM	Atlantic Thread Herring		99		99	2,674.7
	02-Feb-07	2 ³	2:00 AM	Bay Anchovy		116		116	137.8
	02-Feb-07	2 ³	2:00 AM	Bighead Searobin		2		2	3.0
	02-Feb-07	2 ³	2:00 AM	Feather Blenny		1		1	26.3
	02-Feb-07	2 ³	2:00 AM	Gulf Pipefish		1		1	0.9
	02-Feb-07	2 ³	2:00 AM	Inland Silverside		4		4	32.6
	02-Feb-07	2 ³	2:00 AM	Leatherjacket		2		2	3.2
	02-Feb-07	2 ³	2:00 AM	Leopard Searobin		1		1	1.3
	02-Feb-07	2 ³	2:00 AM	Scaled Sardine		27		27	218.1
	02-Feb-07	2 ³	2:00 AM	Silver Perch		2		2	28.7
	02-Feb-07	2 ³	2:00 AM	Spotfin Mojarra		1		1	0.8
				Interval 2 Total	0	256	0	256	3,127.5
	02-Feb-07	3	9:30 AM	Atlantic Thread Herring		168		168	2,768.6
	02-Feb-07	3	9:30 AM	Bay Anchovy		124		124	95.2
	02-Feb-07	3	9:30 AM	Bigeye Searobin		4		4	5.4
	02-Feb-07	3	9:30 AM	Feather Blenny		2		2	11.6
	02-Feb-07	3	9:30 AM	Halfbeak		2		2	14.6
	02-Feb-07	3	9:30 AM	Inland Silverside		4		4	17.4
	02-Feb-07	3	9:30 AM	Leatherjacket		4		4	5.6
	02-Feb-07	3	9:30 AM	Spanish Grunt		2		2	5.2
	02-Feb-07	3	9:30 AM	Spanish Sardine		2		2	20.6
	02-Feb-07	3	9:30 AM	Spotfin Mojarra		4		4	6.2
	02-Feb-07	3	9:30 AM	Striped Anchovy		2		2	17.2
				Interval 3 Total	0	318	0	318	2,967.7
	02-Feb-07	4	2:45 PM	Atlantic Thread Herring		12		12	223.4
	02-Feb-07	4	2:45 PM	Bay Anchovy		32		32	23.4
	02-Feb-07	4	2:45 PM	Bigeye Searobin		2		2	30.0
	02-Feb-07	4	2:45 PM	Gulf Toadfish		2		2	5.8
	02-Feb-07	4	2:45 PM	Halfbeak		4		4	36.8
	02-Feb-07	4	2:45 PM	Pinfish		2		2	26.8
	02-Feb-07	4	2:45 PM	Polka-dot Batfish	4			4	211.8
	02-Feb-07	4	2:45 PM	Scaled Sardine		24		24	107.6
	02-Feb-07	4	2:45 PM	Silver Perch		8		8	90.2
	02-Feb-07	4	2:45 PM	Spotfin Mojarra		2		2	1.4
	02-Feb-07	4	2:45 PM	Striped Anchovy		2		2	16.8
				Interval 4 Total	4	90	0	94	774.0
5				24-Hour Total	4	921	0	925	9,996.7

³ Impingement data for February 01 and 02, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	15-Feb-07	1	8:37 PM	Atlantic Croaker		1		1	16.0
	15-Feb-07	1	8:37 PM	Atlantic Thread Herring		4		4	120.5
	15-Feb-07	1	8:37 PM	Pinfish		1		1	15.0
	15-Feb-07	1	8:37 PM	Polka-dot Batfish	9			9	863.0
	15-Feb-07	1	8:37 PM	Silver Perch		6		6	78.0
	15-Feb-07	1	8:37 PM	Striped Mojarra		2		2	31.0
				Interval 1 Total	9	14	0	23	1,123.5
	16-Feb-07	2	2:45 AM	Atlantic Thread Herring		6		6	129.0
	16-Feb-07	2	2:45 AM	Feather Blenny	2			2	17.0
	16-Feb-07	2	2:45 AM	Pigfish		4		4	75.0
	16-Feb-07	2	2:45 AM	Polka-dot Batfish	10			10	1,045.0
	16-Feb-07	2	2:45 AM	Silver Perch		32		32	494.0
	16-Feb-07	2	2:45 AM	Striped Mojarra	12			12	182.0
				Interval 2 Total	24	42	0	66	1,942.0
	16-Feb-07	3	8:45 AM	Atlantic Thread Herring		6		6	162.0
	16-Feb-07	3	8:45 AM	Pigfish		3		3	42.0
	16-Feb-07	3	8:45 AM	Polka-dot Batfish	17	4		21	1,830.0
	16-Feb-07	3	8:45 AM	Scrawled Cowfish	1	2		3	37.5
	16-Feb-07	3	8:45 AM	Silver Perch		6		6	78.0
	16-Feb-07	3	8:45 AM	Spotted Seatrout		3		3	82.5
				Interval 3 Total	18	24	0	42	2,232.0
	16-Feb-07	4	2:37 PM	Polka-dot Batfish	9			9	941.6
	16-Feb-07	4	2:37 PM	Scaled Sardine		1		1	9.3
				Interval 4 Total	9	1	0	10	950.9
6				24-Hour Total	60	81	0	141	6,248.4

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	01-Mar-07	1	9:00 PM	Bay Anchovy		2		2	1.8
	01-Mar-07	1	9:00 PM	Feather Blenny	2			2	31.0
	01-Mar-07	1	9:00 PM	Pigfish		68		68	1,199.8
	01-Mar-07	1	9:00 PM	Pinfish		38		38	547.8
	01-Mar-07	1	9:00 PM	Polka-dot Batfish	20	2		22	2,660.6
	01-Mar-07	1	9:00 PM	Scrawled Cowfish	2			2	2.2
	01-Mar-07	1	9:00 PM	Striped Mojarra		4		4	75.2
				Interval 1 Total	24	114	0	138	4,518.4
	02-Mar-07	2	2:21 AM	Atlantic Thread Herring		2		2	56.0
	02-Mar-07	2	2:21 AM	Bighead Searobin	4			4	2.0
	02-Mar-07	2	2:21 AM	Pigfish		56		56	781.5
	02-Mar-07	2	2:21 AM	Pinfish		20		20	314.6
	02-Mar-07	2	2:21 AM	Polka-dot Batfish	6			6	327.0
	02-Mar-07	2	2:21 AM	Scaled Sardine		2		2	5.8
	02-Mar-07	2	2:21 AM	Silver Seatrout		2		2	148.0
	02-Mar-07	2	2:21 AM	Southern Puffer	2			2	8.8
	02-Mar-07	2	2:21 AM	Striped Mojarra		22		22	329.8
	02-Mar-07	2	2:21 AM	White Grunt		2		2	3.4
				Interval 2 Total	12	106	0	118	1,976.9
	02-Mar-07	3	8:30 AM	Atlantic Spadefish		8		8	144.0
	02-Mar-07	3	8:30 AM	Atlantic Thread Herring		104		104	3,244.0
	02-Mar-07	3	8:30 AM	Bay Anchovy		8		8	7.2
	02-Mar-07	3	8:30 AM	Bighead Searobin	4	20		24	146.4
	02-Mar-07	3	8:30 AM	Leopard Searobin	4	20		24	997.6
	02-Mar-07	3	8:30 AM	Pigfish		616		616	8,730.0
	02-Mar-07	3	8:30 AM	Pinfish		248		248	3,285.5
	02-Mar-07	3	8:30 AM	Polka-dot Batfish	120	24		144	10,429.6
	02-Mar-07	3	8:30 AM	Scaled Sardine		24		24	328.0
	02-Mar-07	3	8:30 AM	Silver Perch		16		16	178.4
	02-Mar-07	3	8:30 AM	Spanish Mackerel		8		8	876.0
	02-Mar-07	3	8:30 AM	Spotfin Mojarra		8		8	90.4
	02-Mar-07	3	8:30 AM	Striped Anchovy		8		8	63.2
	02-Mar-07	3	8:30 AM	Striped Mojarra		152		152	2,442.4
				Interval 3 Total	128	1,264	0	1,392	30,962.7
	02-Mar-07	4	2:30 PM	Atlantic Spadefish		3		3	44.4
	02-Mar-07	4	2:30 PM	Bighead Searobin	3			3	27.3
	02-Mar-07	4	2:30 PM	Gray Snapper		3		3	15.6
	02-Mar-07	4	2:30 PM	Pigfish		84		84	1,329.2
	02-Mar-07	4	2:30 PM	Pinfish		33		33	447.7
	02-Mar-07	4	2:30 PM	Polka-dot Batfish	18	3		21	1,605.9
	02-Mar-07	4	2:30 PM	Scrawled Cowfish	3			3	20.1
	02-Mar-07	4	2:30 PM	Silver Seatrout		3		3	91.8
	02-Mar-07	4	2:30 PM	Striped Mojarra		6		6	90.9
				Interval 4 Total	24	135	0	159	3,672.9
7				24-Hour Total	188	1,619	0	1,807	41,130.9

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	15-Mar-07	1	9:30 PM	Atlantic Thread Herring		2		2	66.5
	15-Mar-07	1	9:30 PM	Pigfish		6		6	58.5
	15-Mar-07	1	9:30 PM	Polka-dot Batfish	1			1	180.5
	15-Mar-07	1	9:30 PM	Smooth Butterfly Ray	1			1	2,041.2
				Interval 1 Total	2	8	0	10	2,346.7
	16-Mar-07	2	2:28 AM	Atlantic Thread Herring		2		2	49.4
	16-Mar-07	2	2:28 AM	Bigeye Searobin	2			2	3.0
	16-Mar-07	2	2:28 AM	Pigfish		2		2	24.6
				Interval 2 Total	2	4	0	6	77.0
	16-Mar-07	3	9:23 AM	Atlantic Thread Herring		1		1	21.1
	16-Mar-07	3	9:23 AM	Pigfish		2		2	31.8
	16-Mar-07	3	9:23 AM	Polka-dot Batfish	2			2	111.1
	16-Mar-07	3	9:23 AM	Southern Puffer	1			1	5.5
				Interval 3 Total	3	3	0	6	169.5
	16-Mar-07	4	2:30 PM	Pigfish		5		5	54.1
	16-Mar-07	4	2:30 PM	Polka-dot Batfish	1			1	6.7
	16-Mar-07	4	2:30 PM	Striped Burrfish	2			2	456.2
				Interval 4 Total	3	5	0	8	517.0
8				24-Hour Total	10	20	0	30	3,110.2
9	Mar 30, CR-2 not sampled because system was not in operation (No flow data)								
10	April 13 07, CR-2 not sampled because system was not in operation (No flow data)								
11	April 27 07, CR-2 not sampled because system was not in operation (No flow data)								
12	May 11 07 ,CR-2 not sampled because system was not in operation (No flow data)								
	25-May-07	1 ¹	9:09 AM	Atlantic Croaker		2		2	16.3
	25-May-07	1 ¹	9:09 AM	Atlantic Thread Herring		2		2	19.5
	25-May-07	1 ¹	9:09 AM	Black Sea Bass		1		1	4.0
	25-May-07	1 ¹	9:09 AM	Blackcheek Tonguefish	2	1		3	13.8
	25-May-07	1 ¹	9:09 AM	Flounder sp.		1		1	7.4
	25-May-07	1 ¹	9:09 AM	Leopard Toadfish	2			2	5.0
	25-May-07	1 ¹	9:09 AM	Ocellated Flounder	1			1	4.3
	25-May-07	1 ¹	9:09 AM	Pigfish	0	6		6	9.3
	25-May-07	1 ¹	9:09 AM	Pinfish	0	2		2	11.4
	25-May-07	1 ¹	9:09 AM	Polka-dot Batfish	11			11	1,499.1
	25-May-07	1 ¹	9:09 AM	Silver Perch		4		4	2.1
	25-May-07	1 ¹	9:09 AM	Smooth Butterfly Ray		1		1	152.1
	25-May-07	1 ¹	9:09 AM	Striped Anchovy		1		1	1.7
				Interval 1 Total	17	22	0	39	1,745.9
	25-May-07	2 ¹	9:06 PM	Atlantic Croaker		1		1	4.9
	25-May-07	2 ¹	9:06 PM	Pigfish		15		15	90.3
	25-May-07	2 ¹	9:06 PM	Polka-dot Batfish	21	10		31	4,251.8
	25-May-07	2 ¹	9:06 PM	Striped Burrfish		1		1	372.0
				Interval 2 Total	21	28	0	48	4,719.0
13				24-Hour Total	37	50	0	87	6,464.8

¹ Impingement data for May 25, 2007 - sampling intervals 1 and 2 -was estimated using impingement data from Unit 1- intervals 1 and 2 (adjusted for cooling water volume).

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	08-Jun-07	1	9:21 AM	Atlantic Needlefish		9		9	5.9
	08-Jun-07	1 ¹	9:21 AM	Gulf Pipefish	1	3		4	2.4
	08-Jun-07	1 ¹	9:21 AM	Halfbeak		5		5	2.2
	08-Jun-07	1 ¹	9:21 AM	Lined Seahorse		4		4	4.0
	08-Jun-07	1 ¹	9:21 AM	Orange Filefish		28		28	28.3
	08-Jun-07	1 ¹	9:21 AM	Pigfish		1		1	9.0
	08-Jun-07	1 ¹	9:21 AM	Planehead Filefish		5		5	3.2
	08-Jun-07	1 ¹	9:21 AM	Silver Perch		12		12	9.3
	08-Jun-07	1 ¹	9:21 AM	Southern Puffer	3			3	7.0
	08-Jun-07	1 ¹	9:21 AM	Striped Anchovy		3		3	2.9
	08-Jun-07	1 ¹	9:21 AM	Striped Mullet		1		1	5.5
				Interval 1 Total	4	71	0	75	79.7
	08-Jun-07	2 ¹	9:30 PM	Planehead Filefish		5		5	24.7
	08-Jun-07	2 ¹	9:30 PM	Polka-dot Batfish	3			3	327.1
	08-Jun-07	2 ¹	9:30 PM	Silver Perch		1		1	2.3
				Interval 2 Total	3	7	0	9	354.1
14				24-Hour Total	7	78	0	84	433.8
	22-Jun-07	1	9:30 AM	Feather Blenny	1			1	8.7
	22-Jun-07	1	9:30 AM	Leopard Toadfish		1		1	22.2
	22-Jun-07	1	9:30 AM	Lined Seahorse		1		1	2.6
	22-Jun-07	1	9:30 AM	Lookdown		1		1	1.3
	22-Jun-07	1	9:30 AM	Planehead Filefish		2		2	8.9
	22-Jun-07	1	9:30 AM	Polka-dot Batfish	75	25	3	103	10,998.3
	22-Jun-07	1	9:30 AM	Scrawled Cowfish	2			2	211.9
	22-Jun-07	1	9:30 AM	Silver Perch		2		2	2.6
	22-Jun-07	1	9:30 AM	Southern Puffer	1			1	8.0
				Interval 1 Total	79	32	3	114	11,264.5
	22-Jun-07	2	9:52 PM	Atlantic Thread Herring		1		1	3.6
	22-Jun-07	2	9:52 PM	Feather Blenny	1			1	16.5
	22-Jun-07	2	9:52 PM	Lookdown		1		1	1.2
	22-Jun-07	2	9:52 PM	Polka-dot Batfish	20	5		25	2,739.7
	22-Jun-07	2	9:52 PM	Smooth Butterfly Ray		1		1	194.5
				Interval 2 Total	21	8	0	29	2,955.5
15				24-Hour Total	100	40	3	143	14,220.0
	06-Jul-07	1	9:30 AM	Atlantic Bumper		1		1	0.7
	06-Jul-07	1	9:30 AM	Gulf Toadfish	2			2	454.0
	06-Jul-07	1	9:30 AM	Lookdown		3		3	6.2
	06-Jul-07	1	9:30 AM	Polka-dot Batfish	20	4		24	2,776.8
	06-Jul-07	1	9:30 AM	Silver Perch		3		3	10.5
				Interval 1 Total	22	11	0	33	3,248.2
	06-Jul-07	2	9:52 PM	Atlantic Thread Herring		1		1	7.2
	06-Jul-07	2	9:52 PM	Lookdown		3		3	7.4
	06-Jul-07	2	9:52 PM	Planehead Filefish		2		2	13.2
	06-Jul-07	2	9:52 PM	Polka-dot Batfish	25	14		39	3,980.7
	06-Jul-07	2	9:52 PM	Striped Burrfish		1		1	105.2
				Interval 2 Total	25	21	0	46	4,113.7
16				24-Hour Total	47	32	0	79	7,361.9

¹ Impingement data for June 08, 2007 - sampling intervals 1 and 2 -was estimated using impingement data from Unit 1- intervals 1 and 2 (adjusted for cooling water volume).

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	20-Jul-07	1	9:40 AM	Atlantic Bumper		1		1	1.4
	20-Jul-07	1	9:40 AM	Atlantic Croaker		1		1	4.4
	20-Jul-07	1	9:40 AM	Atlantic Needlefish		1		1	7.8
	20-Jul-07	1	9:40 AM	Atlantic Thread Herring		1		1	0.5
	20-Jul-07	1	9:40 AM	Great Barracuda		1		1	1.8
	20-Jul-07	1	9:40 AM	Lookdown		3		3	5.6
	20-Jul-07	1	9:40 AM	Polka-dot Batfish	2			2	184.2
	20-Jul-07	1	9:40 AM	Scrawled Filefish		1		1	1.4
	20-Jul-07	1	9:40 AM	Silver Perch		2		2	12.4
	20-Jul-07	1	9:40 AM	Southern Puffer	1			1	5.6
	20-Jul-07	1	9:40 AM	Spotted Seatrout		1		1	11.9
				Interval 1 Total	3	12	0	15	237.0
	20-Jul-07	2	9:38 PM	Polka-dot Batfish	4			4	350.6
				Interval 2 Total	4	0	0	4	350.6
17				24-Hour Total	7	12	0	19	587.6
	03-Aug-07	1	9:15 AM	Pigfish		1		1	3.6
	03-Aug-07	1	9:15 AM	Polka-dot Batfish	2	1		3	178.1
	03-Aug-07	1	9:15 AM	Sergeant Major		1		1	3.5
				Interval 1 Total	2	3	0	5	185.2
	03-Aug-07	2	9:15 PM	Atlantic Bumper		4		4	1.9
	03-Aug-07	2	9:15 PM	Atlantic Thread Herring		1		1	4.3
	03-Aug-07	2	9:15 PM	Polka-dot Batfish	4			4	406.4
				Interval 2 Total	4	5	0	9	412.6
18				24-Hour Total	6	8	0	14	597.7
	17-Aug-07	1	10:00 AM	Atlantic Bumper		2		2	54.2
	17-Aug-07	1	10:00 AM	Atlantic Stingray		2		2	79.6
	17-Aug-07	1	10:00 AM	Polka-dot Batfish	4	6		10	942.6
	17-Aug-07	1	10:00 AM	Silver Perch		10		10	48.0
				Interval 1 Total	4	20	0	24	1,124.4
	17-Aug-07	2	10:15 PM	Lookdown		5		5	15.0
	17-Aug-07	2	10:15 PM	Polka-dot Batfish	10			10	725.5
				Interval 2 Total	10	5	0	15	740.5
19				24-Hour Total	14	25	0	39	1,864.9
	31-Aug-07	1	9:18 AM	Polka-dot Batfish	3			3	363.2
	31-Aug-07	1	9:18 AM	Silver Perch		1		1	8.1
				Interval 1 Total	3	1	0	4	371.3
	31-Aug-07	2	9:40 PM	Atlantic Bumper		1		1	17.3
	31-Aug-07	2	9:40 PM	Polka-dot Batfish	8	3		11	1,104.7
				Interval 2 Total	8	4	0	12	1,122.0
20				24-Hour Total	11	5	0	16	1,493.3
	14-Sep-07	1	9:15 AM	Atlantic Bumper		1		1	2.9
	14-Sep-07	1	9:15 AM	Atlantic Stingray		1		1	94.2
	14-Sep-07	1	9:15 AM	Bay Anchovy		1		1	0.7
	14-Sep-07	1	9:15 AM	Hogchoker	1			1	29.3
	14-Sep-07	1	9:15 AM	Polka-dot Batfish	10	3	2	15	1,434.3
				Interval 1 Total	11	6	2	19	1,561.4
	14-Sep-07	2	9:30 PM	Polka-dot Batfish	6	2		8	856.4
				Interval 2 Total	6	2	0	8	856.4
21				24-Hour Total	17	8	2	27	2,417.8

Appendix 4 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2: Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	28-Sep-07	1	9:00 AM	Atlantic Bumper		1		1	2.8
	28-Sep-07	1	9:00 AM	Hardhead Catfish		1		1	112.3
	28-Sep-07	1	9:00 AM	Polka-dot Batfish	1		1	2	140.0
				Interval 1 Total	1	2	1	4	255.1
	28-Sep-07	2	9:45 PM	Polka-dot Batfish	2		4	6	589.6
				Interval 2 Total	2	0	4	6	589.6
22				24-Hour Total	3	2	5	10	844.7
	12-Oct-07	1	9:32 AM	Atlantic Bumper		4		4	40.5
	12-Oct-07	1	9:32 AM	Feather Blenny	2			2	26.7
	12-Oct-07	1	9:32 AM	Polka-dot Batfish	13	5	5	23	1,988.1
	12-Oct-07	1	9:32 AM	Spottail Pinfish		1		1	39.9
				Interval 1 Total	15	10	5	30	2,095.2
	12-Oct-07	2	10:17 PM	Atlantic Bumper		1		1	2.8
	12-Oct-07	2	10:17 PM	Feather Blenny	1			1	8.8
	12-Oct-07	2	10:17 PM	Polka-dot Batfish	3		1	4	571.5
	12-Oct-07	2	10:17 PM	Scrawled Cowfish		1		1	28.7
				Interval 2 Total	4	2	1	7	611.8
23				24-Hour Total	19	12	6	37	2,707.0
	26-Oct-07	1	9:30 AM	Lined Seahorse	1			1	0.8
	26-Oct-07	1	9:30 AM	Pinfish		1		1	69.9
	26-Oct-07	1	9:30 AM	Polka-dot Batfish	4	5	1	10	859.0
				Interval 1 Total	5	6	1	12	929.7
	26-Oct-07	2	9:38 PM	Polka-dot Batfish	4			4	369.1
				Interval 2 Total	4	0	0	4	369.1
24				24-Hour Total	9	6	1	16	1,298.8
	09-Nov-07	1	8:50 AM	Atlantic Bumper		1		1	1.9
	09-Nov-07	1	8:50 AM	Atlantic Needlefish		1		1	137.6
	09-Nov-07	1	8:50 AM	Bay Anchovy		1		1	1.0
	09-Nov-07	1	8:50 AM	Florida Blenny	1			1	3.4
	09-Nov-07	1	8:50 AM	Leatherjacket		1		1	2.3
	09-Nov-07	1	8:50 AM	Polka-dot Batfish	5	3		8	901.8
	09-Nov-07	1	8:50 AM	Scrawled Cowfish	1			1	39.7
				Interval 1 Total	7	7	0	14	1,087.7
	09-Nov-07	2	8:36 PM	Polka-dot Batfish	6	2		8	733.7
				Interval 2 Total	6	2	0	8	733.7
25				24-Hour Total	13	9	0	22	1,821.4
	30-Nov-07	1	8:45 AM	Lane Snapper		2		2	5.2
	30-Nov-07	1	8:45 AM	Polka-dot Batfish	6	2		8	747.7
	30-Nov-07	1	8:45 AM	Striped Mojarra		1		1	18.2
				Interval 1 Total	6	5	0	11	771.1
	30-Nov-07	2	8:36 PM	Florida Blenny	1			1	9.9
	30-Nov-07	2	8:36 PM	Polka-dot Batfish	24	7		31	2,984.4
	30-Nov-07	2	8:36 PM	Scrawled Cowfish	1			1	34.7
	30-Nov-07	2	8:36 PM	Striped Burrfish	2			2	241.3
				Interval 2 Total	28	7	0	35	3,270.3
26				24-Hour Total	34	12	0	46	4,041.4
	Grand Total				832	4,384	17	5,233	178,102

Appendix 5
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	07-Dec-06	1	8:00 PM	Bay Anchovy		8		8	9.6
	07-Dec-06	1	8:00 PM	Hardhead Catfish	8			8	69.6
	07-Dec-06	1	8:00 PM	Lane Snapper		8		8	33.6
	07-Dec-06	1	8:00 PM	Polka-dot Batfish	64	16		80	6,667.2
	07-Dec-06	1	8:00 PM	Scaled Sardine	16			16	116.0
	07-Dec-06	1	8:00 PM	Silver Perch		328		328	2,764.4
	07-Dec-06	1	8:00 PM	Spotfin Mojarra		40		40	414.4
	07-Dec-06	1	8:00 PM	Striped Burrfish		8		8	3,784.0
	07-Dec-06	1	8:00 PM	Striped Mojarra		8		8	115.6
				Interval 1 Total	88	416	0	504	13,974.4
	08-Dec-06	2	2:00 AM	Atlantic Croaker		48		48	685.9
	08-Dec-06	2	2:00 AM	Atlantic Pomfret	6			6	4.8
	08-Dec-06	2	2:00 AM	Atlantic Spadefish		11		11	135.9
	08-Dec-06	2	2:00 AM	Bay Anchovy		59		59	77.2
	08-Dec-06	2	2:00 AM	Blackcheek Tonguefish		11		11	215.6
	08-Dec-06	2	2:00 AM	Hardhead Catfish	27			27	219.2
	08-Dec-06	2	2:00 AM	Lane Snapper		11		11	57.2
	08-Dec-06	2	2:00 AM	Lookdown	6			6	129.6
	08-Dec-06	2	2:00 AM	Pinfish		91		91	989.2
	08-Dec-06	2	2:00 AM	Polka-dot Batfish	75			75	6,530.9
	08-Dec-06	2	2:00 AM	Scaled Sardine		8		8	86.0
	08-Dec-06	2	2:00 AM	Scrawled Cowfish	6			6	210.6
	08-Dec-06	2	2:00 AM	Silver Perch		2,011		2,011	20,504.2
	08-Dec-06	2	2:00 AM	Spanish Sardine		6		6	16.8
	08-Dec-06	2	2:00 AM	Spiny Searobin		22		22	156.2
	08-Dec-06	2	2:00 AM	Spotfin Mojarra		38		38	855.5
	08-Dec-06	2	2:00 AM	Spotted Seatrout		32		32	296.5
	08-Dec-06	2	2:00 AM	Striped Mojarra		299		299	2,700.6
				Interval 2 Total	120	2,647	0	2,767	33,871.9
	08-Dec-06	3	8:00 AM	Atlantic Croaker		16		16	107.2
	08-Dec-06	3	8:00 AM	Atlantic Spadefish		16		16	244.8
	08-Dec-06	3	8:00 AM	Bay Anchovy		16		16	20.8
	08-Dec-06	3	8:00 AM	Gulf Kingfish		16		16	80.0
	08-Dec-06	3	8:00 AM	Inshore Lizardfish		16		16	449.6
	08-Dec-06	3	8:00 AM	Lane Snapper		16		16	75.2
	08-Dec-06	3	8:00 AM	Lookdown		16		16	281.6
	08-Dec-06	3	8:00 AM	Orange Filefish		16		16	6,755.2
	08-Dec-06	3	8:00 AM	Pinfish		16		16	188.8
	08-Dec-06	3	8:00 AM	Polka-dot Batfish	32			32	3,990.4
	08-Dec-06	3	8:00 AM	Scaled Sardine		48		48	515.8
	08-Dec-06	3	8:00 AM	Silver Perch		576		576	4,873.2
	08-Dec-06	3	8:00 AM	Spotfin Mojarra		128		128	728.0
	08-Dec-06	3	8:00 AM	Striped Mojarra		16		16	80.0
				Interval 3 Total	32	912	0	944	18,390.6

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	08-Dec-06	4	2:00 PM	Atlantic Croaker		4		4	65.0
	08-Dec-06	4	2:00 PM	Atlantic Pomfret		24		24	19.6
	08-Dec-06	4	2:00 PM	Atlantic Silverside		6		6	20.6
	08-Dec-06	4	2:00 PM	Atlantic Spadefish		2		2	16.2
	08-Dec-06	4	2:00 PM	Bay Anchovy		50		50	60.2
	08-Dec-06	4	2:00 PM	Black Sea Bass		2		2	95.8
	08-Dec-06	4	2:00 PM	Feather Blenny	2			2	6.7
	08-Dec-06	4	2:00 PM	Hardhead Catfish	2			2	15.8
	08-Dec-06	4	2:00 PM	Leatherjacket		2		2	3.2
	08-Dec-06	4	2:00 PM	Orange Filefish		10		10	2,879.8
	08-Dec-06	4	2:00 PM	Oyster Toadfish		2		2	3.8
	08-Dec-06	4	2:00 PM	Pinfish		14		14	133.6
	08-Dec-06	4	2:00 PM	Polka-dot Batfish	50	10		60	5,263.0
	08-Dec-06	4	2:00 PM	Scaled Sardine		42		42	636.2
	08-Dec-06	4	2:00 PM	Silver Perch		216		216	2,360.4
	08-Dec-06	4	2:00 PM	Spanish Sardine		20		20	80.0
	08-Dec-06	4	2:00 PM	Spiny Searobin	2			2	2.4
	08-Dec-06	4	2:00 PM	Spotfin Mojarra		16		16	179.0
	08-Dec-06	4	2:00 PM	Striped Burrfish	8	12		20	3,219.6
				Interval 4 Total	64	432		496	15,060.9
1				24-Hour Total	304	4,407	0	4,711	81,297.7

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	21-Dec-06	1	8:00 PM	Bay Anchovy		12		12	10.6
	21-Dec-06	1	8:00 PM	Gulf Kingfish		2		2	23.4
	21-Dec-06	1	8:00 PM	Leopard Searobin		2		2	11.6
	21-Dec-06	1	8:00 PM	Longfin Blenny	2			2	1.2
	21-Dec-06	1	8:00 PM	Pinfish		9		9	80.1
	21-Dec-06	1	8:00 PM	Polka-dot Batfish	26			26	2,293.2
	21-Dec-06	1	8:00 PM	Scaled Sardine		4		4	17.8
	21-Dec-06	1	8:00 PM	Silver Perch		8		8	100.8
	21-Dec-06	1	8:00 PM	Spanish Sardine		2		2	7.2
	21-Dec-06	1	8:00 PM	Spotfin Mojarra		6		6	3.6
	21-Dec-06	1	8:00 PM	Striped Burrfish		2		2	76.6
	21-Dec-06	1	8:00 PM	Striped Mojarra		4		4	32.6
				Interval 1 Total	28	51	0	79	2,658.7
	22-Dec-06	2	2:30 AM	Bay Anchovy		60		60	72.0
	22-Dec-06	2	2:30 AM	Polka-dot Batfish	40	6		46	4,020.2
	22-Dec-06	2	2:30 AM	Scrawled Cowfish	1	1		2	232.6
	22-Dec-06	2	2:30 AM	Silver Perch		14		14	146.0
	22-Dec-06	2	2:30 AM	Spotfin Mojarra		6		6	52.0
	22-Dec-06	2	2:30 AM	Striped Burrfish	1	1		2	153.6
	22-Dec-06	2	2:30 AM	Striped Mojarra		4		4	48.2
				Interval 2 Total	42	92	0	134	4,724.6
	22-Dec-06	3	8:15 AM	Bay Anchovy		20		20	38.8
	22-Dec-06	3	8:15 AM	Inland Silverside	2			2	9.0
	22-Dec-06	3	8:15 AM	Leopard Searobin	1	3		4	26.0
	22-Dec-06	3	8:15 AM	Leopard Toadfish	2			2	11.0
	22-Dec-06	3	8:15 AM	Pinfish		12		12	79.4
	22-Dec-06	3	8:15 AM	Polka-dot Batfish	62			62	5,351.1
	22-Dec-06	3	8:15 AM	Scaled Sardine		4		4	27.0
	22-Dec-06	3	8:15 AM	Silver Perch		6		6	67.0
				Interval 3 Total	67	45	0	112	5,609.3
	22-Dec-06	4	2:10 PM	Atlantic Croaker		2		2	19.0
	22-Dec-06	4	2:10 PM	Inland Silverside		2		2	8.8
	22-Dec-06	4	2:10 PM	Pinfish		10		10	83.4
	22-Dec-06	4	2:10 PM	Polka-dot Batfish	10			10	790.0
	22-Dec-06	4	2:10 PM	Scrawled Cowfish	1	1		2	438.0
	22-Dec-06	4	2:10 PM	Silver Perch		8		8	81.6
				Interval 4 Total	11	23	0	34	1,420.8
2				24-Hour Total	148	211	0	359	14,413.4

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	04-Jan-07	1	8:00 PM	Atlantic Croaker		10		10	45.0
	04-Jan-07	1	8:00 PM	Atlantic thread herring		10		10	121.0
	04-Jan-07	1	8:00 PM	Bay Anchovy		800		800	793.6
	04-Jan-07	1	8:00 PM	Feather Blenny	2	8		10	83.0
	04-Jan-07	1	8:00 PM	Flounder sp.	3	7		10	96.0
	04-Jan-07	1	8:00 PM	Gulf Pipefish	1	9		10	16.0
	04-Jan-07	1	8:00 PM	Gulf Toadfish	4	6		10	17.0
	04-Jan-07	1	8:00 PM	Lane Snapper		30		30	358.0
	04-Jan-07	1	8:00 PM	Leopard Searobin	10	60		70	867.0
	04-Jan-07	1	8:00 PM	Pigfish		10		10	94.0
	04-Jan-07	1	8:00 PM	Pinfish		50		50	487.0
	04-Jan-07	1	8:00 PM	Polka-dot Batfish	40	10		50	4,417.0
	04-Jan-07	1	8:00 PM	Scaled Sardine		20		20	111.0
	04-Jan-07	1	8:00 PM	Silver Perch		240		240	1,807.0
	04-Jan-07	1	8:00 PM	Southern Kingfish		10		10	60.0
	04-Jan-07	1	8:00 PM	Spotfin Mojarra		420		420	3,973.2
	04-Jan-07	1	8:00 PM	Spotted Seatrout		20		20	278.0
	04-Jan-07	1	8:00 PM	Vermilion Snapper		10		10	89.0
				Interval 1 Total	60	1,730	0	1,790	13,712.8
	05-Jan-07	2	2:00 AM	Bay Anchovy		240		240	376.0
	05-Jan-07	2	2:00 AM	Gulf Toadfish	1	9		10	71.0
	05-Jan-07	2	2:00 AM	Leopard Searobin	4	6		10	75.0
	05-Jan-07	2	2:00 AM	Orange Filefish		10		10	25.0
	05-Jan-07	2	2:00 AM	Pigfish		20		20	239.0
	05-Jan-07	2	2:00 AM	Pinfish		30		30	339.0
	05-Jan-07	2	2:00 AM	Polka-dot Batfish	15	5		20	1,912.0
	05-Jan-07	2	2:00 AM	Scaled Sardine		10		10	66.0
	05-Jan-07	2	2:00 AM	Silver Perch		140		140	1,133.0
	05-Jan-07	2	2:00 AM	Spotfin Mojarra		40		40	332.0
				Interval 2 Total	20	510	0	530	4,568.0
	05-Jan-07	3	8:00 AM	Atlantic Spadefish		10		10	2,488.0
	05-Jan-07	3	8:00 AM	Atlantic thread herring		10		10	43.0
	05-Jan-07	3	8:00 AM	Bay Anchovy		110		110	88.0
	05-Jan-07	3	8:00 AM	Inland Silverside		10		10	97.0
	05-Jan-07	3	8:00 AM	Leopard Searobin	17	33		50	287.0
	05-Jan-07	3	8:00 AM	Leopard Toadfish	1	9		10	31.0
	05-Jan-07	3	8:00 AM	Orange Filefish	1	9		10	1.0
	05-Jan-07	3	8:00 AM	Pinfish		10		10	104.0
	05-Jan-07	3	8:00 AM	Polka-dot Batfish	55	15		70	7,206.0
	05-Jan-07	3	8:00 AM	Scaled Sardine		30		30	206.0
	05-Jan-07	3	8:00 AM	Scrawled Cowfish	2	8		10	2,196.0
	05-Jan-07	3	8:00 AM	Silver Perch		90		90	699.0
	05-Jan-07	3	8:00 AM	Spotfin Mojarra		30		30	273.0
	05-Jan-07	3	8:00 AM	Spotted Seatrout		10		10	162.0
				Interval 3 Total	76	384	0	460	13,881.0
	05-Jan-07	4	2:00 PM	Bay Anchovy		60		60	90.0
	05-Jan-07	4	2:00 PM	Polka-dot Batfish	7	3		10	1,082.0
				Interval 4 Total	7	63	0	70	1,172.0
3				24-Hour Total	163	2,687	0	2,850	33,333.8

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	18-Jan-07	1	9:04 PM	American Eel	2	8		10	901.0
	18-Jan-07	1	9:04 PM	Atlantic thread herring		110		110	1,416.0
	18-Jan-07	1	9:04 PM	Bay Anchovy		960		960	771.8
	18-Jan-07	1	9:04 PM	Bighead Searobin	25	15		40	171.0
	18-Jan-07	1	9:04 PM	Great Barracuda		10		10	18.0
	18-Jan-07	1	9:04 PM	Irish Pompano		50		50	487.0
	18-Jan-07	1	9:04 PM	Orange Filefish		10		10	2,623.0
	18-Jan-07	1	9:04 PM	Polka-dot Batfish	16	4		20	2,248.0
	18-Jan-07	1	9:04 PM	Southern Puffer	5	15		20	178.0
	18-Jan-07	1	9:04 PM	Speckled Stargazer		10		10	14.0
				Interval 1 Total	48	1,192	0	1,240	8,827.8
	19-Jan-07	2	2:00 AM	Atlantic thread herring		4		4	99.2
	19-Jan-07	2	2:00 AM	Bay Anchovy		128		128	118.8
	19-Jan-07	2	2:00 AM	Bighead Searobin	2	2		4	9.6
	19-Jan-07	2	2:00 AM	Inland Silverside		2		2	9.4
	19-Jan-07	2	2:00 AM	Leopard Searobin	1	3		4	41.6
	19-Jan-07	2	2:00 AM	Leopard Toadfish	2			2	2.8
	19-Jan-07	2	2:00 AM	Polka-dot Batfish	6			6	497.4
	19-Jan-07	2	2:00 AM	Scaled Sardine		2		2	13.8
	19-Jan-07	2	2:00 AM	Scrawled Cowfish	2			2	5.4
	19-Jan-07	2	2:00 AM	Silver Perch		8		8	109.8
	19-Jan-07	2	2:00 AM	Speckled Stargazer		2		2	3.0
	19-Jan-07	2	2:00 AM	Striped Anchovy		2		2	12.6
	19-Jan-07	2	2:00 AM	Striped Burrfish		4		4	1,254.8
	19-Jan-07	2	2:00 AM	Striped Mojarra		4		4	50.0
	19-Jan-07	2	2:00 AM	Yellow Conger	2			2	57.6
				Interval 2 Total	15	161	0	176	2,285.8
	19-Jan-07	3	8:30 AM	Atlantic Croaker		6		6	69.2
	19-Jan-07	3	8:30 AM	Atlantic thread herring		6		6	112.6
	19-Jan-07	3	8:30 AM	Bighead Searobin		2		2	25.8
	19-Jan-07	3	8:30 AM	Florida Blenny		4		4	42.6
	19-Jan-07	3	8:30 AM	Hardhead Catfish		2		2	16.2
	19-Jan-07	3	8:30 AM	Inland Silverside		2		2	6.8
	19-Jan-07	3	8:30 AM	Leopard Searobin		2		2	18.2
	19-Jan-07	3	8:30 AM	Planehead Filefish		4		4	6.2
	19-Jan-07	3	8:30 AM	Polka-dot Batfish	4			4	245.8
	19-Jan-07	3	8:30 AM	Scaled Sardine		6		6	49.4
	19-Jan-07	3	8:30 AM	Speckled Stargazer		2		2	5.6
	19-Jan-07	3	8:30 AM	Striped Anchovy		44		44	101.4
	19-Jan-07	3	8:30 AM	Striped Mojarra		2		2	67.2
				Interval 3 Total	4	82	0	86	767.0
	19-Jan-07	4	2:00 PM	Bay Anchovy		21		21	16.3
	19-Jan-07	4	2:00 PM	Black Sea Bass		1		1	3.1
	19-Jan-07	4	2:00 PM	Fringed Sole		1		1	27.1
	19-Jan-07	4	2:00 PM	Lined Seahorse		1		1	3.8
	19-Jan-07	4	2:00 PM	Longfin Blenny		3		3	14.2
	19-Jan-07	4	2:00 PM	Polka-dot Batfish	1			1	85.4
	19-Jan-07	4	2:00 PM	Scrawled Cowfish		1		1	2.7
	19-Jan-07	4	2:00 PM	Speckled Stargazer		2		2	4.6
	19-Jan-07	4	2:00 PM	Spiny Searobin		4		4	3.3
	19-Jan-07	4	2:00 PM	Spotfin Mojarra		3		3	70.6
	19-Jan-07	4	2:00 PM	Striped Anchovy		8		8	66.3
	19-Jan-07	4	2:00 PM	Striped Mojarra		1		1	9.5
				Interval 4 Total	1	46	0	47	306.9
4				24-Hour Total	68	1,481	0	1,549	12,187.5

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
* 8:00 PM sampling on Feb 1 (Interval 1) was cancelled due to tornado watch									
	01-Feb-07	1 ³	8:00 PM	Atlantic thread herring		282		282	7,634.3
	01-Feb-07	1 ³	8:00 PM	Bay Anchovy		330		330	393.4
	01-Feb-07	1 ³	8:00 PM	Bighead Searobin		6		6	150.0
	01-Feb-07	1 ³	8:00 PM	Feather Blenny		3		3	75.0
	01-Feb-07	1 ³	8:00 PM	Gulf Pipefish		3		3	2.7
	01-Feb-07	1 ³	8:00 PM	Inland Silverside		12		12	93.0
	01-Feb-07	1 ³	8:00 PM	Leatherjacket		6		6	9.2
	01-Feb-07	1 ³	8:00 PM	Leopard Searobin		3		3	3.6
	01-Feb-07	1 ³	8:00 PM	Scaled Sardine		78		78	622.4
	01-Feb-07	1 ³	8:00 PM	Silver Perch		6		6	81.9
	01-Feb-07	1 ³	8:00 PM	Spotfin Mojarra		3		3	2.4
				Interval 1 Total	0	732	0	732	9,067.9
	02-Feb-07	2	2:00 AM	Atlantic thread herring		282		282	7,634.3
	02-Feb-07	2	2:00 AM	Bay Anchovy		330		330	393.4
	02-Feb-07	2	2:00 AM	Bighead Searobin		6		6	150.0
	02-Feb-07	2	2:00 AM	Feather Blenny		3		3	75.0
	02-Feb-07	2	2:00 AM	Gulf Pipefish		3		3	2.7
	02-Feb-07	2	2:00 AM	Inland Silverside		12		12	93.0
	02-Feb-07	2	2:00 AM	Leatherjacket		6		6	9.2
	02-Feb-07	2	2:00 AM	Leopard Searobin		3		3	3.6
	02-Feb-07	2	2:00 AM	Scaled Sardine		78		78	622.4
	02-Feb-07	2	2:00 AM	Silver Perch		6		6	81.9
	02-Feb-07	2	2:00 AM	Spotfin Mojarra		3		3	2.4
				Interval 2 Total	0	732	0	732	9,067.9
	02-Feb-07	3	8:00 AM	Atlantic Silverside		50		50	245.0
	02-Feb-07	3	8:00 AM	Atlantic Stingray		25		25	5,765.0
	02-Feb-07	3	8:00 AM	Atlantic thread herring		9,275		9,275	115,900.4
	02-Feb-07	3	8:00 AM	Bay Anchovy		4,750		4,750	3,591.0
	02-Feb-07	3	8:00 AM	Bigeye Searobin		225		225	182.5
	02-Feb-07	3	8:00 AM	Blueback Herring		4,225		4,225	21,310.9
	02-Feb-07	3	8:00 AM	Gulf Toadfish		50		50	192.5
	02-Feb-07	3	8:00 AM	Halfbeak		100		100	832.5
	02-Feb-07	3	8:00 AM	Inland Silverside		350		350	935.0
	02-Feb-07	3	8:00 AM	Inshore Lizardfish		25		25	757.5
	02-Feb-07	3	8:00 AM	Leatherjacket		175		175	555.0
	02-Feb-07	3	8:00 AM	Leopard Searobin		100		100	100.0
	02-Feb-07	3	8:00 AM	Lined Seahorse		25		25	12.5
	02-Feb-07	3	8:00 AM	Ocellated Flounder		25		25	17.5
	02-Feb-07	3	8:00 AM	Polka-dot Batfish	50	25		75	7,340.0
	02-Feb-07	3	8:00 AM	Scaled Sardine		6,375		6,375	50,005.5
	02-Feb-07	3	8:00 AM	Scrawled Cowfish		50		50	10,950.0
	02-Feb-07	3	8:00 AM	Silver Perch		325		325	4,785.0
	02-Feb-07	3	8:00 AM	Spanish Grunt		25		25	50.0
	02-Feb-07	3	8:00 AM	Spanish Sardine		25		25	300.0
	02-Feb-07	3	8:00 AM	Speckled Stargazer		25		25	75.0
	02-Feb-07	3	8:00 AM	Spotfin Mojarra		200		200	662.5
	02-Feb-07	3	8:00 AM	Striped Anchovy		175		175	3,950.0
	02-Feb-07	3	8:00 AM	Striped Burrfish		25		25	4,050.0
				Interval 3 Total	50	26,650	0	26,700	232,565.3

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	02-Feb-07	4	2:00 PM	Atlantic Needlefish		6		6	4.2
	02-Feb-07	4	2:00 PM	Atlantic Silverside		72		72	334.8
	02-Feb-07	4	2:00 PM	Atlantic thread herring		1,182		1,182	20,193.3
	02-Feb-07	4	2:00 PM	Bay Anchovy		510		510	526.3
	02-Feb-07	4	2:00 PM	Blueback Herring		486		486	6,631.0
	02-Feb-07	4	2:00 PM	Feather Blenny		24		24	117.0
	02-Feb-07	4	2:00 PM	Gray Snapper		12		12	19.8
	02-Feb-07	4	2:00 PM	Gulf Pipefish		6		6	3.6
	02-Feb-07	4	2:00 PM	Gulf Toadfish		18		18	54.0
	02-Feb-07	4	2:00 PM	Halfbeak		6		6	7.8
	02-Feb-07	4	2:00 PM	Leatherjacket		12		12	27.0
	02-Feb-07	4	2:00 PM	Leopard Seabrobin		18		18	48.0
	02-Feb-07	4	2:00 PM	Pinfish		6		6	178.8
	02-Feb-07	4	2:00 PM	Polka-dot Batfish	12			12	1,045.2
	02-Feb-07	4	2:00 PM	Scaled Sardine		930		930	11,677.1
	02-Feb-07	4	2:00 PM	Scrawled Cowfish		12		12	116.4
	02-Feb-07	4	2:00 PM	Silver Perch		18		18	55.8
	02-Feb-07	4	2:00 PM	Spanish Sardine		6		6	299.4
	02-Feb-07	4	2:00 PM	Spotfin Mojarra		6		6	11.4
	02-Feb-07	4	2:00 PM	Striped Anchovy		24		24	227.4
				Interval 4 Total	12	3,354	0	3,366	41,578.3
5				24-Hour Total	62	31,468	0	31,530	292,279.5

³ Impingement data for February 01 and 02, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	15-Feb-07	1	9:27 PM	Atlantic Silverside		16		16	72.0
	15-Feb-07	1	9:27 PM	Atlantic thread herring		584		584	12,859.7
	15-Feb-07	1	9:27 PM	Bay Anchovy		272		272	335.1
	15-Feb-07	1	9:27 PM	Bighead Searobin	24			24	192.0
	15-Feb-07	1	9:27 PM	Flounder sp.	1	7		8	36.0
	15-Feb-07	1	9:27 PM	Leopard Searobin	2	30		32	112.0
	15-Feb-07	1	9:27 PM	Pinfish		56		56	732.0
	15-Feb-07	1	9:27 PM	Polka-dot Batfish	100	20		120	10,283.2
	15-Feb-07	1	9:27 PM	Silver Perch		16		16	232.0
	15-Feb-07	1	9:27 PM	Southern Puffer	4	20		24	220.8
	15-Feb-07	1	9:27 PM	Spotted Seatrout		8		8	165.6
	15-Feb-07	1	9:27 PM	Striped Anchovy		32		32	260.8
	15-Feb-07	1	9:27 PM	Striped Mojarra		112		112	1,682.4
				Interval 1 Total	131	1,173	0	1,304	27,183.6
	16-Feb-07	2	2:15 AM	Atlantic Croaker		2		2	117.0
	16-Feb-07	2	2:15 AM	Atlantic Silverside		2		2	18.0
	16-Feb-07	2	2:15 AM	Atlantic Spadefish		4		4	89.0
	16-Feb-07	2	2:15 AM	Atlantic thread herring		104		104	2,855.4
	16-Feb-07	2	2:15 AM	Bay Anchovy		100		100	226.8
	16-Feb-07	2	2:15 AM	Bighead Searobin		44		44	148.2
	16-Feb-07	2	2:15 AM	Feather Blenny	2	10		12	223.0
	16-Feb-07	2	2:15 AM	Gulf Flounder		2		2	1.6
	16-Feb-07	2	2:15 AM	Inland Silverside		2		2	11.2
	16-Feb-07	2	2:15 AM	Lane Snapper		2		2	106.4
	16-Feb-07	2	2:15 AM	Leopard Searobin	2	18		20	147.8
	16-Feb-07	2	2:15 AM	Lined Seahorse	1	3		4	2.6
	16-Feb-07	2	2:15 AM	Pinfish		12		12	164.4
	16-Feb-07	2	2:15 AM	Polka-dot Batfish	40	22		62	5,149.0
	16-Feb-07	2	2:15 AM	Scaled Sardine		8		8	73.8
	16-Feb-07	2	2:15 AM	Silver Perch		4		4	85.2
	16-Feb-07	2	2:15 AM	Southern Puffer	2	10		12	61.2
	16-Feb-07	2	2:15 AM	Spotfin Mojarra		2		2	15.4
	16-Feb-07	2	2:15 AM	Striped Anchovy		12		12	106.2
	16-Feb-07	2	2:15 AM	Striped Mojarra		40		40	617.2
				Interval 2 Total	47	403	0	450	10,219.4

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	16-Feb-07	3	8:20 AM	Atlantic Silverside		2		2	9.0
	16-Feb-07	3	8:20 AM	Atlantic thread herring		36		36	934.4
	16-Feb-07	3	8:20 AM	Bay Anchovy		28		28	28.0
	16-Feb-07	3	8:20 AM	Bighead Searobin	4			4	43.2
	16-Feb-07	3	8:20 AM	Feather Blenny	2	6		8	78.2
	16-Feb-07	3	8:20 AM	Leopard Searobin	2	8		10	92.8
	16-Feb-07	3	8:20 AM	Lined Seahorse		2		2	12.0
	16-Feb-07	3	8:20 AM	Pinfish		8		8	111.8
	16-Feb-07	3	8:20 AM	Polka-dot Batfish	15	5		20	1,731.6
	16-Feb-07	3	8:20 AM	Spanish Sardine		2		2	20.0
	16-Feb-07	3	8:20 AM	Striped Anchovy		6		6	34.4
	16-Feb-07	3	8:20 AM	Striped Mojarra		18		18	255.4
				Interval 3 Total	23	121	0	144	3,350.8
	16-Feb-07	4	2:15 PM	Atlantic thread herring		52		52	1,414.8
	16-Feb-07	4	2:15 PM	Bay Anchovy		14		14	12.0
	16-Feb-07	4	2:15 PM	Bighead Searobin	2			2	3.0
	16-Feb-07	4	2:15 PM	Feather Blenny	2			2	4.0
	16-Feb-07	4	2:15 PM	Polka-dot Batfish	10	4		14	1,194.0
	16-Feb-07	4	2:15 PM	Scrawled Cowfish	2			2	6.0
	16-Feb-07	4	2:15 PM	Silver Perch		2		2	121.0
	16-Feb-07	4	2:15 PM	Striped Anchovy		2		2	25.0
	16-Feb-07	4	2:15 PM	Striped Mojarra		10		10	108.0
				Interval 4 Total	16	84	0	100	2,887.8
6				24-Hour Total	217	1,781	0	1,998	43,641.6

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	01-Mar-07	1	8:27 PM	Atlantic Croaker		4		4	78.0
	01-Mar-07	1	8:27 PM	Atlantic thread herring		268		268	7,558.7
	01-Mar-07	1	8:27 PM	Bighead Searobin	4	12		16	121.2
	01-Mar-07	1	8:27 PM	Blackcheek Tonguefish	1	3		4	82.8
	01-Mar-07	1	8:27 PM	Hardhead Catfish	1	3		4	34.0
	01-Mar-07	1	8:27 PM	Hogchoker	3	1		4	35.2
	01-Mar-07	1	8:27 PM	Lined Seahorse		4		4	4.4
	01-Mar-07	1	8:27 PM	Pigfish		192		192	2,833.9
	01-Mar-07	1	8:27 PM	Pinfish		152		152	2,109.2
	01-Mar-07	1	8:27 PM	Polka-dot Batfish	12			12	1,440.8
	01-Mar-07	1	8:27 PM	Scrawled Cowfish	1	3		4	601.6
	01-Mar-07	1	8:27 PM	Silver Perch		24		24	256.8
	01-Mar-07	1	8:27 PM	Silver Seatrout		4		4	119.6
	01-Mar-07	1	8:27 PM	Striped Anchovy		4		4	5.2
	01-Mar-07	1	8:27 PM	Striped Burrfish	4			4	124.0
	01-Mar-07	1	8:27 PM	Striped Mojarra		56		56	783.6
				Interval 1 Total	26	730	0	756	16,188.9
	02-Mar-07	2	2:00 AM	Atlantic Spadefish		8		8	194.4
	02-Mar-07	2	2:00 AM	Atlantic thread herring		208		208	6,026.2
	02-Mar-07	2	2:00 AM	Bay Anchovy		8		8	5.6
	02-Mar-07	2	2:00 AM	Bigeye Searobin	2	14		16	16.8
	02-Mar-07	2	2:00 AM	Gray Snapper		8		8	44.0
	02-Mar-07	2	2:00 AM	Lane Snapper		8		8	60.0
	02-Mar-07	2	2:00 AM	Leopard Searobin	2	6		8	519.2
	02-Mar-07	2	2:00 AM	Pigfish		224		224	3,947.8
	02-Mar-07	2	2:00 AM	Pinfish		216		216	3,043.0
	02-Mar-07	2	2:00 AM	Planehead Filefish		8		8	10.4
	02-Mar-07	2	2:00 AM	Polka-dot Batfish	24			24	1,211.2
	02-Mar-07	2	2:00 AM	Scrawled Cowfish	1	7		8	17.6
	02-Mar-07	2	2:00 AM	Silver Perch		16		16	332.0
	02-Mar-07	2	2:00 AM	Silver Seatrout		16		16	805.6
	02-Mar-07	2	2:00 AM	Southern Puffer	4	4		8	48.8
	02-Mar-07	2	2:00 AM	Spotfin Mojarra		16		16	112.8
	02-Mar-07	2	2:00 AM	Striped Mojarra		224		224	3,703.8
				Interval 2 Total	33	991	0	1,024	20,099.2

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	02-Mar-07	3	7:55 AM	Atlantic Midshipman		25		25	1,750.0
	02-Mar-07	3	7:55 AM	Atlantic Pomfret		25		25	260.0
	02-Mar-07	3	7:55 AM	Atlantic Spadefish		25		25	562.5
	02-Mar-07	3	7:55 AM	Atlantic thread herring		1,075		1,075	33,251.9
	02-Mar-07	3	7:55 AM	Bighead Searobin	50	325		375	1,942.5
	02-Mar-07	3	7:55 AM	Feather Blenny	15	10		25	242.5
	02-Mar-07	3	7:55 AM	Flounder sp.	5	20		25	200.0
	02-Mar-07	3	7:55 AM	Leopard Searobin	8	17		25	665.0
	02-Mar-07	3	7:55 AM	Leopard Toadfish	10	65		75	435.0
	02-Mar-07	3	7:55 AM	Pigfish		2,200		2,200	31,125.6
	02-Mar-07	3	7:55 AM	Pinfish		1,075		1,075	14,843.6
	02-Mar-07	3	7:55 AM	Polka-dot Batfish	500	100		600	43,867.5
	02-Mar-07	3	7:55 AM	Scaled Sardine		25		25	112.5
	02-Mar-07	3	7:55 AM	Scrawled Cowfish	10	40		50	597.5
	02-Mar-07	3	7:55 AM	Scrawled Filefish		25		25	75.0
	02-Mar-07	3	7:55 AM	Silver Perch		75		75	707.5
	02-Mar-07	3	7:55 AM	Silver Seatrout		75		75	3,110.0
	02-Mar-07	3	7:55 AM	Spotfin Mojarra		175		175	1,802.5
	02-Mar-07	3	7:55 AM	Striped Anchovy		25		25	40.0
	02-Mar-07	3	7:55 AM	Striped Mojarra		275		275	4,032.5
	02-Mar-07	3	7:55 AM	Yellow Conger	20	5		25	680.0
				Interval 3 Total	618	5,682	0	6,300	140,303.6
	02-Mar-07	4	2:00 PM	Atlantic Spadefish		20		20	450.0
	02-Mar-07	4	2:00 PM	Atlantic thread herring		660		660	21,104.2
	02-Mar-07	4	2:00 PM	Bay Anchovy		10		10	13.0
	02-Mar-07	4	2:00 PM	Bighead Searobin	10	20		30	96.0
	02-Mar-07	4	2:00 PM	Blackcheek Tonguefish	5	5		10	164.0
	02-Mar-07	4	2:00 PM	Feather Blenny	5	25		30	193.0
	02-Mar-07	4	2:00 PM	Flounder sp.		10		10	216.0
	02-Mar-07	4	2:00 PM	Gulf Pipefish		10		10	18.0
	02-Mar-07	4	2:00 PM	Hardhead Catfish		10		10	93.0
	02-Mar-07	4	2:00 PM	Leopard Searobin	8	2		10	230.0
	02-Mar-07	4	2:00 PM	Lined Seahorse		10		10	18.0
	02-Mar-07	4	2:00 PM	Pigfish		1,260		1,260	21,440.2
	02-Mar-07	4	2:00 PM	Pinfish		310		310	3,837.8
	02-Mar-07	4	2:00 PM	Polka-dot Batfish	110	10		120	13,185.0
	02-Mar-07	4	2:00 PM	Scrawled Cowfish	20	10		30	289.0
	02-Mar-07	4	2:00 PM	Silver Perch		30		30	408.0
	02-Mar-07	4	2:00 PM	Silver Seatrout		30		30	1,057.0
	02-Mar-07	4	2:00 PM	Southern Kingfish		10		10	117.0
	02-Mar-07	4	2:00 PM	Spotfin Mojarra		20		20	129.0
	02-Mar-07	4	2:00 PM	Striped Anchovy		10		10	8.0
	02-Mar-07	4	2:00 PM	Striped Mojarra		80		80	1,040.0
				Interval 4 Total	158	2,552	0	2,710	64,106.1
7				24-Hour Total	835	9,955	0	10,790	240,697.9

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	15-Mar-07	1	9:04 PM	Atlantic Midshipman		4		4	187.2
	15-Mar-07	1	9:04 PM	Atlantic thread herring		172		172	5,419.4
	15-Mar-07	1	9:04 PM	Bay Anchovy		120		120	138.7
	15-Mar-07	1	9:04 PM	Bighead Searobin	3	9		12	39.9
	15-Mar-07	1	9:04 PM	Blackcheek Tonguefish	4			4	26.5
	15-Mar-07	1	9:04 PM	Flounder sp.	8	8		16	388.8
	15-Mar-07	1	9:04 PM	Feather Blenny	8			8	39.2
	15-Mar-07	1	9:04 PM	Gafftopsail Catfish	4	8		12	183.9
	15-Mar-07	1	9:04 PM	Goldspotted Killifish		4		4	116.9
	15-Mar-07	1	9:04 PM	Leopard Searobin		4		4	9.8
	15-Mar-07	1	9:04 PM	Lined Seahorse		8		8	344.8
	15-Mar-07	1	9:04 PM	Lined Sole	4	4		8	14.8
	15-Mar-07	1	9:04 PM	Pigfish		84		84	109.2
	15-Mar-07	1	9:04 PM	Pinfish		4		4	49.6
	15-Mar-07	1	9:04 PM	Polka-dot Batfish	52	8		60	4,920.0
	15-Mar-07	1	9:04 PM	Scaled Sardine		4		4	278.6
	15-Mar-07	1	9:04 PM	Shrimp Eel		4		4	46.0
	15-Mar-07	1	9:04 PM	Silver Perch		12		12	85.6
	15-Mar-07	1	9:04 PM	Southern Puffer	4	4		8	103.6
	15-Mar-07	1	9:04 PM	Speckled Worm Eel		4		4	102.4
	15-Mar-07	1	9:04 PM	Striped Anchovy		24		24	198.8
	15-Mar-07	1	9:04 PM	Striped Burrfish	4			4	656.0
				Interval 1 Total	91	489	0	580	13,459.8
	16-Mar-07	2	2:05 AM	Atlantic thread herring	25	105		130	3,462.7
	16-Mar-07	2	2:05 AM	Bay Anchovy		25		25	33.5
	16-Mar-07	2	2:05 AM	Bighead Searobin	5	20		25	183.5
	16-Mar-07	2	2:05 AM	Gafftopsail Catfish		30		30	1,001.0
	16-Mar-07	2	2:05 AM	Leopard Searobin	1	4		5	22.0
	16-Mar-07	2	2:05 AM	Pigfish		70		70	743.5
	16-Mar-07	2	2:05 AM	Pinfish		5		5	51.0
	16-Mar-07	2	2:05 AM	Planehead Filefish		5		5	12.5
	16-Mar-07	2	2:05 AM	Polka-dot Batfish	28	7		35	2,877.5
	16-Mar-07	2	2:05 AM	Scrawled Cowfish	3	2		5	61.0
	16-Mar-07	2	2:05 AM	Silver Perch		10		10	53.0
	16-Mar-07	2	2:05 AM	Southern Puffer	5			5	94.5
	16-Mar-07	2	2:05 AM	Striped Anchovy		20		20	207.5
	16-Mar-07	2	2:05 AM	Striped Burrfish	2	3		5	302.5
	16-Mar-07	2	2:05 AM	Striped Mojarra		10		10	109.0
				Interval 2 Total	69	316	0	385	9,214.7

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	16-Mar-07	3	9:40 AM	Atlantic thread herring		84		84	2,752.5
	16-Mar-07	3	9:40 AM	Bay Anchovy		24		24	29.6
	16-Mar-07	3	9:40 AM	Bighead Searobin	10	10		20	105.2
	16-Mar-07	3	9:40 AM	Feather Blenny	4			4	66.4
	16-Mar-07	3	9:40 AM	Gafftopsail Catfish	4	16		20	660.8
	16-Mar-07	3	9:40 AM	Lined Seahorse		4		4	6.8
	16-Mar-07	3	9:40 AM	Pigfish		24		24	332.8
	16-Mar-07	3	9:40 AM	Pinfish		4		4	38.4
	16-Mar-07	3	9:40 AM	Polka-dot Batfish	16			16	1,876.8
	16-Mar-07	3	9:40 AM	Silver Perch		12		12	160.0
	16-Mar-07	3	9:40 AM	Southern Kingfish		4		4	52.4
	16-Mar-07	3	9:40 AM	Striped Anchovy		8		8	68.8
	16-Mar-07	3	9:40 AM	Striped Mojarra		8		8	116.8
				Interval 3 Total	34	198	0	232	6,267.3
	16-Mar-07	4	2:02 PM	Atlantic thread herring		40		40	1,131.6
	16-Mar-07	4	2:02 PM	Bay Anchovy		28		28	31.6
	16-Mar-07	4	2:02 PM	Gafftopsail Catfish		4		4	216.4
	16-Mar-07	4	2:02 PM	Pigfish		12		12	155.2
	16-Mar-07	4	2:02 PM	Pinfish		4		4	105.2
	16-Mar-07	4	2:02 PM	Polka-dot Batfish	4			4	588.0
	16-Mar-07	4	2:02 PM	Southern Puffer	2	2		4	24.4
	16-Mar-07	4	2:02 PM	Striped Anchovy		4		4	49.2
	16-Mar-07	4	2:02 PM	Striped Mojarra		4		4	10.8
				Interval 4 Total	6	98	0	104	2,312.4
8				24-Hour Total	200	1,101	0	1,301	31,254.2

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	30-Mar-07	1	2:01 AM	Atlantic Croaker		11		11	28.0
	30-Mar-07	1	2:01 AM	Atlantic Needlefish		2		2	16.6
	30-Mar-07	1	2:01 AM	Atlantic thread herring		6	1	7	211.9
	30-Mar-07	1	2:01 AM	Blackcheek Tonguefish		1		1	11.5
	30-Mar-07	1	2:01 AM	Feather Blenny	1			1	8.1
	30-Mar-07	1	2:01 AM	Gafftopsail Catfish		7	1	8	536.2
	30-Mar-07	1	2:01 AM	Pigfish		5		5	57.8
	30-Mar-07	1	2:01 AM	Pinfish		3		3	39.3
	30-Mar-07	1	2:01 AM	Polka-dot Batfish	11			11	1,277.8
	30-Mar-07	1	2:01 AM	Silver Perch		2	1	3	18.8
	30-Mar-07	1	2:01 AM	Southern Puffer		1		1	6.2
	30-Mar-07	1	2:01 AM	Spotted Seatrout		2		2	58.4
	30-Mar-07	1	2:01 AM	Striped Anchovy		8		8	11.8
	30-Mar-07	1	2:01 AM	Striped Burrfish		1		1	280.9
				Interval 1 Total	12	49	3	64	2,563.3
	30-Mar-07	2	2:03 PM	Atlantic Croaker		4		4	13.8
	30-Mar-07	2	2:03 PM	Atlantic thread herring		4		4	176.0
	30-Mar-07	2	2:03 PM	Bay Anchovy		14		14	37.6
	30-Mar-07	2	2:03 PM	Bighead Searobin	4	6		10	17.2
	30-Mar-07	2	2:03 PM	Florida Blenny	2			2	6.2
	30-Mar-07	2	2:03 PM	Gafftopsail Catfish		4		4	361.6
	30-Mar-07	2	2:03 PM	Hogchoker	3	6		9	108.9
	30-Mar-07	2	2:03 PM	Leopard Searobin	2			2	163.8
	30-Mar-07	2	2:03 PM	Pigfish		10		10	114.2
	30-Mar-07	2	2:03 PM	Pinfish		2		2	28.0
	30-Mar-07	2	2:03 PM	Polka-dot Batfish	18	4		22	1,621.6
	30-Mar-07	2	2:03 PM	Scrawled Cowfish	2	2		4	51.4
	30-Mar-07	2	2:03 PM	Silver Perch		8		8	15.6
	30-Mar-07	2	2:03 PM	Smooth Butterfly Ray	2			2	226.0
	30-Mar-07	2	2:03 PM	Southern Puffer	2	4		6	32.2
	30-Mar-07	2	2:03 PM	Striped Burrfish		2		2	389.6
	30-Mar-07	2	2:03 PM	Striped Mojarra		2		2	13.2
				Interval 2 Total	35	72	0	107	3,376.9
9				24-Hour Total	47	121	3	171	5,940.2

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	13-Apr-07	1	8:30 AM	Atlantic Pomfret		16		16	13.6
	13-Apr-07	1	8:30 AM	Bay Anchovy		36		36	61.0
	13-Apr-07	1	8:30 AM	Blackcheek Tonguefish		4		4	13.6
	13-Apr-07	1	8:30 AM	Feather Blenny	2			2	9.2
	13-Apr-07	1	8:30 AM	Gafftopsail Catfish	2	20		22	879.4
	13-Apr-07	1	8:30 AM	Great Barracuda		2		2	1.8
	13-Apr-07	1	8:30 AM	Gulf Toadfish	2			2	1.4
	13-Apr-07	1	8:30 AM	Hardhead Catfish		6		6	121.0
	13-Apr-07	1	8:30 AM	Hogchoker	2			2	6.8
	13-Apr-07	1	8:30 AM	Ladyfish		2		2	883.0
	13-Apr-07	1	8:30 AM	Lane Snapper		2		2	3.0
	13-Apr-07	1	8:30 AM	Lined Seahorse	2	2		4	11.8
	13-Apr-07	1	8:30 AM	Orange Filefish		4		4	15.6
	13-Apr-07	1	8:30 AM	Polka-dot Batfish	30	4		34	3,800.8
	13-Apr-07	1	8:30 AM	Scaled Sardine		2		2	2.4
	13-Apr-07	1	8:30 AM	Scrawled Cowfish		4		4	610.8
	13-Apr-07	1	8:30 AM	Southern Puffer	6			6	51.8
	13-Apr-07	1	8:30 AM	Striped Anchovy		24		24	117.8
	13-Apr-07	1	8:30 AM	Striped Burrfish	2	4		6	870.0
				Interval 1 Total	48	132	0	180	7,474.8
	13-Apr-07	2	8:30 PM	Atlantic Spadefish		4		4	154.0
	13-Apr-07	2	8:30 PM	Atlantic thread herring		2		2	107.2
	13-Apr-07	2	8:30 PM	Bay Anchovy		2		2	3.2
	13-Apr-07	2	8:30 PM	Gafftopsail Catfish		2		2	99.0
	13-Apr-07	2	8:30 PM	Polka-dot Batfish	10			10	1,120.0
	13-Apr-07	2	8:30 PM	Striped Burrfish	2			2	840.6
				Interval 2 Total	12	10	0	22	2,324.0
10				24-Hour Total	60	142	0	202	9,798.8
	27-Apr-07	1	8:30 AM	Atlantic Croaker		3		3	4.6
	27-Apr-07	1	8:30 AM	Atlantic Needlefish		1		1	2.1
	27-Apr-07	1	8:30 AM	Bay Anchovy		3		3	2.7
	27-Apr-07	1	8:30 AM	Gafftopsail Catfish		2		2	325.5
	27-Apr-07	1	8:30 AM	Great Barracuda		1		1	0.3
	27-Apr-07	1	8:30 AM	Leopard Toadfish	1			1	124.6
	27-Apr-07	1	8:30 AM	Lined Seahorse		1		1	3.1
	27-Apr-07	1	8:30 AM	Polka-dot Batfish	7			7	702.6
	27-Apr-07	1	8:30 AM	Silver Seatrout		1		1	19.0
	27-Apr-07	1	8:30 AM	Smooth Butterfly Ray		2		2	178.1
				Interval 1 Total	8	14		22	1,362.6
	27-Apr-07	2	8:30 PM	Atlantic Croaker		1		1	8.4
	27-Apr-07	2	8:30 PM	Atlantic Needlefish		2		2	1.8
	27-Apr-07	2	8:30 PM	Leopard Toadfish	1			1	6.8
	27-Apr-07	2	8:30 PM	Lined Seahorse	2			2	22.6
	27-Apr-07	2	8:30 PM	Polka-dot Batfish	3			3	351.8
	27-Apr-07	2	8:30 PM	Spotted Seatrout		1		1	523.6
	27-Apr-07	2	8:30 PM	Striped Burrfish	2	1		3	637.8
	27-Apr-07	2	8:30 PM	Striped Mullet		1		1	696.8
				Interval 2 Total	8	6	0	14	2,249.6
11				24-Hour Total	16	20	0	36	3,612.2

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	11-May-07	1	8:30 AM	Atlantic Midshipman	4			4	203.8
	11-May-07	1	8:30 AM	Bay Anchovy		2		2	14.1
	11-May-07	1	8:30 AM	Bigeye Searobin		2		2	6.0
	11-May-07	1	8:30 AM	Bighead Searobin		12		12	36.0
	11-May-07	1	8:30 AM	Blackcheek Tonguefish		6		6	63.8
	11-May-07	1	8:30 AM	Flounder sp.		4		4	57.3
	11-May-07	1	8:30 AM	Great Barracuda		4		4	89.8
	11-May-07	1	8:30 AM	Gulf Flounder		2		2	6.3
	11-May-07	1	8:30 AM	Highfin Goby		2		2	10.4
	11-May-07	1	8:30 AM	Hogchoker	4	2		6	169.2
	11-May-07	1	8:30 AM	Inshore Lizardfish		34		34	1,365.7
	11-May-07	1	8:30 AM	Leopard Searobin		2		2	63.6
	11-May-07	1	8:30 AM	Lined Seahorse	2			2	22.2
	11-May-07	1	8:30 AM	Pigfish		20		20	168.0
	11-May-07	1	8:30 AM	Pinfish		2		2	4.2
	11-May-07	1	8:30 AM	Planehead Filefish		4		4	27.2
	11-May-07	1	8:30 AM	Polka-dot Batfish	30	6		36	367.2
	11-May-07	1	8:30 AM	Sand Perch		2		2	150.7
	11-May-07	1	8:30 AM	Scrawled Cowfish	6			6	74.8
	11-May-07	1	8:30 AM	Silver Perch		4		4	12.0
	11-May-07	1	8:30 AM	Smooth Butterfly Ray	4	2		6	684.8
	11-May-07	1	8:30 AM	Southern Puffer	4			4	137.6
	11-May-07	1	8:30 AM	Yellow Conger	6	10		16	455.6
				Interval 1 Total	60	122	0	182	4,190.2
	11-May-07	2	8:30 PM	Bigscale Pomfret		1		1	199.3
	11-May-07	2	8:30 PM	Florida Pompano			1	1	NA
	11-May-07	2	8:30 PM	Flounder sp.		2		2	38.3
	11-May-07	2	8:30 PM	Lane Snapper		2		2	6.4
	11-May-07	2	8:30 PM	Polka-dot Batfish	4			4	485.7
	11-May-07	2	8:30 PM	Striped Mojarra		1		1	3.1
	11-May-07	2	8:30 PM	Yellow Conger		1		1	37.2
				Interval 2 Total	4	7	1	12	770.0
12				24-Hour Total	64	129	1	194	4,960.2

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	25-May-07	1	8:30 AM	Atlantic Croaker		2		2	7.0
	25-May-07	1	8:30 AM	Atlantic thread herring		1		1	6.3
	25-May-07	1	8:30 AM	Bighead Searobin		2		2	29.8
	25-May-07	1	8:30 AM	Black Sea Bass		1		1	1.8
	25-May-07	1	8:30 AM	Blackcheek Tonguefish	5	10		15	410.4
	25-May-07	1	8:30 AM	Bluntnose Stingray		1		1	123.7
	25-May-07	1	8:30 AM	Flounder sp.	4	12		16	237.1
	25-May-07	1	8:30 AM	Inshore Lizardfish		2		2	27.1
	25-May-07	1	8:30 AM	Leopard Searobin		4		4	7.5
	25-May-07	1	8:30 AM	Leopard Toadfish	3	1		4	17.8
	25-May-07	1	8:30 AM	Ocellated Flounder		1		1	36.0
	25-May-07	1	8:30 AM	Pigfish		18		18	38.0
	25-May-07	1	8:30 AM	Pinfish		4		4	45.3
	25-May-07	1	8:30 AM	Planehead Filefish		1		1	3.6
	25-May-07	1	8:30 AM	Polka-dot Batfish	180	19		199	25,922.5
	25-May-07	1	8:30 AM	Scrawled Cowfish	4	2		6	227.1
	25-May-07	1	8:30 AM	Silver Perch		3		3	2.0
	25-May-07	1	8:30 AM	Silver Seatrout		1		1	207.4
	25-May-07	1	8:30 AM	Smooth Butterfly Ray		1		1	90.4
	25-May-07	1	8:30 AM	Southern Puffer	4	1		5	94.7
	25-May-07	1	8:30 AM	Striped Anchovy		10		10	14.7
	25-May-07	1	8:30 AM	Striped Burrfish		1		1	78.7
	25-May-07	1	8:30 AM	Striped Mojarra		3		3	22.1
	25-May-07	1	8:30 AM	Yellow Conger		2		2	48.8
				Interval 1 Total	200	103	0	303	27,699.8
	25-May-07	2	8:30 PM	Harvestfish		1		1	216.4
	25-May-07	2	8:30 PM	Pigfish		2		2	2.9
	25-May-07	2	8:30 PM	Planehead Filefish		1		1	2.9
	25-May-07	2	8:30 PM	Polka-dot Batfish	77	20		97	13,442.6
	25-May-07	2	8:30 PM	Smooth Butterfly Ray		1		1	124.1
	25-May-07	2	8:30 PM	Southern Puffer	1			1	13.3
	25-May-07	2	8:30 PM	Spanish Mackerel		2		2	1,280.8
	25-May-07	2	8:30 PM	Yellow Conger	2	2		4	207.5
				Interval 2 Total	80	29	0	109	15,290.5
13				24-Hour Total	280	132	0	412	42,990.4

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	08-Jun-07	1	8:30 AM	Atlantic Needlefish		10		10	7.5
	08-Jun-07	1	8:30 AM	Balao		3		3	2.3
	08-Jun-07	1	8:30 AM	Gulf Pipefish	1			1	0.8
	08-Jun-07	1	8:30 AM	Halfbeak		2		2	0.8
	08-Jun-07	1	8:30 AM	Lookdown		1		1	1.0
	08-Jun-07	1	8:30 AM	Orange Filefish		27		27	26.7
	08-Jun-07	1	8:30 AM	Pigfish		3		3	6.8
	08-Jun-07	1	8:30 AM	Planehead Filefish		11		11	14.4
	08-Jun-07	1	8:30 AM	Polka-dot Batfish	47	11		58	7,888.2
	08-Jun-07	1	8:30 AM	Redfin Needlefish		1		1	10.1
	08-Jun-07	1	8:30 AM	Silver Perch		26		26	26.1
	08-Jun-07	1	8:30 AM	Silver Seatrout		1		1	5.9
	08-Jun-07	1	8:30 AM	Southern Puffer	1			1	2.3
	08-Jun-07	1	8:30 AM	Spotted Seatrout		1		1	0.6
				Interval 1 Total	49	97	0	146	7,993.5
	08-Jun-07	2	8:30 PM	Atlantic Needlefish		6		6	3.4
	08-Jun-07	2	8:30 PM	Blackcheek Tonguefish		2		2	9.8
	08-Jun-07	2	8:30 PM	Lined Seahorse		2		2	0.8
	08-Jun-07	2	8:30 PM	Orange Filefish		8		8	11.8
	08-Jun-07	2	8:30 PM	Pigfish		4		4	6.8
	08-Jun-07	2	8:30 PM	Planehead Filefish		6		6	5.2
	08-Jun-07	2	8:30 PM	Polka-dot Batfish	16	4		20	5,420.2
	08-Jun-07	2	8:30 PM	Silver Perch		6		6	7.6
	08-Jun-07	2	8:30 PM	Striped Burrfish		4		4	2.8
				Interval 2 Total	16	42	0	58	5,468.4
14				24-Hour Total	65	139	0	204	13,461.9
	22-Jun-07	1	8:30 AM	Bay Anchovy		1		1	1.3
	22-Jun-07	1	8:30 AM	Black Sea Bass		1		1	3.7
	22-Jun-07	1	8:30 AM	Feather Blenny	1			1	8.0
	22-Jun-07	1	8:30 AM	Halfbeak		1		1	0.9
	22-Jun-07	1	8:30 AM	Lookdown		2		2	5.7
	22-Jun-07	1	8:30 AM	Pigfish		14		14	24.7
	22-Jun-07	1	8:30 AM	Pinfish		14		14	14.2
	22-Jun-07	1	8:30 AM	Planehead Filefish		1		1	1.8
	22-Jun-07	1	8:30 AM	Polka-dot Batfish	120	19		139	15,161.6
	22-Jun-07	1	8:30 AM	Scrawled Cowfish	2			2	124.3
	22-Jun-07	1	8:30 AM	Sheepshead		1		1	31.7
	22-Jun-07	1	8:30 AM	Silver Perch		59		59	135.2
	22-Jun-07	1	8:30 AM	Southern Puffer	2			2	12.1
				Interval 1 Total	125	113	0	238	15,525.2
	22-Jun-07	2	8:30 PM	Polka-dot Batfish	111	10		121	13,466.3
	22-Jun-07	2	8:30 PM	Silver Perch		1		1	1.6
				Interval 2 Total	111	11	0	122	13,467.9
15				24-Hour Total	236	124	0	360	28,993.1

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	06-Jul-07	1	8:30 AM	Black Sea Bass		1		1	4.9
	06-Jul-07	1	8:30 AM	Lined Seahorse	1			1	1.5
	06-Jul-07	1	8:30 AM	Polka-dot Batfish	24	4	4	32	2,973.2
	06-Jul-07	1	8:30 AM	Silver Perch		1		1	1.8
	06-Jul-07	1	8:30 AM	Spanish Sardine		1		1	0.7
				Interval 1 Total	25	7	4	36	2,982.1
	06-Jul-07	2	8:30 PM	Gulf Toadfish	1			1	0.3
	06-Jul-07	2	8:30 PM	Lined Seahorse		1		1	23.1
	06-Jul-07	2	8:30 PM	Lookdown		4		4	10.1
	06-Jul-07	2	8:30 PM	Pigfish		1		1	3.5
	06-Jul-07	2	8:30 PM	Polka-dot Batfish	60	20		80	9,231.0
	06-Jul-07	2	8:30 PM	Silver Perch		6		6	11.6
	06-Jul-07	2	8:30 PM	Silver Seatrout		1		1	303.8
	06-Jul-07	2	8:30 PM	Southern Puffer	3	3		6	31.2
	06-Jul-07	2	8:30 PM	Striped Burrfish		1		1	13.8
				Interval 2 Total	64	37	0	101	9,628.4
16				24-Hour Total	89	44	4	137	12,610.5
	20-Jul-07	1	8:30 AM	Atlantic Bumper		12		12	6.2
	20-Jul-07	1	8:30 AM	Atlantic thread herring		1		1	0.7
	20-Jul-07	1	8:30 AM	Flounder sp.	1			1	2.6
	20-Jul-07	1	8:30 AM	Gulf Pipefish	1			1	2.2
	20-Jul-07	1	8:30 AM	Halfbeak		3		3	2.6
	20-Jul-07	1	8:30 AM	Lookdown		3		3	6.9
	20-Jul-07	1	8:30 AM	Pigfish		13		13	26.9
	20-Jul-07	1	8:30 AM	Polka-dot Batfish	20	9		29	2,863.6
	20-Jul-07	1	8:30 AM	Redfin Needlefish		1		1	1.8
	20-Jul-07	1	8:30 AM	Silver Perch		19		19	30.3
	20-Jul-07	1	8:30 AM	Silver Seatrout		1		1	170.8
	20-Jul-07	1	8:30 AM	Southern Puffer	2			2	6.4
	20-Jul-07	1	8:30 AM	Spotted Seatrout		3		3	36.9
	20-Jul-07	1	8:30 AM	White Grunt		1		1	2.2
				Interval 1 Total	24	66	0	90	3,160.1
	20-Jul-07	2	8:35 PM	Pigfish		2		2	3.6
	20-Jul-07	2	8:35 PM	Polka-dot Batfish	10	6		16	1,590.0
	20-Jul-07	2	8:35 PM	Southern Puffer	2			2	7.6
				Interval 2 Total	12	8	0	20	1,601.2
17				24-Hour Total	36	74	0	110	4,761.3

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	03-Aug-07	1	8:30 AM	Atlantic Bumper		40		40	22.2
	03-Aug-07	1	8:30 AM	Atlantic Stingray		2		2	135.8
	03-Aug-07	1	8:30 AM	Atlantic thread herring		4		4	30.6
	03-Aug-07	1	8:30 AM	Leatherjacket		2		2	3.6
	03-Aug-07	1	8:30 AM	Polka-dot Batfish	6	8	30	44	4,374.4
	03-Aug-07	1	8:30 AM	Silver Perch		4		4	12.0
				Interval 1 Total	6	60	30	96	4,578.6
	03-Aug-07	2	8:30 PM	Atlantic Bumper		13		13	5.7
	03-Aug-07	2	8:30 PM	Bigscale Pomfret		1		1	138.3
	03-Aug-07	2	8:30 PM	Bluntnose Jack		2		2	4.2
	03-Aug-07	2	8:30 PM	Hogchoker	1			1	32.3
	03-Aug-07	2	8:30 PM	Lookdown		2		2	3.0
	03-Aug-07	2	8:30 PM	Pigfish		1		1	2.2
	03-Aug-07	2	8:30 PM	Polka-dot Batfish	5	3		8	906.5
	03-Aug-07	2	8:30 PM	Scrawled Filefish		1		1	2.9
	03-Aug-07	2	8:30 PM	Southern Puffer	1			1	5.1
				Interval 2 Total	7	23	0	30	1,100.2
18				24-Hour Total	13	83	30	126	5,678.8
	17-Aug-07	1	8:30 AM	Atlantic Bumper		271		271	182.1
	17-Aug-07	1	8:30 AM	Atlantic Spadefish		2		2	170.6
	17-Aug-07	1	8:30 AM	Atlantic thread herring		1		1	0.5
	17-Aug-07	1	8:30 AM	Cobia		1		1	NA
	17-Aug-07	1	8:30 AM	Gulf Kingfish		1		1	2.9
	17-Aug-07	1	8:30 AM	Hogchoker		1		1	28.2
	17-Aug-07	1	8:30 AM	Leopard Toadfish	3			3	303.4
	17-Aug-07	1	8:30 AM	Lookdown		4		4	9.2
	17-Aug-07	1	8:30 AM	Pigfish		7		7	40.0
	17-Aug-07	1	8:30 AM	Pinfish		1		1	8.9
	17-Aug-07	1	8:30 AM	Planehead Filefish		1		1	24.8
	17-Aug-07	1	8:30 AM	Polka-dot Batfish	8	10		18	1,711.7
	17-Aug-07	1	8:30 AM	Silver Perch		51		51	132.8
	17-Aug-07	1	8:30 AM	Silver Seatrout		9		9	15.1
	17-Aug-07	1	8:30 AM	Spotted Seatrout		1		1	3.1
	17-Aug-07	1	8:30 AM	Striped Anchovy		1		1	3.0
	17-Aug-07	1	8:30 AM	White Grunt		1		1	2.8
				Interval 1 Total	11	363	0	374	2,639.1
	17-Aug-07	2	10:30 PM	Atlantic Bumper		12		12	7.0
	17-Aug-07	2	10:30 PM	Atlantic Spadefish		2		2	0.8
	17-Aug-07	2	10:30 PM	Atlantic Stingray		2		2	124.2
	17-Aug-07	2	10:30 PM	Lookdown		6		6	10.2
	17-Aug-07	2	10:30 PM	Pigfish		4		4	12.0
	17-Aug-07	2	10:30 PM	Polka-dot Batfish	16	8		24	2,795.4
	17-Aug-07	2	10:30 PM	Silver Perch		2		2	23.6
				Interval 2 Total	16	36	0	52	2,973.2
19				24-Hour Total	27	399	0	426	5,612.3

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	31-Aug-07	1	8:30 AM	Atlantic Bumper		1		1	1.3
	31-Aug-07	1	8:30 AM	Atlantic thread herring		1		1	61.4
	31-Aug-07	1	8:30 AM	Leatherjacket		1		1	1.6
	31-Aug-07	1	8:30 AM	Orange Filefish		1		1	1.4
	31-Aug-07	1	8:30 AM	Pigfish		1		1	8.4
	31-Aug-07	1	8:30 AM	Polka-dot Batfish	4	3		7	869.8
				Interval 1 Total	4	8	0	12	943.9
	31-Aug-07	2	8:45 PM	Atlantic Bumper		4		4	9.4
	31-Aug-07	2	8:45 PM	Feather Blenny	1			1	21.7
	31-Aug-07	2	8:45 PM	Leopard Toadfish	1			1	66.9
	31-Aug-07	2	8:45 PM	Lookdown		1		1	1.2
	31-Aug-07	2	8:45 PM	Pigfish		2		2	14.8
	31-Aug-07	2	8:45 PM	Polka-dot Batfish	8	4		12	1,420.3
				Interval 2 Total	10	11	0	21	1,534.3
20				24-Hour Total	14	19	0	33	2,478.2
	14-Sep-07	1	8:30 AM	Atlantic Bumper		1		1	2.8
	14-Sep-07	1	8:30 AM	Polka-dot Batfish	22	16	4	42	3,955.1
				Interval 1 Total	22	17	4	43	3,957.9
	14-Sep-07	2	8:30 PM	Pigfish		1		1	53.8
	14-Sep-07	2	8:30 PM	Polka-dot Batfish	14	3		17	1,694.2
				Interval 2 Total	14	4	0	18	1,748.0
21				24-Hour Total	36	21	4	61	5,705.9
	28-Sep-07	1	9:15 AM	Gafftopsail Catfish		1		1	108.9
	28-Sep-07	1	9:15 AM	Polka-dot Batfish	5	1	1	7	1,107.0
				Interval 1 Total	5	2	1	8	1,215.9
	28-Sep-07	2	9:00 PM	Oyster Toadfish	2			2	2.8
	28-Sep-07	2	9:00 PM	Polka-dot Batfish	10	6	2	18	1,760.4
				Interval 2 Total	12	6	2	20	1,763.2
22				24-Hour Total	17	8	3	28	2,979.1
	12-Oct-07	1	9:00 AM	Feather Blenny	2			2	35.2
	12-Oct-07	1	9:00 AM	Hardhead Catfish		2		2	82.2
	12-Oct-07	1	9:00 AM	Polka-dot Batfish	20	12	8	40	4,078.8
				Interval 1 Total	22	14	8	44	4,196.2
	12-Oct-07	2	9:00 PM	Feather Blenny	1			1	24.0
	12-Oct-07	2	9:00 PM	Inland Silverside		2		2	6.4
	12-Oct-07	2	9:00 PM	Leatherjacket		1		1	2.1
	12-Oct-07	2	9:00 PM	Lookdown		1		1	3.8
	12-Oct-07	2	9:00 PM	Polka-dot Batfish	12	5		17	2,201.2
	12-Oct-07	2	9:00 PM	Silver Seatrout			1	1	192.6
			9:00 PM	Interval 2 Total	13	9	1	23	2,430.1
23				24-Hour Total	35	23	9	67	6,626.3

Appendix 5 (cont'd)
Summary of Fish Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Fish Collected				
					Live	Recently Dead	Long Dead	Total #	Weight (g)
	26-Oct-07	1	8:33 AM	Feather Blenny	1			1	4.7
	26-Oct-07	1	8:33 AM	Gray Snapper		1		1	93.8
	26-Oct-07	1	8:33 AM	Leatherjacket		1		1	1.4
	26-Oct-07	1	8:33 AM	Polka-dot Batfish	5	6	1	12	1,253.7
	26-Oct-07	1	8:33 AM	Whitefin Sharksucker		1		1	1.8
				Interval 1 Total	6	9	1	16	1,355.4
	26-Oct-07	2	8:30 PM	Feather Blenny	2			2	7.3
	26-Oct-07	2	8:30 PM	Polka-dot Batfish	2			2	1.2
	26-Oct-07	2	8:30 PM	Planehead Filefish		1		1	99.9
				Interval 2 Total	4	1	0	5	108.4
24				24-Hour Total	10	10	1	21	1,463.8
	09-Nov-07	1 ²	8:50 AM	Atlantic Bumper		2		2	46.1
	09-Nov-07	1 ²	8:50 AM	Atlantic Needlefish		2		2	334.1
	09-Nov-07	1 ²	8:50 AM	Bay Anchovy		2		2	2.4
	09-Nov-07	1 ²	8:50 AM	Florida Blenny	2			2	8.3
	09-Nov-07	1 ²	8:50 AM	Leatherjacket		2		2	5.6
	09-Nov-07	1 ²	8:50 AM	Polka-dot Batfish	12	7		19	2,189.4
	09-Nov-07	1 ²	8:50 AM	Scrawled Cowfish	2			2	96.4
				Interval 1 Total	17	17	0	34	2,682.2
	09-Nov-07	2 ²	8:36 PM	Polka-dot Batfish	15	5		19	1,781.3
				Interval 1 Total	15	5	0	19	1,781.3
25				24-Hour Total	32	22	0	53	4,463.5
	30-Nov-07	1 ²	8:45 AM	Lane Snapper	0	1		1	3.3
	30-Nov-07	1 ²	8:45 AM	Polka-dot Batfish	4	1		5	478.6
	30-Nov-07	1 ²	8:45 AM	Striped Mojarra		1		1	11.6
				Interval 1 Total	4	3	0	7	493.6
	30-Nov-07	2 ²	8:36 PM	Florida Blenny	1	0		1	6.3
	30-Nov-07	2 ²	8:36 PM	Polka-dot Batfish	15	4		20	1,910.3
	30-Nov-07	2 ²	8:36 PM	Scrawled Cowfish	1	0		1	22.2
	30-Nov-07	2 ²	8:36 PM	Striped Burrfish	1	0		1	154.5
				Interval 2 Total	18	4	0	22	2,093.3
26				24-Hour Total	22	8	0	29	2,586.9
	Grand Total				3,095	54,609	55	57,759	913,829

² Impingement data for November 09 and 30, 2007- sampling intervals 1 and 2 was estimated using impingement data from Unit 2- intervals 1 and 2, (adjusted for cooling water volume).

Appendix 6
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Croaker		270		270	3,946.6
Atlantic Pomfret		57		57	28.4
Atlantic Spadefish		71		71	531.3
Atlantic Stingray	14			14	1,216.1
Bay Anchovy		455		455	1,000.1
Bighead Searobin		14		14	85.2
Black Sea Bass	14			14	336.7
Blackcheek Tonguefish	57			57	272.8
Feather Blenny	57			57	238.7
Hardhead Catfish	114	28		142	1,314.1
Inland Silverside		57		57	225.9
Lane Snapper		142		142	703.2
Leopard Searobin		14		14	54.0
Orange Filefish		71		71	27,376.0
Pinfish		156		156	1,223.2
Polka-dot Batfish	781	199		980	81,623.4
Scaled Sardine		554		554	5,043.3
Silver Perch		3,196		3,196	27,275.2
Spiny Searobin	57			57	323.9
Spotfin Mojarra		3,410		3,410	26,235.6
Spotted Seatrout		28		28	370.8
Striped Burrfish	128			128	14,058.8
Striped Mojarra		256		256	1,967.6
DECEMBER 2006	1,222	8,979	0	10,200	195,451.0
American Eel	29			29	1,123.8
Atlantic Croaker		158		158	938.9
Bay Anchovy		344		344	422.9
Bighead Searobin		43		43	162.0
Blackcheek Tonguefish	57	100		158	771.2
Florida Blenny		14		14	1,734.4
Gulf Toadfish	143	287		430	2,565.8
Inland Silverside		86		86	364.1
Inshore Lizardfish		143		143	4,801.9
Leopard Searobin	215	530		745	6,545.6
Pinfish		430		430	3,855.8
Planehead Filefish		14		14	14.3
Polka-dot Batfish	143	115		258	17,243.7
Scaled Sardine		86		86	240.8
Scrawled Cowfish		14		14	147.6
Scrawled Filefish		14		14	12.9
Silver Perch		2,164		2,164	13,402.9
Spotfin Mojarra		3,454		3,454	29,634.0
Striped Burrfish	14			14	2,345.0
Striped Mojarra		143		143	1,819.0
JANUARY 2007	602	8,142	0	8,744	88,146.5

Appendix 6 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Croaker		3		3	49.2
Atlantic Thread Herring		2,611		2,611	57,662.2
Bay Anchovy		2,706		2,706	2,724.6
Bigeye Searobin		47		47	338.6
Bighead Searobin		28		28	40.9
Feather Blenny	6	28		34	482.8
Gulf Pipefish		14		14	12.7
Gulf Toadfish		20		20	58.5
Halfbeak		54		54	130.2
Inland Silverside		83		83	554.1
Leatherjacket		55		55	81.0
Leopard Searobin		14		14	16.9
Pigfish		15		15	273.3
Pinfish		23		23	316.2
Polka-dot Batfish	116	4		120	9,862.8
Scaled Sardine		609		609	4,011.5
Scrawled Cowfish	1	2		3	38.2
Silver Perch		232		232	3,132.0
Spanish Grunt		13		13	34.9
Spanish Sardine		13		13	138.2
Spotfin Mojarra		61		61	67.0
Spotted Seatrout		3		3	84.0
Striped Anchovy		34		34	284.8
Striped Mojarra	37	6		43	654.8
FEBRUARY 2007	160	6,680	0	6,840	81,049.4
Atlantic Thread Herring		22		22	595.5
Bay Anchovy		17		17	17.2
Bigeye Searobin	9			9	13.0
Florida Blenny	34	17		52	127.1
Gafftopsail Catfish		17		17	487.7
Pigfish		77		77	861.2
Polka-dot Batfish	106		17	123	9,405.8
Silver Perch			17	17	103.0
Smooth Butterfly Ray	4			4	8,871.8
Southern Puffer	4			4	23.9
Striped Burrfish	13	17		31	7,361.2
Striped Mojarra		17	17	34	726.4
MARCH 2007	171	184	52	407	28,593.8

Appendix 6 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Croaker		39		39	127.5
Atlantic Needlefish		29		29	38.2
Atlantic Pomfret		157		157	133.4
Atlantic Spadefish		39		39	1,510.3
Atlantic Thread Herring		20		20	1,051.4
Bay Anchovy		402		402	656.1
Blackcheek Tonguefish		39		39	133.4
Feather Blenny	20			20	90.2
Gafftopsail Catfish	20	235		255	12,787.9
Great Barracuda		29		29	20.6
Gulf Toadfish	20			20	13.7
Hardhead Catfish		59		59	1,186.7
Hogchoker	20			20	66.7
Ladyfish		20		20	8,660.0
Lane Snapper		20		20	29.4
Leopard Toadfish	20			20	1,288.7
Lined Seahorse	39	29		69	367.8
Orange Filefish		39		39	153.0
Polka-dot Batfish	490	39		530	58,601.3
Scaled Sardine		20		20	23.5
Scrawled Cowfish		39		39	5,990.4
Silver Seatrout		10		10	186.3
Smooth Butterfly Ray		20		20	1,746.7
Southern Puffer	59			59	508.0
Spotted Seatrout		10		10	5,135.2
Striped Anchovy		235		235	1,155.3
Striped Burrfish	59	49		108	23,031.8
Striped Mullet		10		10	6,833.8
APRIL 2007	745	1,589	0	2,334	131,527.4

Appendix 6 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Croaker		95		95	614.8
Atlantic Pomfret		32		32	41.2
Atlantic Thread Herring		63		63	551.4
Bigeye Searobin		32		32	221.8
Bighead Searobin		32		32	367.6
Black Sea Bass		32		32	114.1
Blackcheek Tonguefish	95	95		190	608.5
Flounder sp.		158		158	1,727.1
Leopard Toadfish	63			63	142.6
Ocellated Flounder	32			32	120.4
Pigfish		919		919	8,584.9
Pinfish		95		95	545.1
Planehead Filefish		32		32	31.0
Polka-dot Batfish	1,046	317		1,363	179,731.1
Scrawled Cowfish	95	32		127	2,253.2
Silver Perch		254		254	284.2
Smooth Butterfly Ray		32		32	4,306.7
Southern Kingfish		32		32	34.9
Striped Anchovy		32		32	47.5
Striped Burrfish		32		32	11,494.1
Yellow Conger		32		32	1,264.4
MAY 2007	1,331	2,345	0	3,676	213,086.8
Atlantic Needlefish		213		213	136.6
Atlantic Thread Herring		30		30	30.4
Black Sea Bass		30		30	66.8
Gulf Pipefish	30	61		91	54.7
Halfbeak		121		121	51.6
Lined Seahorse		121		121	130.6
Lookdown		30		30	51.6
Orange Filefish		638		638	652.9
Pigfish		213		213	1,518.3
Pinfish		30		30	82.0
Planehead Filefish		243		243	637.7
Polka-dot Batfish	547	121		668	73,009.0
Silver Perch		486		486	516.2
Southern Puffer	61			61	160.9
Spotted Seatrout		30		30	75.9
Striped Anchovy		61		61	66.8
Striped Burrfish		30		30	2,827.1
Striped Mullet		30		30	127.5
JUNE 2007	638	2,490	0	3,128	80,196.7

Appendix 6 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Thread Herring		33		33	228.7
Bay Anchovy		33		33	29.8
Black Sea Bass		99		99	1,631.1
Chain Pipefish	66			66	72.9
Feather Blenny	66			66	1,442.1
Great Barracuda		33		33	3,803.3
Lookdown		99		99	252.0
Pigfish		199		199	1,886.3
Pinfish		99		99	1,070.8
Planehead Filefish		33		33	63.0
Polka-dot Batfish	829	199		1,028	96,134.1
Silver Perch		431		431	842.0
Southern Puffer	99			99	742.6
JULY 2007	1,061	1,260	0	2,321	108,198.7
Atlantic Bumper		523		523	687.4
Atlantic Thread Herring		16		16	70.3
Blueback Herring		21		21	590.9
Feather Blenny	21			21	362.1
Inland Silverside		62		62	110.3
Leatherjacket		83		83	102.0
Leopard Toadfish	21			21	1,077.9
Lookdown		62		62	137.3
Mojarra sp. (juvenile)		21		21	18.7
Pigfish		42		42	226.8
Pinfish		21		21	551.4
Polka-dot Batfish	107	21		128	12,424.7
Silver Perch		499		499	538.9
Silver Seatrout		83		83	95.7
Spotted Seatrout		21		21	35.4
AUGUST 2007	149	1,476	0	1,625	17,029.9
Inland Silverside		31		31	67.8
Mojarra sp. (juvenile)		31		31	27.7
Polka-dot Batfish	154	31	31	216	19,107.3
Silver Perch	0	31		31	382.0
SEPTEMBER 2007	154	123	31	308	19,584.8

Appendix 6 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Bumper		31		31	31.1
Feather Blenny	31			31	767.8
Hardhead Catfish		31		31	3,326.2
Harvestfish		31		31	254.9
Oyster Toadfish	31			31	472.5
Polka-dot Batfish	249	155		404	43,116.3
Striped Burrfish	31			31	15.5
OCTOBER 2007	342	249	0	591	47,984.4
Atlantic Bumper		36		36	5,410.3
Bay Anchovy		72		72	72.1
Gulf Flounder	36			36	2,427.4
Inland Silverside		36		36	146.1
Lane Snapper		36		36	21.6
Polka-dot Batfish	433	72		505	63,462.3
Striped Burrfish	36			36	19,826.8
NOVEMBER 2007	505	252	0	757	91,366.6
ANNUAL TOTAL	7,079	33,769	82	40,930	1,102,216.0

Appendix 7
Estimated Monthly Impingement of Fish: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		251		251	3,693.4
Bay Anchovy		126		126	917.1
Blackcheek Tonguefish		251		251	7,638.0
Bluefish		16		16	59.7
Hardhead Catfish	377			377	2,939.6
Lined Seahorse		31		31	81.7
Orange Filefish		393		393	117,942.9
Planehead filefish		251		251	301.5
Polka-dot Batfish	2,293	1,947		4,240	476,862.4
Scaled Sardine		1,005		1,005	146,378.1
Silver Perch		4,978		4,978	35,772.6
Silver Seatrout		251		251	3,592.9
Spiny Searobin		126		126	427.1
Spotfin Mojarra		5,056		5,056	48,102.6
Striped Burrfish	16	251		267	95,079.2
Striped Mojarra		754		754	7,813.9
DECEMBER 2006	2,685	15,687	0	18,373	947,602.5
American Eel	158			158	16,656.1
Atlantic Silverside		32		32	187.0
Atlantic Spadefish		317		317	2,250.4
Bay Anchovy		79		79	77.7
Feather Blenny		32		32	412.0
Florida Blenny		16		16	584.8
Flounder sp.		333		333	285.3
Gulf Toadfish		317		317	285.3
Inland Silverside		16		16	91.9
Lane Snapper		158		158	1,331.2
Pinfish		650		650	6,535.7
Polka-dot Batfish	1,030	475		1,506	112,829.0
Silver Perch		2,710		2,710	22,987.4
Spotfin Mojarra		1,838		1,838	11,263.1
Striped Anchovy		16		16	15.8
Striped Mojarra		63		63	370.8
JANUARY 2007	1,189	7,052	0	8,241	176,163.5

Appendix 7 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		14		14	224.0
Atlantic thread herring		5,510		5,510	122,540.1
Bay Anchovy		5,421		5,421	5,519.6
Bigeye Searobin		84		84	495.6
Bighead Searobin		59		59	85.3
Feather Blenny	28	57		85	1,136.1
Gulf Pipefish		29		29	26.5
Gulf Toadfish		28		28	81.2
Halfbeak		84		84	719.6
Inland Silverside		174		174	1,155.9
Leatherjacket		115		115	169.0
Leopard Searobin		29		29	35.3
Pigfish		98		98	1,638.0
Pinfish		42		42	585.2
Polka-dot Batfish	686	56		742	68,478.4
Scaled Sardine		1,115		1,115	7,742.6
Scrawled Cowfish	14	28		42	525.0
Silver Perch		787		787	11,166.0
Spanish Grunt		28		28	72.8
Spanish Sardine		28		28	288.4
Spotfin Mojarra		113		113	129.9
Spotted Seatrout		42		42	1,155.0
Striped Anchovy		56		56	476.0
Striped Mojarra	168	28		196	2,981.9
FEBRUARY 2007	896	14,027	0	14,923	227,427.6

Appendix 7 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Spadefish	0	143		143	2,444.2
Atlantic thread herring	0	1,440		1,440	44,590.0
Bay Anchovy	0	130		130	116.8
Bigeye Searobin	26	0		26	38.9
Bighead Searobin	143	259		402	2,279.4
Feather Blenny	26	0		26	402.2
Gray Snapper	0	39		39	202.4
Leopard Searobin	52	259		311	12,942.4
Pigfish	0	10,885		10,885	158,400.1
Pinfish	0	4,398		4,398	59,621.2
Polka-dot Batfish	2,180	376		2,556	198,772.5
Scaled Sardine	0	337		337	4,330.6
Scrawled Cowfish	65	0		65	289.3
Silver Perch	0	208		208	2,314.5
Silver Seatrout	0	65		65	3,111.0
Smooth Butterfly Ray	13	0		13	26,481.5
Southern Puffer	39	0		39	185.5
Spanish Mackerel	0	104		104	11,364.8
Spotfin Mojarra	0	104		104	1,172.8
Striped Anchovy	0	104		104	819.9
Striped Burrfish	26	0		26	5,918.5
Striped Mojarra	0	2,387		2,387	38,120.1
White Grunt	0	26		26	44.1
MARCH 2007	2,569	21,264	0	23,832	573,962.8
APRIL 2007	0	0	0	0	0.0
Atlantic Croaker		95		95	618.7
Atlantic thread herring		65		65	566.6
Black Sea Bass		33		33	117.2
Blackcheek Tonguefish	65	33		98	400.5
Flounder sp.		33		33	214.9
Leopard Toadfish	65			65	146.5
Ocellated Flounder	33			33	123.7
Pigfish		611		611	2,897.4
Pinfish		65		65	332.2
Polka-dot Batfish	923	299		1,221	167,377.0
Silver Perch		130		130	60.8
Smooth Butterfly Ray		33		33	4,425.5
Striped Anchovy		33		33	48.8
Striped Burrfish		30		30	10,827.8
MAY 2007	1,086	1,457	0	2,543	188,157.8

Appendix 7 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Needlefish	0	264		264	169.4
Atlantic thread herring	0	29		29	102.9
Feather Blenny	57	0		57	720.5
Gulf Pipefish	38	75		113	67.8
Halfbeak	0	151		151	64.0
Leopard Toadfish	0	29		29	634.7
Lined Seahorse	0	142		142	187.3
Lookdown	0	57		57	71.5
Orange Filefish	0	791		791	809.4
Pigfish	0	38		38	256.0
Planehead filefish	0	360		360	1,052.0
Polka-dot Batfish	2,792	858	86	3,736	402,131.5
Scrawled Cowfish	57	0		57	6,058.3
Silver Perch	0	434		434	406.3
Smooth Butterfly Ray	0	29		29	5,560.9
Southern Puffer	104	0		104	428.3
Striped Anchovy	0	75		75	82.8
Striped Mullet	0	38		38	158.1
JUNE 2007	3,048	3,367	86	6,500	418,961.6
Atlantic Bumper	0	61		61	63.5
Atlantic Croaker	0	30		30	133.1
Atlantic Needlefish	0	30		30	236.0
Atlantic thread herring	0	61		61	233.0
Great Barracuda	0	30		30	54.5
Gulf Toadfish	61	0		61	13,735.3
Lookdown	0	272		272	580.9
Planehead filefish	0	61		61	399.4
Polka-dot Batfish	1,543	545		2,088	220,619.0
Scrawled Filefish	0	30		30	42.4
Silver Perch	0	151		151	692.8
Southern Puffer	30	0		30	169.4
Spotted Seatrout	0	30		30	360.0
Striped Burrfish	0	30		30	3,182.7
JULY 2007	1,634	1,331	0	2,965	240,501.8

Appendix 7 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Bumper	0	135		135	1,411.0
Atlantic Stingray	0	38		38	1,530.9
Atlantic thread herring	0	19		19	82.7
Lookdown	0	96		96	288.5
Pigfish	0	19		19	69.2
Polka-dot Batfish	596	192		789	71,553.8
Sergeant Major	0	19		19	67.3
Silver Perch	0	212		212	1,078.9
AUGUST 2007	596	731	0	1,327	76,082.4
Atlantic Bumper	0	60		60	171.1
Atlantic Stingray	0	30		30	2,827.9
Bay Anchovy	0	30		30	21.0
Hardhead Catfish	0	30		30	3,371.3
Hogchoker	30	0		30	879.6
Polka-dot Batfish	570	150	210	931	90,671.2
SEPTEMBER 2007	600	300	210	1,111	97,942.2
Atlantic Bumper	0	164		164	1,418.4
Feather Blenny	98	0		98	1,162.9
Lined Seahorse	33	0		33	26.2
Pinfish	0	33		33	2,289.8
Polka-dot Batfish	786	328	229	1,343	124,078.2
Scrawled Cowfish	0	33		33	940.2
Spottail Pinfish	0	33		33	1,307.1
OCTOBER 2007	917	590	229	1,736	131,222.7
Atlantic Bumper	0	29		29	56.0
Atlantic Needlefish	0	29		29	4,058.4
Bay Anchovy	0	29		29	29.5
Florida Blenny	59	0		59	392.3
Lane Snapper	0	59		59	153.4
Leatherjacket	0	29		29	67.8
Polka-dot Batfish	1,209	413		1,622	158,313.3
Scrawled Cowfish	59	0		59	2,194.4
Striped Burrfish	59	0		59	7,116.9
Striped Mojarra	0	29		29	536.8
NOVEMBER 2007	1,386	619	0	2,006	172,918.8
ANNUAL TOTAL	16,606	66,425	525	83,556	3,250,944

Appendix 8
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		1,085		1,085	13,594.5
Atlantic Pomfret	93	372		465	378.2
Atlantic Silverside		93		93	319.3
Atlantic Spadefish		450		450	6,151.2
Bay Anchovy		3,488		3,488	4,483.2
Black Sea Bass		31		31	1,484.9
Blackcheek Tonguefish		171		171	3,341.8
Feather Blenny	31			31	103.9
Gulf Kingfish		279		279	1,602.7
Hardhead Catfish	574			574	4,721.9
Inland Silverside	31	31		62	275.9
Inshore Lizardfish		248		248	6,968.8
Lane Snapper		543		543	2,573.0
Leatherjacket		31		31	49.6
Leopard Searobin	16	78		93	582.8
Leopard Toadfish	31			31	170.5
Longfin Blenny	31			31	18.6
Lookdown	93	248		341	6,373.6
Orange Filefish		403		403	149,342.5
Oyster Toadfish		31		31	58.9
Pinfish		2,356		2,356	24,095.1
Polka-dot Batfish	5,565	496		6,061	541,042.2
Scaled Sardine	248	1,643		1,891	21,680.6
Scrawled Cowfish	124	31		155	13,658.6
Silver Perch		49,089		49,089	478,912.5
Spanish Sardine		434		434	1,612.0
Spiny Searobin		341		341	2,421.1
Spiny Searobin	31			31	37.2
Spotfin Mojarra		3,627		3,627	34,604.4
Spotted Seatrout		496		496	4,596.3
Striped Burrfish	140	357		496	112,123.9
Striped Mojarra		5,131		5,131	46,143.0
DECEMBER 2006	7,006	71,579	0	78,585	1,483,522.6

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
American Eel	31	124		155	13,965.5
Atlantic Croaker		248		248	1,770.1
Atlantic Spadefish		155		155	38,564.0
Atlantic thread herring		2,170		2,170	27,772.9
Bay Anchovy		35,945		35,945	34,945.1
Bighead Searobin	419	295		713	3,199.2
Black Sea Bass		16		16	48.1
Feather Blenny	31	124		155	1,286.5
Florida Blenny		62		62	660.3
Flounder sp.	47	109		155	1,488.0
Fringed Sole		16		16	420.1
Great Barracuda		155		155	279.0
Gulf Pipefish	16	140		155	248.0
Gulf Toadfish	78	233		310	1,364.0
Hardhead Catfish		31		31	251.1
Inland Silverside		217		217	1,754.6
Irish Pompano		775		775	7,548.5
Lane Snapper		465		465	5,549.0
Leopard Searobin	496	1,612		2,108	19,976.4
Leopard Toadfish	47	140		186	523.9
Lined Seahorse		16		16	58.9
Longfin Blenny		47		47	220.1
Orange Filefish	16	450		465	41,059.5
Pigfish		465		465	5,161.5
Pinfish		1,395		1,395	14,415.0
Planehead Filefish		62		62	96.1
Polka-dot Batfish	2,232	574		2,806	274,250.8
Scaled Sardine		1,054		1,054	6,916.1
Scrawled Cowfish	62	140		202	34,163.6
Silver Perch		7,409		7,409	58,106.4
Southern Kingfish		155		155	930.0
Southern Puffer	78	233		310	2,759.0
Speckled Stargazer		248		248	421.6
Spiny Searobin		62		62	51.2
Spotfin Mojarra		7,642		7,642	72,056.4
Spotted Seatrout		465		465	6,820.0
Striped Anchovy		837		837	2,794.7
Striped Burrfish		62		62	19,449.4
Striped Mojarra		109		109	1,963.9
Vermilion Snapper		155		155	1,379.5
Yellow Conger	31			31	892.8
JANUARY 2007	3,581	64,604	0	68,185	705,580.5

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		27		27	1,576.5
Atlantic Needlefish		81		81	56.6
Atlantic Silverside		1,913		1,913	9,146.5
Atlantic Spadefish		54		54	1,199.2
Atlantic Stingray		337		337	77,680.5
Atlantic thread herring		158,959		158,959	2,282,940.1
Bay Anchovy		85,348		85,348	74,189.9
Bigeye Searobin		3,032		3,032	2,459.1
Bighead Searobin	404	755		1,159	9,248.9
Blueback Herring		63,478		63,478	376,503.1
Feather Blenny	81	620		701	7,710.1
Flounder sp.	13	94		108	485.1
Gray Snapper		162		162	266.8
Gulf Flounder		27		27	21.6
Gulf Pipefish		162		162	121.3
Gulf Toadfish		916		916	3,321.5
Halfbeak		1,428		1,428	11,322.6
Inland Silverside		5,066		5,066	15,255.8
Inshore Lizardfish		337		337	10,206.9
Lane Snapper		27		27	1,433.7
Leatherjacket		2,681		2,681	8,091.2
Leopard Searobin	81	2,425		2,506	6,842.4
Lined Seahorse	13	404		418	365.2
Ocellated Flounder		337		337	235.8
Pinfish		1,105		1,105	15,994.2
Polka-dot Batfish	3,059	1,024		4,083	360,348.7
Scaled Sardine		100,641		100,641	848,910.9
Scrawled Cowfish	27	835		862	149,195.1
Silver Perch		5,080		5,080	73,339.0
Southern Puffer	81	404		485	3,799.8
Spanish Grunt		337		337	673.7
Spanish Sardine		445		445	8,346.1
Speckled Stargazer		337		337	1,010.6
Spotfin Mojarra		2,884		2,884	9,352.7
Spotted Seatrout		108		108	2,231.4
Striped Anchovy		3,382		3,382	62,033.9
Striped Burrfish		337		337	54,571.8
Striped Mojarra		2,425		2,425	35,882.6
FEBRUARY 2007	3,759	448,014	0	451,773	4,526,371.0

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		235		235	1,482.4
Atlantic Midshipman		359		359	23,970.6
Atlantic Needlefish		25		25	205.4
Atlantic Pomfret		309		309	3,217.2
Atlantic Spadefish		656		656	14,934.0
Atlantic thread herring	309	32,444	12	32,766	1,003,458.0
Bay Anchovy		2,834		2,834	3,583.7
Bigeye Searobin	25	173		198	207.9
Bighead Searobin	1,064	4,974		6,038	31,002.7
Blackcheek Tonguefish	124	111		235	3,524.5
Feather Blenny	408	433		841	6,795.7
Florida Blenny	25	0		25	76.7
Flounder sp.	161	470		631	9,958.5
Gafftopsail Catfish	99	854	12	965	36,625.4
Goldspotted Killifish		49		49	1,446.9
Gray Snapper		99		99	544.4
Gulf Pipefish		124		124	222.7
Hardhead Catfish	12	161		173	1,571.5
Hogchoker	74	87		161	1,783.1
Lane Snapper		99		99	742.4
Leopard Searobin	260	408		668	19,919.4
Leopard Toadfish	124	804		928	5,382.6
Lined Seahorse		322		322	4,627.8
Lined Sole	49	49		99	183.1
Pigfish		50,498		50,498	753,074.8
Pinfish		21,964		21,964	298,767.3
Planehead Filefish		161		161	283.4
Polka-dot Batfish	9,590	1,596		11,186	901,635.8
Scaled Sardine		359		359	4,839.9
Scrawled Cowfish	458	792		1,250	20,022.1
Scrawled Filefish		309		309	928.0
Shrimp Eel		49		49	569.2
Silver Perch		2,339	12	2,351	25,209.3
Silver Seatrout		1,547		1,547	63,010.1
Smooth Butterfly Ray	25	0		25	2,796.5
Southern Kingfish		173		173	2,096.1
Southern Puffer	210	186		396	3,832.2
Speckled Worm Eel		49		49	1,267.1
Spotfin Mojarra		2,611		2,611	25,295.9
Spotted Seatrout		25		25	722.6
Striped Anchovy		1,275		1,275	7,291.9
Striped Burrfish	124	74		198	21,691.4
Striped Mojarra		8,154		8,154	121,384.3
Yellow Conger	247	62		309	8,414.2
MARCH 2007	13,389	138,303	37	151,728	3,438,598.9

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		120		120	390.0
Atlantic Needlefish		90		90	117.0
Atlantic Pomfret		480		480	408.0
Atlantic Spadefish		120		120	4,620.0
Atlantic thread herring		60		60	3,216.0
Bay Anchovy		1,230		1,230	2,007.0
Blackcheek Tonguefish		120		120	408.0
Feather Blenny	60			60	276.0
Gafftopsail Catfish	60	720		780	39,117.0
Great Barracuda		90		90	63.0
Gulf Toadfish	60			60	42.0
Hardhead Catfish		180		180	3,630.0
Hogchoker	60			60	204.0
Ladyfish		60		60	26,490.0
Lane Snapper		60		60	90.0
Leopard Toadfish	60			60	3,942.0
Lined Seahorse	120	90		210	1,125.0
Orange Filefish		120		120	468.0
Polka-dot Batfish	1,500	120		1,620	179,256.0
Scaled Sardine		60		60	72.0
Scrawled Cowfish		120		120	18,324.0
Silver Seatrout		30		30	570.0
Smooth Butterfly Ray		60		60	5,343.0
Southern Puffer	180			180	1,554.0
Spotted Seatrout		30		30	15,708.0
Striped Anchovy		720		720	3,534.0
Striped Burrfish	180	150		330	70,452.0
Striped Mullet		30		30	20,904.0
APRIL 2007	2,280	4,860	0	7,140	402,330.0

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Croaker		62		62	217.0
Atlantic Midshipman	124			124	6,317.8
Atlantic thread herring		31		31	195.3
Bay Anchovy		62		62	437.1
Bigeye Searobin		62		62	186.0
Bighead Searobin		434		434	2,039.8
Bigscale Pomfret		31		31	6,178.3
Black Sea Bass		31		31	55.8
Blackcheek Tonguefish	155	496		651	14,700.2
Bluntnose Stingray		31		31	3,834.7
Florida Pompano			31	31	NA
Flounder sp.	124	558		682	10,314.7
Great Barracuda		124		124	2,783.8
Gulf Flounder		62		62	195.3
Harvestfish		31		31	6,708.4
Highfin Goby		62		62	322.4
Hogchoker	124	62		186	5,245.2
Inshore Lizardfish		1,116		1,116	43,175.8
Lane Snapper		62		62	198.4
Leopard Searobin		186		186	2,203.4
Leopard Toadfish	93	31		124	551.8
Lined Seahorse	62			62	688.2
Ocellated Flounder		31		31	1,116.0
Pigfish		1,240		1,240	6,475.9
Pinfish		186		186	1,533.3
Planehead Filefish		186		186	1,044.7
Polka-dot Batfish	9,021	1,395		10,416	1,246,760.6
Sand Perch		62		62	4,671.0
Scrawled Cowfish	310	62		372	9,358.9
Silver Perch		217		217	434.0
Silver Seatrout		31		31	6,429.4
Smooth Butterfly Ray	124	124		248	27,878.3
Southern Puffer	279	31		310	7,613.6
Spanish Mackerel		62		62	39,704.8
Striped Anchovy		310		310	455.7
Striped Burrfish		31		31	2,439.7
Striped Mojarra		124		124	781.2
Yellow Conger	248	465		713	23,222.1
MAY 2007	10,664	8,091	31	18,786	1,486,468.5

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Needlefish		480		480	327.0
Balao		90		90	69.0
Bay Anchovy		30		30	39.0
Black Sea Bass		30		30	111.0
Blackcheek Tonguefish		60		60	294.0
Feather Blenny	30			30	240.0
Gulf Pipefish	30			30	24.0
Halfbeak		90		90	51.0
Lined Seahorse		60		60	24.0
Lookdown		90		90	201.0
Orange Filefish		1,050		1,050	1,154.3
Pigfish		630		630	1,149.0
Pinfish		420		420	426.0
Planehead Filefish		540		540	642.0
Polka-dot Batfish	8,820	1,320		10,140	1,258,088.6
Redfin Needlefish		30		30	303.0
Scrawled Cowfish	60			60	3,729.0
Sheepshead		30		30	951.0
Silver Perch		2,760		2,760	5,116.0
Silver Seatrout		30		30	177.0
Southern Puffer	90			90	432.0
Spotted Seatrout		30		30	18.0
Striped Burrfish		120		120	84.0
JUNE 2007	9,030	7,890	0	16,920	1,273,649.9
Atlantic Bumper		372		372	192.2
Atlantic thread herring		31		31	21.7
Black Sea Bass		31		31	151.9
Flounder sp.	31			31	80.6
Gulf Pipefish	31			31	68.2
Gulf Toadfish	31			31	9.3
Halfbeak		93		93	80.6
Lined Seahorse	31	31		62	762.6
Lookdown		217		217	527.0
Pigfish		496		496	1,054.0
Polka-dot Batfish	3,534	1,209	124	4,867	516,391.8
Redfin Needlefish		31		31	55.8
Silver Perch		806		806	1,354.7
Silver Seatrout		62		62	14,712.6
Southern Puffer	217	93		310	1,401.2
Spanish Sardine		31		31	21.7
Spotted Seatrout		93		93	1,143.9
Striped Burrfish		31		31	427.8
White Grunt		31		31	68.2
JULY 2007	3,875	3,658	124	7,657	538,525.8

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Bumper		7,047		7,047	4,706.9
Atlantic Spadefish		83		83	3,542.3
Atlantic Stingray		83		83	5,373.3
Atlantic thread herring		124		124	1,911.7
Bigscale Pomfret		21		21	2,858.2
Bluntnose Jack		41		41	86.8
Cobia		21		21	0.0
Feather Blenny	21			21	448.5
Gulf Kingfish		21		21	59.9
Hogchoker	21	21		41	1,250.3
Leatherjacket		62		62	107.5
Leopard Toadfish	83			83	7,652.9
Lookdown		269		269	487.7
Orange Filefish		21		21	28.9
Pigfish		310		310	1,599.6
Pinfish		21		21	183.9
Planehead Filefish		21		21	512.5
Polka-dot Batfish	971	744	620	2,335	249,614.1
Scrawled Filefish		21		21	59.9
Silver Perch		1,178		1,178	3,480.3
Silver Seatrout		186		186	312.1
Southern Puffer	21			21	105.4
Spotted Seatrout		21		21	64.1
Striped Anchovy		21		21	62.0
White Grunt		21		21	57.9
AUGUST 2007	1,116	10,354	620	12,090	284,566.7
Atlantic Bumper		30		30	84.0
Gafftopsail Catfish		30		30	3,267.0
Oyster Toadfish	60			60	84.0
Pigfish		30		30	1,614.0
Polka-dot Batfish	1,530	780	210	2,520	255,499.7
SEPTEMBER 2007	1,590	870	210	2,670	260,548.7
Feather Blenny	186	0		186	2,207.2
Gray Snapper	0	31		31	2,907.8
Hardhead Catfish	0	62		62	2,548.2
Inland Silverside	0	62		62	198.4
Leatherjacket	0	62		62	108.5
Lookdown	0	31		31	117.8
Planehead Filefish	0	31		31	3,096.9
Polka-dot Batfish	1,209	713	279	2,201	233,581.9
Silver Seatrout	0	0	31	31	5,970.6
Whitefin Sharksucker	0	31		31	55.8
OCTOBER 2007	1,395	1,023	310	2,728	250,793.1

Appendix 8 (cont'd)
Estimated Monthly Impingement of Fish: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total	Weight (g)
Atlantic Bumper	0	84		84	1,604.7
Atlantic Needlefish	0	84		84	11,621.5
Bay Anchovy	0	84		84	84.5
Florida Blenny	107	0		107	507.6
Lane Snapper	0	45		45	115.8
Leatherjacket	0	84		84	194.3
Polka-dot Batfish	1,597	623		2,220	221,237.7
Scrawled Cowfish	107	0		107	4,125.7
Striped Burrfish	45	0		45	5,373.2
Striped Mojarra	0	22		22	405.3
NOVEMBER 2007	1,855	1,027	0	2,882	245,270.2
ANNUAL TOTAL	59,539	760,273	1,332	821,144	14,896,225.9

Appendix 9
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Atlantic Bumper - <i>Chloroscombrus chrysurus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19									2				
20 - 29								10	50				
30 - 39								3	31		1	1	
40 - 49								1	3		1		
50 - 59									3	3	1		
60 - 69									3				
70 - 79											2		
80 - 89											1	1	
90 - 99									1			1	
100 - 109									1				
110 - 119													
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	0	0	0	0	0	0	0	14	94	3	6	3	0
Maximum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40	105	54	85	95	N/A
Minimum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21	15	52	32	37	N/A
Average	N/A	N/A	N/A	N/A	N/A	N/A	N/A	28	32	53	61	71	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Atlantic Croaker - <i>Micropogonias undulatus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29				1									
30 - 39				3	2								
40 - 49				3	1								
50 - 59				6		4		1					
60 - 69		1											
70 - 79	1	2			1	1							
80 - 89	13	3											
90 - 99	5			1									
100 - 109	2		1										
110 - 119													
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169			1										
170 - 179													
180 - 189													
190 - 199													
Sample Size	21	6	2	14	4	5	0	1	0	0	0	0	0
Maximum	102	87	165	91	70	71	N/A	55	N/A	N/A	N/A	N/A	N/A
Minimum	70	68	100	26	30	55	N/A	55	N/A	N/A	N/A	N/A	N/A
Average	86	79	133	48	45	58	N/A	55	N/A	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Atlantic Thread Herring - <i>Opisthonema oglinum</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19				1									
20 - 29				1									
30 - 39				1				2	2				
40 - 49							1						
50 - 59		3	2				1		1				
60 - 69		4	8					1					
70 - 79		2	3	1				1					
80 - 89			9	4		4							
90 - 99		1	35	11					1				
100 - 109		1	27	18									
110 - 119		2	54	47									
120 - 129		3	42	59									
130 - 139		2	20	42	1				1				
140 - 149			6	18									
150 - 159			1	3									
160 - 169													
170 - 179													
180 - 189													
190 - 199			1										
Sample Size	0	18	208	206	1	4	2	4	5	0	0	0	0
Maximum	N/A	138	190	157	139	85	56	70	134	N/A	N/A	N/A	N/A
Minimum	N/A	54	51	17	139	82	47	31	32	N/A	N/A	N/A	N/A
Average	N/A	92	111	121	139	84	52	50	69	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Bay Anchovy - <i>Anchoa mitchilli</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9			23										
10 - 19													
20 - 29												1	
30 - 39	6	29	10	3				1		1			
40 - 49	34	83	87	30	5							1	
50 - 59	41	38	65	20	17	1	1					1	
60 - 69	3	4	2	1									
70 - 79	3												
80 - 89	4												
90 - 99													
100 - 109		1											
110 - 119				1									
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	91	155	187	55	22	1	1	1	0	1	0	3	0
Maximum	89	100	61	110	59	59	55	38	N/A	38	N/A	50	N/A
Minimum	30	30	1	37	40	59	55	38	N/A	38	N/A	28	N/A
Average	51	46	42	49	52	59	55	38	N/A	38	N/A	41	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Bighead Searobin - <i>Prionotus tribulus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19			1										
20 - 29		3	5										
30 - 39		1	12	11									
40 - 49			2	8									
50 - 59		3	1	13		1							
60 - 69	1	1	7	8									
70 - 79		1		4		5							
80 - 89		1	1			2							
90 - 99			1	2		1							
100 - 109													
110 - 119													
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	1	10	30	46	0	9	0	0	0	0	0	0	0
Maximum	64	80	95	98	N/A	96	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minimum	64	21	18	31	N/A	59	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average	64	48	44	53	N/A	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Blueback Herring - <i>Alosa aestivalis</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29													
30 - 39													
40 - 49													
50 - 59			6										
60 - 69			15										
70 - 79			13										
80 - 89			8										
90 - 99			2										
100 - 109									1				
110 - 119			3										
120 - 129			2										
130 - 139			1										
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	0	0	50	0	0	0	0	0	1	0	0	0	0
Maximum	N/A	N/A	135	N/A	N/A	N/A	N/A	N/A	109	N/A	N/A	N/A	N/A
Minimum	N/A	N/A	53	N/A	N/A	N/A	N/A	N/A	109	N/A	N/A	N/A	N/A
Average	N/A	N/A	77	N/A	N/A	N/A	N/A	N/A	109	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Leopard Searobin - <i>Prionotus scitulus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19				1									
20 - 29			1										
30 - 39	1		10			1							
40 - 49		3	4			2							
50 - 59	2	1	2										
60 - 69	1	9	5			1							
70 - 79		5	2	1		1							
80 - 89			1										
90 - 99		2	1										
100 - 109		1											
110 - 119		1	1										
120 - 129				2									
130 - 139				3									
140 - 149													
150 - 159													
160 - 169				2									
170 - 179													
180 - 189													
190 - 199													
Sample Size	4	22	27	9	0	5	0	0	0	0	0	0	0
Maximum	60	113	116	161	N/A	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minimum	36	44	24	17	N/A	38	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average	51	70	52	119	N/A	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Orange Filefish - <i>Aluterus schoepfii</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 14													
15 - 29		1											
30 - 44	1	1					6		1				
45 - 59	1				2		43						
60 - 74							1						
75 - 89													
90 - 104													
105 - 119													
120 - 134													
135 - 149	1												
150 - 164													
165 - 179													
180 - 194													
195 - 209	1												
210 - 224	1												
225 - 239	1												
240 - 254													
255 - 269	1												
270 - 284	1	1											
285 - 299	2												
300 - 314													
315 - 329	1												
330 - 344													
Sample Size	11	3	0	0	2	0	50	0	1	0	0	0	0
Maximum	320	279	N/A	N/A	59	N/A	60	N/A	39	N/A	N/A	N/A	N/A
Minimum	40	16	N/A	N/A	48	N/A	40	N/A	39	N/A	N/A	N/A	N/A
Average	212	110	N/A	N/A	54	N/A	49	N/A	39	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Pigfish - <i>Orthopristis chrysoptera</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29						2							
30 - 39						15	9	14					
40 - 49						28	9	2	5				
50 - 59						8	2	1	7				
60 - 69				10		5	4		3				
70 - 79		2		77		1	2	2					
80 - 89		1	2	97				1					
90 - 99				64				1	1				
100 - 109			1	15									
110 - 119				5									
120 - 129										1			
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	0	3	3	268	0	59	26	21	16	1	0	0	0
Maximum	N/A	86	107	115	N/A	75	76	90	92	121	N/A	N/A	N/A
Minimum	N/A	72	80	60	N/A	29	31	30	40	121	N/A	N/A	N/A
Average	N/A	78	90	85	N/A	45	48	45	54	121	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Pinfish - <i>Lagodon rhomboides</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29							3						
30 - 39	2						7						
40 - 49						2	5	1					
50 - 59						1					1		
60 - 69	17	5		16		1			1				
70 - 79	30	9	7	69				2					
80 - 89	3	2	8	63		1							
90 - 99	1		4	21		1			1				
100 - 109			1	2		1							
110 - 119											1		
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	53	16	20	171	0	7	15	3	2	0	2	0	0
Maximum	90	84	105	101	N/A	105	47	73	92	N/A	118	N/A	N/A
Minimum	36	65	71	64	N/A	42	28	46	68	N/A	57	N/A	N/A
Average	69	72	83	80	N/A	70	36	64	80	N/A	88	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Polka-dot Batfish - <i>Ogcocephalus cubifrons</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 14	1												
15 - 29	2		1					1					
30 - 44			2	4				1					
45 - 59		2	4	5	1	2							
60 - 74	2		1	2		2		1					
75 - 89	3	1	1	8	1								
90 - 104	16	2	14	17	3	2		1				1	
105 - 119	32	7	11	21	2	2	5	6	3	5	6	9	
120 - 134	65	13	17	20	8	9	16	29	13	22	18	17	
135 - 149	50	5	21	26	5	16	43	53	44	33	39	21	
150 - 164	53	7	21	24	6	38	57	48	24	19	30	11	
165 - 179	15	4	6	10	5	33	30	23	20	13	11	3	
180 - 194	6		1	3	1	6	9	2	4			1	
195 - 209	3							1	1		1		
210 - 224		1											
225 - 239													
240 - 254										1			
255 - 269													
270 - 284													
285 - 299													
Sample Size	248	42	100	140	32	110	160	166	109	93	105	63	0
Maximum	207	224	190	187	191	189	186	198	206	247	195	188	N/A
Minimum	13	45	24	33	59	53	112	18	106	106	114	104	N/A
Average	135	131	126	125	137	152	153	146	150	145	145	138	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Scaled Sardine - <i>Harengula jaguana</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9			1										
10 - 19													
20 - 29													
30 - 39													
40 - 49	1				1								
50 - 59	1	5	7										
60 - 69	8	4	33	2									
70 - 79	21	4	42										
80 - 89	12	2	15	1									
90 - 99	5	1	7										
100 - 109	5		2	2									
110 - 119	3		6										
120 - 129	3		4	1									
130 - 139													
140 - 149	1												
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	60	16	117	6	1	0	0	0	0	0	0	0	0
Maximum	144	95	127	128	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minimum	46	54	6	60	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average	84	68	76	90	40	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Silver Perch - <i>Bairdiella chrysoura</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29			1	2			3	4	1				
30 - 39			1	1		6	44	22	8				
40 - 49			1	1		3	23	14	15				
50 - 59	5	4		1		3		3	12				
60 - 69	65	46	1	10					2				
70 - 79	74	84	9	7				1	1				
80 - 89	48	31	11	4			1						
90 - 99	13	6	16	3						1			
100 - 109	8	1	6	2									
110 - 119	2		2	1			1						
120 - 129			1										
130 - 139													
140 - 149	1												
150 - 159			2										
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	216	172	51	32	0	12	72	44	39	1	0	0	0
Maximum	143	100	159	111	N/A	55	110	N/A	N/A	90	N/A	N/A	N/A
Minimum	58	50	29	27	N/A	30	26	N/A	N/A	90	N/A	N/A	N/A
Average	76	74	89	72	N/A	41	39	N/A	N/A	90	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Southern Puffer - <i>Sphoeroides nephelus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29		2					1						
30 - 39						1	1	3					
40 - 49			6	1			2	8					
50 - 59			1	8	1		2		1				
60 - 69			1	1	2								
70 - 79			1	1		1		1					
80 - 89						2		1					
90 - 99						3							
100 - 109						1							
110 - 119													
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	0	2	9	11	3	8	6	13	1	0	0	0	0
Maximum	N/A	29	75	73	69	103	57	80	50	N/A	N/A	N/A	N/A
Minimum	N/A	27	42	43	53	32	28	35	50	N/A	N/A	N/A	N/A
Average	N/A	28	51	55	64	82	43	48	50	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Spotfin Mojarra - <i>Eucinostomus argenteus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9	1												
10 - 19													
20 - 29	1												
30 - 39	8	1	4										
40 - 49	7	3	6										
50 - 59	12	7		2									
60 - 69	40	32	3	4									
70 - 79	36	34	1	4									
80 - 89	16	22		2									
90 - 99	2	4											
100 - 109	1												
110 - 119		1											
120 - 129	1	1											
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	125	105	14	12	0	0	0	0	0	0	0	0	0
Maximum	123	121	72	82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Minimum	1	35	32	53	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average	66	73	47	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Striped Anchovy - <i>Anchoa hepsetus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29					1								
30 - 39		4		1									
40 - 49		8		7	1	4	2						
50 - 59		3	1	3	6	7							
60 - 69		1	1		1				1				
70 - 79		1	1	1									
80 - 89		7	6	2	1								
90 - 99		7	11	8									
100 - 109		1	6	3	2								
110 - 119			1										
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	0	32	27	25	12	11	2	0	1	0	0	0	0
Maximum	N/A	106	115	105	108	55	48	N/A	64	N/A	N/A	N/A	N/A
Minimum	N/A	34	50	37	22	42	46	N/A	64	N/A	N/A	N/A	N/A
Average	N/A	67	92	73	64	50	47	N/A	64	N/A	N/A	N/A	N/A

Appendix 9 (cont'd)
Length Distribution of Fish Impinged at Crystal River
(December 2006 – November 2007)

Striped Mojarra - <i>Eugerres plumieri</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29													
30 - 39	1								1	1			
40 - 49	2		1	1		1							
50 - 59	6			2		1							
60 - 69	16	4	3	16									
70 - 79	17	4	20	21		2							
80 - 89	8	7	17	35								1	
90 - 99			11	17									
100 - 109			4	3									
110 - 119		1											
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	50	16	56	95	0	4	0	0	1	1	0	1	0
Maximum	87	112	109	102	N/A	73	N/A	N/A	35	33	N/A	82	N/A
Minimum	38	60	46	43	N/A	48	N/A	N/A	35	33	N/A	82	N/A
Average	67	78	82	80	N/A	63	N/A	N/A	35	33	N/A	82	N/A

Appendix 10
Diel Distribution of Fish Impinged at Crystal River Unit 1
(December 2006- November 2007)

Event No.	Date	Unit 1 Density (No. Fish per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.602	0.511
2	22-Dec-06	0.050	0.065
3	05-Jan-07	0.621	0.106
4	19-Jan-07	0.151	0.240
5	02-Feb-07	0.519	0.939
6	16-Feb-07	0.075	0.196
7	2-Mar-07	Crystal River Unit 1 was not operating	
8	16-Mar-07	0.029	0.020
9	30-Mar-07	0.028	0.024
10	13-Apr-07	0.025	0.206
11	27-Apr-07	0.016	0.025
12	11-May-07	0.006	0.102
13	25-May-07	0.150	0.127
14	08-Jun-07	0.022	0.182
15	22-Jun-07	0.035	0.102
16	06-Jul-07	0.115	0.064
17	20-Jul-07	0.020	0.034
18	03-Aug-07	0.021	0.035
19	17-Aug-07	0.030	0.128
20	31-Aug-07	0.006	0.021
21	14-Sep-07	0.009	0.011
22	28-Sep-07	0.003	0.009
23	12-Oct-07	0.009	0.003
24	26-Oct-07	0.046	0.000
25	09-Nov-07	0.019	0.013
26	30-Nov-07	0.044	0.007

Appendix 11
Diel Distribution of Fish Impinged at Crystal River Unit 2
(December 2006- November 2007)

Event No.	Date	Unit 2 Density (No. Fish per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.816	0.888
2	22-Dec-06	0.039	0.056
3	05-Jan-07	0.759	0.106
4	19-Jan-07	0.011	0.042
5	02-Feb-07	0.573	0.939
6	16-Feb-07	0.054	0.176
7	2-Mar-07	0.485	2.467
8	16-Mar-07	0.029	0.020
9	30-Mar-07	Crystal River Unit 2 was not operating	
10	13-Apr-07	Crystal River Unit 2 was not operating	
11	27-Apr-07	Crystal River Unit 2 was not operating	
12	11-May-07	Crystal River Unit 2 was not operating	
13	25-May-07	0.150	0.127
14	08-Jun-07	0.022	0.182
15	22-Jun-07	0.070	0.274
16	06-Jul-07	0.111	0.079
17	20-Jul-07	0.010	0.036
18	03-Aug-07	0.021	0.014
19	17-Aug-07	0.036	0.057
20	31-Aug-07	0.029	0.011
21	14-Sep-07	0.019	0.045
22	28-Sep-07	0.014	0.011
23	12-Oct-07	0.017	0.090
24	26-Oct-07	0.010	0.032
25	09-Nov-07	0.022	0.039
26	30-Nov-07	0.097	0.031

Appendix 12
Diel Distribution of Fish Impinged at Crystal River Unit 3
(December 2006- November 2007)

Event No.	Date	Unit 3 Density (No. Fish per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.572	2.124
2	22-Dec-06	0.065	0.141
3	05-Jan-07	1.065	0.567
4	19-Jan-07	0.737	0.150
5	02-Feb-07	2.346	15.702
6	16-Feb-07	0.804	0.340
7	2-Mar-07	1.984	4.192
8	16-Mar-07	0.392	0.353
9	30-Mar-07	0.122	0.073
10	13-Apr-07	0.025	0.206
11	27-Apr-07	0.016	0.025
12	11-May-07	0.014	0.208
13	25-May-07	0.125	0.347
14	08-Jun-07	0.066	0.167
15	22-Jun-07	0.140	0.272
16	06-Jul-07	0.116	0.041
17	20-Jul-07	0.023	0.103
18	03-Aug-07	0.034	0.110
19	17-Aug-07	0.060	0.428
20	31-Aug-07	0.024	0.014
21	14-Sep-07	0.021	0.049
22	28-Sep-07	0.023	0.009
23	12-Oct-07	0.026	0.050
24	26-Oct-07	0.006	0.018
25	09-Nov-07	0.022	0.039
26	30-Nov-07	0.097	0.031

Appendix 13
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	07-Dec-06	1	9:20 PM	Atlantic Brief Squid		104		104	943.5
	07-Dec-06	1	9:20 PM	Bigclaw Snapping Shrimp	4			4	2.0
	07-Dec-06	1	9:20 PM	Blue Crab	16			16	80.4
	07-Dec-06	1	9:20 PM	False Arrow Crab	4			4	0.8
	07-Dec-06	1	9:20 PM	Florida Stone Crab	8			8	496.8
	07-Dec-06	1	9:20 PM	Iridescent Swimming Crab	32			32	182.0
	07-Dec-06	1	9:20 PM	Pink Shrimp	72	16		88	259.6
				Interval 1 Total	136	120	0	256	1,965.1
	08-Dec-06	2	3:30 AM	Interval 2 Total	0	0	0	0	0.0
	08-Dec-06	3	9:00 AM	Atlantic Brief Squid		7		7	36.2
	08-Dec-06	3	9:00 AM	Iridescent Swimming Crab	2			2	14.6
	08-Dec-06	3	9:00 AM	Pink Shrimp	1			1	115.4
				Interval 3 Total	3	7		10	166.2
	08-Dec-06	4	3:00 PM	Atlantic Brief Squid		5		5	21.4
				Interval 4 Total	0	5	0	5	21.4
1				24-Hour Total	139	132	0	271	2,152.7
	21-Dec-06	1	9:10 PM	Iridescent Swimming Crab	1			1	2.4
				Interval 1 Total	1	0	0	1	2.4
	22-Dec-06	2	2:51 AM	Iridescent Swimming Crab	2			2	20.2
				Interval 2 Total	2	0	0	2	20.2
	22-Dec-06	3	8:30 AM	Florida Stone Crab	1			1	13.5
	22-Dec-06	3	8:30 AM	Iridescent Swimming Crab	3			3	12.2
				Interval 3 Total	4	0	0	4	25.7
	22-Dec-06	4	2:30 PM	Interval 4 Total	0	0	0	0	0.0
2				24-Hour Total	7	0	0	7	48.3
	04-Jan-07	1	9:00 PM	Atlantic Brief Squid		20		20	321.0
	04-Jan-07	1	9:00 PM	Bareye Hermit	4	6		10	17.0
	04-Jan-07	1	9:00 PM	Blue Crab	40	20		60	240.0
	04-Jan-07	1	9:00 PM	False Arrow Crab	30	10		40	35.0
	04-Jan-07	1	9:00 PM	Mantis Shrimp	20	10		30	229.0
	04-Jan-07	1	9:00 PM	Pink Shrimp	150	160		310	1,629.4
				Interval 1 Total	244	226	0	470	2,471.4
	05-Jan-07	2	2:37 AM	Atlantic Brief Squid		6		6	23.6
	05-Jan-07	2	2:37 AM	Blue Crab	2			2	333.7
	05-Jan-07	2	2:37 AM	False Arrow Crab	6	7		13	15.4
	05-Jan-07	2	2:37 AM	Iridescent Swimming Crab	2	5		7	40.3
	05-Jan-07	2	2:37 AM	Mantis Shrimp	3			3	27.4
	05-Jan-07	2	2:37 AM	Pink Shrimp	11	15		26	115.6
				Interval 2 Total	24	33	0	57	556.0
	05-Jan-07	3	8:40 AM	Atlantic Brief Squid		2		2	25.2
	05-Jan-07	3	8:40 AM	Blue Crab	9			9	342.7
	05-Jan-07	3	8:40 AM	False Arrow Crab	2			2	5.9
	05-Jan-07	3	8:40 AM	Mantis Shrimp	1			1	6.3
	05-Jan-07	3	8:40 AM	Pink Shrimp	4			4	22.1
				Interval 3 Total	16	2	0	18	402.2
	05-Jan-07	4	2:30 PM	Atlantic Brief Squid		1		1	2.1
	05-Jan-07	4	2:30 PM	Mantis Shrimp	1			1	3.7
				Interval 4 Total	1	1	0	2	5.8
3				24-Hour Total	285	262	0	547	3,435.4

Appendix 13 (cont'd)

Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	18-Jan-07	1	8:20 PM	Florida Stone Crab	1			1	1.5
	18-Jan-07	1	8:20 PM	Iridescent Swimming Crab	1			1	0.9
	18-Jan-07	1	8:20 PM	Pink Shrimp	1			1	9.3
				Interval 1 Total	3	0	0	3	11.7
	19-Jan-07	2	2:20 AM	Atlantic Brief Squid		3		3	23.9
	19-Jan-07	2	2:20 AM	Blue Crab	1			1	41.8
	19-Jan-07	2	2:20 AM	Iridescent Swimming Crab	2			2	26.5
	19-Jan-07	2	2:20 AM	Pink Shrimp	1			1	13.1
				Interval 2 Total	4	3	0	7	105.3
	19-Jan-07	3	8:56 AM	Atlantic Brief Squid		1		1	2.2
	19-Jan-07	3	8:56 AM	Blue Crab	1			1	4.6
	19-Jan-07	3	8:56 AM	False Arrow Crab	6			6	4.2
				Interval 3 Total	7	1	0	8	11.0
	19-Jan-07	4	2:30 PM	Atlantic Brief Squid		1		1	74.4
	19-Jan-07	4	2:30 PM	False Arrow Crab	1			1	0.7
				Interval 4 Total	1	1	0	2	75.1
4				24-Hour Total	15	5	0	20	203.1
	01-Feb-07	1 ³	8:00 PM	Atlantic Brief Squid		3		3	360.3
	01-Feb-07	1 ³	8:00 PM	False Arrow Crab	0			0	3.0
	01-Feb-07	1 ³	8:00 PM	Iridescent Swimming Crab	2	0		2	101.4
	01-Feb-07	1 ³	8:00 PM	Pink Shrimp	1			1	64.5
				Interval 1 Total	3	4	0	7	529.2
	02-Feb-07	2 ³	2:00 AM	Atlantic Brief Squid		3		3	360.3
	02-Feb-07	2 ³	2:00 AM	False Arrow Crab	0	0		0	3.0
	02-Feb-07	2 ³	2:00 AM	Iridescent Swimming Crab	2	0		2	101.4
	02-Feb-07	2 ³	2:00 AM	Pink Shrimp	1	0		1	64.5
				Interval 2 Total	3	4	0	7	529.2
	02-Feb-07	3 ²	9:30 AM	Atlantic Brief Squid		5		5	26.8
	02-Feb-07	3 ²	9:30 AM	Blue Crab	3			3	21.2
	02-Feb-07	3 ²	9:30 AM	False Arrow Crab	8	2		10	10.4
	02-Feb-07	3 ²	9:30 AM	Iridescent Swimming Crab	1			1	4.6
	02-Feb-07	3 ²	9:30 AM	Pink Shrimp	2			2	17.6
				Interval 3 Total	14	7	0	21	80.6
	02-Feb-07	4 ²	2:45 PM	Atlantic Brief Squid		4		4	20.8
	02-Feb-07	4 ²	2:45 PM	Blue Crab	1			1	2.8
	02-Feb-07	4 ²	2:45 PM	False Arrow Crab	6	6		11	12.8
	02-Feb-07	4 ²	2:45 PM	Iridescent Swimming Crab	3			3	45.4
	02-Feb-07	4 ²	2:45 PM	Mantis Shrimp	1			1	21.4
				Interval 4 Total	11	10	0	21	103.2
5				24-Hour Total	32	24	0	56	1,242.2
	15-Feb-07	1 ²	8:37 PM	Pink Shrimp	0			0	7.0
				Interval 1 Total	0	0	0	0	7.0
	16-Feb-07	2 ²	2:45 AM	Interval 2 Total	0	0	0	0	0.0
	16-Feb-07	3 ²	8:45 AM	Blue Crab	0			0	49.5
	16-Feb-07	3 ²	8:45 AM	False Arrow Crab	1			1	7.5
	16-Feb-07	3 ²	8:45 AM	Florida Stone Crab	0			0	13.5
	16-Feb-07	3 ²	8:45 AM	Iridescent Swimming Crab	0			0	9.0
				Interval 3 Total	1	0	0	1	79.5
	16-Feb-07	4*		Interval 4 Total	0	0	0	0	0.0
6				24-Hour Total	1	0	0	1	86.5
7	Note: Mar 1-2, CR-1 was down; (with no flow data)								

³ Impingement data for February 01 and 02, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

² Impingement data for February 01 and 02, 2007 - sampling intervals 3, 4 - was estimated using impingement data from Unit 2 - intervals 3 and 4 (adjusted for cooling water volume).

* No flow data for sampling interval 4 on February 16, 2007

² Impingement data for February 15-16, 2007 data for sampling intervals 1,2, 3 and 4 - was estimated using impingement data from Unit 2 - intervals 1,2 3 and 4 (adjusted for cooling water volume).

Appendix 13 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	15-Mar-07	1 ²	9:30 PM	Atlantic Brief Squid		0		0	0.0
	15-Mar-07	1 ²	9:30 PM	Pink Shrimp	0			0	2.0
				Interval 1 Total	0	0	0	1	0.8
	16-Mar-07	2 ²	2:28 AM	Blue Crab	1			1	61.4
	16-Mar-07	2 ²	2:28 AM	False Arrow Crab	2			2	64.2
	16-Mar-07	2 ²	2:28 AM	Pink Shrimp	1			1	203.2
				Interval 2 Total	3	0	0	3	40.0
	16-Mar-07	3 ²	9:23 AM	Atlantic Brief Squid		0		0	7.2
	16-Mar-07	3 ²	9:23 AM	Blue Crab	0			0	153.6
	16-Mar-07	3 ²	9:23 AM	False Arrow Crab	0			0	185.6
	16-Mar-07	3 ²	9:23 AM	Longnosed Spider Crab	0			0	1,650.4
	16-Mar-07	3 ²	9:23 AM	Pink Shrimp	1			1	2,240.0
				Interval 3 Total	1	0	0	2	4,236.8
	16-Mar-07	4	2:30 PM	Interval 4 Total	0	0	0	0	0.0
8				24-Hour Total	5	1	0	5	4,277.6
	30-Mar-07	1	2:35 AM	Atlantic Brief Squid		1	1	2	17.6
	30-Mar-07	1	2:35 AM	False Arrow Crab	3			3	2.8
	30-Mar-07	1	2:35 AM	Florida Stone Crab	1			1	1.8
	30-Mar-07	1	2:35 AM	Gulf Grassflat Crab	1			1	3.2
	30-Mar-07	1	2:35 AM	Isopod sp.	1			1	1.5
	30-Mar-07	1	2:35 AM	Mantis Shrimp	1			1	2.7
				Interval 1 Total	7	1	1	9	29.6
	30-Mar-07	2	2:57 PM	Atlantic Brief Squid		9		9	119.2
	30-Mar-07	2	2:57 PM	Blotched Swimming Crab	1			1	1.6
	30-Mar-07	2	2:57 PM	Blue Crab	2			2	9.4
	30-Mar-07	2	2:57 PM	False Arrow Crab	8			8	6.5
	30-Mar-07	2	2:57 PM	Florida Grass Shrimp	1	1		2	1.4
	30-Mar-07	2	2:57 PM	Florida Stone Crab	7	1		8	32.9
	30-Mar-07	2	2:57 PM	Gulf Grassflat Crab	2			2	2.5
	30-Mar-07	2	2:57 PM	Iridescent Swimming Crab	1			1	8.5
	30-Mar-07	2	2:57 PM	Pink Shrimp	3			3	50.5
				Interval 2 Total	25	11	0	36	232.5
9				24-Hour Total	32	12	1	45	262.1
	13-Apr-07	1 ³	8:30 AM	Atlantic Brief Squid		12		12	418.6
	13-Apr-07	1 ³	8:30 AM	Blotched Swimming Crab	1			1	6.4
	13-Apr-07	1 ³	8:30 AM	Blue Crab	10	3		13	1,818.2
	13-Apr-07	1 ³	8:30 AM	False Arrow Crab	5			5	9.6
	13-Apr-07	1 ³	8:30 AM	Florida Grass Shrimp	1			1	2.2
	13-Apr-07	1 ³	8:30 AM	Iridescent Swimming Crab	4			4	33.6
	13-Apr-07	1 ³	8:30 AM	Longnosed Spider Crab	1			1	8.6
	13-Apr-07	1 ³	8:30 AM	Mantis Shrimp	1			1	12.8
	13-Apr-07	1 ³	8:30 AM	Pink Shrimp	68	9		77	2,461.0
				Interval 1 Total	90	24	0	114	4,771.0
	13-Apr-07	2 ³	8:30 PM	Atlantic Brief Squid		2		2	35.0
	13-Apr-07	2 ³	8:30 PM	Blue Crab	2	1		3	37.8
	13-Apr-07	2 ³	8:30 PM	False Arrow Crab	3			3	4.4
	13-Apr-07	2 ³	8:30 PM	Florida Grass Shrimp		1		1	2.2
	13-Apr-07	2 ³	8:30 PM	Iridescent Swimming Crab	2			2	36.8
	13-Apr-07	2 ³	8:30 PM	Pink Shrimp	1			1	36.6
				Interval 2 Total	7	5	0	12	152.8
10				24-Hour Total	97	29	0	126	4,923.7

² Impingement data for March 15-16, 2007 - sampling intervals 1,2, 3 and 4 -was estimated using impingement data from Unit 2 – intervals 1,2 3 and 4 (adjusted for cooling water volume).

³ Impingement data for April 13, 2007 - sampling intervals 1 and 2 -was estimated using impingement data from Unit 3- interval 1 and 2 (adjusted for cooling water volume).

Appendix 13 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	27-Apr-07	1 ³	8:30 AM	Atlantic Brief Squid		4		4	159.9
	27-Apr-07	1 ³	8:30 AM	Blue Crab	3	1		4	193.3
	27-Apr-07	1 ³	8:30 AM	False Arrow Crab	2	0		2	3.6
	27-Apr-07	1 ³	8:30 AM	Florida Grass Shrimp	2	1		2	4.4
	27-Apr-07	1 ³	8:30 AM	Florida Stone Crab	2			2	27.1
	27-Apr-07	1 ³	8:30 AM	Green Porcelain Crab	1			1	1.0
	27-Apr-07	1 ³	8:30 AM	Gulf Grassflat Crab	1			1	0.4
	27-Apr-07	1 ³	8:30 AM	Iridescent Swimming Crab	1			1	13.1
	27-Apr-07	1 ³	8:30 AM	Narrow Mud Crab	0			0	0.7
	27-Apr-07	1 ³	8:30 AM	Pink Shrimp	3	1		4	96.7
	27-Apr-07	1 ³	8:30 AM	Portly Spider Crab	1			1	16.8
				Interval 1 Total	14	7		21	517.0
	27-Apr-07	2 ³	8:30 PM	Atlantic Brief Squid		0		0	0.3
	27-Apr-07	2 ³	8:30 PM	Blue Crab	2	0		3	201.5
	27-Apr-07	2 ³	8:30 PM	Common Mud Crab	0			0	11.6
	27-Apr-07	2 ³	8:30 PM	False Arrow Crab	1			1	2.5
	27-Apr-07	2 ³	8:30 PM	Florida Stone Crab	2	0		2	68.1
	27-Apr-07	2 ³	8:30 PM	Green Porcelain Crab	0			0	1.0
	27-Apr-07	2 ³	8:30 PM	Iridescent Swimming Crab	0			0	9.0
	27-Apr-07	2 ³	8:30 PM	Narrow Mud Crab	0			0	6.1
	27-Apr-07	2 ³	8:30 PM	Pink Shrimp	1			1	30.8
				Interval 2 Total	7	1		8	330.9
11				24-Hour Total	22	8		30	847.9
	11-May-07	1	9:15 AM	Atlantic Brief Squid		16		16	159.9
	11-May-07	1	9:15 AM	False Arrow Crab	1			1	0.7
	11-May-07	1	9:15 AM	Florida Grass Shrimp	1			1	0.5
	11-May-07	1	9:15 AM	Iridescent Swimming Crab	4	2		6	17.0
	11-May-07	1	9:15 AM	Mantis Shrimp	8	2		10	100.0
	11-May-07	1	9:15 AM	Pink Shrimp	30	18		48	515.9
				Interval 1 Total	44	38	0	82	794.0
	11-May-07	2	9:10 PM	Blue Crab	1			1	66.7
	11-May-07	2	9:10 PM	Mantis Shrimp	1			1	10.3
	11-May-07	2	9:10 PM	Sea Hare	1			1	116.7
				Interval 2 Total	3	0	0	3	193.7
12				24-Hour Total	47	38	0	85	987.7
	25-May-07	1	9:09 AM	Atlantic Brief Squid		4		4	15.9
	25-May-07	1	9:09 AM	Atlantic Horseshoe Crab		1		1	1,098.7
	25-May-07	1	9:09 AM	Blue Crab	2	1		3	94.9
	25-May-07	1	9:09 AM	False Arrow Crab	4	1		5	0.2
	25-May-07	1	9:09 AM	Florida Grass Shrimp	4			4	1.5
	25-May-07	1	9:09 AM	Florida Stone Crab	1			1	52.8
	25-May-07	1	9:09 AM	Green Porcelain Crab	2			2	3.5
	25-May-07	1	9:09 AM	Iridescent Swimming Crab	4			4	1.2
	25-May-07	1	9:09 AM	Mantis Shrimp		1		1	17.6
	25-May-07	1	9:09 AM	Pink Shrimp	4			4	35.3
				Interval 1 Total	21	8	0	29	1,321.6
	25-May-07	2	9:06 PM	Blotched Swimming Crab	1			1	19.3
	25-May-07	2	9:06 PM	Florida Stone Crab	1			1	3.3
	25-May-07	2	9:06 PM	Gulf Grassflat Crab	1			1	0.8
	25-May-07	2	9:06 PM	Iridescent Swimming Crab	2	1		3	4.2
	25-May-07	2	9:06 PM	Mantis Shrimp	1			1	17.6
	25-May-07	2	9:06 PM	Pink Shrimp	3	3		6	58.2
				Interval 2 Total	9	4	0	13	103.4
13				24-Hour Total	30	12	0	42	1,425.0

³ Impingement data for April 27, 2007 - sampling intervals 1 and 2- was estimated using impingement data from Unit 3- interval 1 and 2 (adjusted for cooling water volume).

Appendix 13 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	08-Jun-07	1	9:21 AM	Atlantic Brief Squid		3		3	11.0
	08-Jun-07	1	9:21 AM	Blotched Swimming Crab	2			2	52.6
	08-Jun-07	1	9:21 AM	False Arrow Crab	22	12		34	9.2
	08-Jun-07	1	9:21 AM	Florida Grass Shrimp	1			1	0.9
	08-Jun-07	1	9:21 AM	Green Porcelain Crab	3	1		4	2.1
	08-Jun-07	1	9:21 AM	Iridescent Swimming Crab	2			2	1.5
	08-Jun-07	1	9:21 AM	Peppermint Shrimp		1		1	0.5
	08-Jun-07	1	9:21 AM	Pink Shrimp	5	5		10	31.3
	08-Jun-07	1	9:21 AM	Rock Shrimp	1			1	0.6
				Interval 1 Total	36	22	0	58	109.7
	08-Jun-07	2	9:30 PM	Atlantic Brief Squid		1		1	4.1
				Interval 2 Total	0	1	0	1	4.1
14				24-Hour Total	36	23	0	59	113.8
	22-Jun-07	1	9:08 AM	Blotched Swimming Crab	1			1	0.9
	22-Jun-07	1	9:08 AM	False Arrow Crab	8	2		10	4.4
	22-Jun-07	1	9:08 AM	Florida Stone Crab	2	1		3	23.6
	22-Jun-07	1	9:08 AM	Iridescent Swimming Crab	3			3	10.8
	22-Jun-07	1	9:08 AM	Narrow Mud Crab	1			1	0.4
	22-Jun-07	1	9:08 AM	Pink Shrimp	35	16		51	400.7
	22-Jun-07	1	9:08 AM	Sea Hare	2			2	131.3
				Interval 1 Total	52	19	0	71	572.0
	22-Jun-07	2	9:15 PM	Blue Crab	1			1	7.8
	22-Jun-07	2	9:15 PM	Florida Stone Crab	1			1	18.7
	22-Jun-07	2	9:15 PM	Iridescent Swimming Crab	1			1	0.4
	22-Jun-07	2	9:15 PM	Pink Shrimp	1			1	7.8
	22-Jun-07	2	9:15 PM	Sea Hare	1			1	56.9
				Interval 2 Total	5	0	0	5	91.6
15				24-Hour Total	57	19	0	76	663.6
	06-Jul-07	1	9:08 AM	Blotched Swimming Crab	1			1	6.1
	06-Jul-07	1	9:08 AM	False Arrow Crab	2			2	1.5
	06-Jul-07	1	9:08 AM	Florida Stone Crab	1			1	2.8
	06-Jul-07	1	9:08 AM	Green Porcelain Crab	2			2	1.8
	06-Jul-07	1	9:08 AM	Iridescent Swimming Crab	5			5	8.9
	06-Jul-07	1	9:08 AM	Pink Shrimp	5			5	51.4
				Interval 1 Total	16	0	0	16	72.5
	06-Jul-07	2	9:15 PM	Atlantic Brief Squid		1		1	10.8
	06-Jul-07	2	9:15 PM	Blotched Swimming Crab	6			6	88.3
	06-Jul-07	2	9:15 PM	Florida Stone Crab	2			2	44.2
	06-Jul-07	2	9:15 PM	Green Porcelain Crab	1			1	0.6
	06-Jul-07	2	9:15 PM	Iridescent Swimming Crab	13	6		19	66.0
	06-Jul-07	2	9:15 PM	Pink Shrimp	4			4	46.5
				Interval 2 Total	26	7	0	33	256.4
16				24-Hour Total	42	7	0	49	328.9
	20-Jul-07	1	9:25 AM	Atlantic Brief Squid		3		3	6.6
	20-Jul-07	1	9:25 AM	Blotched Swimming Crab	2	2		4	47.2
	20-Jul-07	1	9:25 AM	False Arrow Crab	3			3	1.1
	20-Jul-07	1	9:25 AM	Florida Stone Crab	2			2	9.8
	20-Jul-07	1	9:25 AM	Iridescent Swimming Crab	18	6		24	42.6
	20-Jul-07	1	9:25 AM	Longnosed Spider Crab	1			1	38.9
	20-Jul-07	1	9:25 AM	Pink Shrimp	4			4	13.2
				Interval 1 Total	30	11	0	41	159.4
	20-Jul-07	2	9:06 PM	Atlantic Brief Squid		2		2	11.0
	20-Jul-07	2	9:06 PM	Florida Stone Crab	1			1	60.3
	20-Jul-07	2	9:06 PM	Iridescent Swimming Crab	4	2		6	11.5
	20-Jul-07	2	9:06 PM	Pink Shrimp	2			2	2.8
				Interval 2 Total	7	4	0	11	85.6
17				24-Hour Total	37	15	0	52	245.0

Appendix 13 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	03-Aug-07	1	10:00 AM	Atlantic Brief Squid		1		1	6.8
	03-Aug-07	1	10:00 AM	False Arrow Crab	4			4	1.3
	03-Aug-07	1	10:00 AM	Iridescent Swimming Crab	4			4	14.2
	03-Aug-07	1	10:00 AM	Pink Shrimp	12	4		16	38.4
				Interval 1 Total	20	5	0	25	60.7
	03-Aug-07	2 ²	9:15 PM	Atlantic Brief Squid		1		1	2.1
	03-Aug-07	2 ²	9:15 PM	Blotched Swimming Crab	1			1	22.9
	03-Aug-07	2 ²	9:15 PM	Blue Crab	4	1		5	423.3
	03-Aug-07	2 ²	9:15 PM	False Arrow Crab	1			1	0.2
	03-Aug-07	2 ²	9:15 PM	Florida Stone Crab	1			1	0.8
	03-Aug-07	2 ²	9:15 PM	Iridescent Swimming Crab	2			2	6.6
	03-Aug-07	2 ²	9:15 PM	Narrow Mud Crab	1			1	0.8
	03-Aug-07	2 ²	9:15 PM	Pink Shrimp	4			4	14.5
				Interval 2 Total	13	2	0	14	471.2
18				24-Hour Total	33	7	0	39	531.9
	17-Aug-07	1	9:30 AM	Atlantic Brief Squid		4		4	8.5
	17-Aug-07	1	9:30 AM	False Arrow Crab	4			4	2.3
	17-Aug-07	1	9:30 AM	Iridescent Swimming Crab	4			4	14.9
	17-Aug-07	1	9:30 AM	Pink Shrimp	29	17		46	132.1
	17-Aug-07	1	9:30 AM	Sea Hare	1			1	22.0
				Interval 1 Total	38	21	0	59	179.8
	17-Aug-07	2	9:45 PM	Blotched Swimming Crab	2			2	29.7
	17-Aug-07	2	9:45 PM	False Arrow Crab	1			1	0.9
	17-Aug-07	2	9:45 PM	Florida Stone Crab	1			1	12.3
	17-Aug-07	2	9:45 PM	Iridescent Swimming Crab	3			3	5.4
	17-Aug-07	2	9:45 PM	Narrow Mud Crab	1			1	0.9
	17-Aug-07	2	9:45 PM	Pink Shrimp	20	11		31	75.3
	17-Aug-07	2	9:45 PM	Sea Hare	3			3	35.6
				Interval 2 Total	31	11	0	42	160.1
19				24-Hour Total	69	32	0	101	339.9
	31-Aug-07	1	8:54 AM	Blotched Swimming Crab	2			2	62.6
	31-Aug-07	1	8:54 AM	Blue Crab	2			2	108.8
	31-Aug-07	1	8:54 AM	Florida Stone Crab	2			2	4.3
	31-Aug-07	1	8:54 AM	Iridescent Swimming Crab	1			1	4.3
	31-Aug-07	1	8:54 AM	Narrow Mud Crab	2			2	1.0
	31-Aug-07	1	8:54 AM	Pink Shrimp	4	2		6	18.4
	31-Aug-07	1	8:54 AM	Portly Spider Crab	1			1	29.8
				Interval 1 Total	14	2	0	16	229.2
	31-Aug-07	2	9:20 PM	Florida Stone Crab	1			1	12.4
	31-Aug-07	2	9:20 PM	Narrow Mud Crab	1			1	1.2
	31-Aug-07	2	9:20 PM	Pink Shrimp	2			2	4.6
				Interval 2 Total	4	0	0	4	18.2
20				24-Hour Total	18	2	0	20	247.4
	14-Sep-07	1	9:00 AM	False Arrow Crab	2			2	0.9
	14-Sep-07	1	9:00 AM	Iridescent Swimming Crab	1			1	2.3
	14-Sep-07	1	9:00 AM	Pink Shrimp	1			1	4.3
				Interval 1 Total	4	0	0	4	7.5
	14-Sep-07	2	9:15 PM	Atlantic Brief Squid	1			1	7.7
	14-Sep-07	2	9:15 PM	Blotched Swimming Crab	1			1	26.7
	14-Sep-07	2	9:15 PM	Pink Shrimp	3			3	11.0
				Interval 2 Total	5	0	0	5	45.4
21				24-Hour Total	9	0	0	9	52.9

² Impingement data for August 03, 2007 - sampling interval 2- was estimated using impingement data from Unit 2- 2 (adjusted for cooling water volume).

Appendix 13 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 1

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 1 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	28-Sep-07	1	8:54 AM	Blue Crab	1			1	43.6
	28-Sep-07	1	8:54 AM	Longnosed Spider Crab	1			1	1.3
	28-Sep-07	1	8:54 AM	Pink Shrimp	2			2	2.4
				Interval 1 Total	4	0	0	4	47.3
	28-Sep-07	2	9:37 PM	Blotched Swimming Crab	1			1	43.5
	28-Sep-07	2	9:37 PM	Blue Crab	2			2	192.5
	28-Sep-07	2	9:37 PM	Pink Shrimp	2			2	4.8
				Interval 2 Total	5		0	5	240.8
22				24-Hour Total	9	0	0	9	288.1
	12-Oct-07	1	9:20 AM	Blue Crab	1			1	60.3
	12-Oct-07	1	9:20 AM	Florida Stone Crab	5	3		8	29.1
	12-Oct-07	1	9:20 AM	Green Porcelain Crab	2			2	0.7
	12-Oct-07	1	9:20 AM	Iridescent Swimming Crab	2			2	32.5
	12-Oct-07	1	9:20 AM	Narrow Mud Crab	2			2	1.0
	12-Oct-07	1	9:20 AM	Pink Shrimp	3	1		4	9.9
				Interval 1 Total	15	4	0	19	133.5
	12-Oct-07	2	9:45 PM	Florida Stone Crab	3	1		4	51.3
	12-Oct-07	2	9:45 PM	Iridescent Swimming Crab	1			1	3.2
	12-Oct-07	2	9:45 PM	Narrow Mud Crab	1			1	1.6
	12-Oct-07	2	9:45 PM	Pink Shrimp	4	1		5	20.3
				Interval 2 Total	9	2	0	11	76.4
23				24-Hour Total	24	6	0	30	209.9
	26-Oct-07	1	9:15 AM		0	0	0	0	0.0
				Interval 1 Total	0	0	0	0	0.0
	26-Oct-07	2	9:15 PM	Florida Stone Crab	1			1	28.2
	26-Oct-07	2	9:15 PM	Iridescent Swimming Crab	1			1	2.9
	26-Oct-07	2	9:15 PM	Longnosed Spider Crab	2			2	30.3
				Interval 2 Total	4	0	0	4	61.4
24				24-Hour Total	4	0	0	4	61.4
	09-Nov-07	1	8:35 AM	Blue Crab	1			1	23.5
	09-Nov-07	1	8:35 AM	Florida Stone Crab	1			1	11.9
	09-Nov-07	1	8:35 AM	Iridescent Swimming Crab	1			1	5.0
	09-Nov-07	1	8:35 AM	Narrow Mud Crab	1			1	1.2
	09-Nov-07	1	8:35 AM	Pink Shrimp	2			2	7.0
				Interval 1 Total	6	0	0	6	48.6
	09-Nov-07	2	8:25 PM	Blotched Swimming Crab	1			1	52.0
	09-Nov-07	2	8:25 PM	Florida Stone Crab	1			1	240.0
				Interval 2 Total	2	0	0	2	292.0
25				24-Hour Total	8	0	0	8	340.6
	30-Nov-07	1	8:30 AM	Interval 1 Total	0	0	0	0	0.0
	30-Nov-07	2	8:15 PM	Mantis Shrimp	1			1	5.3
	30-Nov-07	2	8:15 PM	Pink Shrimp	2			2	7.3
				Interval 2 Total	3	0	0	3	12.6
26				24-Hour Total	3	0	0	3	12.6
	Grand Total				1,061	633	1	1,694	23,328.2

Appendix 14 **Summary of Invertebrate Impingement Data: Crystal River Unit 2**

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	07-Dec-06	1	10:00 PM	Atlantic Brief Squid		32		32	206.4
	07-Dec-06	1	10:00 PM	Mantis Shrimp	16			16	57.6
	07-Dec-06	1	10:00 PM	Pink Shrimp	16			16	100.8
				Interval 1 Total	32	32	0	64	364.8
	08-Dec-06	2	4:25 AM	Atlantic Brief Squid		184		184	1,451.2
	08-Dec-06	2	4:25 AM	Blue Crab	8			8	77.6
	08-Dec-06	2	4:25 AM	Pink Shrimp	16			16	83.2
				Interval 2 Total	24	184	0	208	1,612.0
	08-Dec-06	3	9:45 AM	Atlantic Brief Squid		3		3	29.7
	08-Dec-06	3	9:45 AM	Iridescent Swimming Crab	3			3	22.9
				Interval 3 Total	3	3	0	6	52.6
	08-Dec-06	4	4:00 PM	Atlantic Brief Squid		1		1	11.7
	08-Dec-06	4	4:00 PM	Portly Spider Crab	1			1	4.1
				Interval 4 Total	1	1	0	2	15.8
1				24-Hour Total	60	220	0	280	2,045.2
				Interval 1 Total	0	0	0	0	0.0
	22-Dec-06	2	3:08 AM	False Arrow Crab	2			2	0.9
				Interval 2 Total	2	0	0	2	0.9
				Interval 3 Total	0	0	0	0	0.0
				Interval 4 Total	0	0	0	0	0.0
2				24-Hour Total	2	0	0	2	0.9
	04-Jan-07	1	9:30 PM	False Arrow Crab	16	4		20	26.0
	04-Jan-07	1	9:30 PM	Iridescent Swimming Crab		40		40	118.0
				Interval 1 Total	16	44	0	60	144.0
	05-Jan-07	2	3:00 AM	False Arrow Crab	40	20		60	33.0
	05-Jan-07	2	3:00 AM	Florida Stone Crab	10			10	14.0
	05-Jan-07	2	3:00 AM	Pink Shrimp		40		40	199.0
	05-Jan-07	2	3:00 AM	Portly Spider Crab	3	7		10	32.0
				Interval 2 Total	53	67	0	120	278.0
	05-Jan-07	3	9:15 AM	False Arrow Crab	16	4		20	12.0
	05-Jan-07	3	9:15 AM	Pink Shrimp	13	7		20	176.0
				Interval 3 Total	29	11	0	40	188.0
	05-Jan-07	4	3:00 PM	Blotched Swimming Crab	4	6		10	10.0
	05-Jan-07	4	3:00 PM	Blue Crab		10		10	806.0
	05-Jan-07	4	3:00 PM	Mantis Shrimp	7	3		10	194.0
	05-Jan-07	4	3:00 PM	Pink Shrimp	15	5		20	133.0
				Interval 4 Total	26	24	0	50	1,143.0
3				24-Hour Total	124	146	0	270	1,753.0
	18-Jan-07	1	8:37 PM	Atlantic Brief Squid		1		1	3.6
	18-Jan-07	1	8:37 PM	Iridescent Swimming Crab	1			1	3.7
				Interval 1 Total	1	1	0	2	7.3
	19-Jan-07	2	2:35 AM	Atlantic Brief Squid		1		1	2.6
	19-Jan-07	2	2:35 AM	False Arrow Crab	4			4	2.9
	19-Jan-07	2	2:35 AM	Pink Shrimp	2	1		3	20.2
				Interval 2 Total	6	2	0	8	25.7
	19-Jan-07	3	9:11 AM	Atlantic Brief Squid		4		4	139.4
	19-Jan-07	3	9:11 AM	Blue Crab	2			2	161.2
	19-Jan-07	3	9:11 AM	False Arrow Crab	2			2	0.8
	19-Jan-07	3	9:11 AM	Iridescent Swimming Crab	2			2	5.0
	19-Jan-07	3	9:11 AM	Mantis Shrimp	5	1		6	61.8
				Interval 3 Total	11	5	0	16	368.2
	19-Jan-07	4	2:55 PM	Atlantic Brief Squid		2		2	27.4
	19-Jan-07	4	2:55 PM	Blotched Swimming Crab	1			1	5.2
	19-Jan-07	4	2:55 PM	False Arrow Crab	2			2	1.8
				Interval 4 Total	3	2	0	5	34.4
4				24-Hour Total	21	10	0	31	435.6

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
* 8:00 PM sampling on Feb 1 (Interval 1) was cancelled due to tornado watch									
	02-Feb-07	1 ³	8:00 PM	Atlantic Brief Squid		7		7	3.0
	02-Feb-07	1 ³	8:00 PM	False Arrow Crab	1			1	101.4
	02-Feb-07	1 ³	8:00 PM	Iridescent Swimming Crab	4	1		5	64.5
	02-Feb-07	1 ³	8:00 PM	Pink Shrimp	2	0		2	529.2
				Interval 1 Total	7	8	0	16	698.1
	02-Feb-07	2 ³	2:00 AM	Atlantic Brief Squid		7		7	3.0
	02-Feb-07	2 ³	2:00 AM	False Arrow Crab	1	0		1	101.4
	02-Feb-07	2 ³	2:00 AM	Iridescent Swimming Crab	4	1		5	64.5
	02-Feb-07	2 ³	2:00 AM	Pink Shrimp	2			2	529.2
				Interval 2 Total	7	8	0	16	698.1
	02-Feb-07	3	9:30 AM	Atlantic Brief Squid		10		10	26.8
	02-Feb-07	3	9:30 AM	Blue Crab	6			6	21.2
	02-Feb-07	3	9:30 AM	False Arrow Crab	18	4		22	10.4
	02-Feb-07	3	9:30 AM	Iridescent Swimming Crab	2			2	4.6
	02-Feb-07	3	9:30 AM	Pink Shrimp	4			4	17.6
				Interval 3 Total	30	14	0	44	80.6
	02-Feb-07	4	2:45 PM	Atlantic Brief Squid		6		6	20.8
	02-Feb-07	4	2:45 PM	Blue Crab	2			2	2.8
	02-Feb-07	4	2:45 PM	False Arrow Crab	8	8		16	12.8
	02-Feb-07	4	2:45 PM	Iridescent Swimming Crab	4			4	45.4
	02-Feb-07	4	2:45 PM	Mantis Shrimp	2			2	21.4
				Interval 4 Total	16	14	0	30	103.2
5				24-Hour Total	61	45	0	106	1,580.0
	15-Feb-07	1	8:37 PM	Pink Shrimp	1			1	7.0
				Interval 1 Total	1	0	0	1	7.0
				Interval 2 Total	0	0	0	0	0.0
	16-Feb-07	3	8:45 AM	Blue Crab	3			3	49.5
	16-Feb-07	3	8:45 AM	False Arrow Crab	9			9	7.5
	16-Feb-07	3	8:45 AM	Florida Stone Crab	3			3	13.5
	16-Feb-07	3	8:45 AM	Iridescent Swimming Crab	3			3	9.0
				Interval 3 Total	18	0	0	18	79.5
	16-Feb-07	4	2:37 PM	Blue Crab	1			1	10.8
				Interval 4 Total	1	0	0	1	10.8
6				24-Hour Total	20	0	0	20	97.3
				Interval 1 Total	0	0	0	0	0.0
	02-Mar-07	2	2:21 AM	Blue Crab	2			2	2.0
	02-Mar-07	2	2:21 AM	False Arrow Crab	4			4	0.8
	02-Mar-07	2	2:21 AM	Pink Shrimp	4			4	61.4
				Interval 2 Total	10	0	0	10	64.2
	02-Mar-07	3	8:30 AM	Atlantic Brief Squid		32		32	203.2
	02-Mar-07	3	8:30 AM	Blue Crab	8			8	40.0
	02-Mar-07	3	8:30 AM	False Arrow Crab	8			8	7.2
	02-Mar-07	3	8:30 AM	Iridescent Swimming Crab	35	13		48	153.6
	02-Mar-07	3	8:30 AM	Mantis Shrimp	16			16	185.6
	02-Mar-07	3	8:30 AM	Pink Shrimp	144	16		160	1,650.4
				Interval 3 Total	211	61	0	272	2,240.0
	02-Mar-07	4	2:30 PM	Blue Crab	3			3	10.2
	02-Mar-07	4	2:30 PM	Mantis Shrimp	3			3	23.4
	02-Mar-07	4	2:30 PM	Pink Shrimp	3			3	58.2
				Interval 4 Total	9	0	0	9	91.8
7				24-Hour Total	230	61	0	291	2,396.0

³ Impingement data for February 01 and 02, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	15-Mar-07	1	9:30 PM	Atlantic Brief Squid		1		1	26.4
	15-Mar-07	1	9:30 PM	Pink Shrimp	1			1	24.5
				Interval 1 Total	1	1	0	2	24.5
	16-Mar-07	2	2:28 AM	Blue Crab	2			2	8.6
	16-Mar-07	2	2:28 AM	False Arrow Crab	8			8	4.0
	16-Mar-07	2	2:28 AM	Pink Shrimp	2			2	22.6
				Interval 2 Total	12	0	0	12	35.2
	16-Mar-07	3	9:23 AM	Atlantic Brief Squid		1		1	26.4
	16-Mar-07	3	9:23 AM	Blue Crab	1			1	78.2
	16-Mar-07	3	9:23 AM	False Arrow Crab	1			1	2.0
	16-Mar-07	3	9:23 AM	Longnosed Spider Crab	1			1	3.5
	16-Mar-07	3	9:23 AM	Pink Shrimp	2			2	21.5
				Interval 3 Total	5	1	0	6	131.6
				Interval 4 Total	0	0	0	0	0.0
8				24-Hour Total	18	2	0	20	191.3
9	Mar 30, CR-2 not sampled because system was not in operation (No flow data)								
10	April 13 07, CR-2 not sampled because system was not in operation (No flow data)								
11	April 27 07, CR-2 not sampled because system was not in operation (No flow data)								
12	May 11 07, CR-2 not sampled because system was not in operation (No flow data)								
	25-May-07	1 ¹	9:09 AM	Atlantic Brief Squid		4		4	15.9
	25-May-07	1 ¹	9:09 AM	Atlantic Horseshoe Crab		1		1	1,098.7
	25-May-07	1 ¹	9:09 AM	Blue Crab	2	1		3	94.9
	25-May-07	1 ¹	9:09 AM	False Arrow Crab	4	1		6	0.2
	25-May-07	1 ¹	9:09 AM	Florida Grass Shrimp	4			4	1.5
	25-May-07	1 ¹	9:09 AM	Florida Stone Crab	1			1	52.8
	25-May-07	1 ¹	9:09 AM	Green Porcelain Crab	2			2	3.5
	25-May-07	1 ¹	9:09 AM	Iridescent Swimming Crab	4			4	1.2
	25-May-07	1 ¹	9:09 AM	Mantis Shrimp		1		1	17.6
	25-May-07	1 ¹	9:09 AM	Pink Shrimp	4			4	35.3
				Interval 1 Total	23	9	0	32	1,321.6
	25-May-07	2 ¹	9:06 PM	Blotched Swimming Crab	1			1	19.3
	25-May-07	2 ¹	9:06 PM	Florida Stone Crab	1			1	3.3
	25-May-07	2 ¹	9:06 PM	Gulf Grassflat Crab	1			1	0.8
	25-May-07	2 ¹	9:06 PM	Iridescent Swimming Crab	2	1		3	4.2
	25-May-07	2 ¹	9:06 PM	Mantis Shrimp	1	0		1	17.6
	25-May-07	2 ¹	9:06 PM	Pink Shrimp	3	3		6	58.2
				Interval 2 Total	9	4	0	13	103.4
13				24-Hour Total	33	13	0	46	1,425.0
	08-Jun-07	1 ¹	9:21 AM	Atlantic Brief Squid		4		4	11.0
	08-Jun-07	1 ¹	9:21 AM	Blotched Swimming Crab	3			3	52.6
	08-Jun-07	1 ¹	9:21 AM	False Arrow Crab	29	16		45	9.2
	08-Jun-07	1 ¹	9:21 AM	Florida Grass Shrimp	1			1	0.9
	08-Jun-07	1 ¹	9:21 AM	Green Porcelain Crab	4	1		5	2.1
	08-Jun-07	1 ¹	9:21 AM	Iridescent Swimming Crab	3	0		3	1.5
	08-Jun-07	1 ¹	9:21 AM	Peppermint Shrimp		1		1	0.5
	08-Jun-07	1 ¹	9:21 AM	Pink Shrimp	7	7		13	31.3
	08-Jun-07	1 ¹	9:21 AM	Rock Shrimp	1			1	0.6
				Interval 1 Total	47	29	0	76	109.7
	08-Jun-07	2 ¹	9:30 PM	Atlantic Brief Squid		1		1	4.1
				Interval 2 Total	0	1	0	1	4.1
14				24-Hour Total	47	30	0	78	113.8

¹ Impingement data for May 25 and June 08, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 1 – intervals 1 and 2 (adjusted for cooling water volume).

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	22-Jun-07	1	9:30 AM	Atlantic Brief Squid		3		3	43.2
	22-Jun-07	1	9:30 AM	Blotched Swimming Crab	4			4	23.2
	22-Jun-07	1	9:30 AM	Blue Crab	5	3		8	560.9
	22-Jun-07	1	9:30 AM	Iridescent Swimming Crab	11	3		14	33.0
	22-Jun-07	1	9:30 AM	Mantis Shrimp	3			3	310.5
	22-Jun-07	1	9:30 AM	Pink Shrimp	80	34		114	1,114.0
	22-Jun-07	1	9:30 AM	Sea Hare	1			1	97.6
				Interval 1 Total	104	43	0	147	2,182.4
	22-Jun-07	2	9:52 PM	Atlantic Brief Squid		1		1	11.4
	22-Jun-07	2	9:52 PM	Blotched Swimming Crab	5			5	81.3
	22-Jun-07	2	9:52 PM	Blue Crab	5			5	625.6
	22-Jun-07	2	9:52 PM	Iridescent Swimming Crab	3			3	4.1
	22-Jun-07	2	9:52 PM	Mantis Shrimp	1			1	35.6
	22-Jun-07	2	9:52 PM	Pink Shrimp	4	2		6	61.2
	22-Jun-07	2	9:52 PM	Sea Hare	1			1	243.4
				Interval 2 Total	19	3	0	22	1,062.6
15				24-Hour Total	123	46	0	169	3,245.0
	06-Jul-07	1	9:30 AM	Atlantic Brief Squid		3		3	12.9
	06-Jul-07	1	9:30 AM	Blotched Swimming Crab	2			2	23.3
	06-Jul-07	1	9:30 AM	Blue Crab	5			5	303.4
	06-Jul-07	1	9:30 AM	Iridescent Swimming Crab	10			10	24.1
	06-Jul-07	1	9:30 AM	Pink Shrimp	5			5	33.7
				Interval 1 Total	22	3	0	25	397.4
	06-Jul-07	2	9:52 PM	Atlantic Brief Squid		4		4	51.3
	06-Jul-07	2	9:52 PM	Blotched Swimming Crab	7	1		8	70.9
	06-Jul-07	2	9:52 PM	Blue Crab	6	3		9	1,226.9
	06-Jul-07	2	9:52 PM	Iridescent Swimming Crab	17	8		25	45.3
	06-Jul-07	2	9:52 PM	Narrow Mud Crab	1			1	0.7
	06-Jul-07	2	9:52 PM	Pink Shrimp	5	2		7	70.1
	06-Jul-07	2	9:52 PM	Sea Hare	1			1	3.3
				Interval 2 Total	37	18	0	55	1,468.5
16				24-Hour Total	59	21	0	80	1,865.9
	20-Jul-07	1	9:40 AM	Atlantic Brief Squid		4		4	21.7
	20-Jul-07	1	9:40 AM	Blotched Swimming Crab	2			2	29.9
	20-Jul-07	1	9:40 AM	Blue Crab	3	2		5	372.9
	20-Jul-07	1	9:40 AM	Florida Stone Crab	1			1	42.0
	20-Jul-07	1	9:40 AM	Iridescent Swimming Crab	14	5		19	36.8
	20-Jul-07	1	9:40 AM	Pink Shrimp	32	21		53	257.2
	20-Jul-07	1	9:40 AM	Sea Hare	1			1	3.1
				Interval 1 Total	53	32	0	85	763.6
	20-Jul-07	2	9:38 PM	Atlantic Brief Squid		2		2	40.6
	20-Jul-07	2	9:38 PM	Blue Crab	2			2	5.8
	20-Jul-07	2	9:38 PM	Iridescent Swimming Crab	4			4	14.0
	20-Jul-07	2	9:38 PM	Pink Shrimp	2	2		4	24.4
				Interval 2 Total	8	4	0	12	84.8
17				24-Hour Total	61	36	0	97	848.4

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	03-Aug-07	1	9:15 AM	Atlantic Brief Squid		2		2	42.4
	03-Aug-07	1	9:15 AM	Blotched Swimming Crab	2			2	84.2
	03-Aug-07	1	9:15 AM	Blue Crab	1			1	154.9
	03-Aug-07	1	9:15 AM	False Arrow Crab	1			1	0.2
	03-Aug-07	1	9:15 AM	Iridescent Swimming Crab	10	8		18	49.4
	03-Aug-07	1	9:15 AM	Pink Shrimp	95	20		115	398.4
	03-Aug-07	1	9:15 AM	Sea Hare	3			3	80.3
				Interval 1 Total	112	30	0	142	809.8
	03-Aug-07	2	9:15 PM	Atlantic Brief Squid		1		1	2.1
	03-Aug-07	2	9:15 PM	Blotched Swimming Crab	1			1	22.9
	03-Aug-07	2	9:15 PM	Blue Crab	5	1		6	423.3
	03-Aug-07	2	9:15 PM	False Arrow Crab	1			1	0.2
	03-Aug-07	2	9:15 PM	Florida Stone Crab	1			1	0.8
	03-Aug-07	2	9:15 PM	Iridescent Swimming Crab	2			2	6.6
	03-Aug-07	2	9:15 PM	Narrow Mud Crab	1			1	0.8
	03-Aug-07	2	9:15 PM	Pink Shrimp	5			5	14.5
				Interval 2 Total	16	2	0	18	471.2
18				24-Hour Total	128	32	0	160	1,281.0
	17-Aug-07	1	10:00 AM	Atlantic Brief Squid		2		2	17.6
	17-Aug-07	1	10:00 AM	Blotched Swimming Crab	2			2	15.4
	17-Aug-07	1	10:00 AM	Blue Crab	4			4	54.6
	17-Aug-07	1	10:00 AM	Florida Stone Crab	2			2	8.0
	17-Aug-07	1	10:00 AM	Iridescent Swimming Crab	38	8		46	191.8
	17-Aug-07	1	10:00 AM	Pink Shrimp	180	50		230	851.0
	17-Aug-07	1	10:00 AM	Sea Hare	4			4	93.8
				Interval 1 Total	230	60	0	290	1,232.2
	17-Aug-07	2	10:15 PM	Blotched Swimming Crab	5			5	17.5
	17-Aug-07	2	10:15 PM	Blue Crab	15			15	1,218.0
	17-Aug-07	2	10:15 PM	Iridescent Swimming Crab	50	30		80	135.5
	17-Aug-07	2	10:15 PM	Narrow Mud Crab	20	5		25	16.5
	17-Aug-07	2	10:15 PM	Pink Shrimp	125	60		185	207.9
	17-Aug-07	2	10:15 PM	Sea Hare	10			10	405.5
				Interval 2 Total	225	95	0	320	2,000.9
19				24-Hour Total	455	155	0	610	3,233.1
	31-Aug-07	1	9:18 AM	Atlantic Brief Squid		1		1	7.4
	31-Aug-07	1	9:18 AM	Blue Crab	3			3	242.9
	31-Aug-07	1	9:18 AM	Florida Stone Crab	1			1	22.7
	31-Aug-07	1	9:18 AM	Iridescent Swimming Crab	1			1	2.5
	31-Aug-07	1	9:18 AM	Sea Hare	1			1	25.2
				Interval 1 Total	6	1	0	7	300.7
	31-Aug-07	2	9:40 PM	Blue Crab	2			2	149.0
	31-Aug-07	2	9:40 PM	Pink Shrimp	1			1	4.1
				Interval 2 Total	3	0	0	3	153.1
20				24-Hour Total	9	1	0	10	453.8

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	14-Sep-07	1	9:15 AM	Blotched Swimming Crab	2			2	43.0
	14-Sep-07	1	9:15 AM	Blue Crab	1			1	135.2
	14-Sep-07	1	9:15 AM	False Arrow Crab	1			1	0.3
	14-Sep-07	1	9:15 AM	Florida Stone Crab	1			1	0.4
	14-Sep-07	1	9:15 AM	Iridescent Swimming Crab	2			2	7.0
	14-Sep-07	1	9:15 AM	Pink Shrimp	56	30		86	229.4
				Interval 1 Total	63	30	0	93	415.3
	14-Sep-07	2	9:30 PM	Blue Crab	1			1	6.1
	14-Sep-07	2	9:30 PM	Pink Shrimp	1			1	1.5
				Interval 2 Total	2	0	0	2	7.6
21				24-Hour Total	65	30	0	95	422.9
	28-Sep-07	1	9:00 AM	Blue Crab	1			1	147.7
	28-Sep-07	1	9:00 AM	Florida Stone Crab	3			3	22.8
	28-Sep-07	1	9:00 AM	Iridescent Swimming Crab	1			1	2.9
	28-Sep-07	1	9:00 AM	Pink Shrimp	1			1	4.0
				Interval 1 Total	6	0	0	6	177.4
	28-Sep-07	2	9:45 PM	Longnosed Spider Crab	2			2	5.2
	28-Sep-07	2	9:45 PM	Pink Shrimp	2			2	6.0
				Interval 2 Total	4	0	0	4	11.2
22				24-Hour Total	10	0	0	10	188.6
	12-Oct-07	1	9:32 AM	Atlantic Horseshoe Crab	1			1	1,098.7
	12-Oct-07	1	9:32 AM	Blue Crab	2			2	55.6
	12-Oct-07	1	9:32 AM	Florida Stone Crab	8	4		12	117.7
	12-Oct-07	1	9:32 AM	Green Porcelain Crab	2			2	2.7
	12-Oct-07	1	9:32 AM	Iridescent Swimming Crab	3			3	6.3
	12-Oct-07	1	9:32 AM	Longnosed Spider Crab	2	1		3	36.3
	12-Oct-07	1	9:32 AM	Narrow Mud Crab	1			1	1.8
	12-Oct-07	1	9:32 AM	Pink Shrimp	18	7		25	106.3
				Interval 1 Total	37	12	0	49	1,425.4
	12-Oct-07	2	10:17 PM	Atlantic Horseshoe Crab	2			2	2,197.4
	12-Oct-07	2	10:17 PM	Florida Stone Crab	3			3	65.7
	12-Oct-07	2	10:17 PM	Longnosed Spider Crab	1			1	0.7
	12-Oct-07	2	10:17 PM	Narrow Mud Crab	1			1	0.9
				Interval 2 Total	7	0	0	7	2,264.7
23				24-Hour Total	44	12	0	56	3,690.1
	26-Oct-07	1	9:30 AM	Atlantic Horseshoe Crab	2			2	2,197.4
	26-Oct-07	1	9:30 AM	Blotched Swimming Crab	1			1	56.9
	26-Oct-07	1	9:30 AM	Florida Stone Crab	3			3	51.2
	26-Oct-07	1	9:30 AM	Green Porcelain Crab	1			1	1.0
	26-Oct-07	1	9:30 AM	Iridescent Swimming Crab	2			2	20.5
	26-Oct-07	1	9:30 AM	Longnosed Spider Crab	1			1	1.3
	26-Oct-07	1	9:30 AM	Narrow Mud Crab	1			1	0.9
				Interval 1 Total	11	0	0	11	2,329.2
	26-Oct-07	2	9:38 PM	Longnosed Spider Crab	2			2	49.2
				Interval 2 Total	2	0	0	2	49.2
24				24-Hour Total	13	0	0	13	2,378.4

Appendix 14 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 2

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 2 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	09-Nov-07	1	8:50 AM	Atlantic Brief Squid		1		1	7.2
	09-Nov-07	1	8:50 AM	Green Porcelain Crab	1			1	0.8
	09-Nov-07	1	8:50 AM	Iridescent Swimming Crab	7	3		10	59.3
	09-Nov-07	1	8:50 AM	Pink Shrimp	3	1		4	6.2
				Interval 1 Total	11	5	0	16	73.5
	09-Nov-07	2	8:36 PM	Florida Stone Crab	1			1	2.6
	09-Nov-07	2	8:36 PM	Iridescent Swimming Crab	1			1	3.0
	09-Nov-07	2	8:36 PM	Longnosed Spider Crab	1			1	33.8
				Interval 2 Total	3	0	0	3	39.4
25				24-Hour Total	14	5	0	19	112.9
	30-Nov-07	1	8:45 AM	Atlantic Brief Squid		5		5	35.8
	30-Nov-07	1	8:45 AM	Blotched Swimming Crab	1			1	36.0
	30-Nov-07	1	8:45 AM	Common Mud Crab	1			1	0.6
	30-Nov-07	1	8:45 AM	False Arrow Crab	1			1	0.6
	30-Nov-07	1	8:45 AM	Pink Shrimp	1			1	4.7
				Interval 1 Total	4	5	0	9	77.7
	30-Nov-07	2	8:36 PM	Atlantic Brief Squid		5		5	23.1
	30-Nov-07	2	8:36 PM	Narrow Mud Crab	1			1	1.4
	30-Nov-07	2	8:36 PM	Pink Shrimp	1			1	1.4
				Interval 2 Total	2	5	0	7	25.9
26				24-Hour Total	6	10	0	16	103.6
	Grand Total				1,603	875	0	2,478	27,861.8

Appendix 15 **Summary of Invertebrate Impingement Data: Crystal River Unit 3**

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	07-Dec-06	1	8:00 PM	Atlantic Brief Squid		8		8	21.6
	07-Dec-06	1	8:00 PM	Blue Crab	64			64	5,480.8
	07-Dec-06	1	8:00 PM	Iridescent Swimming Crab	40			40	239.2
	07-Dec-06	1	8:00 PM	Pink Shrimp	8	8		16	244.8
				Interval 1 Total	112	16	0	128	5,986.4
	08-Dec-06	2	2:00 AM	Atlantic Brief Squid		59		59	354.0
	08-Dec-06	2	2:00 AM	Iridescent Swimming Crab	6			6	19.8
	08-Dec-06	2	2:00 AM	Mantis Shrimp	6			6	105.0
	08-Dec-06	2	2:00 AM	Pink Shrimp	6			6	50.4
				Interval 2 Total	18	59	0	77	529.2
	08-Dec-06	3	8:00 AM	Atlantic Brief Squid		80		80	387.2
	08-Dec-06	3	8:00 AM	Blue Crab	48			48	4,252.8
	08-Dec-06	3	8:00 AM	Pink Shrimp	112			112	1,499.2
	08-Dec-06	3	8:00 AM	Portly Spider Crab	16			16	131.2
				Interval 3 Total	176	80	0	256	6,270.4
	08-Dec-06	4	2:00 PM	Atlantic Brief Squid		50		50	219.0
	08-Dec-06	4	2:00 PM	Blue Crab	12			12	957.6
	08-Dec-06	4	2:00 PM	Iridescent Swimming Crab	4			4	29.8
	08-Dec-06	4	2:00 PM	Pink Shrimp	2			2	2.8
	08-Dec-06	4	2:00 PM	Portly Spider Crab	2			2	13.2
				Interval 4 Total	20	50	0	70	1,222.4
1				24-Hour Total	326	205	0	531	14,008.4
	21-Dec-06	1	8:00 PM	False Arrow Crab	2			2	1.0
	21-Dec-06	1	8:00 PM	Iridescent Swimming Crab	10			10	13.2
	21-Dec-06	1	8:00 PM	Portly Spider Crab	2			2	8.0
				Interval 1 Total	14	0	0	14	22.2
	22-Dec-06	2	2:30 AM	Atlantic Brief Squid		10		10	42.6
	22-Dec-06	2	2:30 AM	Blue Crab	8			8	238.8
	22-Dec-06	2	2:30 AM	Florida Stone Crab	2			2	5.2
	22-Dec-06	2	2:30 AM	Iridescent Swimming Crab	10			10	33.2
	22-Dec-06	2	2:30 AM	Pink Shrimp	4			4	18.2
				Interval 2 Total	24	10	0	34	338.0
	22-Dec-06	3	8:15 AM	Atlantic Brief Squid		2		2	2.0
	22-Dec-06	3	8:15 AM	Blotched Swimming Crab	2	2		4	4.0
	22-Dec-06	3	8:15 AM	Blue Crab	6			6	39.0
	22-Dec-06	3	8:15 AM	False Arrow Crab	4			4	3.0
	22-Dec-06	3	8:15 AM	Green Porcelain Crab	2			2	5.0
	22-Dec-06	3	8:15 AM	Iridescent Swimming Crab	36			36	79.0
				Interval 3 Total	50	4	0	54	132.0
	22-Dec-06	4	2:10 PM	Atlantic Brief Squid		2		2	9.8
	22-Dec-06	4	2:10 PM	Blue Crab	2			2	6.0
	22-Dec-06	4	2:10 PM	Florida Stone Crab	2			2	33.4
				Interval 4 Total	4	2	0	6	49.2
2				24-Hour Total	92	16	0	108	541.4

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	04-Jan-07	1	8:00 PM	Atlantic Brief Squid		170		170	1,033.0
	04-Jan-07	1	8:00 PM	Blue Crab	16	4		20	2,935.0
	04-Jan-07	1	8:00 PM	False Arrow Crab	60	10		70	50.0
	04-Jan-07	1	8:00 PM	Iridescent Swimming Crab	55	15		70	189.0
	04-Jan-07	1	8:00 PM	Mantis Shrimp	35	25		60	372.0
	04-Jan-07	1	8:00 PM	Pink Shrimp	180	70		250	1,414.0
				Interval 1 Total	346	294	0	640	5,993.0
	05-Jan-07	2	2:00 AM	Atlantic Brief Squid		190		190	526.0
	05-Jan-07	2	2:00 AM	Blue Crab	15	5		20	902.0
	05-Jan-07	2	2:00 AM	False Arrow Crab	9	1		10	11.0
	05-Jan-07	2	2:00 AM	Iridescent Swimming Crab	35	15		50	114.0
	05-Jan-07	2	2:00 AM	Pink Shrimp	60	30		90	521.0
				Interval 2 Total	119	241	0	360	2,074.0
	05-Jan-07	3	8:00 AM	Atlantic Brief Squid		60		60	127.0
	05-Jan-07	3	8:00 AM	Blue Crab	130	100		230	1,777.0
	05-Jan-07	3	8:00 AM	False Arrow Crab	80	30		110	201.0
	05-Jan-07	3	8:00 AM	Florida Stone Crab	25	15		40	78.0
	05-Jan-07	3	8:00 AM	Mantis Shrimp	8	2		10	102.0
	05-Jan-07	3	8:00 AM	Pink Shrimp	70	10		80	525.0
				Interval 3 Total	313	217	0	530	2,810.0
	05-Jan-07	4	2:00 PM	Atlantic Brief Squid		10		10	16.0
	05-Jan-07	4	2:00 PM	False Arrow Crab	30	20		50	26.0
	05-Jan-07	4	2:00 PM	Florida Stone Crab	12	8		20	36.0
	05-Jan-07	4	2:00 PM	Iridescent Swimming Crab	8	2		10	24.0
	05-Jan-07	4	2:00 PM	Pink Shrimp	9	1		10	77.0
				Interval 4 Total	59	41	0	100	179.0
3				24-Hour Total	837	793	0	1,630	11,056.0
	18-Jan-07	1	9:04 PM	Atlantic Brief Squid		170		170	505.0
	18-Jan-07	1	9:04 PM	Blue Crab	15	5		20	178.0
	18-Jan-07	1	9:04 PM	Mantis Shrimp	50	20		70	892.0
				Interval 1 Total	65	195	0	260	1,575.0
	19-Jan-07	2	2:00 AM	Atlantic Brief Squid		66		66	225.2
	19-Jan-07	2	2:00 AM	Blue Crab	2			2	10.4
	19-Jan-07	2	2:00 AM	False Arrow Crab	9	9		18	11.6
	19-Jan-07	2	2:00 AM	Iridescent Swimming Crab	4			4	35.0
	19-Jan-07	2	2:00 AM	Pink Shrimp	6			6	38.2
				Interval 2 Total	21	75	0	96	320.4
	19-Jan-07	3	8:30 AM	Atlantic Brief Squid		30		30	70.0
	19-Jan-07	3	8:30 AM	Blue Crab	11	3		14	469.8
	19-Jan-07	3	8:30 AM	False Arrow Crab	6	2		8	6.4
	19-Jan-07	3	8:30 AM	Iridescent Swimming Crab	6	2		8	34.2
	19-Jan-07	3	8:30 AM	Pink Shrimp	18	6		24	258.6
	19-Jan-07	3	8:30 AM	Portly Spider Crab	2			2	8.6
				Interval 3 Total	43	43	0	86	847.6
	19-Jan-07	4	2:00 PM	Atlantic Brief Squid		8		8	74.0
	19-Jan-07	4	2:00 PM	Blue Crab	3			3	16.2
	19-Jan-07	4	2:00 PM	Pink Shrimp	4	2		6	36.3
				Interval 4 Total	7	10	0	17	126.5
4				24-Hour Total	136	323	0	459	2,869.5

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
* 8:00 PM sampling on Feb 1 (Interval 1) was cancelled due to tornado watch									
	01-Feb-07	1 ³	8:00 PM	Atlantic Brief Squid		21		21	360.3
	01-Feb-07	1 ³	8:00 PM	False Arrow Crab	3			3	3.0
	01-Feb-07	1 ³	8:00 PM	Iridescent Swimming Crab	12	3		15	101.4
	01-Feb-07	1 ³	8:00 PM	Pink Shrimp	6			6	64.5
				Interval 1 Total	21	24	0	45	529.2
	02-Feb-07	2	2:00 AM	Atlantic Brief Squid		21		21	360.3
	02-Feb-07	2	2:00 AM	False Arrow Crab	3			3	3.0
	02-Feb-07	2	2:00 AM	Iridescent Swimming Crab	12	3		15	101.4
	02-Feb-07	2	2:00 AM	Pink Shrimp	6			6	64.5
				Interval 2 Total	21	24	0	45	529.2
	02-Feb-07	3	8:00 AM	Atlantic Brief Squid		625		625	3,735.0
	02-Feb-07	3	8:00 AM	Blue Crab	200	50		250	402.5
	02-Feb-07	3	8:00 AM	False Arrow Crab	1,025	150		1,175	267.9
	02-Feb-07	3	8:00 AM	Iridescent Swimming Crab	425	100		525	3,491.8
	02-Feb-07	3	8:00 AM	Pink Shrimp	125	50		175	995.0
				Interval 3 Total	1,775	975	0	2,750	8,892.2
	02-Feb-07	4	2:00 PM	Atlantic Brief Squid		42		42	199.2
	02-Feb-07	4	2:00 PM	False Arrow Crab	42	18		60	41.4
	02-Feb-07	4	2:00 PM	Iridescent Swimming Crab	45	9		54	241.2
	02-Feb-07	4	2:00 PM	Mantis Shrimp	18			18	106.2
	02-Feb-07	4	2:00 PM	Pink Shrimp	6			6	4.8
				Interval 4 Total	111	69	0	180	592.8
5				24-Hour Total	1,928	1,092	0	3,020	10,543.4
	15-Feb-07	1	9:27 PM	Atlantic Brief Squid		80		80	907.2
	15-Feb-07	1	9:27 PM	Blue Crab	30	10		40	1,148.8
	15-Feb-07	1	9:27 PM	Stone Crab	8			8	5.6
	15-Feb-07	1	9:27 PM	Iridescent Swimming Crab	35	13		48	324.8
	15-Feb-07	1	9:27 PM	Pink Shrimp	25	7		32	413.6
				Interval 1 Total	98	110	0	208	2,800.0
	16-Feb-07	2	2:15 AM	Atlantic Brief Squid		46		46	191.8
	16-Feb-07	2	2:15 AM	Blue Crab	30	16		46	795.8
	16-Feb-07	2	2:15 AM	False Arrow Crab	6			6	3.6
	16-Feb-07	2	2:15 AM	Florida Stone Crab	2			2	0.4
	16-Feb-07	2	2:15 AM	Iridescent Swimming Crab	48			48	183.0
	16-Feb-07	2	2:15 AM	Mantis Shrimp	4			4	37.2
	16-Feb-07	2	2:15 AM	Pink Shrimp	4			4	474.0
				Interval 2 Total	94	62	0	156	1,685.8
	16-Feb-07	3	8:20 AM	Atlantic Brief Squid		14		14	411.4
	16-Feb-07	3	8:20 AM	Blue Crab	27	25		52	3,403.9
	16-Feb-07	3	8:20 AM	Iridescent Swimming Crab	10	6		16	62.8
	16-Feb-07	3	8:20 AM	Pink Shrimp	2			2	25.0
	16-Feb-07	3	8:20 AM	Speckled Swimming Crab	2			2	4.2
				Interval 3 Total	41	45	0	86	3,907.3
	16-Feb-07	4	2:15 PM	False Arrow Crab	2			2	2.0
	16-Feb-07	4	2:15 PM	Iridescent Swimming Crab	4			4	19.0
				Interval 4 Total	6	0	0	6	21.0
6				24-Hour Total	239	217	0	456	8,414.1

³ Impingement data for February 01, 2007 - sampling interval 1 - was estimated using impingement data from Unit 3 - interval 2 (adjusted for cooling water volume).

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	01-Mar-07	1	8:27 PM	Atlantic Brief Squid		12		12	26.0
	01-Mar-07	1	8:27 PM	Blue Crab	15	5		20	54.0
	01-Mar-07	1	8:27 PM	False Arrow Crab	4			4	1.6
	01-Mar-07	1	8:27 PM	Iridescent Swimming Crab	7	1		8	57.6
	01-Mar-07	1	8:27 PM	Isopod sp.	4			4	1.2
	01-Mar-07	1	8:27 PM	Pink Shrimp	8			8	112.8
				Interval 1 Total	38	18	0	56	253.2
	02-Mar-07	2	2:00 AM	Atlantic Brief Squid		48		48	436.8
	02-Mar-07	2	2:00 AM	Blue Crab	30	10		40	71.2
	02-Mar-07	2	2:00 AM	False Arrow Crab	45	11		56	38.4
	02-Mar-07	2	2:00 AM	Gulf Grassflat Crab	8			8	86.4
	02-Mar-07	2	2:00 AM	Mantis Shrimp	8			8	40.8
	02-Mar-07	2	2:00 AM	Pink Shrimp	8			8	92.8
				Interval 2 Total	99	69	0	168	766.4
	02-Mar-07	3	7:55 AM	Atlantic Brief Squid		300		300	2,357.5
	02-Mar-07	3	7:55 AM	Blue Crab	275	50		325	647.5
	02-Mar-07	3	7:55 AM	False Arrow Crab	50	25		75	42.5
	02-Mar-07	3	7:55 AM	Iridescent Swimming Crab	20	5		25	35.0
	02-Mar-07	3	7:55 AM	Mantis Shrimp	125	25		150	1,315.0
	02-Mar-07	3	7:55 AM	Pink Shrimp	625	125		750	10,002.0
				Interval 3 Total	1,095	530	0	1,625	14,399.5
	02-Mar-07	4	2:00 PM	Atlantic Brief Squid		160		160	1,145.0
	02-Mar-07	4	2:00 PM	Blue Crab	25	5		30	117.0
	02-Mar-07	4	2:00 PM	False Arrow Crab	50	30		80	61.0
	02-Mar-07	4	2:00 PM	Gulf Grassflat Crab	8	2		10	7.0
	02-Mar-07	4	2:00 PM	Iridescent Swimming Crab	17	3		20	40.0
	02-Mar-07	4	2:00 PM	Isopod sp.	20	10		30	7.0
	02-Mar-07	4	2:00 PM	Pink Shrimp	10			10	10.0
				Interval 4 Total	130	210	0	340	1,387.0
7				24-Hour Total	1,362	827	0	2,189	16,806.1
	15-Mar-07	1	9:04 PM	Atlantic Brief Squid		92		92	1,068.0
	15-Mar-07	1	9:04 PM	Blotched Swimming Crab	4			4	5.2
	15-Mar-07	1	9:04 PM	Blue Crab	12	4		16	28.4
	15-Mar-07	1	9:04 PM	False Arrow Crab	90	14		104	70.3
	15-Mar-07	1	9:04 PM	Iridescent Swimming Crab	16			16	28.0
	15-Mar-07	1	9:04 PM	Mantis Shrimp	8	4		12	84.8
	15-Mar-07	1	9:04 PM	Pink Shrimp	88	16		104	1,174.4
				Interval 1 Total	218	130	0	348	2,459.0
	16-Mar-07	2	2:05 AM	Atlantic Brief Squid		50		50	576.5
	16-Mar-07	2	2:05 AM	Blue Crab	25	10		35	1,046.5
	16-Mar-07	2	2:05 AM	False Arrow Crab	17	3		20	4.5
	16-Mar-07	2	2:05 AM	Iridescent Swimming Crab	5			5	5.0
	16-Mar-07	2	2:05 AM	Mantis Shrimp	5			5	465.5
	16-Mar-07	2	2:05 AM	Pink Shrimp	70	10		80	895.5
				Interval 2 Total	122	73	0	195	2,993.5
	16-Mar-07	3	9:40 AM	Atlantic Brief Squid		32		32	361.6
	16-Mar-07	3	9:40 AM	Blue Crab	20	4		24	262.0
	16-Mar-07	3	9:40 AM	False Arrow Crab	4			4	3.6
	16-Mar-07	3	9:40 AM	Iridescent Swimming Crab	9	3		12	50.4
	16-Mar-07	3	9:40 AM	Pink Shrimp	60	8		68	894.0
				Interval 3 Total	93	47	0	140	1,571.6
	16-Mar-07	4	2:02 PM	Atlantic Brief Squid		36		36	179.2
	16-Mar-07	4	2:02 PM	Blue Crab	4			4	8.4
	16-Mar-07	4	2:02 PM	False Arrow Crab	12	8		20	16.8
				Interval 4 Total	16	44	0	60	204.4
8				24-Hour Total	449	294	0	743	7,228.5

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	30-Mar-07	1	2:01 AM	Atlantic Brief Squid		111		111	1,440.8
	30-Mar-07	1	2:01 AM	Blue Crab	16		1	17	597.5
	30-Mar-07	1	2:01 AM	False Arrow Crab	7			7	7.2
	30-Mar-07	1	2:01 AM	Florida Grass Shrimp	2			2	2.5
	30-Mar-07	1	2:01 AM	Florida Stone Crab	1	1		2	61.7
	30-Mar-07	1	2:01 AM	Gulf Grassflat Crab			1	1	4.7
	30-Mar-07	1	2:01 AM	Iridescent Swimming Crab	4			4	15.0
	30-Mar-07	1	2:01 AM	Isopod sp.		2		2	1.5
	30-Mar-07	1	2:01 AM	Longnosed Spider Crab	1			1	6.0
	30-Mar-07	1	2:01 AM	Pink Shrimp	8			8	138.5
				Interval 1 Total	39	114	2	155	2,275.3
	30-Mar-07	2	2:03 PM	Atlantic Brief Squid		120		120	1,585.4
	30-Mar-07	2	2:03 PM	Banded Dwarf Hermit Crab	2			2	0.6
	30-Mar-07	2	2:03 PM	Blotched Swimming Crab	2			2	1.6
	30-Mar-07	2	2:03 PM	Blue Crab	16	8		24	491.4
	30-Mar-07	2	2:03 PM	False Arrow Crab	40	20		60	46.3
	30-Mar-07	2	2:03 PM	Florida Grass Shrimp	16	8		24	21.4
	30-Mar-07	2	2:03 PM	Florida Stone Crab	6			6	23.8
	30-Mar-07	2	2:03 PM	Green Porcelain Crab	1	3		4	3.0
	30-Mar-07	2	2:03 PM	Gulf Grassflat Crab	3	1		4	18.6
	30-Mar-07	2	2:03 PM	Iridescent Swimming Crab	15	5		20	104.4
	30-Mar-07	2	2:03 PM	Longnosed Spider Crab	2			2	57.8
	30-Mar-07	2	2:03 PM	Narrow Mud Crab	4	4		8	15.2
	30-Mar-07	2	2:03 PM	Pink Shrimp	40	10		50	925.0
	30-Mar-07	2	2:03 PM	Urn Crab	2			2	2.4
				Interval 2 Total	149	179	0	328	3,296.9
9				24-Hour Total	188	293	2	483	5,572.2
	13-Apr-07	1	8:30 AM	Atlantic Brief Squid		36		36	418.6
	13-Apr-07	1	8:30 AM	Blotched Swimming Crab	4			4	6.4
	13-Apr-07	1	8:30 AM	Blue Crab	30	8		38	1,818.2
	13-Apr-07	1	8:30 AM	False Arrow Crab	14			14	9.6
	13-Apr-07	1	8:30 AM	Florida Grass Shrimp	2			2	2.2
	13-Apr-07	1	8:30 AM	Iridescent Swimming Crab	12			12	33.6
	13-Apr-07	1	8:30 AM	Longnosed Spider Crab	2			2	8.6
	13-Apr-07	1	8:30 AM	Mantis Shrimp	2			2	12.8
	13-Apr-07	1	8:30 AM	Pink Shrimp	204	28		232	2,461.0
				Interval 1 Total	270	72	0	342	4,771.0
	13-Apr-07	2	8:30 PM	Atlantic Brief Squid		6		6	35.0
	13-Apr-07	2	8:30 PM	Blue Crab	6	4		10	37.8
	13-Apr-07	2	8:30 PM	False Arrow Crab	8			8	4.4
	13-Apr-07	2	8:30 PM	Florida Grass Shrimp		4		4	2.2
	13-Apr-07	2	8:30 PM	Iridescent Swimming Crab	6			6	36.8
	13-Apr-07	2	8:30 PM	Pink Shrimp	2			2	36.6
				Interval 2 Total	22	14	0	36	152.8
10				24-Hour Total	292	86	0	378	4,923.7

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	27-Apr-07	1	8:30 AM	Atlantic Brief Squid		12		12	159.9
	27-Apr-07	1	8:30 AM	Blue Crab	10	2		12	193.3
	27-Apr-07	1	8:30 AM	False Arrow Crab	5	1		6	3.6
	27-Apr-07	1	8:30 AM	Florida Grass Shrimp	5	2		7	4.4
	27-Apr-07	1	8:30 AM	Florida Stone Crab	5			5	27.1
	27-Apr-07	1	8:30 AM	Green Porcelain Crab	2			2	1.0
	27-Apr-07	1	8:30 AM	Gulf Grassflat Crab	2			2	0.4
	27-Apr-07	1	8:30 AM	Iridescent Swimming Crab	3			3	13.1
	27-Apr-07	1	8:30 AM	Narrow Mud Crab	1			1	0.7
	27-Apr-07	1	8:30 AM	Pink Shrimp	8	4		12	96.7
	27-Apr-07	1	8:30 AM	Portly Spider Crab	2			2	16.8
				Interval 1 Total	43	21		64	517.0
	27-Apr-07	2	8:30 PM	Atlantic Brief Squid		1		1	0.3
	27-Apr-07	2	8:30 PM	Blue Crab	7	1		8	201.5
	27-Apr-07	2	8:30 PM	Common Mud Crab	1			1	11.6
	27-Apr-07	2	8:30 PM	False Arrow Crab	3			3	2.5
	27-Apr-07	2	8:30 PM	Florida Stone Crab	5	1		6	68.1
	27-Apr-07	2	8:30 PM	Green Porcelain Crab	1			1	1.0
	27-Apr-07	2	8:30 PM	Iridescent Swimming Crab	1			1	9.0
	27-Apr-07	2	8:30 PM	Narrow Mud Crab	1			1	6.1
	27-Apr-07	2	8:30 PM	Pink Shrimp	3			3	30.8
				Interval 2 Total	22	3	0	25	330.9
11				24-Hour Total	65	24	0	89	847.9
	11-May-07	1	8:30 AM	Atlantic Brief Squid		16		16	216.7
	11-May-07	1	8:30 AM	Blotched Swimming Crab	4	2		6	155.6
	11-May-07	1	8:30 AM	Blue Crab	70	16		86	9,852.8
	11-May-07	1	8:30 AM	False Arrow Crab		2		2	3.2
	11-May-07	1	8:30 AM	Florida Grass Shrimp	6			6	7.0
	11-May-07	1	8:30 AM	Florida Stone Crab	10	2		12	140.8
	11-May-07	1	8:30 AM	Gulf Grassflat Crab	2			2	5.8
	11-May-07	1	8:30 AM	Iridescent Swimming Crab	16	4		20	100.0
	11-May-07	1	8:30 AM	Mantis Shrimp	50	10		60	887.0
	11-May-07	1	8:30 AM	Pink Shrimp	250	524		774	10,241.6
	11-May-07	1	8:30 AM	Sea Hare	10			10	1,094.8
				Interval 1 Total	418	576	0	994	22,705.3
	11-May-07	2	8:30 PM	Atlantic Brief Squid		5		5	83.2
	11-May-07	2	8:30 PM	Blue Crab	6			6	286.5
	11-May-07	2	8:30 PM	Florida Stone Crab	3			3	59.6
	11-May-07	2	8:30 PM	Iridescent Swimming Crab	2			2	1.5
	11-May-07	2	8:30 PM	Mantis Shrimp	1			1	11.7
	11-May-07	2	8:30 PM	Pink Shrimp	10	3		13	111.2
	11-May-07	2	8:30 PM	Portly Spider Crab		1		1	29.4
				Interval 2 Total	22	9	0	31	583.1
12				24-Hour Total	440	585	0	1,025	23,288.4

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	25-May-07	1	8:30 AM	Atlantic Brief Squid		10		10	21.2
	25-May-07	1	8:30 AM	Atlantic Horseshoe Crab	1			1	1,098.7
	25-May-07	1	8:30 AM	Blotched Swimming Crab	4			4	73.8
	25-May-07	1	8:30 AM	Blue Crab	24	5		29	2,565.0
	25-May-07	1	8:30 AM	Florida Grass Shrimp	3	2		5	3.7
	25-May-07	1	8:30 AM	Florida Stone Crab	4	2		6	53.6
	25-May-07	1	8:30 AM	Iridescent Swimming Crab	8	5		13	40.3
	25-May-07	1	8:30 AM	Knotfinger Mud Crab		1		1	6.8
	25-May-07	1	8:30 AM	Longnosed Spider Crab		1		1	35.2
	25-May-07	1	8:30 AM	Pink Shrimp	217	25		242	2,260.3
				Interval 1 Total	261	51	0	312	6,158.6
	25-May-07	2	8:30 PM	Atlantic Brief Squid		2		2	8.5
	25-May-07	2	8:30 PM	Bigclaw Snapping Shrimp	1			1	5.5
	25-May-07	2	8:30 PM	Blotched Swimming Crab	1			1	68.0
	25-May-07	2	8:30 PM	Blue Crab	11	3		14	1,126.8
	25-May-07	2	8:30 PM	Florida Stone Crab	3	1		4	95.4
	25-May-07	2	8:30 PM	Iridescent Swimming Crab	2			2	79.3
	25-May-07	2	8:30 PM	Pink Shrimp	4	2		6	64.1
				Interval 2 Total	22	8	0	30	1,447.6
13				24-Hour Total	283	59	0	342	7,606.2
	08-Jun-07	1	8:30 AM	Atlantic Brief Squid		8		8	86.8
	08-Jun-07	1	8:30 AM	Blue Crab	9	4		13	694.0
	08-Jun-07	1	8:30 AM	False Arrow Crab	4			4	1.3
	08-Jun-07	1	8:30 AM	Florida Grass Shrimp	1			1	0.6
	08-Jun-07	1	8:30 AM	Florida Stone Crab	8	3		11	104.2
	08-Jun-07	1	8:30 AM	Iridescent Swimming Crab	6	3		9	20.2
	08-Jun-07	1	8:30 AM	Mantis Shrimp	2	1		3	53.8
	08-Jun-07	1	8:30 AM	Pink Shrimp	42	84		126	1,202.6
	08-Jun-07	1	8:30 AM	Sea Hare	1			1	11.2
				Interval 1 Total	73	103	0	176	2,174.7
	08-Jun-07	2	8:30 PM	Blue Crab	8			8	341.4
	08-Jun-07	2	8:30 PM	Cancellate Cantharus Snail	2			2	11.8
	08-Jun-07	2	8:30 PM	Florida Stone Crab	16	4		20	73.4
	08-Jun-07	2	8:30 PM	Green Porcelain Crab	2			2	0.6
	08-Jun-07	2	8:30 PM	Gulf Grassflat Crab	2			2	2.6
	08-Jun-07	2	8:30 PM	Iridescent Swimming Crab	6			6	158.2
	08-Jun-07	2	8:30 PM	Pink Shrimp	8	4		12	100.2
	08-Jun-07	2	8:30 PM	Sea Roach	2			2	1.4
				Interval 2 Total	46	8	0	54	689.6
14				24-Hour Total	119	111	0	230	2,864.3
	22-Jun-07	1	8:30 AM	Atlantic Brief Squid		10		10	66.8
	22-Jun-07	1	8:30 AM	Blotched Swimming Crab	3			3	58.1
	22-Jun-07	1	8:30 AM	Blue Crab	3			3	385.6
	22-Jun-07	1	8:30 AM	False Arrow Crab	2			2	0.7
	22-Jun-07	1	8:30 AM	Florida Stone Crab	5			5	81.9
	22-Jun-07	1	8:30 AM	Green Porcelain Crab	1			1	1.7
	22-Jun-07	1	8:30 AM	Gulf Grassflat Crab	1			1	1.1
	22-Jun-07	1	8:30 AM	Iridescent Swimming Crab	6	3		9	112.3
	22-Jun-07	1	8:30 AM	Mantis Shrimp	1			1	10.8
	22-Jun-07	1	8:30 AM	Pink Shrimp	275	29		304	1,351.0
	22-Jun-07	1	8:30 AM	Sea Hare	5			5	437.3
				Interval 1 Total	302	42	0	344	2,507.3
	22-Jun-07	2	8:30 PM	Atlantic Brief Squid		3		3	15.6
	22-Jun-07	2	8:30 PM	Blotched Swimming Crab	1			1	87.2
	22-Jun-07	2	8:30 PM	Blue Crab	3			3	396.2
	22-Jun-07	2	8:30 PM	Pink Shrimp	4			4	33.5
				Interval 2 Total	8	3	0	11	532.5
15				24-Hour Total	310	45	0	355	3,039.8

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	06-Jul-07	1	8:30 AM	Atlantic Brief Squid		4		4	7.6
	06-Jul-07	1	8:30 AM	Blotched Swimming Crab	2			2	49.9
	06-Jul-07	1	8:30 AM	False Arrow Crab	2			2	1.3
	06-Jul-07	1	8:30 AM	Florida Stone Crab	5			5	31.8
	06-Jul-07	1	8:30 AM	Iridescent Swimming Crab	6			6	11.4
	06-Jul-07	1	8:30 AM	Narrow Mud Crab	1			1	0.7
	06-Jul-07	1	8:30 AM	Pink Shrimp	2			2	22.5
	06-Jul-07	1	8:30 AM	Shortfinger Neck Crab	1			1	0.8
				Interval 1 Total	19	4	0	23	126.0
	06-Jul-07	2	8:30 PM	Atlantic Brief Squid		7		7	18.8
	06-Jul-07	2	8:30 PM	Blotched Swimming Crab	6			6	139.5
	06-Jul-07	2	8:30 PM	Florida Stone Crab	5			5	84.6
	06-Jul-07	2	8:30 PM	Green Porcelain Crab		1		1	1.4
	06-Jul-07	2	8:30 PM	Gulf Grassflat Crab	1			1	0.6
	06-Jul-07	2	8:30 PM	Iridescent Swimming Crab	15	4		19	50.1
	06-Jul-07	2	8:30 PM	Pink Shrimp	16	3		19	128.4
	06-Jul-07	2	8:30 PM	Sea Hare	1			1	77.2
				Interval 2 Total	44	15	0	59	500.6
16				24-Hour Total	63	19	0	82	626.6
	20-Jul-07	1	8:30 AM	Atlantic Brief Squid		40		40	222.9
	20-Jul-07	1	8:30 AM	Blotched Swimming Crab	5	2		7	100.1
	20-Jul-07	1	8:30 AM	Blue Crab	3			3	235.0
	20-Jul-07	1	8:30 AM	False Arrow Crab	1			1	0.2
	20-Jul-07	1	8:30 AM	Florida Stone Crab	3			3	48.8
	20-Jul-07	1	8:30 AM	Green Porcelain Crab	1			1	1.7
	20-Jul-07	1	8:30 AM	Iridescent Swimming Crab	19	6		25	58.0
	20-Jul-07	1	8:30 AM	Pink Shrimp	35	29		64	250.1
	20-Jul-07	1	8:30 AM	Sea Hare	25			25	501.3
				Interval 1 Total	92	77	0	169	1,418.1
	20-Jul-07	2	8:35 PM	Blotched Swimming Crab	6			6	58.2
	20-Jul-07	2	8:35 PM	Florida Stone Crab	2			2	5.2
	20-Jul-07	2	8:35 PM	Iridescent Swimming Crab	4			4	11.6
	20-Jul-07	2	8:35 PM	Pink Shrimp	2	6		8	3.2
	20-Jul-07	2	8:35 PM	Sea Hare	10			10	212.4
				Interval 2 Total	24	6	0	30	290.6
17				24-Hour Total	116	83	0	199	1,708.7
	03-Aug-07	1	8:30 AM	Atlantic Brief Squid		24		24	82.0
	03-Aug-07	1	8:30 AM	Blotched Swimming Crab	6	2		8	77.2
	03-Aug-07	1	8:30 AM	Blue Crab	8	2		10	368.4
	03-Aug-07	1	8:30 AM	False Arrow Crab	2			2	1.4
	03-Aug-07	1	8:30 AM	Florida Stone Crab	6			6	37.8
	03-Aug-07	1	8:30 AM	Iridescent Swimming Crab	36	8		44	78.6
	03-Aug-07	1	8:30 AM	Pink Shrimp	260	106		366	1,016.0
	03-Aug-07	1	8:30 AM	Sea Hare	8			8	175.2
				Interval 1 Total	326	142	0	468	1,836.6
	03-Aug-07	2	8:30 PM	Blotched Swimming Crab	4			4	71.8
	03-Aug-07	2	8:30 PM	Blue Crab	2			2	314.7
	03-Aug-07	2	8:30 PM	Florida Stone Crab	2			2	5.6
	03-Aug-07	2	8:30 PM	Iridescent Swimming Crab	10	2		12	29.8
	03-Aug-07	2	8:30 PM	Narrow Mud Crab	1			1	0.9
	03-Aug-07	2	8:30 PM	Pink Shrimp	18	8		26	69.7
	03-Aug-07	2	8:30 PM	Sea Hare	2			2	36.0
				Interval 2 Total	39	10	0	49	528.5
18				24-Hour Total	365	152	0	517	2,365.1

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	17-Aug-07	1	8:30 AM	Atlantic Brief Squid		38		38	96.5
	17-Aug-07	1	8:30 AM	Blotched Swimming Crab	6			6	61.8
	17-Aug-07	1	8:30 AM	Blue Crab	5			5	427.0
	17-Aug-07	1	8:30 AM	Florida Stone Crab	10	4		14	131.6
	17-Aug-07	1	8:30 AM	Iridescent Swimming Crab	29	12		41	93.6
	17-Aug-07	1	8:30 AM	Narrow Mud Crab	2			2	1.6
	17-Aug-07	1	8:30 AM	Pink Shrimp	200	740		940	2,188.3
	17-Aug-07	1	8:30 AM	Sea Hare	6			6	157.2
				Interval 1 Total	258	794	0	1,052	3,157.7
	17-Aug-07	2	10:30 PM	Atlantic Brief Squid		14		14	34.6
	17-Aug-07	2	10:30 PM	Blotched Swimming Crab	4			4	162.4
	17-Aug-07	2	10:30 PM	Florida Stone Crab	2			2	19.6
	17-Aug-07	2	10:30 PM	Iridescent Swimming Crab	14			14	31.4
	17-Aug-07	2	10:30 PM	Longnosed Spider Crab	2			2	2.6
	17-Aug-07	2	10:30 PM	Pink Shrimp	14	18		32	25.9
				Interval 2 Total	36	32	0	68	276.5
19				24-Hour Total	294	826	0	1,120	3,434.2
	31-Aug-07	1	8:30 AM	Atlantic Brief Squid		1		1	7.5
	31-Aug-07	1	8:30 AM	Blotched Swimming Crab	1			1	69.5
	31-Aug-07	1	8:30 AM	Blue Crab	2			2	243.9
	31-Aug-07	1	8:30 AM	Florida Stone Crab	3	1		4	50.2
	31-Aug-07	1	8:30 AM	Pink Shrimp	1			1	1.6
	31-Aug-07	1	8:30 AM	Sea Hare	2			2	45.7
				Interval 1 Total	9	2	0	11	418.4
	31-Aug-07	2	8:45 PM	Atlantic Brief Squid		2		2	17.0
	31-Aug-07	2	8:45 PM	Blue Crab	3			3	405.2
	31-Aug-07	2	8:45 PM	Florida Stone Crab	2			2	13.1
	31-Aug-07	2	8:45 PM	Iridescent Swimming Crab	3			3	8.3
	31-Aug-07	2	8:45 PM	Knotfinger Mud Crab	1			1	0.1
	31-Aug-07	2	8:45 PM	Pink Shrimp	1			1	3.6
	31-Aug-07	2	8:45 PM	Sea Hare	1			1	23.0
				Interval 2 Total	11	2	0	13	470.3
20				24-Hour Total	20	4	0	24	888.7
	14-Sep-07	1	8:30 AM	False Arrow Crab	1			1	0.6
	14-Sep-07	1	8:30 AM	Green Porcelain Crab		1		1	0.6
	14-Sep-07	1	8:30 AM	Pink Shrimp	95	17		112	334.2
	14-Sep-07	1	8:30 AM	Sea Hare	1			1	30.0
				Interval 1 Total	97	18	0	115	365.4
	14-Sep-07	2	8:30 PM	Blotched Swimming Crab	1			1	26.8
	14-Sep-07	2	8:30 PM	Florida Stone Crab	1			1	11.5
	14-Sep-07	2	8:30 PM	Marsh Crab	1			1	NA
	14-Sep-07	2	8:30 PM	Pink Shrimp		3		3	9.0
	14-Sep-07	2	8:30 PM	Sea Hare	1			1	74.2
				Interval 2 Total	4	3	0	7	121.5
21				24-Hour Total	101	21	0	122	486.9
	28-Sep-07	1	9:15 AM	Blue Crab	1			1	25.0
	28-Sep-07	1	9:15 AM	Florida Stone Crab	1			1	131.6
	28-Sep-07	1	9:15 AM	Green Porcelain Crab	1			1	1.4
	28-Sep-07	1	9:15 AM	Iridescent Swimming Crab	1			1	2.8
	28-Sep-07	1	9:15 AM	Pink Shrimp	1			1	3.9
				Interval 1 Total	5	0	0	5	164.7
	28-Sep-07	2	9:00 PM	Blue Crab	2			2	190.0
	28-Sep-07	2	9:00 PM	Iridescent Swimming Crab	4			4	7.6
	28-Sep-07	2	9:00 PM	Narrow Mud Crab	2			2	1.0
	28-Sep-07	2	9:00 PM	Pink Shrimp	2			2	9.6
	28-Sep-07	2	9:00 PM	Um Crab	2			2	2.6
				Interval 2 Total	12	0	0	12	210.8
22				24-Hour Total	17	0	0	17	375.5

Appendix 15 (cont'd)
Summary of Invertebrate Impingement Data: Crystal River Unit 3

Event No.	Date	Interval	Collection Time	Species	Crystal River Unit 3 : Invertebrates Collected				
					Live	Recently Dead	Long Dead	Total	Weight (g)
	12-Oct-07	1	9:00 AM	Florida Stone Crab	2			2	77.0
	12-Oct-07	1	9:00 AM	Green Porcelain Crab	2			2	1.4
	12-Oct-07	1	9:00 AM	Iridescent Swimming Crab	2			2	3.6
	12-Oct-07	1	9:00 AM	Longnosed Spider Crab	2			2	23.4
	12-Oct-07	1	9:00 AM	Narrow Mud Crab	2			2	0.8
	12-Oct-07	1	9:00 AM	Pink Shrimp	4			4	13.0
				Interval 1 Total	14	0	0	14	119.2
	12-Oct-07	2	9:00 PM	Atlantic Brief Squid		1		1	54.5
	12-Oct-07	2	9:00 PM	Blotched Swimming Crab	1			1	53.5
	12-Oct-07	2	9:00 PM	Florida Stone Crab	1			1	3.9
	12-Oct-07	2	9:00 PM	Iridescent Swimming Crab	3			3	10.5
	12-Oct-07	2	9:00 PM	Narrow Mud Crab	2			2	1.8
	12-Oct-07	2	9:00 PM	Pink Shrimp	5	3		8	31.6
	12-Oct-07	2	9:00 PM	Urn Crab		1		1	1.8
				Interval 2 Total	12	5	0	17	157.6
23				24-Hour Total	26	5	0	31	276.8
	26-Oct-07	1	8:33 AM	Atlantic Brief Squid		2		2	15.5
	26-Oct-07	1	8:33 AM	Blue Crab	1			1	19.9
	26-Oct-07	1	8:33 AM	False Arrow Crab	1			1	1.2
	26-Oct-07	1	8:33 AM	Florida Stone Crab	2			2	48.8
	26-Oct-07	1	8:33 AM	Narrow Mud Crab	2			2	2.1
	26-Oct-07	1	8:33 AM	Pink Shrimp	3	2		5	10.0
				Interval 1 Total	9	4	0	13	97.5
	26-Oct-07	2	8:30 PM	Florida Stone Crab	3	1	1	5	27.3
	26-Oct-07	2	8:30 PM	Iridescent Swimming Crab	4			4	23.3
	26-Oct-07	2	8:30 PM	Narrow Mud Crab	3			3	5.9
	26-Oct-07	2	8:30 PM	Spineback Hair Crab		1		1	6.1
				Interval 2 Total	10	2	1	13	62.6
24				24-Hour Total	19	6	1	26	160.1
	09-Nov-07	1 ²	8:50 AM	Atlantic Brief Squid		2		2	17.4
	09-Nov-07	1 ²	8:50 AM	Green Porcelain Crab	2			2	1.9
	09-Nov-07	1 ²	8:50 AM	Iridescent Swimming Crab	17	7		24	144.0
	09-Nov-07	1 ²	8:50 AM	Pink Shrimp	7	2		10	15.1
				Interval 1 Total	27	12	0	39	178.3
	09-Nov-07	2 ²	8:36 PM	Florida Stone Crab	2			2	6.3
	09-Nov-07	2 ²	8:36 PM	Iridescent Swimming Crab	2			2	7.3
	09-Nov-07	2 ²	8:36 PM	Longnosed Spider Crab	2			2	82.1
				Interval 1 Total	7	0	0	7	95.7
25				24-Hour Total	34	12	0	46	274.0
	30-Nov-07	1 ²	8:45 AM	Atlantic Brief Squid		3		3	22.9
	30-Nov-07	1 ²	8:45 AM	Blotched Swimming Crab	1	0		1	23.0
	30-Nov-07	1 ²	8:45 AM	Common Mud Crab	1	0		1	0.4
	30-Nov-07	1 ²	8:45 AM	False Arrow Crab	1	0		1	0.4
	30-Nov-07	1 ²	8:45 AM	Pink Shrimp	1	0		1	3.0
				Interval 1 Total	3	3	0	6	49.7
	30-Nov-07	2 ²	8:36 PM	Atlantic Brief Squid		3		3	14.8
	30-Nov-07	2 ²	8:36 PM	Narrow Mud Crab	1	0		1	0.9
	30-Nov-07	2 ²	8:36 PM	Pink Shrimp	1	0		1	0.9
				Interval 2 Total	1	3	0	4	16.6
26				24-Hour Total	4	6	0	10	66.3
	Grand Total				8,125	6,105	3	14,232	130,272.6

² Impingement data for November 09 and November 30, 2007 - sampling intervals 1, 2 - was estimated using impingement data from Unit 2 – intervals 1 and 2 (adjusted for cooling water volume).

Appendix 16
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		1,648		1,648	14,222.0
Bigclaw Snapping Shrimp	57			57	28.4
Blue Crab	227			227	1,142.2
False Arrow Crab	57			57	11.4
Florida Stone Crab	128			128	7,249.6
Iridescent Swimming Crab	568			568	3,287.4
Pink Shrimp	1,037	227		1,264	5,327.5
DECEMBER 2006	2,074	1,875	0	3,949	31,268.5
Atlantic Brief Squid	0	487		487	6,771.4
Bareye Hermit	57	86		143	243.7
Blue Crab	760	287		1,046	13,800.7
False Arrow Crab	645	244		889	877.2
Florida Stone Crab	14			14	21.5
Iridescent Swimming Crab	72	72		143	970.4
Mantis Shrimp	358	143		502	3,818.6
Pink Shrimp	2,394	2,508		4,902	25,650.7
JANUARY 2007	4,300	3,827	0	8,127	52,154.2
Atlantic Brief Squid	0	226		226	11,038.4
Blue Crab	63			63	1,056.1
False Arrow Crab	225	107		332	527.3
Florida Stone Crab	3			3	194.0
Iridescent Swimming Crab	113	14		127	3,761.8
Mantis Shrimp	20			20	307.5
Pink Shrimp	58			58	2,207.1
FEBRUARY 2007	483	348	0	831	19,092.3
Atlantic Brief Squid	0	180	17	198	2,472.9
Blotched Swimming Crab	17			17	27.5
Blue Crab	47			47	3,853.6
False Arrow Crab	228			228	4,449.5
Florida Grass Shrimp	17	17		34	24.0
Florida Stone Crab	137	17		155	595.9
Gulf Grassflat Crab	52			52	97.9
Iridescent Swimming Crab	17			17	146.0
Isopod sp.	17			17	25.8
Longnosed Spider Crab	4			4	28,342.2
Mantis Shrimp	17			17	46.4
Pink Shrimp	73			73	42,858.4
MARCH 2007	628	215	17	860	82,940.0

Appendix 16 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid	0	539		539	18,092.6
Blotched Swimming Crab	39			39	188.6
Blue Crab	520	147		667	66,344.1
Common Mud Crab	10			10	341.9
False Arrow Crab	294	10		304	592.5
Florida Grass Shrimp	69	59		127	259.4
Florida Stone Crab	98	10		108	2,806.2
Green Porcelain Crab	29			29	59.0
Gulf Grassflat Crab	20			20	11.8
Iridescent Swimming Crab	216			216	2,726.6
Longnosed Spider Crab	20			20	253.5
Mantis Shrimp	20			20	377.3
Narrow Mud Crab	20			20	200.4
Pink Shrimp	2,128	314		2,447	77,378.2
Portly Spider Crab	20			20	495.2
APRIL 2007	3,501	1,079	0	4,585	170,127.3
Atlantic Brief Squid	0	634		634	5,571.2
Atlantic Horseshoe Crab	0	32		32	34,818.3
Blotched Swimming Crab	32			32	611.6
Blue Crab	95	32		127	5,121.2
False Arrow Crab	158	32		190	27.3
Florida Grass Shrimp	158			158	63.4
Florida Stone Crab	63			63	1,777.8
Green Porcelain Crab	63			63	110.9
Gulf Grassflat Crab	32			32	25.4
Iridescent Swimming Crab	317	95		412	709.9
Mantis Shrimp	317	95		412	4,611.0
Pink Shrimp	1,173	665		1,838	19,312.3
Sea Hare	32			32	3,698.3
MAY 2007	2,440	1,585	0	4,025	76,458.4
Atlantic Brief Squid	0	121		121	458.5
Blotched Swimming Crab	91			91	1,624.6
Blue Crab	30			30	236.9
False Arrow Crab	911	425		1,336	414.4
Florida Grass Shrimp	30			30	27.3
Florida Stone Crab	91	30		121	1,283.0
Green Porcelain Crab	91	30		121	63.8
Iridescent Swimming Crab	182			182	385.6
Narrow Mud Crab	30			30	12.1
Peppermint Shrimp	0	30		30	15.2
Pink Shrimp	1,245	638		1,883	13,353.6
Rock Shrimp	30			30	18.2
Sea Hare	91			91	5,714.9
JUNE 2007	2,824	1,275	0	4,099	23,608.2

Appendix 16 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 1
(December 2006 – November 2007)

Species	Crystal River Unit 1 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid	0	199		199	941.5
Blotched Swimming Crab	298	66		365	4,694.2
False Arrow Crab	166			166	86.2
Florida Stone Crab	199			199	3,882.0
Green Porcelain Crab	99			99	79.6
Iridescent Swimming Crab	1,326	464		1,790	4,276.5
Longnosed Spider Crab	33			33	1,289.6
Pink Shrimp	497			497	3,776.0
JULY 2007	2,619	729	0	3,348	19,025.6
Atlantic Brief Squid	0	120		120	362.1
Blotched Swimming Crab	100			100	2,397.1
Blue Crab	123	16		140	11,072.0
False Arrow Crab	204			204	97.8
Florida Stone Crab	100			100	620.1
Iridescent Swimming Crab	282			282	944.7
Narrow Mud Crab	100			100	81.2
Pink Shrimp	1,476	707		2,183	5,894.5
Portly Spider Crab	21			21	620.1
Sea Hare	83			83	1,198.5
AUGUST 2007	2,488	844	0	3,332	23,288.0
Atlantic Brief Squid	31			31	237.2
Blotched Swimming Crab	62			62	2,162.4
Blue Crab	92			92	7,272.7
False Arrow Crab	62			62	27.7
Iridescent Swimming Crab	31			31	70.8
Longnosed Spider Crab	31			31	40.0
Pink Shrimp	246			246	693.1
SEPTEMBER 2007	554	0	0	554	10,503.9
Blue Crab	31			31	1,874.5
Florida Stone Crab	280	124		404	3,375.9
Green Porcelain Crab	62			62	21.8
Iridescent Swimming Crab	124			124	1,199.9
Longnosed Spider Crab	62			62	941.9
Narrow Mud Crab	93			93	80.8
Pink Shrimp	218	62		280	938.8
OCTOBER 2007	870	187	0	1,057	8,433.6
Blotched Swimming Crab	36			36	1,875.6
Blue Crab	36			36	847.6
Florida Stone Crab	72			72	9,085.6
Iridescent Swimming Crab	36			36	180.3
Mantis Shrimp	36			36	189.4
Narrow Mud Crab	36			36	43.3
Pink Shrimp	144			144	515.8
NOVEMBER 2007	397	0	0	397	12,737.5
ANNUAL TOTAL	23,179	11,964	17	35,165	529,637.6

Appendix 17
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		3,455		3,455	26,679.6
Blue Crab	126			126	1,218.6
False Arrow Crab	31			31	14.1
Iridescent Swimming Crab	47			47	359.6
Mantis Shrimp	251			251	904.5
Pink Shrimp	502			502	2,889.4
Portly Spider Crab	16			16	64.4
DECEMBER 2006	974	3,455	0	4,428	32,130.1
Atlantic Brief Squid		127		127	2,741.7
Blotched Swimming Crab	79	95		174	240.9
Blue Crab	32	158		190	15,328.1
False Arrow Crab	1,268	444		1,712	1,212.4
Florida Stone Crab	158			681	221.9
Iridescent Swimming Crab	48	634		254	2,007.9
Mantis Shrimp	190	63		1,315	4,053.9
Pink Shrimp	475	840		158	8,370.9
Portly Spider Crab	48	111		158	507.1
JANUARY 2007	2,298	2,472	0	4,770	34,684.7
Atlantic Brief Squid		430		430	750.4
Blue Crab	168			168	1,180.2
False Arrow Crab	519	168		687	3,268.9
Florida Stone Crab	42			42	189.0
Iridescent Swimming Crab	244	29		273	2,632.0
Mantis Shrimp	28			28	299.6
Pink Shrimp	129	0		129	15,161.7
FEBRUARY 2007	1,130	627	0	1,757	23,481.8
Atlantic Brief Squid		441		441	3,321.2
Blue Crab	208			208	1,803.3
False Arrow Crab	272			272	181.6
Iridescent Swimming Crab	454	169		623	1,992.7
Longnosed Spider Crab	13			13	45.4
Mantis Shrimp	246			246	2,711.5
Pink Shrimp	2,024	208		2,231	23,853.1
MARCH 2007	3,217	817		4,035	33,908.9
APRIL 2007	0	0	0	0	0.0

Appendix 17 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		130		130	462.8
Atlantic Horseshoe Crab		33		33	31,977.5
Blotched Swimming Crab	30			30	561.7
Blue Crab	65	33		98	2,762.1
False Arrow Crab	130	33		163	4.7
Florida Grass Shrimp	130			130	43.7
Florida Stone Crab	62			62	1,632.8
Green Porcelain Crab	65			65	101.9
Gulf Grassflat Crab	30			30	23.3
Iridescent Swimming Crab	190	30		220	157.2
Mantis Shrimp	30	33		62	1,024.5
Pink Shrimp	220	90		309	2,721.3
MAY 2007	953	380	0	1,332	41,473.3
Atlantic Brief Squid		265		265	1,992.8
Blotched Swimming Crab	333			333	4,491.6
Blue Crab	286	86		372	33,922.7
False Arrow Crab	828	452		1,280	264.4
Florida Grass Shrimp	38			38	25.7
Green Porcelain Crab	113	38		151	60.0
Iridescent Swimming Crab	476	86		561	1,103.6
Mantis Shrimp	114			114	9,895.2
Peppermint Shrimp		38		38	14.3
Pink Shrimp	2,590	1,217		3,807	34,494.7
Rock Shrimp	38			38	17.2
Sea Hare	57			57	9,749.4
JUNE 2007	4,872	2,181	0	7,053	96,031.6
Atlantic Brief Squid		393		393	3,827.1
Blotched Swimming Crab	333	30		363	3,754.5
Blue Crab	484	151		635	57,754.7
Florida Stone Crab	30			30	1,270.7
Iridescent Swimming Crab	1,361	393		1,755	3,636.5
Narrow Mud Crab	30			30	21.2
Pink Shrimp	1,331	756		2,088	11,659.7
Sea Hare	61			61	193.6
JULY 2007	3,630	1,724	0	5,355	82,118.0
Atlantic Brief Squid		115		115	1,336.7
Blotched Swimming Crab	192			192	2,692.6
Blue Crab	577	19		596	43,132.9
False Arrow Crab	38			38	7.7
Florida Stone Crab	77			77	605.8
Iridescent Swimming Crab	1,942	885		2,827	7,419.9
Narrow Mud Crab	404	96		500	332.7
Pink Shrimp	7,808	2,500		10,309	28,385.3
Sea Hare	346			346	11,631.9
AUGUST 2007	11,386	3,616	0	15,001	95,545.4

Appendix 17 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 2
(December 2006 – November 2007)

Species	Crystal River Unit 2 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Blotched Swimming Crab	60			60	1,290.9
Blue Crab	90			90	8,675.9
False Arrow Crab	30			30	9.0
Florida Stone Crab	120			120	696.5
Iridescent Swimming Crab	90			90	297.2
Longnosed Spider Crab	60			60	156.1
Pink Shrimp	1,801	901		2,702	7,233.4
SEPTEMBER 2007	2,252	901	0	3,152	18,359.0
Atlantic Horseshoe Crab	164			164	179,957.1
Blotched Swimming Crab	33			33	1,863.9
Blue Crab	66			66	1,821.4
Florida Stone Crab	459	131		590	7,685.1
Green Porcelain Crab	98			98	121.2
Iridescent Swimming Crab	164			164	877.9
Longnosed Spider Crab	197	33		229	2,866.3
Narrow Mud Crab	98			98	117.9
Pink Shrimp	590	229		819	3,482.2
OCTOBER 2007	1,867	393	0	2,260	198,793.1
Atlantic Brief Squid		324		324	1,946.6
Blotched Swimming Crab	29			29	1,061.8
Common Mud Crab	29			29	17.7
False Arrow Crab	29			29	17.7
Florida Stone Crab	29			29	76.7
Green Porcelain Crab	29			29	23.6
Iridescent Swimming Crab	236	88		324	1,837.5
Longnosed Spider Crab	29			29	996.9
Narrow Mud Crab	29			29	41.3
Pink Shrimp	147	29		177	362.8
NOVEMBER 2007	590	442	0	1,032	6,382.5
ANNUAL TOTAL	33,168	17,009	0	50,178	662,908.3

Appendix 18
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		3,271		3,271	16,061.1
Blotched Swimming Crab	31	31		62	62.0
Blue Crab	2,170			2,170	170,112.5
False Arrow Crab	93			93	62.0
Florida Stone Crab	62			62	598.3
Green Porcelain Crab	31			31	77.5
Iridescent Swimming Crab	1,643			1,643	6,420.1
Mantis Shrimp	93			93	1,627.5
Pink Shrimp	2,046	124		2,170	28,138.7
Portly Spider Crab	310			310	2,362.2
DECEMBER 2006	6,479	3,426	0	9,905	225,521.9
Atlantic Brief Squid	0	10,912		10,912	39,931.0
Blue Crab	2,976	1,814		4,790	97,470.2
False Arrow Crab	3,007	1,116		4,123	4,743.0
Florida Stone Crab	574	357		930	1,767.0
Iridescent Swimming Crab	1,674	527		2,201	6,141.1
Mantis Shrimp	1,442	729		2,170	21,173.0
Pink Shrimp	5,379	1,845		7,223	44,486.6
Portly Spider Crab	31			31	133.3
JANUARY 2007	15,082	17,298	0	32,380	215,845.1
Atlantic Brief Squid		11,440		11,440	83,073.0
Blue Crab	3,867	1,361		5,228	77,492.2
False Arrow Crab	14,566	2,264		16,830	4,324.0
Florida Stone Crab	27			27	5.4
Iridescent Swimming Crab	7,963	1,806		9,769	60,976.9
Mantis Shrimp	296			296	1,932.2
Pink Shrimp	2,345	768		3,113	27,506.9
Speckled Swimming Crab	27			27	56.6
Stone Crab	108			108	75.5
FEBRUARY 2007	29,199	17,638	0	46,837	255,442.6
Atlantic Brief Squid		11,891		11,891	113,552.2
Banded Dwarf Hermit Crab	25			25	7.4
Blotched Swimming Crab	74			74	84.1
Blue Crab	5,420	1,188	12	6,620	41,129.2
False Arrow Crab	3,947	1,373		5,321	3,615.1
Florida Grass Shrimp	223	99		322	295.7
Florida Stone Crab	87	12		99	1,058.0
Green Porcelain Crab	12	37		49	37.1
Gulf Grassflat Crab	235	37	12	285	1,443.4
Iridescent Swimming Crab	1,151	210		1,361	4,150.2
Isopod sp.	297	148		445	120.0
Longnosed Spider Crab	37			37	789.5
Mantis Shrimp	1,807	359		2,165	23,585.8
Narrow Mud Crab	49	49		99	188.1
Pink Shrimp	11,347	2,091		13,438	176,265.2
Urn Crab	25			25	29.7
MARCH 2007	24,735	17,497	25	42,257	366,350.8

Appendix 18 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		1,650		1,650	18,414.0
Blotched Swimming Crab	120			120	192.0
Blue Crab	1,590	450		2,040	67,522.5
Common Mud Crab	30			30	348.0
False Arrow Crab	900	30		930	603.0
Florida Grass Shrimp	210	180		390	264.0
Florida Stone Crab	300	30		330	2,856.0
Green Porcelain Crab	90			90	60.0
Gulf Grassflat Crab	60			60	12.0
Iridescent Swimming Crab	660			660	2,775.0
Longnosed Spider Crab	60			60	258.0
Mantis Shrimp	60			60	384.0
Narrow Mud Crab	60			60	204.0
Pink Shrimp	6,510	960		7,470	78,752.5
Portly Spider Crab	60			60	504.0
APRIL 2007	10,710	3,300	0	14,010	173,149.0
Atlantic Brief Squid		1,023		1,023	10,217.2
Atlantic Horseshoe Crab	31			31	34,059.7
Bigclaw Snapping Shrimp	31			31	170.5
Blotched Swimming Crab	279	62		341	9,219.4
Blue Crab	3,441	744		4,185	428,765.3
False Arrow Crab		62		62	99.2
Florida Grass Shrimp	279	62		341	331.7
Florida Stone Crab	620	155		775	10,831.4
Gulf Grassflat Crab	62	155		217	179.8
Iridescent Swimming Crab	868	279		1,147	6,854.1
Knotfinger Mud Crab		31		31	210.8
Longnosed Spider Crab		31		31	1,091.2
Mantis Shrimp	1,581	310		1,891	27,860.9
Pink Shrimp	14,911	17,174		32,085	392,991.0
Portly Spider Crab		31		31	911.4
Sea Hare	310	31		341	33,938.8
MAY 2007	22,413	20,150	0	42,563	957,732.4
Atlantic Brief Squid		630		630	5,076.0
Blotched Swimming Crab	120			120	4,359.0
Blue Crab	690	120		810	54,516.0
Cancellate Cantharus Snail	60			60	354.0
False Arrow Crab	180			180	60.0
Florida Grass Shrimp	30			30	18.0
Florida Stone Crab	870	210		1,080	7,785.0
Green Porcelain Crab	90			90	69.0
Gulf Grassflat Crab	90			90	111.0
Iridescent Swimming Crab	540	180		720	8,721.0
Mantis Shrimp	90	30		120	1,938.0
Pink Shrimp	8,610	990		9,600	44,540.3
Pink Shrimp	1,260	2,520		3,780	36,078.0
Sea Hare	180			180	13,455.0
Sea Roach	60			60	42.0
JUNE 2007	12,870	4,680	0	17,550	177,122.3

Appendix 18 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid		1,581		1,581	7,727.7
Blotched Swimming Crab	589	62		651	10,778.7
Blue Crab	93			93	7,285.0
False Arrow Crab	93			93	46.5
Florida Stone Crab	465			465	5,282.4
Green Porcelain Crab	31	31		62	96.1
Gulf Grassflat Crab	31			31	18.6
Iridescent Swimming Crab	1,364	310		1,674	4,064.1
Narrow Mud Crab	31			31	21.7
Pink Shrimp	1,705	1,178		2,883	12,530.6
Sea Hare	1,116			1,116	24,517.9
Shortfinger Neck Crab	31			31	24.8
JULY 2007	5,549	3,162	0	8,711	72,394.1
Atlantic Brief Squid	0	1,633		1,633	4,910.8
Blotched Swimming Crab	434	41		475	9,149.1
Blue Crab	413	41		455	36,356.8
False Arrow Crab	41			41	28.9
Florida Stone Crab	517	103		620	5,329.9
Iridescent Swimming Crab	1,901	455		2,356	4,996.0
Knotfinger Mud Crab	21			21	2.1
Longnosed Spider Crab	41			41	53.7
Narrow Mud Crab	62			62	51.7
Pink Shrimp	10,209	18,021		28,231	68,305.0
Sea Hare	393			393	9,033.4
AUGUST 2007	14,033	20,295	0	34,327	138,217.6
Blotched Swimming Crab	30			30	804.0
Blue Crab	90			90	6,450.0
False Arrow Crab	30			30	18.0
Florida Stone Crab	60			60	4,293.0
Green Porcelain Crab	30	30		60	60.0
Iridescent Swimming Crab	150			150	312.0
Marsh Crab	30			30	0.0
Narrow Mud Crab	60			60	30.0
Pink Shrimp	2,940	600		3,540	10,699.8
Sea Hare	60			60	3,126.0
Urn Crab	60			60	78.0
SEPTEMBER 2007	3,540	630	0	4,170	25,870.8

Appendix 18 (cont'd)
Estimated Monthly Impingement of Invertebrates: Crystal River Unit 3
(December 2006 – November 2007)

Species	Crystal River Unit 3 - Estimated Monthly Impingement				
	Live	Recently dead	Long dead	Total #	Weight (g)
Atlantic Brief Squid	0	93		93	2,170.0
Blotched Swimming Crab	31			31	1,658.5
Blue Crab	31			31	616.9
False Arrow Crab	31			31	37.2
Florida Stone Crab	248	31	31	310	4,865.5
Green Porcelain Crab	62			62	43.4
Iridescent Swimming Crab	279			279	1,159.4
Longnosed Spider Crab	62			62	725.4
Narrow Mud Crab	279			279	328.6
Pink Shrimp	372	155		527	1,692.6
Spineback Hairy Crab		31		31	189.1
Urn Crab		31		31	55.8
OCTOBER 2007	1,395	341	31	1,767	13,542.4
Atlantic Brief Squid		307		307	1,914.3
Blotched Swimming Crab	22			22	801.6
Common Mud Crab	22			22	13.4
False Arrow Crab	22			22	13.4
Florida Stone Crab	84			84	219.6
Green Porcelain Crab	84			84	67.6
Iridescent Swimming Crab	676	253		929	5,261.8
Longnosed Spider Crab	84			84	2,854.7
Narrow Mud Crab	22	0		22	31.2
Pink Shrimp	298	84		382	659.5
NOVEMBER 2007	1,316	645	0	1,961	11,837.0
2007 TOTAL	140,842	105,635	56	246,533	2,407,503.9
ANNUAL TOTAL	147,321	109,061	56	256,437	2,633,025.8

Appendix 19
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Atlantic Brief Squid - Lolliguncula brevis													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9						1							
10 - 19		6	4	9	1	3	1		5				
20 - 29	11	65	34	35	6	12	5	16	26		1	2	
30 - 39	50	22	22	41	7	16	13	21	16			4	
40 - 49	42	14	12	26	11	5	3	11	8	1	1	4	
50 - 59	10	10	3	20	4	2	4	5	1			1	
60 - 69	1	7	5	8	4	3	2						
70 - 79		1	2	4				1	1				
80 - 89	1	1	2	8		2							
90 - 99		3	1	2	1						1		
100 - 109		1	1				1						
110 - 119			1										
120 - 129													
130 - 139													
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	115	130	87	153	34	44	29	54	57	1	3	11	0
Maximum	80	105	110	95	99	87	100	74	75	40	90	55	N/A
Minimum	21	13	14	13	14	8	19	21	15	40	20	20	N/A
Average	38	35	37	41	43	36	39	35	31	40	52	36	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Blotched Swimming Crab - Portunus spinimanus													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 4													
5 - 9													
10 - 14													
15 - 19				1	1								
20 - 24	1			1				1					
25 - 29	1	1		1	1	1	1		1				
30 - 34						1	1	5	1				
35 - 39							1	2	3				
40 - 44								9	3				
45 - 49		1				2	5	10	6	1			
50 - 54							4	5	5				
55 - 59						1	1	5	2	1			
60 - 64						1	2	1	1	2	1		
65 - 69						1		1		1		1	
70 - 74								2	2			1	
75 - 79						2			1		1		
80 - 84													
85 - 89							1		1				
90 - 94													
95 - 99													
Sample Size	2	2	0	3	2	9	16	41	26	5	2	2	0
Maximum	27	45	N/A	27	26	77	85	73	85	68	76	74	N/A
Minimum	23	27	N/A	19	19	26	27	22	29	48	64	68	N/A
Average	25	36	N/A	23	23	55	49	47	51	59	70	71	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Blue Crab - <i>Callinectes sapidus</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19		2		2	1								
20 - 29	2	13	17	33	16								
30 - 39	3	19	12	36	8	4	2	2		1			
40 - 49	5	8	11	7	6	2	5	3	5	1			
50 - 59	3	2	3	3	2	2	2	1	4				
60 - 69	3	2	8	4	1	8	4	2	1				
70 - 79	1	1	5	2	1	5	2		1	1	2	1	
80 - 89	1	2				4	4		1				
90 - 99		1		2	1	3	1			1	1		
100 - 109		1		2	1	2	2		3	1	1		
110 - 119		1	2	3		9	3	3	4				
120 - 129	2		3	1	1	6	1	2	7	2			
130 - 139	5	2	1		2	6	1	4	3	1			
140 - 149	2	4	1	1	1	16	3	3	6				
150 - 159	3	1	3	1	1	6	6	2	1				
160 - 169		1	2	2		1	1	1					
170 - 179			1		1								
180 - 189													
190 - 199													
Sample Size	30	60	69	99	43	74	37	23	36	8	4	1	0
Maximum	156	167	174	160	176	164	161	165	152	136	102	71	N/A
Minimum	20	15	20	19	19	30	34	30	40	39	70	71	N/A
Average	84	55	61	45	53	108	96	104	103	92	85	71	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

False Arrow Crab - Metoporhaphis calcarata													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
0.1 - 2.4			7			2							
2.5 - 4.9									2				
5.0 - 7.4	1	21	8	18	6	2	34	3	5	2			
7.5 - 9.9		22	10	48	12		4	4	3	2			
10.0 - 12.4	4	32	23	31	2	3	3	1	2		1	1	
12.5 - 14.9	1	2	6	2									
15.0 - 17.4		1	7	3									
17.5 - 19.9													
20.0 - 22.4		1	1	2									
22.5 - 24.9													
25.0 - 27.4													
27.5 - 29.9													
30.0 - 32.4													
32.5 - 34.9													
35.0 - 37.4													
37.5 - 39.9													
40.0 - 42.4													
42.5 - 44.9													
45.0 - 47.4													
47.5 - 49.9													
Sample Size	6	79	62	104	20	7	41	8	12	4	1	1	0
Maximum	13	20	22	21	10	11	10	10	11	8	10	10	N/A
Minimum	5	5	1	6	5	1	5	6	4	7	10	10	N/A
Average	10	9	10	9	8	7	7	8	7	8	10	10	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Florida Stone Crab - <i>Menippe mercenaria</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 4													
5 - 9										1			
10 - 14		3	2		2	1	5	1			1		
15 - 19	1	3		5	2	3	4	4	4		7		
20 - 24		2	1	2	2	3	1	4	9	1	6		
25 - 29				5	1	2	8	1	6	1	7	1	
30 - 34				1		2	4	6	5		9		
35 - 39	2				3	3	3		5		2	1	
40 - 44	1					3	1		3	2	3		
45 - 49					1	2	1	2	1		2		
50 - 54				1		1	1	1					
55 - 59							1	2			1		
60 - 64						1					1		
65 - 69	1												
70 - 74										1			
75 - 79													
80 - 84													
85 - 89												1	
90 - 94													
95 - 99													
Sample Size	5	8	3	14	11	21	29	21	33	6	39	3	0
Maximum	65	23	21	53	48	61	55	57	48	70	61	85	N/A
Minimum	19	11	11	15	11	12	11	12	15	9	13	25	N/A
Average	40	17	14	24	26	33	28	31	29	34	29	49	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Iridescent Swimming Crab - Portunus gibbesii													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 4													
5 - 9													
10 - 14		3	2			1	1						
15 - 19	2	1				6	1	2	1				
20 - 24	5	5	5	1	1	11	5	24	13	1	2		
25 - 29	12	2	15	11	1	2	13	54	35		1	2	
30 - 34	16	8	15	5	3	4	13	51	58	4	6	1	
35 - 39	6	6	10	7	5	6	5	23	29	2	1	7	
40 - 44	3	3	8	3	1	5	3	4	4		5	1	
45 - 49	4	6	14	6	2	4	1	2	1				
50 - 54	4	1	10	1				1					
55 - 59	3							1			1		
60 - 64		1										1	
65 - 69											1		
70 - 74													
75 - 79													
80 - 84						1	2						
85 - 89													
90 - 94													
95 - 99													
Sample Size	55	36	79	34	13	40	44	162	141	7	17	12	0
Maximum	55	60	54	50	48	81	83	55	45	39	66	60	N/A
Minimum	16	11	10	24	23	11	14	15	19	23	20	27	N/A
Average	34	34	36	35	36	31	32	30	31	32	37	38	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Mantis Shrimp - <i>Squilla empusa</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9													
10 - 19													
20 - 29													
30 - 39													
40 - 49													
50 - 59		1		1									
60 - 69	1	3	1	1		3						1	
70 - 79		3	2	4	1	4						1	
80 - 89	1	6	1	4		8							
90 - 99		2	2	5		7	2						
100 - 109		3				6							
110 - 119		4				7	1						
120 - 129		3				3	3						
130 - 139		1					2						
140 - 149													
150 - 159													
160 - 169													
170 - 179													
180 - 189													
190 - 199													
Sample Size	2	26	6	15	1	38	8	0	0	0	0	2	0
Maximum	80	133	98	99	78	126	133	N/A	N/A	N/A	N/A	75	N/A
Minimum	65	56	64	51	78	61	90	N/A	N/A	N/A	N/A	68	N/A
Average	73	94	82	82	78	95	116	N/A	N/A	N/A	N/A	72	N/A

Appendix 19 (Cont'd)
Length Distribution of Invertebrates Impinged at Crystal River
(December 2006 – November 2007)

Pink Shrimp - <i>Farfantepenaeus duorarum</i>													
Length Range (TL, mm)	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
1 - 9										1			
10 - 19													
20 - 29										2			
30 - 39		1	3		2		3	4	6	1	1	1	
40 - 49		10	1	3	9	2	21	8	31	3	6	4	
50 - 59	2	12	2	1	5	1	16	6	33	12	6	2	
60 - 69	4	17	1	6	2	1	9	12	97	18	13		
70 - 79	6	25		6	3	3	7	19	59	8	12	1	
80 - 89	7	22	3	6	2	9	18	19	16	16	5	1	
90 - 99	3	22	3	11	10	23	30	8	1	2	4	1	
100 - 109	1	7	3	35	9	24	13	11			2		
110 - 119	1	12	3	36	7	23	23	7					
120 - 129	1	2	2	17	5	13	7	3					
130 - 139	2	1		19	1	3							
140 - 149	2			3				1					
150 - 159			1	4									
160 - 169				3									
170 - 179													
180 - 189													
190 - 199													
Sample Size	29	131	22	150	55	102	147	98	243	63	49	10	0
Maximum	148	139	150	165	130	135	129	140	92	92	105	90	N/A
Minimum	50	37	33	43	37	42	35	33	32	7	36	38	N/A
Average	89	80	87	110	86	102	83	79	63	66	69	58	N/A

Appendix 20
Diel Distribution of Invertebrates Impinged at Crystal River Unit 1
(December 2006- November 2007)

Event No.	Date	Unit 1 Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.435	0.018
2	22-Dec-06	0.002	0.010
3	05-Jan-07	0.808	0.128
4	19-Jan-07	0.010	0.033
5	02-Feb-07	0.079	0.098
6	16-Feb-07	0.003	0.015
7	2-Mar-07	Crystal River Unit 1 was not operating	
8	16-Mar-07	0.003	0.029
9	30-Mar-07	0.124	0.031
10	13-Apr-07	0.041	0.392
11	27-Apr-07	0.029	0.073
12	11-May-07	0.010	0.262
13	25-May-07	0.042	0.105
14	08-Jun-07	0.003	0.185
15	22-Jun-07	0.016	0.258
16	06-Jul-07	0.105	0.051
17	20-Jul-07	0.045	0.156
18	03-Aug-07	0.043	0.088
19	17-Aug-07	0.128	0.179
20	31-Aug-07	0.012	0.049
21	14-Sep-07	0.015	0.015
22	28-Sep-07	0.015	0.012
23	12-Oct-07	0.033	0.058
24	26-Oct-07	0.012	0.000
25	09-Nov-07	0.009	0.040
26	30-Nov-07	0.010	0.000

Appendix 21
Diel Distribution of Invertebrates Impinged at Crystal River Unit 2
(December 2006- November 2007)

Event No.	Date	Unit 2 Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.100	0.330
2	22-Dec-06	0.000	0.004
3	05-Jan-07	0.194	0.282
4	19-Jan-07	0.012	0.042
5	02-Feb-07	0.075	0.098
6	16-Feb-07	0.003	0.029
7	2-Mar-07	0.015	0.461
8	16-Mar-07	0.003	0.029
9	30-Mar-07	Crystal River Unit 2 was not operating	
10	13-Apr-07	Crystal River Unit 2 was not operating	
11	27-Apr-07	Crystal River Unit 2 was not operating	
12	11-May-07	Crystal River Unit 2 was not operating	
13	25-May-07	0.042	0.105
14	08-Jun-07	0.003	0.185
15	22-Jun-07	0.053	0.353
16	06-Jul-07	0.132	0.060
17	20-Jul-07	0.029	0.203
18	03-Aug-07	0.043	0.401
19	17-Aug-07	0.764	0.692
20	31-Aug-07	0.007	0.019
21	14-Sep-07	0.005	0.222
22	28-Sep-07	0.010	0.016
23	12-Oct-07	0.017	0.147
24	26-Oct-07	0.005	0.029
25	09-Nov-07	0.008	0.044
26	30-Nov-07	0.019	0.025

Appendix 22
Diel Distribution of Invertebrates Impinged at Crystal River Unit 3
(December 2006- November 2007)

Event No.	Date	Unit 3 Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	08-Dec-06	0.113	0.191
2	22-Dec-06	0.011	0.050
3	05-Jan-07	0.424	0.509
4	19-Jan-07	0.159	0.104
5	02-Feb-07	0.129	1.600
6	16-Feb-07	0.122	0.139
7	2-Mar-07	0.227	1.026
8	16-Mar-07	0.234	0.192
9	30-Mar-07	0.375	0.177
10	13-Apr-07	0.041	0.392
11	27-Apr-07	0.029	0.073
12	11-May-07	0.035	1.138
13	25-May-07	0.034	0.357
14	08-Jun-07	0.062	0.201
15	22-Jun-07	0.013	0.394
16	06-Jul-07	0.068	0.026
17	20-Jul-07	0.034	0.193
18	03-Aug-07	0.056	0.536
19	17-Aug-07	0.078	1.204
20	31-Aug-07	0.015	0.013
21	14-Sep-07	0.008	0.132
22	28-Sep-07	0.014	0.006
23	12-Oct-07	0.019	0.016
24	26-Oct-07	0.015	0.015
25	09-Nov-07	0.008	0.044
26	30-Nov-07	0.019	0.025

Appendix 23
Summary of Central Trawl Data: Fish Collected

Event No.	Date	Interval	Location	Central Trawl: Fish Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	Central	Pinfish	4	50.7
	21-Dec-06	Night-1	Central	Silver Perch	1	31.5
	21-Dec-06	Night-1	Central	Spotfin Mojarra	2	36.5
				Night 1 Total	7	118.7
	21-Dec-06	Night-2	Central	Atlantic Stingray	1	836.5
	21-Dec-06	Night-2	Central	Gulf Flounder	1	9.6
	21-Dec-06	Night-2	Central	Gulf Kingfish	1	7.3
	21-Dec-06	Night-2	Central	Hardhead Catfish	5	75.1
	21-Dec-06	Night-2	Central	Inshore Lizardfish	1	134.9
	21-Dec-06	Night-2	Central	Leopard Searobin	3	66.1
	21-Dec-06	Night-2	Central	Pigfish	2	35.3
	21-Dec-06	Night-2	Central	Pinfish	6	74.5
	21-Dec-06	Night-2	Central	Polka-dot Batfish	2	49.3
	21-Dec-06	Night-2	Central	Scrawled Cowfish	5	146.6
	21-Dec-06	Night-2	Central	Silver Perch	3	79.3
	21-Dec-06	Night-2	Central	Spotfin Mojarra	1	20.6
	21-Dec-06	Night-2	Central	Spotted Seatrout	1	59.0
				Night 2 Total	32	1,594.1
	21-Dec-06	Night-3	Central	Blackcheek Tonguefish	1	17.0
	21-Dec-06	Night-3	Central	Gulf Flounder	1	12.4
	21-Dec-06	Night-3	Central	Hardhead Catfish	4	74.7
	21-Dec-06	Night-3	Central	Pinfish	2	33.4
	21-Dec-06	Night-3	Central	Striped Burrfish	1	419.1
				Night 3 Total	9	556.6
	22-Dec-06	Day-1	Central	Scrawled Cowfish	1	271.0
				Day 1 Total	1	271.0
	22-Dec-06	Day-2	Central	Polka-dot Batfish	1	9.5
				Day 2 Total	1	9.5
				Day 3 Total	0	0.0
1	22-Dec-06			TOTAL	50	2,549.9
	18-Jan-07	Night-1	Central	Spotted Seatrout	1	96.2
				Night 1 Total	1	96.2
	18-Jan-07	Night-2	Central	Pinfish	35	806.4
	18-Jan-07	Night-2	Central	Scrawled Cowfish	4	774.5
	18-Jan-07	Night-2	Central	Silver Perch	6	233.4
	18-Jan-07	Night-2	Central	Spotted Seatrout	1	127.3
				Night 2 Total	46	1,941.6
	18-Jan-07	Night-3	Central	Night 3 Total	0	0.0
	19-Jan-07	Day-1	Central	Day 1 Total	0	0.0
	19-Jan-07	Day-2	Central	Polka-dot Batfish	1	79.2
	19-Jan-07	Day-2	Central	Sand Perch	1	43.5
				Day 2 Total	2	122.7
	19-Jan-07	Day-3	Central	Day 3 Total	0	0.0
2	19-Jan-07			TOTAL	49	2,160.5

Appendix 23 (cont'd)
Summary of Central Trawl Data: Fish Collected

Event No.	Date	Interval	Location	Central Trawl: Fish Collected		
				Species	Total #	Weight (g)
	15-Feb-07	Night-1	Central	Atlantic Croaker	1	60.5
	15-Feb-07	Night-1	Central	Atlantic Stingray	1	824.0
	15-Feb-07	Night-1	Central	Pigfish	3	108.0
				Night 1 Total	5	992.5
	15-Feb-07	Night-2	Central	Black Sea Bass	2	35.1
	15-Feb-07	Night-2	Central	Orange Filefish	1	343.4
	15-Feb-07	Night-2	Central	Pigfish	21	606.4
	15-Feb-07	Night-2	Central	Pinfish	29	877.3
	15-Feb-07	Night-2	Central	Polka-dot Batfish	1	39.6
	15-Feb-07	Night-2	Central	Sand Perch	1	44.5
	15-Feb-07	Night-2	Central	Scrawled Cowfish	3	631.7
	15-Feb-07	Night-2	Central	Silver Perch	3	137.2
				Night 2 Total	61	2,715.2
	15-Feb-07	Night-3	Central	Pigfish	8	297.7
	15-Feb-07	Night-3	Central	Silver Perch	1	25.3
	15-Feb-07	Night-3	Central	Spot	1	29.6
				Night 3 Total	10	352.6
	16-Feb-07	Day-1	Central	Bighead Searobin	1	6.5
	16-Feb-07	Day-1	Central	Polka-dot Batfish	1	42.2
	16-Feb-07	Day-1	Central	Scrawled Cowfish	1	8.1
				Day 1 Total	3	56.8
	16-Feb-07	Day-2	Central	Polka-dot Batfish	1	4.0
	16-Feb-07	Day-2	Central	Planehead Filefish	1	108.8
				Day 2 Total	2	112.8
	16-Feb-07	Day-3	Central		0	0.0
3	16-Feb-07			TOTAL	81	4,229.9
	16-Mar-07	Day-1	Central	Pinfish	1	25.5
				Day 1 Total	1	25.5
4*	16-Mar-07			TOTAL	1	25.5
	26-Apr-07	Night-1	Central	Silver Perch	1	26.5
				Night 1 Total	1	26.5
	26-Apr-07	Night-2	Central	Atlantic Spadefish	1	48.2
	26-Apr-07	Night-2	Central	Hardhead Catfish	1	69.9
	26-Apr-07	Night-2	Central	Pigfish	2	55.6
	26-Apr-07	Night-2	Central	Polka-dot Batfish	1	74.2
				Night 2 Total	5	247.9
	26-Apr-07	Night-3	Central	Striped Burrfish	1	270.4
				Night 3 Total	1	270.4
5**	26-Apr-07			TOTAL	7	544.8
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas)					

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl conducted.

** No day trawl on April 27, 2007 due to hazardous weather condition.

Appendix 23 (cont'd)
Summary of Central Trawl Data: Fish Collected

Event No.	Date	Interval	Location	Central Trawl: Fish Collected		
				Species	Total #	Weight (g)
	21-Jun-07	Night-1	Central	Black Sea Bass	3	46.3
	21-Jun-07	Night-1	Central	Hardhead Catfish	2	133.5
	21-Jun-07	Night-1	Central	Leopard Toadfish	1	23.5
	21-Jun-07	Night-1	Central	Pigfish	2	5.8
	21-Jun-07	Night-1	Central	Pinfish	29	322.8
	21-Jun-07	Night-1	Central	Silver Perch	1	43.1
	21-Jun-07	Night-1	Central	Striped Burrfish	1	80.9
				Night 1 Total	39	655.9
	21-Jun-07	Night-2	Central	Pigfish	1	36.6
	21-Jun-07	Night-2	Central	Pinfish	1	4.2
				Night 2 Total	2	40.8
	21-Jun-07	Night-3	Central	Pigfish	1	42.2
				Night 3 Total	1	42.2
	22-Jun-07	Day-1	Central	Polka-dot Batfish	1	191.2
				Day 1 Total	1	191.2
	22-Jun-07	Day-2	Central	Day 2 Total	0	0.0
	22-Jun-07	Day-3	Central	Polka-dot Batfish	4	393.7
				Day 3 Total	4	393.7
7	21-Jun-07			TOTAL	47	1,323.8
	19-Jul-07	Night-1	Central	Lane Snapper	1	20.0
	19-Jul-07	Night-1	Central	Leopard Seabroin	1	43.2
	19-Jul-07	Night-1	Central	Pigfish	10	211.6
	19-Jul-07	Night-1	Central	Pinfish	1	53.9
	19-Jul-07	Night-1	Central	Polka-dot Batfish	3	216.1
	19-Jul-07	Night-1	Central	Silver Perch	3	129.3
	19-Jul-07	Night-1	Central	White Grunt	1	51.4
				Night 1 Total	20	725.5
	19-Jul-07	Night-2	Central	Night 2 Total	0	0.0
	19-Jul-07	Night-3	Central	Night 3 Total	0	0.0
	20-Jul-07	Day-1	Central	Pigfish	1	61.1
	20-Jul-07	Day-1	Central	Pinfish	1	7.6
				Day 1 Total	2	68.7
	20-Jul-07	Day-2	Central	Polka-dot Batfish	1	77.6
				Day 2 Total	1	77.6
	20-Jul-07	Day-3	Central	Day 3 Total	0	0.0
8	20-Jul-07			TOTAL	23	871.8
	30-Aug-07	Night-1	Central	Pigfish	1	99.5
	30-Aug-07	Night-1	Central	Pinfish	1	40.0
				Night 1 Total	2	139.5
				Day 1 Total	0	0.0
9***	30-Aug-07			TOTAL	2	139.5
10	No trawls were conducted on September 27, 2007 due to boat engine failure					

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather condition.

Appendix 23 (cont'd)
Summary of Central Trawl Data: Fish Collected

Event No.	Date	Interval	Location	Central Trawl: Fish Collected		
				Species	Total #	Weight (g)
	25-Oct-07	Night-1	Central	Atlantic Bumper	1	7.5
	25-Oct-07	Night-1	Central	Pigfish	1	45.2
	25-Oct-07	Night-1	Central	Pinfish	1	29.3
	25-Oct-07	Night-1	Central	Sand Perch	1	51.8
				Night 1 Total	4	133.8
	25-Oct-07	Night-2	Central	Pigfish	3	104.8
	25-Oct-07	Night-2	Central	Pinfish	1	70.5
	25-Oct-07	Night-2	Central	Silver Perch	1	57.2
	25-Oct-07	Night-2	Central	Spotfin Mojarra	1	28.7
				Night 2 Total	6	261.2
	25-Oct-07	Night-3	Central	Pigfish	1	50.7
	25-Oct-07	Night-3	Central	Spotfin Mojarra	1	23.3
				Night 3 Total	2	74.0
	26-Oct-07	Day-1	Central	Atlantic Spadefish	1	28.3
	26-Oct-07	Day-1	Central	Grass Porgy	1	50.4
	26-Oct-07	Day-1	Central	Pinfish	1	52.0
	26-Oct-07	Day-1	Central	Spotfin Mojarra	2	43.1
				Day 1 Total	5	173.8
	26-Oct-07	Day-2	Central	Atlantic Threadfin Herring	1	30.0
	26-Oct-07	Day-2	Central	Pinfish	1	67.2
				Day 2 Total	2	97.2
	26-Oct-07	Day-3	Central	Atlantic Spadefish	1	44.9
	26-Oct-07	Day-3	Central	Grass Porgy	3	165.3
	26-Oct-07	Day-3	Central	Pigfish	1	38.5
	26-Oct-07	Day-3	Central	Pinfish	6	275.9
	26-Oct-07	Day-3	Central	Spotfin Mojarra	15	428.8
	26-Oct-07	Day-3	Central	White Grunt	1	81.1
				Day 3 Total	27	1,034.5
11	26-Oct-07			TOTAL	46	1,774.5

Appendix 23 (cont'd)
Summary of Central Trawl Data: Fish Collected

Event No.	Date	Interval	Location	Central Trawl: Fish Collected		
				Species	Total #	Weight (g)
	08-Nov-07	Night-1	Central	Hardhead Catfish	1	11.4
	08-Nov-07	Night-1	Central	Pigfish	1	42.3
	08-Nov-07	Night-1	Central	Pinfish	6	168.7
	08-Nov-07	Night-1	Central	Silver Perch	9	425.9
	08-Nov-07	Night-1	Central	Spotfin Mojarra	2	37.0
				Night 1 Total	19	685.3
	08-Nov-07	Night-2	Central	Grass Porgy	3	96.6
	08-Nov-07	Night-2	Central	Pigfish	2	53.5
	08-Nov-07	Night-2	Central	Pinfish	7	165.6
	08-Nov-07	Night-2	Central	Scrawled Cowfish	2	195.8
	08-Nov-07	Night-2	Central	Silver Perch	6	318.5
	08-Nov-07	Night-2	Central	Spot	1	53.8
	08-Nov-07	Night-2	Central	Spotfin Mojarra	1	46.7
				Night 2 Total	22	930.5
	08-Nov-07			Night 3 Total	0	0.0
	09-Nov-07	Day-1	Central	Atlantic Stingray	1	890.3
	09-Nov-07	Day-1	Central	Pigfish	5	93.0
	09-Nov-07	Day-1	Central	Pinfish	15	264.0
	09-Nov-07	Day-1	Central	Scrawled Cowfish	1	66.4
	09-Nov-07	Day-1	Central	Silver Perch	19	713.6
	09-Nov-07	Day-1	Central	Spotfin Mojarra	1	19.4
				Day 1 Total	42	2,046.7
	09-Nov-07	Day-2	Central	Grass Porgy	1	77.2
	09-Nov-07	Day-2	Central	Pigfish	5	110.5
	09-Nov-07	Day-2	Central	Pinfish	5	117.5
	09-Nov-07	Day-2	Central	Polka-dot Batfish	1	14.0
	09-Nov-07	Day-2	Central	Scrawled Cowfish	5	959.9
	09-Nov-07	Day-2	Central	Silver Perch	11	401.1
	09-Nov-07	Day-2	Central	Spotfin Mojarra	6	198.2
				Day 2 Total	34	1,878.4
	09-Nov-07	Day-3	Central	Grass Porgy	7	475.4
	09-Nov-07	Day-3	Central	Pinfish	3	27.1
	09-Nov-07	Day-3	Central	Scrawled Cowfish	4	380.4
	09-Nov-07	Day-3	Central	Silver Perch	3	157.5
	09-Nov-07	Day-3	Central	Southern Puffer	1	13.5
	09-Nov-07	Day-3	Central	Spotfin Mojarra	3	86.5
				Day 3 Total	21	1,140.4
12	09-Nov-07			TOTAL	138	6,681.3
	Grand Total				444	20,301.5

Appendix 24
Summary of Central Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	Central Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	Central	Iridescent Swimming Crab	1	6.8
				Night 1 Total	1	6.8
	21-Dec-06	Night-2	Central	Atlantic Brief Squid	1	11.1
	21-Dec-06	Night-2	Central	Iridescent Swimming Crab	15	570.0
	21-Dec-06	Night-2	Central	Mantis Shrimp	4	28.4
	21-Dec-06	Night-2	Central	Pink Shrimp	6	24.4
	21-Dec-06	Night-2	Central	Hermit crab species	1	9.6
	21-Dec-06	Night-2	Central	Starfish spp.	1	11.1
				Night 2 Total	28	654.5
	21-Dec-06	Night-3	Central	Iridescent Swimming Crab	18	69.1
	21-Dec-06	Night-3	Central	Mantis Shrimp	1	7.8
	21-Dec-06	Night-3	Central	Pink Shrimp	1	11.2
				Night 3 Total	20	88.1
	22-Dec-06	Day-1	Central	False Arrow Crab	1	0.9
	22-Dec-06	Day-1	Central	Iridescent Swimming Crab	1	11.1
				Day 1 Total	2	12.0
	22-Dec-06	Day-2	Central	False Arrow Crab	1	0.5
	22-Dec-06	Day-2	Central	Longnosed Spider Crab	1	5.9
				Day 2 Total	2	6.4
	22-Dec-06	Day-3	Central	False Arrow Crab	2	1.0
				Day 3 Total	2	1.0
1	22-Dec-06			TOTAL	55	768.8
				Night 1 Total	0	0.0
	18-Jan-07	Night-2	Central	Pink Shrimp	2	21.8
				Night 2 Total	2	21.8
	18-Jan-07	Night-3	Central	Night 3 Total	0	0.0
	19-Jan-07	Day-1	Central	Day 1 Total	0	0.0
				Day 2 Total	0	0.0
	19-Jan-07	Day-3	Central	Day 3 Total	0	0.0
2	19-Jan-07			TOTAL	2	21.8

Appendix 24 (cont'd)
Summary of Central Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	Central Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	15-Feb-07	Night-1	Central	Florida Stone Crab	1	168.0
	15-Feb-07	Night-1	Central	Iridescent Swimming Crab	7	67.0
	15-Feb-07	Night-1	Central	Mantis Shrimp	2	38.0
				Night 1 Total	10	273.0
	15-Feb-07	Night-2	Central	Atlantic Brief Squid	2	47.0
	15-Feb-07	Night-2	Central	False Arrow Crab	15	10.0
	15-Feb-07	Night-2	Central	Iridescent Swimming Crab	3	24.3
	15-Feb-07	Night-2	Central	Mantis Shrimp	1	19.2
	15-Feb-07	Night-2	Central	Pink Shrimp	7	152.7
	15-Feb-07	Night-2	Central	Starfish sp.	1	0.8
				Night 2 Total	29	254.0
	15-Feb-07	Night-3	Central	False Arrow Crab	2	0.4
	15-Feb-07	Night-3	Central	Iridescent Swimming Crab	4	24.3
				Night 3 Total	6	24.7
	16-Feb-07	Day-1	Central	False Arrow Crab	1	1.3
				Day 1 Total	1	1.3
	16-Feb-07	Day-2	Central	False Arrow Crab	4	8.3
	16-Feb-07	Day-2	Central	Iridescent Swimming Crab	1	2.4
				Day 2 Total	5	10.7
	16-Feb-07	Day-3	Central	Day 3 Total	0	0.0
3	16-Feb-07			TOTAL	51	563.7
				Day 1 Total	0	
4*	16-Mar-07			TOTAL	0	
	26-Apr-07	Night-1	Central	Blotched Swimming Crab	1	1.0
	26-Apr-07	Night-1	Central	False Arrow Crab	2	0.9
	26-Apr-07	Night-1	Central	Florida Grass Shrimp	2	1.9
	26-Apr-07	Night-1	Central	Pink Shrimp	2	12.9
	26-Apr-07	Night-1	Central	Urn Crab	1	1.1
				Night 1 Total	8	17.8
	26-Apr-07	Night-2	Central	Night 2 Total	0	0.0
	26-Apr-07	Night-3	Central	False Arrow Crab	1	2.2
				Night 3 Total	1	2.2
5**	26-Apr-07			TOTAL	9	20.0
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas);					
	21-Jun-07	Night-1	Central	Blotched Swimming Crab	3	10.5
	21-Jun-07	Night-1	Central	Longnosed Spider Crab	8	193.1
	21-Jun-07	Night-1	Central	Pink Shrimp	2	8.7
				Night 1 Total	13	212.3
	21-Jun-07	Night-2	Central	Night 2 Total	0	0.0
	21-Jun-07	Night-3	Central	Pink Shrimp	1	0.5
				Night 3 Total	1	0.5
	22-Jun-07	Day-1	Central	Day 1 Total	0	0.0
	22-Jun-07	Day-2	Central	Day 2 Total	0	0.0
	22-Jun-07	Day-3	Central	Day 3 Total	0	0.0
7	21-Jun-07			TOTAL	14	212.8

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl conducted.

** No day trawl on April 27, 2007 due to hazardous weather condition.

Appendix 24 (cont'd)
Summary of Central Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	Central Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	19-Jul-07	Night-1	Central	Sea Hare	1	8.0
	19-Jul-07	Night-1	Central	Spineback Hairy Crab	1	29.5
				Night 1 Total	2	37.5
	19-Jul-07			Night 2 Total	0	0.0
	19-Jul-07			Night 3 Total	0	0.0
	20-Jul-07			Day 1 Total	0	0.0
	20-Jul-07			Day 2 Total	0	0.0
	20-Jul-07			Day 3 Total	0	0.0
8	20-Jul-07			TOTAL	2	37.5
	30-Aug-07			Night 1 Total	0	0.0
	31-Aug-07	Day-1	Central	Iridescent Swimming Crab	1	3.2
				Day 1 Total	1	3.2
9***	30-Aug-07			TOTAL	1	3.2
10	No trawls were conducted on September 27, 2007 due to boat engine failure					
	25-Oct-07	Night-1	Central	Iridescent Swimming Crab	1	7.7
				Night 1 Total	1	7.7
	25-Oct-07			Night 2 Total	0	0.0
	25-Oct-07			Night 3 Total	0	0.0
	26-Oct-07			Day 1 Total	0	0.0
	26-Oct-07			Day 2 Total	0	0.0
	26-Oct-07			Day 3 Total	0	0.0
11	26-Oct-07			TOTAL	1	7.7
	08-Nov-07			Night 1 Total	0	0.0
	08-Nov-07	Night-2	Central	Starfish sp.	1	4.8
				Night 2 Total	1	4.8
	08-Nov-07			Night 3 Total	0	0.0
	09-Nov-07	Day-1	Central	Keyhole Sand Dollar	1	10.1
				Day 1 Total	1	10.1
	09-Nov-07			Day 2 Total	0	0.0
	09-Nov-07			Day 3 Total	0	0.0
12	09-Nov-07			TOTAL	2	14.9
	Grand Total				137	1,650.4

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather condition.

Appendix 25
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	North	Blackcheek Tonguefish	2	35.3
	21-Dec-06	Night-1	North	Gulf Flounder	1	96.1
	21-Dec-06	Night-1	North	Gulf Kingfish	1	44.9
	21-Dec-06	Night-1	North	Hardhead Catfish	8	75.3
	21-Dec-06	Night-1	North	Leopard Searobin	1	44.3
	21-Dec-06	Night-1	North	Pigfish	1	23.0
	21-Dec-06	Night-1	North	Polka-dot Batfish	2	66.1
				Night 1 Total	16	385.0
	21-Dec-06	Night-2	North	Blackcheek Tonguefish	1	8.2
	21-Dec-06	Night-2	North	Hardhead Catfish	8	92.1
	21-Dec-06	Night-2	North	Leopard Searobin	3	16.7
	21-Dec-06	Night-2	North	Lined Seahorse	1	2.2
	21-Dec-06	Night-2	North	Pigfish	1	22.5
	21-Dec-06	Night-2	North	Pinfish	7	135.3
	21-Dec-06	Night-2	North	Spotfin Mojarra	1	19.0
				Night 2 Total	22	296.0
	21-Dec-06	Night-3	North	Atlantic Croaker	2	140.7
	21-Dec-06	Night-3	North	Blackcheek Tonguefish	5	84.4
	21-Dec-06	Night-3	North	Hardhead Catfish	38	422.9
	21-Dec-06	Night-3	North	Leopard Searobin	6	62.6
	21-Dec-06	Night-3	North	Pigfish	2	45.1
	21-Dec-06	Night-3	North	Pinfish	2	25.3
	21-Dec-06	Night-3	North	Polka-dot Batfish	1	9.5
	21-Dec-06	Night-3	North	Spotfin Mojarra	1	15.6
				Night 3 Total	57	806.0
	22-Dec-06			Day 1 Total	0	
	22-Dec-06			Day 2 Total	0	
	22-Dec-06			Day 3 Total	0	
1	22-Dec-06			TOTAL	95	1,487.0

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	18-Jan-07	Night-1	North	Atlantic Croaker	1	121.2
	18-Jan-07	Night-1	North	Flounder sp.	4	52.3
	18-Jan-07	Night-1	North	Gulf Kingfish	1	86.9
	18-Jan-07	Night-1	North	Hardhead Catfish	3	43.5
	18-Jan-07	Night-1	North	Pinfish	47	1,091.5
	18-Jan-07	Night-1	North	Spot	2	67.5
	18-Jan-07	Night-1	North	Spotfin Mojarra	3	63.4
	18-Jan-07	Night-1	North	Spottail Tonguefish	1	31.2
				Night 1 Total	62	1,557.5
	18-Jan-07	Night-2	North	Atlantic Croaker	1	50.8
	18-Jan-07	Night-2	North	Atlantic Thread Herring	2	100.8
	18-Jan-07	Night-2	North	Bank Cusk-eel	1	29.4
	18-Jan-07	Night-2	North	Blackcheek Tonguefish	1	19.1
	18-Jan-07	Night-2	North	Flounder sp.	4	36.0
	18-Jan-07	Night-2	North	Leopard Searobin	1	10.4
	18-Jan-07	Night-2	North	Pigfish	34	984.0
	18-Jan-07	Night-2	North	Pinfish	79	2,426.9
	18-Jan-07	Night-2	North	Scrawled Cowfish	2	170.5
	18-Jan-07	Night-2	North	Southern Kingfish	2	123.8
	18-Jan-07	Night-2	North	Striped Burrfish	1	32.7
	18-Jan-07	Night-2	North	Striped Mojarra	1	14.1
				Night 2 Total	129	3,998.5
	18-Jan-07	Night-3	North	Blackcheek Tonguefish	1	16.4
	18-Jan-07	Night-3	North	Pinfish	38	851.5
				Night 3 Total	39	867.9
	19-Jan-07	Day-1	North	Pinfish	1	16.7
	19-Jan-07	Day-1	North	Planehead Filefish	1	2.3
	19-Jan-07	Day-1	North	Scrawled Cowfish	1	106.2
				Day 1 Total	3	125.2
	19-Jan-07	Day-2	North	Polka-dot Batfish	1	119.0
	19-Jan-07	Day-2	North	Striped Burrfish	1	85.6
				Day 2 Total	2	204.6
				Day 3 Total	0	0.0
2	19-Jan-07			TOTAL	235	6,753.7

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	15-Feb-07	Night-1	North	Atlantic Thread Herring	1	32.8
	15-Feb-07	Night-1	North	Bank Cusk-eel	1	132.9
	15-Feb-07	Night-1	North	Blackcheek Tonguefish	1	21.4
	15-Feb-07	Night-1	North	Pigfish	22	530.8
	15-Feb-07	Night-1	North	Planehead Filefish	1	5.2
	15-Feb-07	Night-1	North	Polka-dot Batfish	2	312.9
	15-Feb-07	Night-1	North	Scaled Sardine	1	19.8
	15-Feb-07	Night-1	North	Spot	1	50.3
	15-Feb-07	Night-1	North	Spotfin Mojarra	1	30.3
				Night 1 Total	31	1,136.4
	15-Feb-07	Night-2	North	Atlantic Thread Herring	2	71.5
	15-Feb-07	Night-2	North	Bighead Searobin	1	12.4
	15-Feb-07	Night-2	North	Fringed Filefish	1	4.9
	15-Feb-07	Night-2	North	Gulf Kingfish	3	264.9
	15-Feb-07	Night-2	North	Leopard Searobin	4	86.4
	15-Feb-07	Night-2	North	Lined Seahorse	1	0.6
	15-Feb-07	Night-2	North	Pigfish	35	658.0
	15-Feb-07	Night-2	North	Pinfish	18	515.1
	15-Feb-07	Night-2	North	Polka-dot Batfish	1	128.2
	15-Feb-07	Night-2	North	Scrawled Cowfish	1	148.2
	15-Feb-07	Night-2	North	Silver Perch	4	171.1
	15-Feb-07	Night-2	North	Southern Puffer	1	102.2
	15-Feb-07	Night-2	North	Spotted Seatrout	1	69.1
				Night 2 Total	73	2,232.6
	15-Feb-07	Night-3	North	Atlantic Thread Herring	14	577.4
	15-Feb-07	Night-3	North	Pigfish	12	263.3
	15-Feb-07	Night-3	North	Spotfin Mojarra	1	14.5
				Night 3 Total	27	855.2
	16-Feb-07	Day-1	North	Inshore Lizardfish	1	127.7
	16-Feb-07	Day-1	North	Orange Filefish	6	735.2
	16-Feb-07	Day-1	North	Polka-dot Batfish	1	51.7
				Day 1 Total	8	914.6
	16-Feb-07	Day-2	North	Orange Filefish	5	1,155.5
				Day 2 Total	5	1,155.5
				Day 3 Total	0	0.0
3	16-Feb-07			TOTAL	144	6,294.3
	16-Mar-07	Day-1	North	Pigfish	4	79.2
	16-Mar-07	Day-1	North	Silver Perch	9	242.8
	16-Mar-07	Day-1	North	Southern Kingfish	2	265.0
	16-Mar-07	Day-1	North	Striped Mojarra	2	53.3
				Day 1 Total	17	640.3
4*	16-Mar-07			TOTAL	17	640.3

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl conducted.

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	26-Apr-07			Night 1 Total	0	0.0
	26-Apr-07	Night-2	North	Atlantic Thread Herring	1	46.1
	26-Apr-07	Night-2	North	Hardhead Catfish	1	66.3
	26-Apr-07	Night-2	North	Pigfish	2	61.0
	26-Apr-07	Night-2	North	Pinfish	8	237.1
	26-Apr-07	Night-2	North	Scrawled Cowfish	1	44.5
	26-Apr-07	Night-2	North	Silver Perch	2	37.0
				Night 2 Total	15	492.0
	26-Apr-07	Night-3	North	Pinfish	1	22.6
				Night 3 Total	1	22.6
5**	26-Apr-07			TOTAL	16	514.6
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas)					
	21-Jun-07	Night-1	North	Atlantic Croaker	1	46.8
	21-Jun-07	Night-1	North	Atlantic Thread Herring	1	40.2
	21-Jun-07	Night-1	North	Striped Mojarra	1	28.0
				Night 1 Total	3	115.0
	21-Jun-07	Night-2	North	Atlantic Spadefish	1	65.3
	21-Jun-07	Night-2	North	Hardhead Catfish	1	82.8
	21-Jun-07	Night-2	North	Pigfish	1	61.9
	21-Jun-07	Night-2	North	Pinfish	2	28.2
	21-Jun-07	Night-2	North	Polka-dot Batfish	1	72.6
	21-Jun-07	Night-2	North	Silver Perch	1	39.2
				Night 2 Total	7	350.0
	21-Jun-07	Night-3	North	Atlantic Spadefish	2	99.9
	21-Jun-07	Night-3	North	Black Sea Bass	1	32.2
	21-Jun-07	Night-3	North	Hardhead Catfish	1	116.9
	21-Jun-07	Night-3	North	Scrawled Cowfish	1	76.3
	21-Jun-07	Night-3	North	Southern Puffer	1	5.6
				Night 3 Total	6	330.9
	22-Jun-07	Day-1	North	Planehead Filefish	2	4.6
	22-Jun-07			Day 1 Total	2	4.6
	22-Jun-07	Day-2	North	Flounder sp.	1	9.0
				Day 2 Total	1	9.0
	22-Jun-07	Day-3	North	Orange Filefish	1	231.1
	22-Jun-07	Day-3	North	Pinfish	2	28.2
	22-Jun-07	Day-3	North	Planehead Filefish	1	2.3
				Day 3 Total	4	261.6
7	22-Jun-07			TOTAL	23	1,071.1

** No day trawl on April 27, 2007 due to hazardous weather condition.

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	19-Jul-07	Night-1	North	Spot	1	57.9
				Night 1 Total	1	57.9
	19-Jul-07	Night-2	North	Gulf Flounder	1	22.1
	19-Jul-07	Night-2	North	Lane Snapper	3	97.4
	19-Jul-07	Night-2	North	Leopard Seabrobin	1	5.2
	19-Jul-07	Night-2	North	Pigfish	37	1,019.9
	19-Jul-07	Night-2	North	Pinfish	11	262.7
	19-Jul-07	Night-2	North	Planehead Filefish	2	13.1
	19-Jul-07	Night-2	North	Scrawled Cowfish	3	344.8
	19-Jul-07	Night-2	North	Silver Perch	5	195.5
	19-Jul-07	Night-2	North	Spotfin Mojarra	4	114.1
				Night 2 Total	67	2,074.8
	19-Jul-07	Night-3	North	Hardhead Catfish	3	91.9
	19-Jul-07	Night-3	North	Leopard Seabrobin	1	44.6
	19-Jul-07	Night-3	North	Pigfish	40	1,042.2
	19-Jul-07	Night-3	North	Pinfish	9	262.6
	19-Jul-07	Night-3	North	Silver Perch	4	151.5
	19-Jul-07	Night-3	North	Southern Puffer	1	17.0
	19-Jul-07	Night-3	North	Spotfin Mojarra	5	153.1
	19-Jul-07	Night-3	North	White Grunt	1	54.6
				Night 3 Total	64	1,817.5
	20-Jul-07	Day-1	North	Spot	1	60.0
	20-Jul-07			Day 1 Total	1	60.0
	20-Jul-07	Day-2	North	Pigfish	2	27.3
	20-Jul-07	Day-2	North	Spot	1	62.2
	20-Jul-07			Day 2 Total	3	89.5
				Day 3 Total	0	0.0
8	20-Jul-07			TOTAL	136	4,099.7
	30-Aug-07	Night-1	North	Atlantic Thread Herring	1	81.4
	30-Aug-07	Night-1	North	Bay Anchovy	1	0.7
	30-Aug-07	Night-1	North	Pigfish	12	447.0
	30-Aug-07	Night-1	North	Pinfish	2	77.1
	30-Aug-07	Night-1	North	Spotfin Mojarra	1	17.4
	30-Aug-07			Night 1 Total	17	623.6
	31-Aug-07			Day 1 Total	0	0.0
9***	31-Aug-07			TOTAL	17	623.6
10	No trawls were conducted on September 27, 2007 due to boat engine failure					

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather condition.

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	25-Oct-07	Night-1	North	Pigfish	1	22.7
	25-Oct-07			Night 1 Total	1	22.7
	25-Oct-07	Night-2	North	Pigfish	2	109.9
	25-Oct-07	Night-2	North	Pinfish	1	34.6
	25-Oct-07	Night-2	North	Silver Perch	1	50.8
				Night 2 Total	4	195.3
	25-Oct-07	Night-3	North	Pigfish	1	67.6
	25-Oct-07	Night-3	North	Silver Perch	1	49.7
	25-Oct-07	Night-3	North	Spot	1	61.0
	25-Oct-07	Night-3	North	Spotfin Mojarra	1	22.7
				Night 3 Total	4	201.0
	26-Oct-07	Day-1	North	Atlantic Bumper	7	49.7
	26-Oct-07	Day-1	North	Pigfish	3	110.9
	26-Oct-07	Day-1	North	Pinfish	7	287.4
	26-Oct-07	Day-1	North	Polka-dot Batfish	1	205.2
	26-Oct-07	Day-1	North	Spotfin Mojarra	14	358.4
	26-Oct-07	Day-1	North	Striped Burrfish	1	193.0
				Day 1 Total	33	1,204.6
	26-Oct-07	Day-2	North	Atlantic Bumper	2	13.4
	26-Oct-07	Day-2	North	Atlantic Thread Herring	1	10.8
	26-Oct-07	Day-2	North	Pigfish	7	161.2
	26-Oct-07	Day-2	North	Pinfish	3	135.1
	26-Oct-07	Day-2	North	Scrawled Cowfish	1	147.7
	26-Oct-07	Day-2	North	Spotfin Mojarra	13	310.5
				Day 2 Total	27	778.7
	26-Oct-07	Day-3	North	Atlantic Thread Herring	1	18.7
	26-Oct-07	Day-3	North	Grass Porgy	1	35.5
	26-Oct-07	Day-3	North	Pigfish	6	288.3
	26-Oct-07	Day-3	North	Pinfish	8	313.2
	26-Oct-07	Day-3	North	Scrawled Cowfish	1	12.7
	26-Oct-07	Day-3	North	Spotfin Mojarra	9	198.6
	26-Oct-07	Day-3	North	White Grunt	2	75.3
				Day 3 Total	28	942.3
11	26-Oct-07			TOTAL	97	3,344.6

Appendix 25 (cont'd)
Summary of North Trawl Data: Fish Collected

Event No.	Date	Interval	Location	North Trawl: Fish Collected		
				Species	Total #	Weight (g)
	8-Nov-07	Night-1	North	Grass Porgy	4	212.9
	8-Nov-07	Night-1	North	Pigfish	1	35.4
	8-Nov-07	Night-1	North	Pinfish	2	75.1
	8-Nov-07	Night-1	North	Silver Perch	4	231.1
				Night 1 Total	11	554.5
	8-Nov-07	Night-2	North	Grass Porgy	1	54.5
	8-Nov-07	Night-2	North	Pigfish	1	41.2
	8-Nov-07	Night-2	North	Pinfish	3	108.7
	8-Nov-07	Night-2	North	Silver Perch	10	304.0
	8-Nov-07	Night-2	North	Spotfin Mojarra	1	31.9
	8-Nov-07			Night 2 Total	16	540.3
	8-Nov-07			Night 3 Total	0	0.0
	9-Nov-07	Day-1	North	Atlantic Bumper	1	9.3
	9-Nov-07	Day-1	North	Pigfish	2	21.9
	9-Nov-07	Day-1	North	Spotfin Mojarra	10	319.0
				Day 1 Total	13	350.2
	9-Nov-07	Day-2	North	Atlantic Bumper	2	15.0
	9-Nov-07	Day-2	North	Grass Porgy	2	156.4
	9-Nov-07	Day-2	North	Inshore Lizardfish	1	137.5
	9-Nov-07	Day-2	North	Pigfish	3	97.8
	9-Nov-07	Day-2	North	Pinfish	1	6.1
	9-Nov-07	Day-2	North	Silver Perch	1	55.1
	9-Nov-07	Day-2	North	Spotfin Mojarra	2	44.1
				Day 2 Total	12	512.0
	9-Nov-07	Day-3	North	Atlantic Bumper	4	33.1
	9-Nov-07	Day-3	North	Grass Porgy	2	133.5
	9-Nov-07	Day-3	North	Lane Snapper	1	63.5
	9-Nov-07	Day-3	North	Pigfish	3	34.0
	9-Nov-07	Day-3	North	Pinfish	4	44.3
	9-Nov-07	Day-3	North	Silver Perch	2	49.7
	9-Nov-07	Day-3	North	Spotfin Mojarra	13	357.2
	9-Nov-07	Day-3	North	Spottail Pinfish	1	9.2
				Day 3 Total	30	724.5
12	09-Nov-07			TOTAL	82	2,681.5
	Grand Total				862	27,510.4

Appendix 26
Summary of North Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	North Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	North	Blue Crab	1	80.5
	21-Dec-06	Night-1	North	Iridescent Swimming Crab	25	121.6
	21-Dec-06	Night-1	North	Mantis Shrimp	4	48.7
	21-Dec-06	Night-1	North	Pink Shrimp	7	68.5
				Night 1 Total	37	319.3
	21-Dec-06	Night-2	North	Iridescent Swimming Crab	8	47.1
	21-Dec-06	Night-2	North	Pink Shrimp	1	0.9
	21-Dec-06	Night-2	North	Yellowline Arrow Crab	3	2.3
				Night 2 Total	12	50.3
	21-Dec-06	Night-3	North	Iridescent Swimming Crab	43	253.2
	21-Dec-06	Night-3	North	Mantis Shrimp	1	11.9
	21-Dec-06	Night-3	North	Pink Shrimp	2	12.4
				Night 3 Total	46	277.5
	22-Dec-06	Day-1	North	Atlantic Brief Squid	2	23.7
	22-Dec-06			Day 1 Total	2	23.7
	22-Dec-06			Day 2 Total	0	0.0
	22-Dec-06			Day 3 Total	0	0.0
1	22-Dec-06			TOTAL	97	670.8
	18-Jan-07	Night-1	North	Atlantic Brief Squid	1	20.0
	18-Jan-07	Night-1	North	Iridescent Swimming Crab	29	161.2
	18-Jan-07	Night-1	North	Mantis Shrimp	8	75.9
	18-Jan-07	Night-1	North	Pink Shrimp	3	50.2
				Night 1 Total	41	307.3
	18-Jan-07	Night-2	North	Atlantic Brief Squid	1	10.2
	18-Jan-07	Night-2	North	False Arrow Crab	4	2.2
	18-Jan-07	Night-2	North	Iridescent Swimming Crab	26	160.3
	18-Jan-07	Night-2	North	Mantis Shrimp	5	78.0
	18-Jan-07	Night-2	North	Pink Shrimp	28	210.4
				Night 2 Total	64	461.0
	18-Jan-07	Night-3	North	Atlantic Brief Squid	1	6.1
	18-Jan-07	Night-3	North	Iridescent Swimming Crab	11	49.9
	18-Jan-07	Night-3	North	Mantis Shrimp	2	21.6
				Night 3 Total	14	77.6
	19-Jan-07	Day-1	North	Atlantic Brief Squid	1	23.1
	19-Jan-07	Day-1	North	Iridescent Swimming Crab	2	13.7
				Day 1 Total	3	36.8
	19-Jan-07	Day-2	North	False Arrow Crab	2	1.6
				Day 2 Total	2	1.6
	19-Jan-07	Day-3	North	False Arrow Crab	1	0.5
				Day 3 Total	1	0.5
2	19-Jan-07			TOTAL	125	884.9

Appendix 26 (cont'd)
Summary of North Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	North Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	15-Feb-07	Night-1	North	False Arrow Crab	1	0.9
	15-Feb-07	Night-1	North	Iridescent Swimming Crab	3	7.3
	15-Feb-07	Night-1	North	Mantis Shrimp	2	16.6
				Night 1 Total	6	24.8
	15-Feb-07	Night-2	North	Atlantic Brief Squid	1	25.4
	15-Feb-07	Night-2	North	False Arrow Crab	1	1.1
	15-Feb-07	Night-2	North	Iridescent Swimming Crab	3	11.0
	15-Feb-07	Night-2	North	Mantis Shrimp	1	13.4
	15-Feb-07	Night-2	North	Pink Shrimp	2	15.7
	15-Feb-07	Night-2	North	Portly Spider Crab	2	7.0
	15-Feb-07	Night-2	North	Yellowline Arrow Crab	1	1.4
				Night 2 Total	11	75.0
	15-Feb-07	Night-3	North	Iridescent Swimming Crab	8	32.5
				Night 3 Total	8	32.5
	16-Feb-07	Day-1	North	False Arrow Crab	2	2.0
				Day 1 Total	2	2.0
				Day 2 Total	0	0.0
				Day 3 Total	0	0.0
3	16-Feb-07			TOTAL	27	134.3
				Day 1 Total	0	0.0
4*	16-Mar-07			TOTAL	0	0.0
	26-Apr-07			Night 1 Total	0	0.0
	26-Apr-07	Night-2	North	Long-wristed Hermit Crab	1	1.2
				Night 2 Total	1	1.2
	26-Apr-07	Night-3	North	Blue Crab	1	20.9
				Night 3 Total	1	20.9
5**	26-Apr-07			TOTAL	2	22.1
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas)					
	21-Jun-07			Night 1 Total	0	0
	21-Jun-07	Night-2	North	Iridescent Swimming Crab	3	4.8
	21-Jun-07			Night 2 Total	3	4.8
	21-Jun-07	Night-3	North	Cancellate Cantharus Snail	1	3.5
	21-Jun-07	Night-3	North	Longnosed Spider Crab	1	43.5
	21-Jun-07			Night 3 Total	2	47.0
	22-Jun-07	Day-1	North	Atlantic Brief Squid	1	25.4
	22-Jun-07	Day-1	North	Iridescent Swimming Crab	1	3.5
	22-Jun-07			Day 1 Total	2	28.9
	22-Jun-07	Day-2	North	Blotched Swimming Crab	1	15.5
	22-Jun-07			Day 2 Total	1	15.5
	22-Jun-07			Day 3 Total	0	0
7	22-Jun-07			TOTAL	8	96.2

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl conducted.

** No day trawl on April 27, 2007 due to hazardous weather condition.

Appendix 26 (cont'd)
Summary of North Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	North Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	19-Jul-07			Night 1 Total	0	0
	19-Jul-07	Night-2	North	Blue Crab	1	2.7
	19-Jul-07	Night-2	North	Sea Hare	1	4.1
	19-Jul-07	Night-2	North	Starfish sp.	4	85.2
				Night 2 Total	6	92.0
	19-Jul-07	Night-3	North	Blotched Swimming Crab	2	14.7
	19-Jul-07	Night-3	North	Iridescent Swimming Crab	1	3.5
	19-Jul-07	Night-3	North	Starfish sp.	1	8.9
				Night 3 Total	4	27.1
	20-Jul-07	Day-1	North	Iridescent Swimming Crab	1	3.5
	20-Jul-07	Day-1	North	Pink Shrimp	1	7.85
	20-Jul-07	Day-1	North	Starfish sp.	1	15.6
	20-Jul-07			Day 1 Total	3	26.95
	20-Jul-07	Day-2	North	Iridescent Swimming Crab	1	3.5
	20-Jul-07			Day 2 Total	1	3.5
	20-Jul-07			Day 3 Total	0	0
8	20-Jul-07			TOTAL	14	149.6
	30-Aug-07	Night-1	North	Mantis Shrimp	1	19.3
	30-Aug-07			Night 1 Total	1	19.3
	31-Aug-07			Day 1 Total	0	0
9***	31-Aug-07			TOTAL	1	19.3
10	No trawls were conducted on September 27, 2007 due to boat engine failure					
	25-Oct-07			Night 1 Total	0	0
	25-Oct-07			Night 2 Total	0	0
	25-Oct-07			Night 3 Total	0	0
	26-Oct-07	Day-1	North	Blotched Swimming Crab	1	15.5
				Day 1 Total	1	15.5
	26-Oct-07			Day 2 Total	0	0
	26-Oct-07			Day 3 Total	0	0
11	26-Oct-07			TOTAL	1	15.5
	8-Nov-07			Night 1 Total	0	0
	8-Nov-07			Night 2 Total	0	0
	8-Nov-07			Night 3 Total	0	0
	9-Nov-07			Day 1 Total	0	0
	9-Nov-07			Day 2 Total	0	0
	9-Nov-07			Day 3 Total	0	0
12	09-Nov-07			TOTAL	0	0
	Grand Total				275	1,992.6

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather condition.

Appendix 27
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	South	Polka-dot Batfish	2	94.8
				Night 1 Total	2	94.8
	21-Dec-06	Night-2	South	Inshore Lizardfish	1	71.8
				Night 2 Total	1	71.8
	21-Dec-06	Night-3	South	Atlantic Stingray	1	789.0
	21-Dec-06	Night-3	South	Blackcheek Tonguefish	1	22.1
	21-Dec-06	Night-3	South	Gulf Kingfish	1	82.2
	21-Dec-06	Night-3	South	Leopard Searobin	2	117.4
	21-Dec-06	Night-3	South	Scrawled Cowfish	1	2.8
	21-Dec-06	Night-3	South	Southern Puffer	1	27.2
				Night 3 Total	7	1,040.7
	22-Dec-06	Day-1	South	Hardhead Catfish	15	121.5
	22-Dec-06	Day-1	South	Inshore Lizardfish	1	56.7
	22-Dec-06	Day-1	South	Scrawled Filefish	1	2.5
				Day 1 Total	17	180.7
	22-Dec-06			Day 2 Total	0	0.0
	22-Dec-06			Day 3 Total	0	0.0
1	22-Dec-06			TOTAL	27	1,388.0

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	18-Jan-07	Night-1	South	Atlantic Thread Herring	1	26.3
	18-Jan-07	Night-1	South	Gafftopsail Catfish	4	37.6
	18-Jan-07	Night-1	South	Gulf Flounder	1	15.9
	18-Jan-07	Night-1	South	Leopard Searobin	1	17.8
	18-Jan-07	Night-1	South	Pigfish	43	905.8
	18-Jan-07	Night-1	South	Pinfish	13	212.2
	18-Jan-07	Night-1	South	Planehead Filefish	1	4.9
	18-Jan-07	Night-1	South	Polka-dot Batfish	2	106.1
	18-Jan-07	Night-1	South	Sand Perch	1	23.4
	18-Jan-07	Night-1	South	Spotfin Mojarra	1	12.6
				Night 1 Total	68	1,362.6
	18-Jan-07	Night-2	South	Atlantic Croaker	2	84.1
	18-Jan-07	Night-2	South	Pigfish	9	260.0
	18-Jan-07	Night-2	South	Pinfish	34	1,007.4
	18-Jan-07	Night-2	South	Polka-dot Batfish	1	7.3
	18-Jan-07	Night-2	South	Pygmy Filefish	1	3.0
				Night 2 Total	47	1,361.8
	18-Jan-07	Night-3	South	Atlantic Thread Herring	1	55.2
	18-Jan-07	Night-3	South	Black Sea Bass	3	57.2
	18-Jan-07	Night-3	South	Blackcheek Tonguefish	1	14.4
	18-Jan-07	Night-3	South	Flounder sp.	1	10.6
	18-Jan-07	Night-3	South	Leopard Searobin	2	23.7
	18-Jan-07	Night-3	South	Pigfish	5	132.4
	18-Jan-07	Night-3	South	Pinfish	67	1,998.7
	18-Jan-07	Night-3	South	Scrawled Cowfish	1	16.8
	18-Jan-07	Night-3	South	Silver Perch	2	47.4
	18-Jan-07	Night-3	South	Striped Burrfish	1	18.9
	18-Jan-07	Night-3	South	Whitebone Porgy	1	26.2
				Night 3 Total	85	2,401.5
	19-Jan-07			Day 1 Total	0	0.0
	19-Jan-07	Day-2	South	Black Sea Bass	1	15.7
	19-Jan-07	Day-2	South	Pigfish	1	25.5
	19-Jan-07	Day-2	South	Pinfish	2	39.2
				Day 2 Total	4	80.4
	19-Jan-07	Day-3	South	Atlantic Stingray	1	754.8
	19-Jan-07	Day-3	South	Black Sea Bass	1	28.2
	19-Jan-07	Day-3	South	Pinfish	2	57.6
	19-Jan-07	Day-3	South	Silver Perch	4	125.1
				Day 3 Total	8	965.7
2	19-Jan-07			TOTAL	212	6,171.9

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	15-Feb-07	Night-1	South	Pigfish	3	87.5
	15-Feb-07	Night-1	South	Pinfish	3	88.1
				Night 1 Total	6	175.6
	15-Feb-07	Night-2	South	Fringed Sole	1	6.2
	15-Feb-07	Night-2	South	Inshore Lizardfish	1	46.7
	15-Feb-07	Night-2	South	Orange Filefish	1	88.2
	15-Feb-07	Night-2	South	Pigfish	4	153.5
	15-Feb-07	Night-2	South	Pinfish	8	231.5
	15-Feb-07	Night-2	South	Scrawled Cowfish	1	115.7
				Night 2 Total	16	641.8
	15-Feb-07	Night-3	South	Pinfish	2	34.4
	15-Feb-07	Night-3	South	Scrawled Cowfish	2	437.5
	15-Feb-07	Night-3	South	Silver Perch	2	112.2
	15-Feb-07	Night-3	South	Striped Burrfish	1	70.9
				Night 3 Total	7	655.0
	16-Feb-07	Day-1	South	Inshore Lizardfish	1	105.5
	16-Feb-07	Day-1	South	Leopard Searobin	1	78.5
				Day 1 Total	2	184.0
	16-Feb-07	Day-2	South	Inshore Lizardfish	1	116.5
	16-Feb-07	Day-2	South	Orange Filefish	1	104.2
	16-Feb-07	Day-2	South	Scrawled Cowfish	1	114.7
				Day 2 Total	3	335.4
				Day 3 Total	0	0.0
3	16-Feb-07			TOTAL	34	1991.8
	16-Mar-07			Day-1 Total	0	0.0
4*	16-Mar-07			TOTAL	0	0.0
	26-Apr-07	Night-1	South	Leopard Toadfish	1	2.5
	26-Apr-07	Night-1	South	Pigfish	2	45.7
				Night 1 Total	3	48.2
	26-Apr-07	Night-2	South	Atlantic Spadefish	1	34.6
	26-Apr-07	Night-2	South	Black Sea Bass	2	58.4
	26-Apr-07	Night-2	South	Pigfish	4	99.8
	26-Apr-07	Night-2	South	Pinfish	3	72.6
	26-Apr-07	Night-2	South	Scrawled Cowfish	1	8.5
				Night 2 Total	11	273.9
	26-Apr-07	Night-3	South	Pigfish	1	25.0
	26-Apr-07	Night-3	South	Pinfish	1	24.2
				Night 3 Total	2	49.2
5**	26-Apr-07			TOTAL	16	371.3
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas)					

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl conducted.

** No day trawl on April 27, 2007 due to hazardous weather condition.

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	21-Jun-07	Night-1	South	Pigfish	2	50.5
				Night 1 Total	2	50.5
	21-Jun-07	Night-2	South	Orange Filefish	3	20.0
	21-Jun-07	Night-2	South	Planehead Filefish	1	9.4
	21-Jun-07	Night-2	South	Silver Perch	8	304.3
	21-Jun-07	Night-2	South	Atlantic Croaker	1	37.3
	21-Jun-07	Night-2	South	Pinfish	12	167.0
				Night 2 Total	25	538.0
	21-Jun-07			Night 3 Total	0	0.0
	22-Jun-07			Day 1 Total	0	0.0
	22-Jun-07	Day-2	South	Scrawled Cowfish	1	22.3
	22-Jun-07	Day-2	South	Spotfin Mojarra	1	20.5
	22-Jun-07	Day-2	South	Whitebone Porgy	7	278.4
	22-Jun-07			Day 2 Total	9	321.2
	22-Jun-07			Day 3 Total	0	0.0
7	22-Jun-07			TOTAL	36	909.7
	19-Jul-07			Night 1 Total	0	
	19-Jul-07			Night 2 Total	0	
	19-Jul-07			Night 3 Total	0	
	20-Jul-07			Day 1 Total	0	
	20-Jul-07			Day 2 Total	0	
	20-Jul-07			Day 3 Total	0	
8	20-Jul-07			TOTAL	0	0.0
	30-Aug-07			Night 1 Total	0	
	31-Aug-07	Day-1	South	Black Sea Bass	1	52.5
	31-Aug-07	Day-1	South	Fringed Filefish	2	18.0
	31-Aug-07	Day-1	South	Gulf Flounder	1	90.3
	31-Aug-07	Day-1	South	Orange Filefish	1	19.5
	31-Aug-07	Day-1	South	Planehead Filefish	4	63.0
	31-Aug-07	Day-1	South	Scrawled Cowfish	1	27.2
	31-Aug-07	Day-1	South	White Grunt	1	66.9
	31-Aug-07	Day-1	South	Whitebone Porgy	1	67.3
				Day 1 Total	12	404.7
9***	30-Aug-07			TOTAL	12	404.7
10	No trawls were conducted on September 27, 2007 due to boat engine failure					

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather condition.

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	25-Oct-07	Night-1	South	Bighead Searobin	1	14.0
	25-Oct-07	Night-1	South	Inshore Lizardfish	1	105.8
	25-Oct-07	Night-1	South	Pigfish	15	916.9
	25-Oct-07	Night-1	South	Pinfish	5	199.4
	25-Oct-07	Night-1	South	Polka-dot Batfish	2	132.6
	25-Oct-07	Night-1	South	Silver Perch	14	603.0
	25-Oct-07	Night-1	South	Spotfin Mojarra	8	218.9
				Night 1 Total	46	2,190.6
	25-Oct-07	Night-2	South	Black Sea Bass	1	85.9
	25-Oct-07	Night-2	South	Hardhead Catfish	1	102.5
	25-Oct-07	Night-2	South	Pigfish	4	159.4
	25-Oct-07	Night-2	South	Silver Perch	2	86.3
	25-Oct-07	Night-2	South	Spotfin Mojarra	1	23.7
				Night 2 Total	9	457.8
	25-Oct-07	Night-3	South	Atlantic Bumper	3	23.2
	25-Oct-07	Night-3	South	Atlantic Thread Herring	1	22.3
	25-Oct-07	Night-3	South	Black Sea Bass	2	91.2
	25-Oct-07	Night-3	South	Grass Porgy	1	68.3
	25-Oct-07	Night-3	South	Hardhead Catfish	1	79.2
	25-Oct-07	Night-3	South	Lane Snapper	1	49.9
	25-Oct-07	Night-3	South	Pigfish	6	227.9
	25-Oct-07	Night-3	South	Pinfish	7	259.9
	25-Oct-07	Night-3	South	Polka-dot Batfish	1	19.8
	25-Oct-07	Night-3	South	Scrawled Cowfish	1	130.6
	25-Oct-07	Night-3	South	Silver Perch	15	613.3
	25-Oct-07	Night-3	South	Spotfin Mojarra	5	122.3
	25-Oct-07	Night-3	South	White Grunt	1	66.9
	25-Oct-07	Night-3	South	Yellowfin Menhaden	1	366.7
				Night 3 Total	46	2,141.5
	26-Oct-07	Day-1	South	Atlantic Thread Herring	2	92.6
	26-Oct-07	Day-1	South	Bighead Searobin	1	35.2
	26-Oct-07	Day-1	South	Black Sea Bass	3	115.1
	26-Oct-07	Day-1	South	Emerald Parrotfish	1	105.2
	26-Oct-07	Day-1	South	Grass Porgy	9	492.9
	26-Oct-07	Day-1	South	Gray Snapper	1	65.2
	26-Oct-07	Day-1	South	Lane Snapper	1	42.6
	26-Oct-07	Day-1	South	Pigfish	7	135.8
	26-Oct-07	Day-1	South	Pinfish	30	710.9
	26-Oct-07	Day-1	South	Polka-dot Batfish	1	137.0
	26-Oct-07	Day-1	South	Scrawled Cowfish	2	131.3
	26-Oct-07	Day-1	South	Silver Perch	16	651.3
	26-Oct-07	Day-1	South	Spotfin Mojarra	9	318.3
	26-Oct-07	Day-1	South	Spottail Pinfish	1	9.8
				Day 1 Total	84	3,043.2

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	26-Oct-07	Day-2	South	Black Sea Bass	4	167.6
	26-Oct-07	Day-2	South	Grass Porgy	5	229.5
	26-Oct-07	Day-2	South	Lane Snapper	1	59.6
	26-Oct-07	Day-2	South	Pigfish	1	18.9
	26-Oct-07	Day-2	South	Pinfish	22	574.5
	26-Oct-07	Day-2	South	Southern Puffer	1	61.3
	26-Oct-07	Day-2	South	Spotfin Mojarra	5	102.0
	26-Oct-07	Day-2	South	Spottail Pinfish	3	30.2
	26-Oct-07	Day-2	South	White Grunt	1	57.0
				Day 2 Total	43	1,300.6
	26-Oct-07	Day-3	South	Black Sea Bass	2	34.1
	26-Oct-07	Day-3	South	Grass Porgy	1	10.7
	26-Oct-07	Day-3	South	Pigfish	16	329.8
	26-Oct-07	Day-3	South	Pinfish	39	908.2
	26-Oct-07	Day-3	South	Silver Perch	6	183.7
	26-Oct-07	Day-3	South	Spotfin Mojarra	1	21.1
	26-Oct-07	Day-3	South	Spottail Pinfish	1	6.6
	26-Oct-07	Day-3	South	White Grunt	1	21.5
				Day 3 Total	67	1,515.7
11	26-Oct-07			TOTAL	295	10,649.4

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	8-Nov-07	Night-1	South	Atlantic Spadefish	1	52.9
	8-Nov-07	Night-1	South	Grass Porgy	6	317.5
	8-Nov-07	Night-1	South	Pigfish	10	293.7
	8-Nov-07	Night-1	South	Pinfish	16	446.2
	8-Nov-07	Night-1	South	Silver Perch	10	371.0
	8-Nov-07	Night-1	South	Spot	1	50.4
	8-Nov-07	Night-1	South	Spotfin Mojarra	5	152.6
				Night 1 Total	49	1,684.3
	8-Nov-07	Night-2	South	Pigfish	3	159.1
	8-Nov-07	Night-2	South	Pinfish	16	515.5
	8-Nov-07	Night-2	South	Scrawled Cowfish	1	81.7
	8-Nov-07	Night-2	South	Spot	1	52.8
	8-Nov-07	Night-2	South	Striped Burrfish	1	31.3
	8-Nov-07	Night-2	South	Atlantic Spadefish	1	31.5
	8-Nov-07	Night-2	South	Bigeye Scad	1	45.3
	8-Nov-07	Night-2	South	Black Sea Bass	1	63.0
	8-Nov-07	Night-2	South	Grass Porgy	1	26.9
	8-Nov-07	Night-2	South	Hogfish	1	27.0
	8-Nov-07	Night-2	South	Silver Perch	10	469.8
	8-Nov-07	Night-2	South	Spotfin Mojarra	3	80.2
				Night 2 Total	40	1,584.1
	8-Nov-07			Night 3 Total	0	0.0
	9-Nov-07	Day-1	South	Grass Porgy	2	105.9
	9-Nov-07	Day-1	South	Lane Snapper	1	10.5
	9-Nov-07	Day-1	South	Orange Filefish	1	433.9
	9-Nov-07	Day-1	South	Pigfish	4	69.9
	9-Nov-07	Day-1	South	Pinfish	9	122.8
	9-Nov-07	Day-1	South	Silver Perch	15	548.0
	9-Nov-07	Day-1	South	Spotfin Mojarra	2	31.9
				Day 1 Total	34	1,322.9

Appendix 27 (cont'd)
Summary of South Trawl Data: Fish Collected

Event No.	Date	Interval	Location	South Trawl: Fish Collected		
				Species	Total #	Weight (g)
	9-Nov-07	Day-2	South	Atlantic Spadefish	1	44.7
	9-Nov-07	Day-2	South	Grass Porgy	4	172.4
	9-Nov-07	Day-2	South	Lane Snapper	2	184.0
	9-Nov-07	Day-2	South	Pigfish	2	31.2
	9-Nov-07	Day-2	South	Pinfish	8	119.4
	9-Nov-07	Day-2	South	Polka-dot Batfish	1	186.1
	9-Nov-07	Day-2	South	Silver Perch	12	430.6
	9-Nov-07	Day-2	South	Spotfin Mojarra	11	285.8
	9-Nov-07	Day-2	South	Summer Flounder	1	371.9
				Day 2 Total	42	1,826.1
	9-Nov-07	Day-3	South	Grass Porgy	2	121.0
	9-Nov-07	Day-3	South	Lane Snapper	1	31.9
	9-Nov-07	Day-3	South	Pigfish	3	64.0
	9-Nov-07	Day-3	South	Pinfish	9	126.7
	9-Nov-07	Day-3	South	Scrawled Cowfish	1	50.7
	9-Nov-07	Day-3	South	Silver Perch	12	462.3
	9-Nov-07	Day-3	South	Spotfin Mojarra	5	151.9
	9-Nov-07	Day-3	South	Striped Burrfish	1	347.0
				Day 3 Total	34	1,355.5
12	09-Nov-07			TOTAL	199	7,772.9
	Grand Total				831	29,659.8

Appendix 28
Summary of South Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	South Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	21-Dec-06	Night-1	South	False Arrow Crab	4	2.6
	21-Dec-06	Night-1	South	Pink Shrimp	2	20.7
				Night 1 Total	6	23.3
	21-Dec-06	Night-2	South	False Arrow Crab	4	1.2
	21-Dec-06	Night-2	South	Iridescent Swimming Crab	2	12.3
	21-Dec-06	Night-2	South	Pink Shrimp	2	31.0
				Night 2 Total	8	44.5
	21-Dec-06	Night-3	South	Flatclaw Hermit Crab	1	28.0
	21-Dec-06	Night-3	South	Iridescent Swimming Crab	10	69.0
	21-Dec-06	Night-3	South	Pink Shrimp	1	14.6
	21-Dec-06	Night-3	South	Yellowline Arrow Crab	3	1.1
				Night 3 Total	15	112.7
	22-Dec-06	Day-1	South	Atlantic Brief Squid	1	3.0
	22-Dec-06			Day 1 Total	1	3.0
	22-Dec-06			Day 2 Total	0	0.0
	22-Dec-06			Day 3 Total	0	0.0
1	22-Dec-06			TOTAL	30	183.5
				Night 1 Total	0	0.0
	18-Jan-07	Night-2	South	Blue Crab	11	92.6
	18-Jan-07	Night-2	South	Hermit crab species	1	4.6
	18-Jan-07	Night-2	South	Pink Shrimp	10	75.8
	18-Jan-07	Night-2	South	Yellowline Arrow Crab	3	2.0
				Night 2 Total	25	175.0
	18-Jan-07	Night-3	South	Iridescent Swimming Crab	13	94.0
	18-Jan-07	Night-3	South	Pink Shrimp	11	86.2
				Night 3 Total	24	180.2
				Day 1 Total	0	0.0
	19-Jan-07	Day-2	South	Yellowline Arrow Crab	26	26.6
				Day 2 Total	26	26.6
	19-Jan-07			Day 3 Total	0	0.0
2	19-Jan-07			TOTAL	75	381.8
	15-Feb-07	Night-1	South	Iridescent Swimming Crab	2	5.1
	15-Feb-07	Night-1	South	Pink Shrimp	1	13.5
				Night 1 Total	3	18.6
	15-Feb-07	Night-1	South	False Arrow Crab	2	2.8
	15-Feb-07	Night-1	South	Longnosed Spider Crab	1	45.8
	15-Feb-07	Night-1	South	Pink Shrimp	2	6.7
				Night 2 Total	5	55.3
	15-Feb-07	Night-3	South	False Arrow Crab	1	0.7
				Night 3 Total	1	0.7
				Day 1 Total	0	0.0
	16-Feb-07	Day-2	South	Blue Crab	1	104.2
	16-Feb-07	Day-2	South	Starfish sp.	1	20.4
				Day 2 Total	2	124.6
				Day 3 Total	0	0.0
3	16-Feb-07			TOTAL	11	199.2

Appendix 28 (cont'd)
Summary of South Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	South Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	16-Mar-07			Day 1 Total	0	0.0
4*	16-Mar-07			TOTAL	0	0.0
	26-Apr-07	Night-1	South	Gulf Grassflat Crab	2	0.6
	26-Apr-07	Night-1	South	Sand Snapping Shrimp	1	0.1
				Night 1 Total	3	0.7
5**	26-Apr-07			TOTAL	3	0.7
6	No trawls were conducted on May 24, 2007 due to rough water conditions (8-10' seas)					
				Night 1 Total	0	0.0
	21-Jun-07	Night-2	South	Blue Crab	2	56.1
				Night 2 Total	2	56.1
	21-Jun-07			Night 3 Total	0	0.0
	22-Jun-07			Day 1 Total	0	0.0
	22-Jun-07	Day-2	South	Pink Shrimp	1	10.2
				Day 2 Total	1	10.2
	22-Jun-07			Day 3 Total	0	0.0
7	22-Jun-07			TOTAL	3	66.3
	19-Jul-07	Night-1	South	Florida Stone Crab	1	4.4
	19-Jul-07	Night-1	South	Starfish sp.	2	58.9
	19-Jul-07			Night 1 Total	3	63.3
	19-Jul-07			Night 2 Total	0	0.0
	19-Jul-07			Night 3 Total	0	0.0
	20-Jul-07			Day 1 Total	0	0.0
	20-Jul-07			Day 2 Total	0	0.0
	20-Jul-07			Day 3 Total	0	0.0
8	20-Jul-07			TOTAL	3	63.3
	30-Aug-07			Night 1 Total	0	0.0
9***	30-Aug-07			TOTAL	0	0.0
10	No trawls were conducted on September 27, 2007 due to boat engine failure					

* No night sampling on March 15, 2007 due to rough weather condition (5-6') seas, small craft advisory was in effect; heavy rain and high winds on March 16, 2007 so only one trawl was conducted.

** No day trawl on April 27, 2007 due to hazardous weather conditions.

*** Only one trawl was conducted on August 30 and 31, 2007 for both the night and day sampling interval due to unsafe weather conditions.

Appendix 28 (cont'd)
Summary of South Trawl Data: Invertebrates Collected

Event No.	Date	Interval	Location	South Trawl: Invertebrates Collected		
				Species	Total #	Weight (g)
	25-Oct-07	Night-1	South	Atlantic Brief Squid	1	25.7
				Night 1 Total	1	25.7
	25-Oct-07			Night 2 Total	0	0.0
	25-Oct-07	Night-3	South	Iridescent Swimming Crab	1	9.2
				Night 3 Total	1	9.2
	26-Oct-07			Day 1 Total	0	0.0
	26-Oct-07			Day 2 Total	0	0.0
	26-Oct-07			Day 3 Total	0	0.0
11	26-Oct-07			TOTAL	2	34.9
	8-Nov-07	Night-1	South	Pink Shrimp	2	12.8
				Night 1 Total	2	12.8
	8-Nov-07			Night 2 Total	0	0.0
	8-Nov-07			Night 3 Total	0	0.0
	9-Nov-07			Day 1 Total	0	0.0
	9-Nov-07	Day-2	South	Keyhole Sand Dollar	1	9.0
				Day 2 Total	1	9.0
	9-Nov-07			Day 3 Total	0	0.0
12	09-Nov-07			TOTAL	3	21.8
	Grand Total				130	951.5

Appendix 29
Diel Distribution of Specimens Collected During North Trawls
(December 2006- November 2007)

Event No.	Date	North Trawl Density (No. Fish per 1,000 m ³)	
		Day	Night
1	22-Dec-06	0.00	10.49
2	19-Jan-07	0.55	25.41
3	16-Feb-07	1.44	14.47
4	16-Mar-07	5.63	No sampling
5	27-Apr-07	No sampling	1.77
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.77	1.77
8	20-Jul-07	0.44	14.58
9	31-Aug-07	0.00	5.63
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	9.72	0.99
12	9-Nov-07	6.08	2.98

Event No.	Date	North Trawl Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	22-Dec-06	0.22	10.49
2	19-Jan-07	0.66	13.15
3	16-Feb-07	0.22	2.76
4	16-Mar-07	0.00	No sampling
5	27-Apr-07	No sampling	0.22
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.33	0.55
8	20-Jul-07	0.44	1.10
9	31-Aug-07	0.00	0.33
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	0.11	0.00
12	9-Nov-07	0.00	0.00

Appendix 30
Diel Distribution of Specimens Collected During South Trawls
(December 2006- November 2007)

Event No.	Date	South Trawl Density (No. Fish per 1,000 m ³)	
		Day	Night
1	22-Dec-06	1.88	1.10
2	19-Jan-07	1.33	22.09
3	16-Feb-07	0.55	3.20
4	16-Mar-07	0.00	No sampling
5	27-Apr-07	No sampling	1.77
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.99	2.98
8	20-Jul-07	0.00	0.00
9	31-Aug-07	3.98	0.00
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	21.43	11.16
12	9-Nov-07	12.15	9.83

Event No.	Date	South Trawl Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	22-Dec-06	0.11	3.20
2	19-Jan-07	2.87	5.41
3	16-Feb-07	0.22	0.99
4	16-Mar-07	0.00	No sampling
5	27-Apr-07	No sampling	0.33
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.11	0.22
8	20-Jul-07	0.00	0.33
9	31-Aug-07	0.00	0.00
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	0.00	0.22
12	9-Nov-07	0.11	0.22

Appendix 31
Diel Distribution of Specimens Collected During Central Trawls
(December 2006- November 2007)

Event No.	Date	Central Trawl Density (No. Fish per 1,000 m ³)	
		Day	Night
1	22-Dec-06	0.22	5.30
2	19-Jan-07	0.22	5.19
3	16-Feb-07	0.99	8.40
4	16-Mar-07	0.33	No sampling
5	27-Apr-07	No sampling	0.77
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.55	4.64
8	20-Jul-07	0.33	2.21
9	31-Aug-07	0.00	0.66
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	3.76	1.33
12	9-Nov-07	10.72	4.53

Event No.	Date	Central Trawl Density (No. Invertebrates per 1,000 m ³)	
		Day	Night
1	22-Dec-06	0.66	5.41
2	19-Jan-07	0.00	0.22
3	16-Feb-07	0.22	4.97
4	16-Mar-07	0.00	No sampling
5	27-Apr-07	No sampling	0.99
6	24-May-07	No sampling	No sampling
7	22-Jun-07	0.00	1.55
8	20-Jul-07	0.00	0.22
9	31-Aug-07	0.33	0.00
10	28-Sept-07	No sampling	No sampling
11	26-Oct-07	0.00	0.11
12	9-Nov-07	0.11	0.11

Appendix 32
Summary of Daily Water Quality During Impingement Collections

Date	Time	Location	Salinity (ppt)	Conductivity (mS)	Dissolved Oxygen (mg/L)	Temperature (°C)
12/7/2007	7:55 PM	CR-3	27.9	36.55	6.14	16.8
12/21/2006	8:25 PM	CR-3	27.7	38.39	5.66	19.5
1/4/2007	7:55 PM	CR-3	26.3	36.27	6.48	19.0
1/18/2007	7:55 PM	CR-3	28.8	38.15	5.69	17.5
2/2/2007	7:55 AM	CR-3	26.8	33.36	8.07	14.5
2/15/2007	7:55 PM	CR-3	25.5	32.14	7.98	15.1
4/13/2007	8:25 AM	CR-3	28.1	43.54	6.32	19.2
4/27/2007	8:25 AM	CR-3	25.8	40.28	6.11	24.3
5/11/2007	8:25 AM	CR-3	27.8	42.12	5.62	23.6
5/25/2007	8:25 AM	CR-3	32.8	49.20	5.57	24.0
6/8/2007	8:26 AM	CR-3	27.5	44.82	5.86	27.5
8/17/2007	8:25 AM	CR-3	28.2	48.90	3.68	30.8
8/31/2007	8:25 AM	CR-3	29	48.95	3.62	29.9
9/14/2007	8:25 AM	CR-3	30.2	51.10	4.11	29.7
9/28/2007	8:25 AM	CR-3	31.4	50.60	7.64	27.6
10/12/2007	8:25 AM	CR-3	31.8	50.40	3.63	26.4
10/26/2007	8:25 AM	CR-3	31.5	49.25	4.42	24.3
11/9/2007	8:25 AM	CR-3	27.6	44.28	8.38	17.7
11/30/2007	8:25 AM	CR-3	29.5	41.08	7.91	20.1

Appendix 33
General Biology of the Ten Most Abundant Fishes Impinged at Crystal River Power Plant
(December 2006 – November 2007)

General Biology of the Ten Most Abundant Fishes Impinged at Crystal River Power Plant (November 2006 – December 2007)

R.G. Turingan, Ph.D., Florida Institute of Technology

This report is largely drawn from information in www.fishbase.org, Nelson, J.S. 2006. *Fishes of the World*. Fourth Edition. Wiley, NY. and the citations referred to in the text and listed at the end of each species account.

***Opisthonema oglinum*, Atlantic threadfin herring
(Order Clupeiformes, Family Clupeidae)**

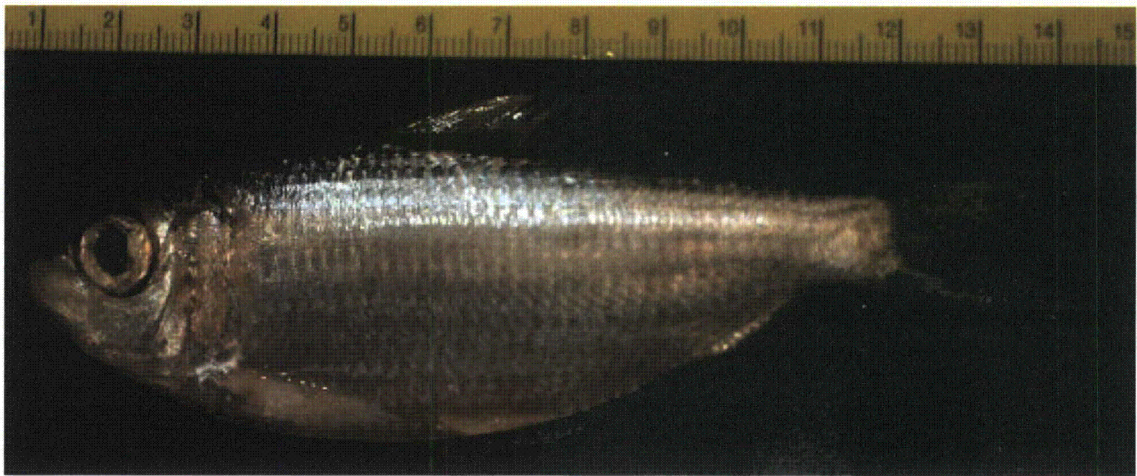


Figure 1. A photograph of the Atlantic threadfin herring, *Opisthonema oglinum*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plant in Crystal River, Florida.

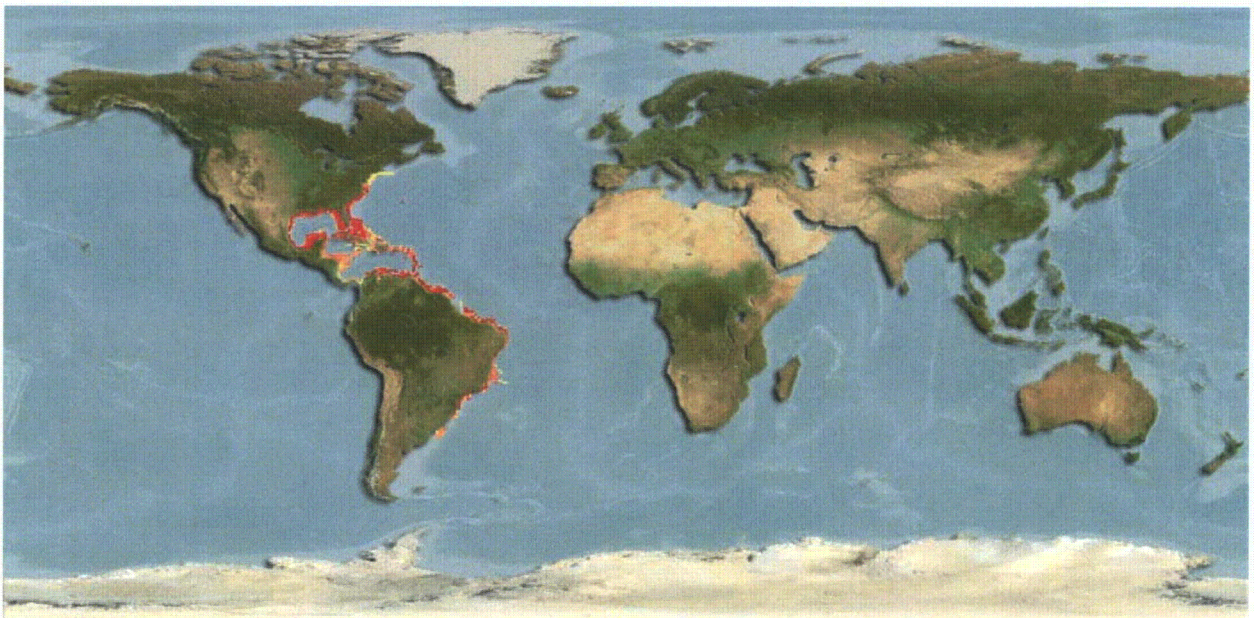


Figure 2. Range of distribution of *Opisthonema oglinum*, Atlantic threadfin herring (photo from Fishbase.org).

The Atlantic threadfin herring, *Opisthonema oglinum* (Figure 1), is distinguished by its filamentous last dorsal fin ray (1). It has a silvery body, with a bluish or greenish back and 6-7 lengthwise dark streaks on side. The species has a dark spot above the opercle and a larger dark spot behind this bone, followed by a row of dark spots caudally (2).

The Atlantic threadfin herring inhabits marine coastal waters, often associated with reef structure in the Gulf of Maine (USA), Bermuda, Gulf of Mexico, Caribbean and West Indies and Brazil (Figure 2). It is considered a tropical species with its range of distribution being 41°N - 37°S, 98°W - 33°W. A freshwater population inhabits the St. Johns River, Florida (3). Schools of this species are normally found in harbors and shallow coastal areas (1), filter-feeding on plankton (copepods), but occasionally feeding on small fishes, crabs and shrimps. The Western North Atlantic (USA) population is reported to live up to eight years ($T_{max} = 8$ yrs) with a maximum length, $L_{max} = 30$ cm (4). It spawns in May – June.

The Atlantic threadfin herring is commonly used as bait, but is also marketed fresh, frozen and salted. It is a common raw material for the fishmeal industry (5).

References:

- (1) **Whitehead, P.J.P., 1985** FAO species catalogue. Vol. 7. Clupeoid fishes of the world (suborder Clupeoidei). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, shads, anchovies and wolf-herrings. Part 1 - Chirocentridae, Clupeidae and Pristigasteridae. FAO Fish. Synop. 125(7/1):1-303.).
- (2) **Robins, C.R. and G.C. Ray, 1986** A field guide to Atlantic coast fishes of North America. Houghton Mifflin Company, Boston, U.S.A. 354 p.
- (3) **Smith, C.L., 1997** National Audubon Society field guide to tropical marine fishes of the Caribbean, the Gulf of Mexico, Florida, the Bahamas, and Bermuda. Alfred A. Knopf, Inc., New York. 720 p.
- (4) **Cervigón, F., R. Cipriani, W. Fischer, L. Garibaldi, M. Hendrickx, A.J. Lemus, R. Márquez, J.M. Poutiers, G. Robaina and B. Rodriguez, 1992** Fichas FAO de identificación de especies para los fines de la pesca. Guía de campo de las especies comerciales marinas y de aguas salobres de la costa septentrional de Sur América. FAO, Rome. 513 p. Preparado con el financiamiento de la Comisión de Comunidades Europeas y de NORAD.
- (5) **Lieske, E. and R. Myers, 1994** Collins Pocket Guide. Coral reef fishes. Indo-Pacific & Caribbean including the Red Sea. Haper Collins Publishers, 400 p.

***Anchoa mitchilli*, Bay anchovy**
(Order Clupeiformes, Family Engraulidae)



Figure 3. A photograph of the bay anchovy, *Anchoa mitchilli* (photo from Fishbase.org).



Figure 4. Range of distribution of the bay anchovy, *Anchoa mitchilli* (photo from Fishbase.org).

The bay anchovy, *Anchoa mitchilli* (Figure 3), varies in size among populations within its range of distribution, with more slender bodied individuals in northern populations. It is distinguishable by having a fairly blunt snout, about half its eye diameter. It has a long and pointed upper jaw, reaching posteriorly past the border of the pre-operculum.

The bay anchovy occurs along the coasts of the Western Atlantic (Figure 4), from Maine to Florida, and throughout the entire Gulf of Mexico. It is a subtropical species widely distributed along 42°N - 16°N, 99°W - 72°W, often found associated with reef structure and is considered amphidromous (6). It is also commonly found in shallow tidal areas with muddy bottoms and brackish waters, tolerating a wide range of salinities. It is found only in spring and summer in the tidal portion of the Ochlockonee River, Florida. It feeds mostly on *Mysis* and copepods, but occasionally forages on small fishes, gastropods and isopods. It spawns off the US coasts in April to September. The bay anchovy population in US waters has an estimated maximum size (Lmax) of 11 cm and lives up to Tmax = 3 yrs (7).

It has a minor commercial importance as bait and used to make anchovy paste (7).

References:

- (6) **Riede, K., 2004** Global register of migratory species - from global to regional scales. Final Report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn, Germany. 329 p.
- (7) **Whitehead, P.J.P., G.J. Nelson and T. Wongratana, 1988** FAO species catalogue. Vol. 7. Clupeoid fishes of the world (Suborder Clupeoidei). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, shads, anchovies and wolf-herrings. Part 2 - Engraulidae. FAO Fish. Synop. 125(7/2):305-579.

***Orthopristis chrysoptera*, pigfish
(Order Perciformes, Family Haemulidae)**

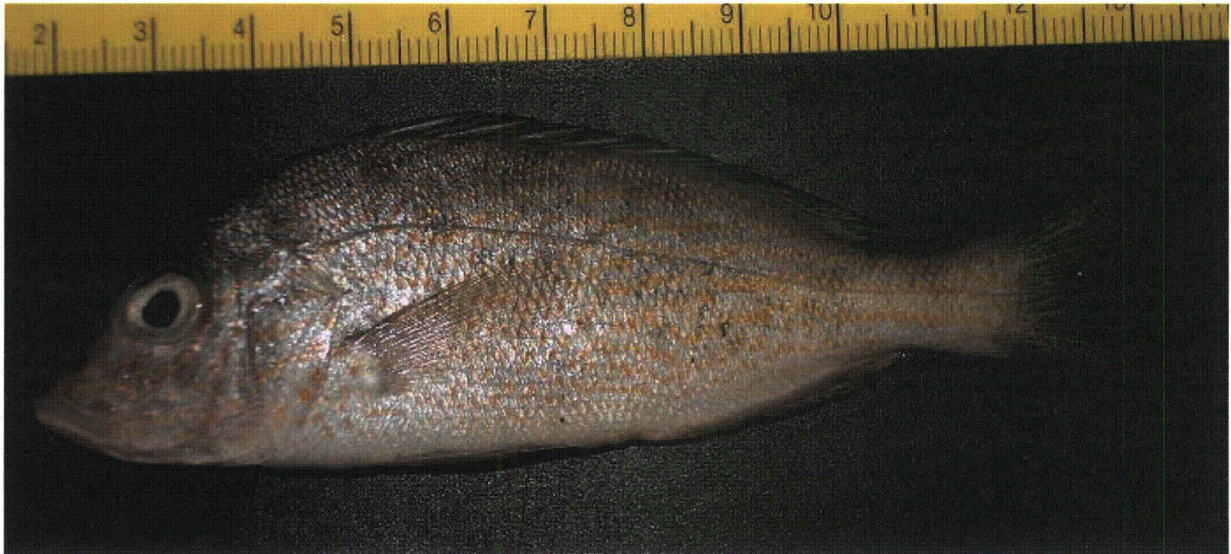


Figure 5. A photograph of the pigfish, *Orthopristis chrysoptera*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plants in Crystal River, Florida.



Figure 6. Range of distribution of *Orthopristis chrysoptera*, pigfish (photo from Fishbase.org).

The pigfish, *Orthopristis chrysoptera* (Fig. 5), is morphologically distinguishable by its elevated back, long and tapered snout and a little oblique mouth. Its natural range of distribution includes the Western Atlantic, from New York, USA and Bermuda to Mexico. It is an oceanodromous (8), demersal species. The pigfish has a reported maximum size of 46.0 cm SL, maximum weight of 900 g and a maximum age of 4 years (9).

Pigfish populations are found in coastal waters, over sand and mud bottoms. They form schools, feeding on crustaceans and smaller fishes. The species undergoes seasonal migration as well as local nocturnal-diurnal foraging migrations (9). It spawns from January to July in the USA waters.

The pigfish has a minor commercial importance, marketed as aquarium fish and as bait.

References:

(8) Riede, K., 2004 Global register of migratory species - from global to regional scales. Final Report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn, Germany. 329 p.

(9) Darcy, G.H., 1983 Synopsis of biological data on the pigfish, *Orthopristis chrysoptera* (Pisces: Haemulidae). FAO Fish. Synop. (134); NOAA Tech. Rep. NMFS Circ. (449).

***Lagodon rhomboides*, pinfish**
(Order Perciformes; Family Sparidae)

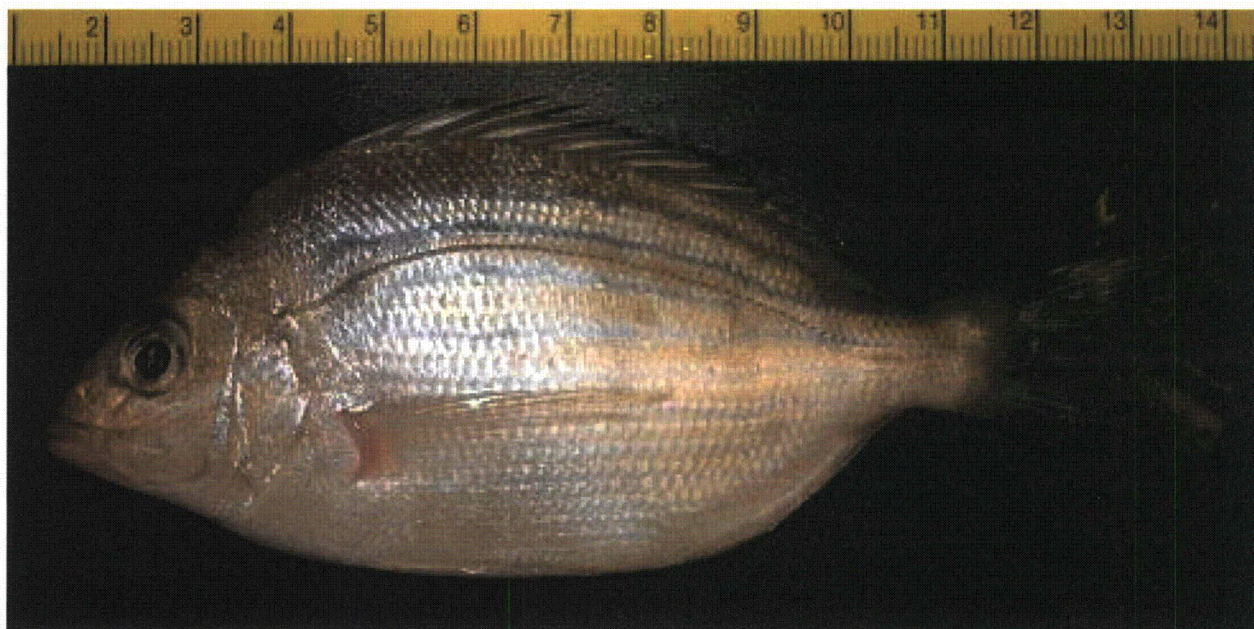


Figure 7. A photograph of the pinfish, *Lagodon rhomboides*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plants in Crystal River, Florida.

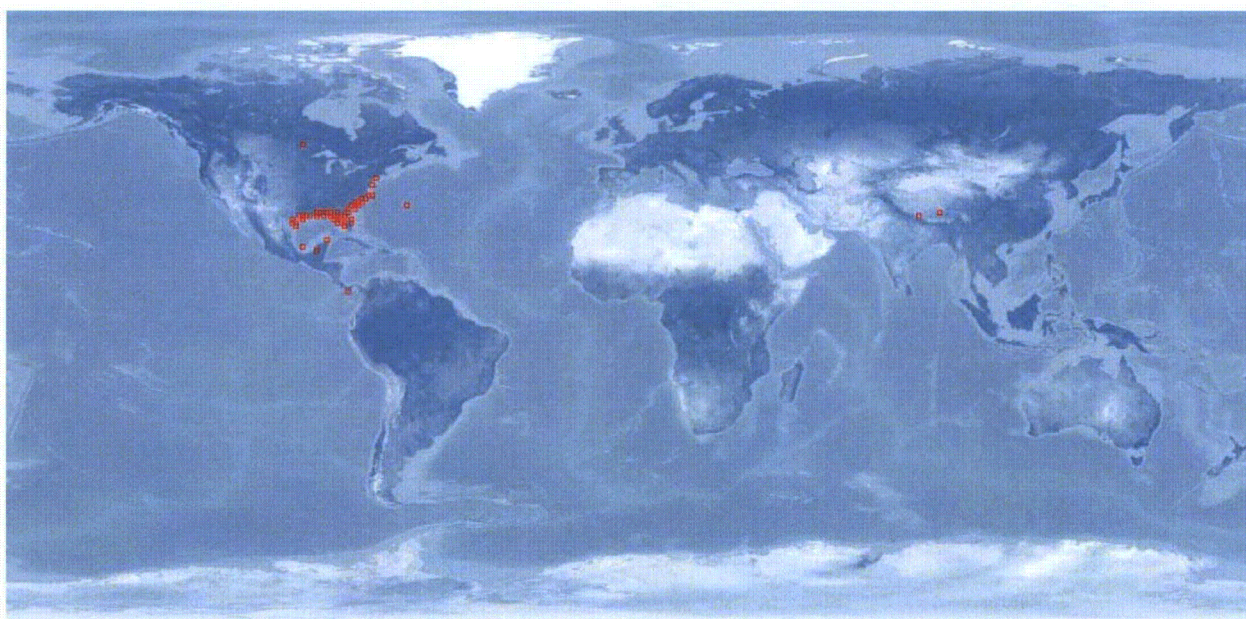


Figure 8. Range of distribution of the pinfish, *Lagodon rhomboides* (photo from Fishbase.org).

The pinfish is commonly found on vegetated bottoms, occasionally over rocky bottoms and in mangrove areas. Individuals often form large aggregations, feeding mainly on small animals, especially crustaceans, but also takes mollusks, worms and occasionally small fishes that are associated with the grassy habitat. Pinfish populations are found in freshwater, brackish and marine habitats. It naturally occurs in the Western Atlantic, from Massachusetts (USA), Bermuda, and northern Gulf of Mexico to Florida Keys, USA and Yucatan, Mexico. Also in northern coast of Cuba, but absent in Bahamas or rest of Antilles (10). It spawns October to November in Tampa Bay and adjacent waters of the Gulf of Mexico. Pinfish reaches a maximum size of 40.0 cm TL (11), maximum weight of 1,510 g (12) and a maximum age of 6 years.

Pinfish has a minor commercial importance, marketed as aquarium fish and as bait.

References:

(10) Smith, C.L., 1997 National Audubon Society field guide to tropical marine fishes of the Caribbean, the Gulf of Mexico, Florida, the Bahamas, and Bermuda. Alfred A. Knopf, Inc., New York. 720 p.

(11) Randall, J.E. and R. Vergara R., 1978 Sparidae. In W. Fischer (ed.) FAO species identification sheets for fishery purposes. Western Central Atlantic (Fishing Area 31). FAO, Rome. Vol. 5. pag.var.

(12) IGFA, 2001 Database of IGFA angling records until 2001. IGFA, Fort Lauderdale, USA.

***Ogcocephalus cubifrons*, polka-dot batfish**
(Order Lophiiformes; Family Ogcocephalidae)



Figure 9. A photograph of the polka-dot batfish, *Ogcocephalus cubifrons*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plants in Crystal River, Florida.

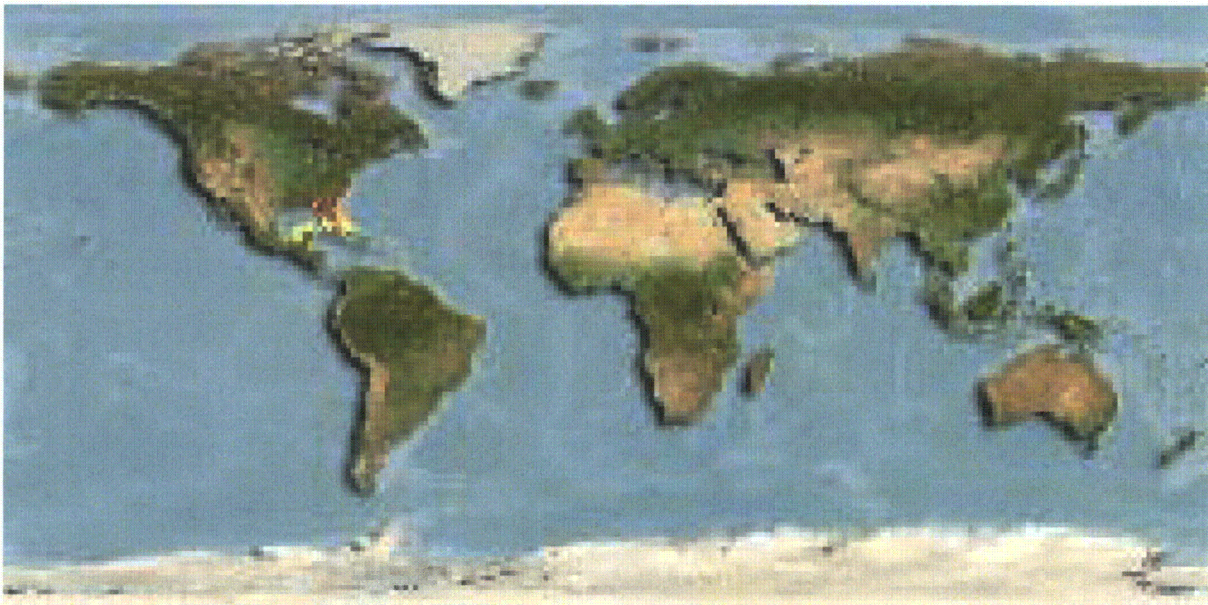


Figure 10. Range of distribution of the polka-dot batfish, *Ogcocephalus cubifrons* (photo from Fishbase.org).

Morphologically, the polka-dot batfish, *Ogcocephalus cubifrons* (Fig. 9), is distinguishable by its bright pattern of dark spots on its pale pectoral fins and small mouth (13). It naturally occurs in the Western Central Atlantic, ranging from North Carolina (USA), Bahamas and northwest Florida to Campeche Bank (Yucatan). It is considered a rare species, found on sandy, muddy, or rocky bottoms from 0-70m deep.

The polka-dot batfish has no known commercial importance.

References:

- (13) **Bradbury, M.G., 1980** A revision of the fish genus *Ogcocephalus* with descriptions of new species from the western Atlantic Ocean (Ogcocephalidae: Lophiiformes). Proc. Calif. Acad. Sci. 42(7):229-285.

***Harengula jaguana*, scaled sardine**
(Order Clupeiformes, Family Clupeidae)

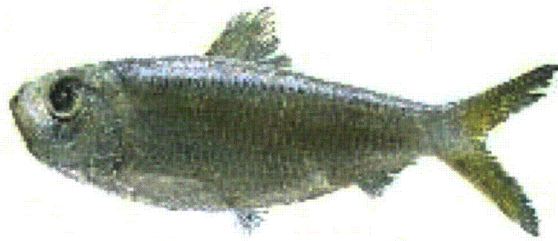


Figure 11. A photograph of the scaled sardine, *Harengula jaguana* (photo from Fishbase.org).



Figure 12. Range of distribution of the scaled sardine, *Harengula jaguana* (photo from Fishbase.org).

The scaled sardine is distinguishable morphologically by the presence of a tooth plate on tongue (basihyal and basibranchial tooth plates) (14). This species lacks a dark pigment on dorsal fin tip (14) nor an orange or red spot at the opercle (15). It naturally occurs in the Western Atlantic, from New Jersey, USA and Bermuda southward to Florida (USA), Gulf of Mexico, Caribbean, and southern Brazil. The scaled sardine inhabits marine, often associated with reef structures and estuarine waters, over mud sand bottoms. It has been reported to reach a maximum length of 21.2 cm TL (16) and a maximum age of 6 years. The scaled sardine spawns in February to July around Miami, Florida, USA.

The scaled sardine has a minor commercial importance, marketed fresh or canned.

References:

(14) **Whitehead, P.J.P., 1985** FAO species catalogue. Vol. 7. Clupeoid fishes of the world (suborder Clupeoidei). An annotated and illustrated catalogue of the herrings, sardines, pilchards, sprats, shads, anchovies and wolf-herrings. Part 1 - Chirocentridae, Clupeidae and Pristigasteridae. FAO Fish. Synop. 125(7/1):1-303.).

(15) **Robins, C.R. and G.C. Ray, 1986** A field guide to Atlantic coast fishes of North America. Houghton Mifflin Company, Boston, U.S.A. 354 p.

(16) **Cervigón, F., R. Cipriani, W. Fischer, L. Garibaldi, M. Hendrickx, A.J. Lemus, R. Márquez, J.M. Poutiers, G. Robaina and B. Rodríguez, 1992** Fichas FAO de identificación de especies para los fines de la pesca. Guía de campo de las especies comerciales marinas y de aguas salobres de la costa septentrional de Sur América. FAO, Rome. 513 p. Preparado con el financiamiento de la Comisión de Comunidades Europeas y de NORAD.

***Bairdiella chrysoura*, silver perch
(Order Perciformes; Family Sciaenidae)**

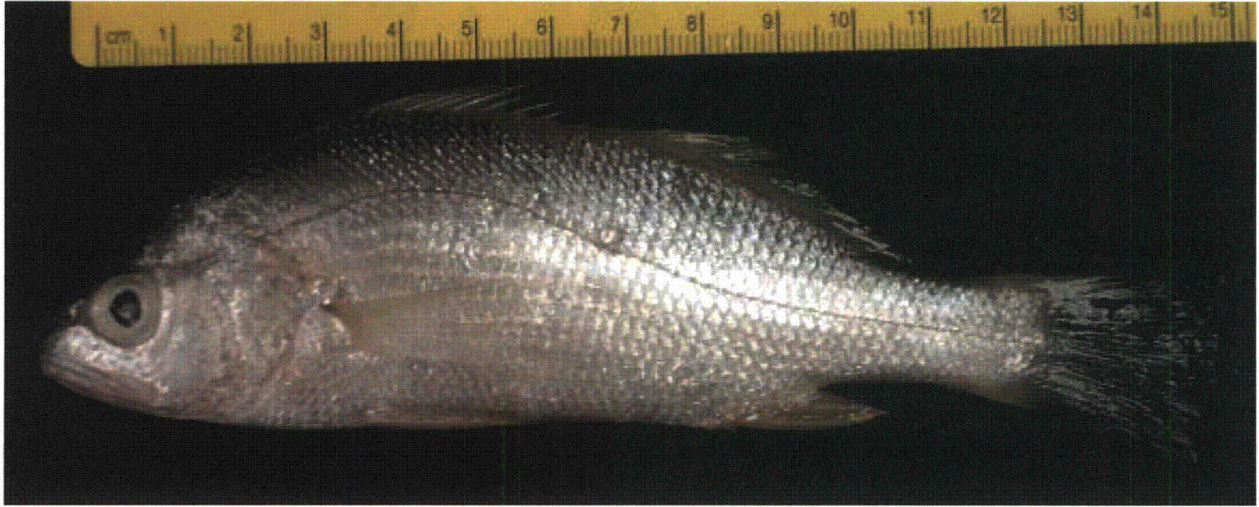


Figure 13. A photograph of the silver perch, *Bairdiella chrysoura*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plants in Crystal River, Florida.

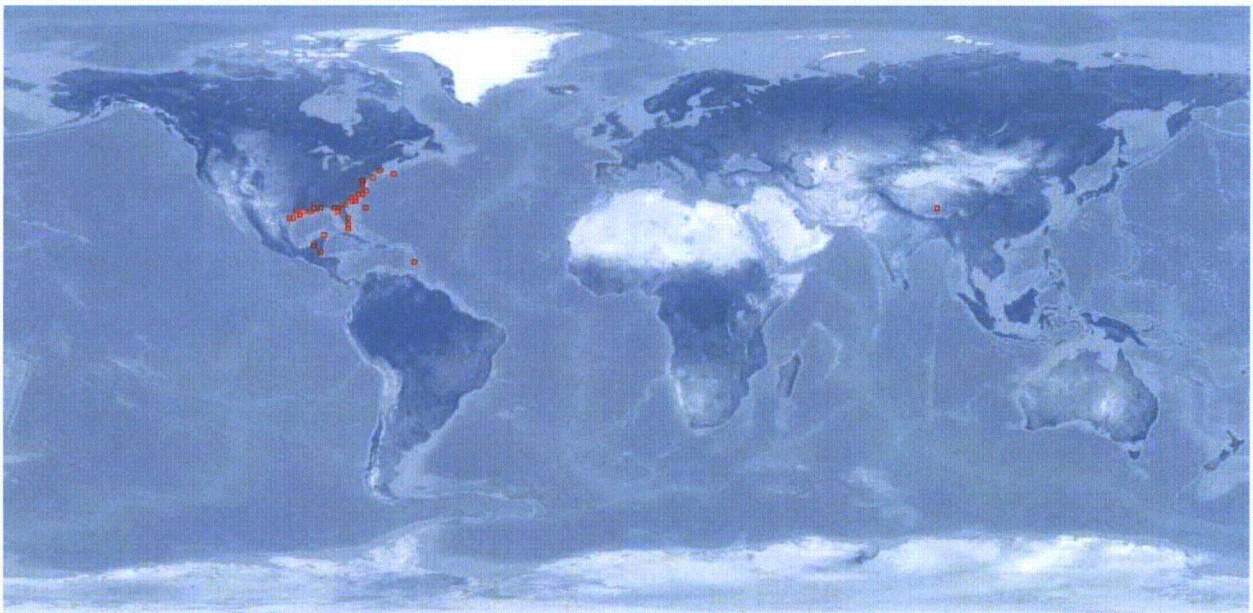


Figure 14. Range of distribution of the silver perch, *Bairdiella chrysoura* (photo from Fishbase.org).

The silver perch, *Bairdiella chrysoura* (Fig. 13), has a silvery body with greenish or bluish coloration in the dorsal half of the body and bright silvery to yellowish on the belly. Pelvic and anal fins are mostly yellowish to dusky. It has a terminal mouth, moderately large and oblique, and with 6 mental pores in the chin (17). It occurs in the Western Atlantic (Fig. 14), ranging from New York to southern Florida in USA, and eastern and northern Gulf of Mexico to northern Mexico.

The silver perch is commonly found in coastal marine and estuarine waters over sandy and muddy bottoms. Individuals move to estuarine habitat in the summer to forage on crustaceans, worms and occasionally, fishes. The species is known to live for up to 4 years at a maximum size of 30 cm (18) in the Gulf of Mexico, where they spawn in January to September.

The silver perch has a minor commercial, marketed as bait.

References:

- (17) **Chao, N.L., 2002** Scianidae. Croakers. p. 1583-1653. In: K.E. Carpenter (ed.) FAO species identification guide for fishery purposes. The living marine resources of the Western Central Atlantic. Vol. 3: Bony fishes part 2 (Opistognathidae to Molidae), sea turtles and marine mammals.
- (18) **Robins, C.R. and G.C. Ray, 1986** A field guide to Atlantic coast fishes of North America. Houghton Mifflin Company, Boston, U.S.A. 354 p.

***Eucinostomus argenteus*, spotfin mojarra
(Order Perciformes; Family Gerreidae)**

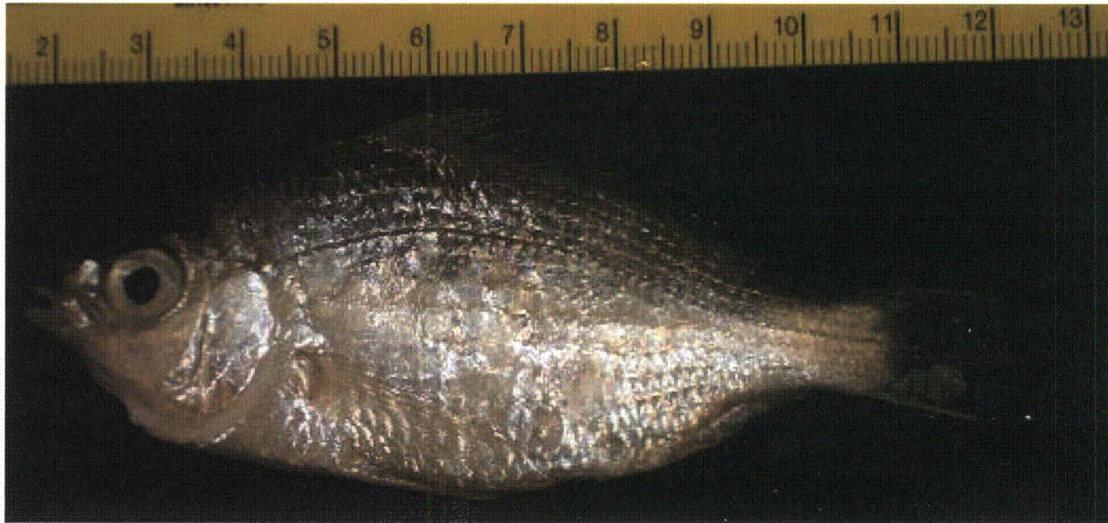


Figure 15. A photograph of the spotfin mojarra, *Eucinostomus argenteus*, caught in the collecting screens of the Progress Energy Nuclear and Coal Power Plants in Crystal River, Florida.

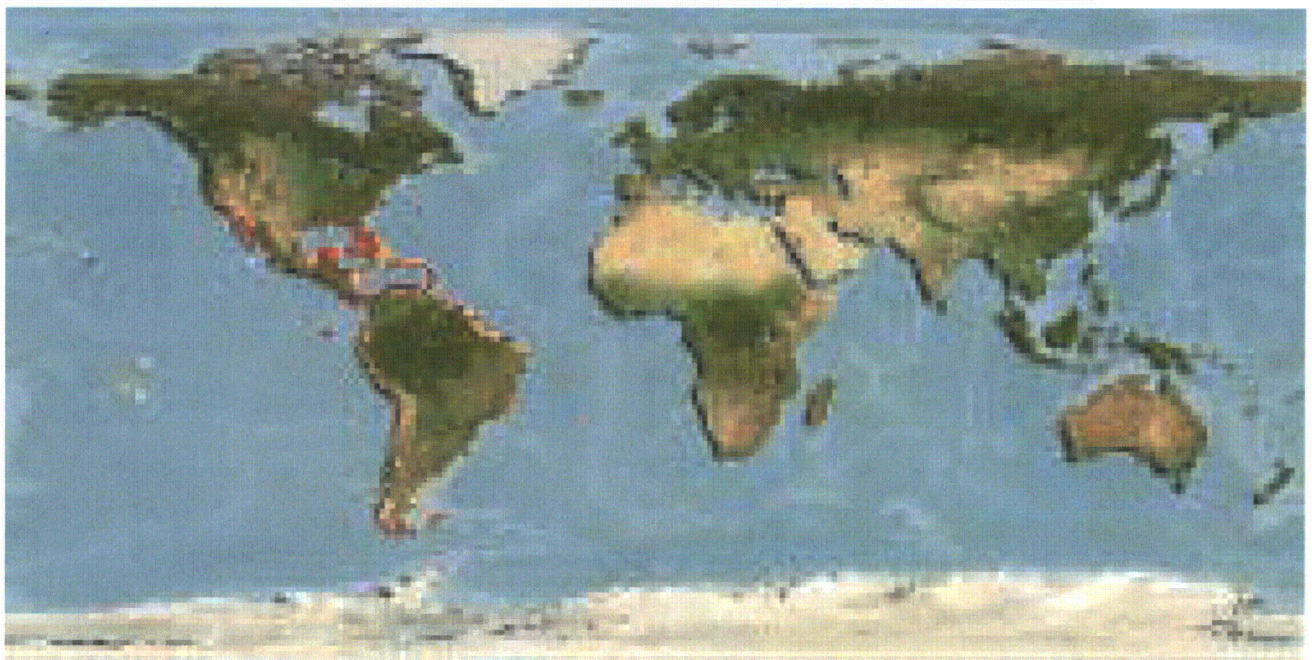


Figure 16. Range of distribution of the spotfin mojarra, *Eucinostomus argenteus* (photo from Fishbase.org).

The spotfin mojarra is distinguishable from its closest relatives by the presence of a premaxillary groove that is continuous, but narrow, bordered by scales anteriorly (19). It occurs in the Eastern Pacific ranging from Anaheim Bay in southern California, USA southward to Peru, including the Galapagos Islands. Populations in the Western Atlantic range from New Jersey, USA and Bermuda through the Gulf of Mexico and the Caribbean to southeastern Brazil (20). They inhabit soft bottoms of bays and shallow inshore areas, often along sand beaches (21). They also enter freshwater (20). Juveniles are encountered in lagoons of mangroves. The spotfin mojarra is an omnivore (22). The largest recorded body size of spotfin mojarra is 20.0 cm TL (21) and age 4 years in the Gulf of Mexico. Adult spotfin mojarra spawn in January to September in the Gulf of Mexico..

Spotfin mojarra has a minor commercial importance, marketed as fresh and frozen bait (23). Marketed fresh but not highly esteemed; processed into fish meal and used as live bait in the snapper fishery.

References:

- (19) **Smith, C.L., 1997** National Audubon Society field guide to tropical marine fishes of the Caribbean, the Gulf of Mexico, Florida, the Bahamas, and Bermuda. Alfred A. Knopf, Inc., New York. 720 p.
- (20) **Robins, C.R. and G.C. Ray, 1986** A field guide to Atlantic coast fishes of North America. Houghton Mifflin Company, Boston, U.S.A. 354 p.).
- (21) **Eschmeyer, W.N., E.S. Herald and H. Hammann, 1983** A field guide to Pacific coast fishes of North America. Houghton Mifflin Company, Boston, U.S.A. 336 p.).
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Anchoa hepsetus, striped anchovy
(Order Clupeiformes; Family Engraulidae)

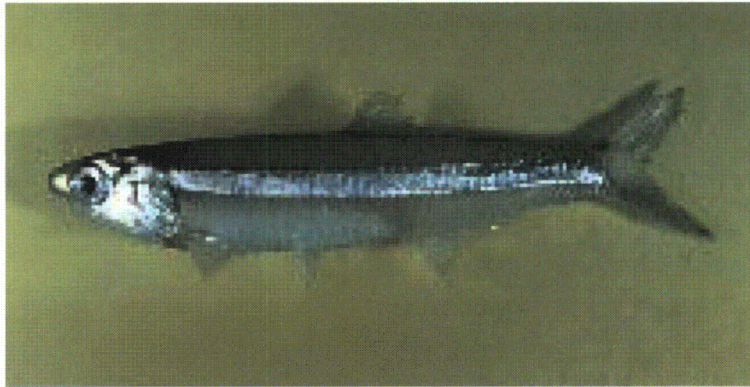


Figure 17. A photograph of the striped anchovy, *Anchoa hepsetus* (photo from Fishbase.org).

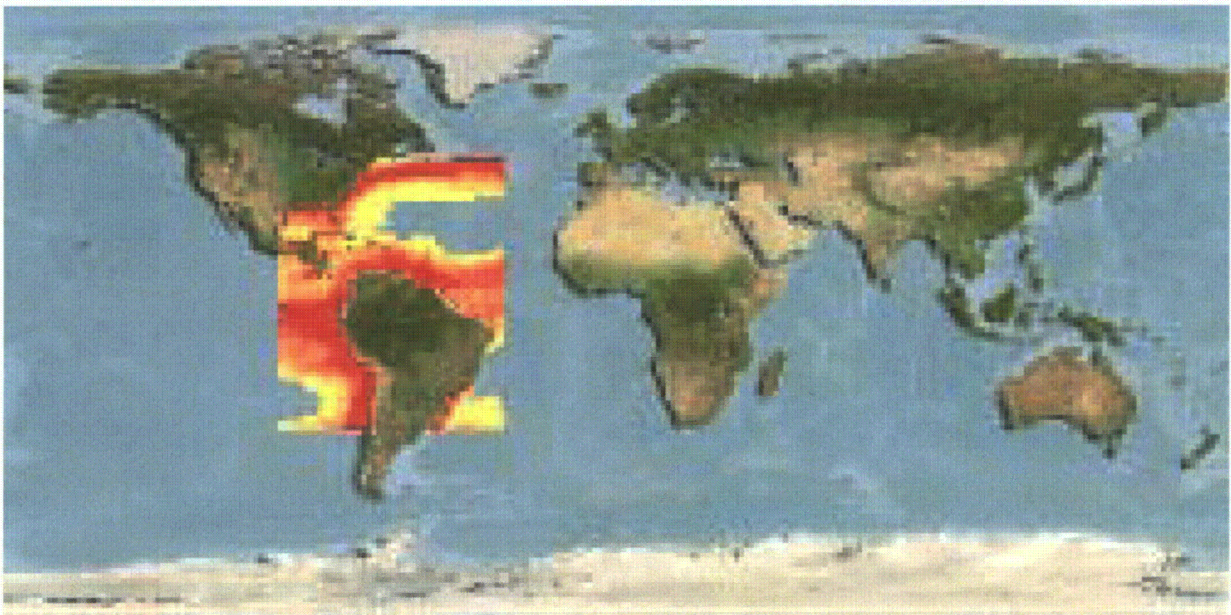


Figure 18. Range of distribution of the striped anchovy, *Anchoa hepsetus* (photo from Fishbase.org).

The striped anchovy, *Anchoa hepsetus* (Fig. 17) is morphologically distinguishable by having a pointed snout about 3/4 its eye diameter. Its long maxilla reach posteriorly beyond the border of pre-operculum. It has a silver stripe along its flank (a dark line above) that is of uniform width, but narrowed immediately behind the band (24). Melanophores outline all dorsal scales in the striped anchovy (25).

The striped anchovy occurs in the Western Atlantic (Fig. 18), ranging from Massachusetts, USA perhaps occasionally straying north to Maine or even Nova Scotia (Canada), south to Fort Pierce, Florida (but not Florida Keys) and at least northern Gulf of Mexico; also from Gulf of Venezuela south to Uruguay. It forms dense schools, often in shallow waters close to shore. Some populations can tolerate a wide range of salinities, from hypersaline to almost fresh. They feed on copepods when young, then on gastropods, foraminifers and occasionally ostracods and annelids as juveniles and adults.

The largest recorded size of the striped anchovy 15.3 cm TL; maximum age is 4 years in the Gulf of Mexico (24). Spawns in May to August in US waters (24).

The striped anchovy has a minor commercial importance, marketed as bait.

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***Eugerres plumieri*, striped mojarra**
(Order Perciformes; Family Gerreidae)



Figure 19. A photograph of the striped mojarra, *Eugerres plumieri* (photo from Fishbase.org).

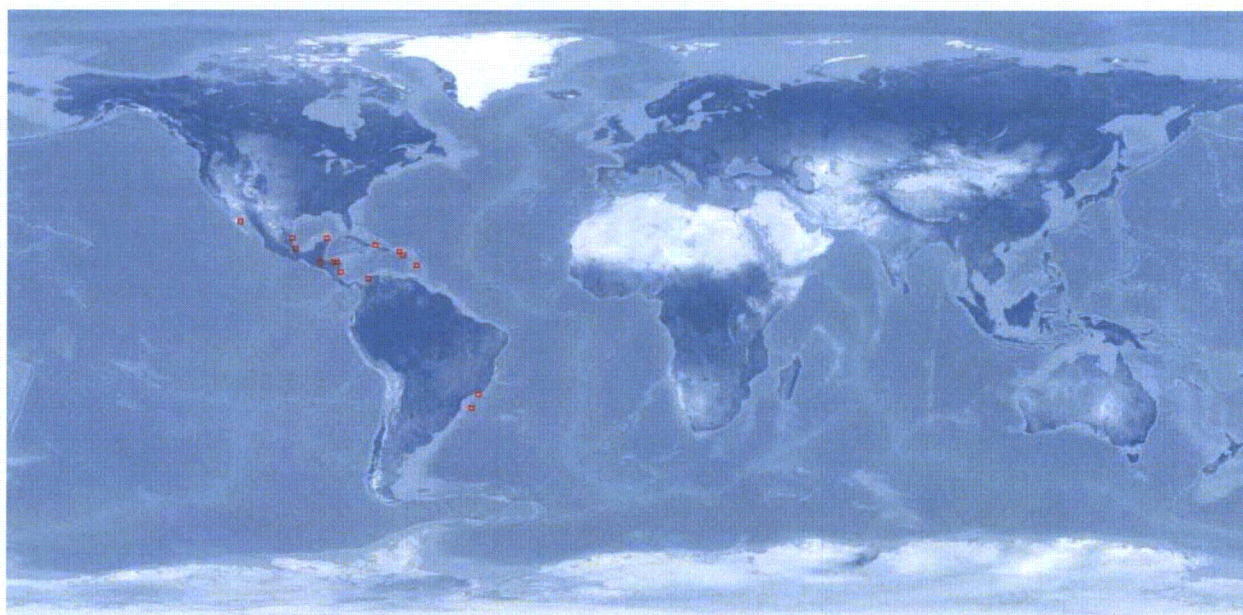


Figure 20. Range of distribution of the striped mojarra, *Eugerres plumieri* (photo from Fishbase.org).

The striped mojarra, *Eugerres plumier* (Fig. 19) occurs in the Western Atlantic (Fig. 20), ranging from South Carolina to western Florida, USA and the entire Gulf of Mexico to Brazil (26). They inhabit shallow marine and estuarine waters (27), commonly found in muddy, mangrove-lined creeks and lagoons (28). Striped mojarra are omnivorous, feeding on aquatic insects, crustaceans, micro-bivalves and detritus (27).

The largest recorded size of the striped mojarra is 40.0 cm TL (28); maximum recorded weight is 1,020 g (29).

The striped mojarra has a minor commercial importance as a gamefish, and marketed fresh and processed into fishmeal (28).

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