Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 1 of 55

CCS Biological Characterization Study

FPL Turkey Point Cooling Canal System Characterization Study

Executive Summary

A baseline biological characterization study was conducted in the Florida Power and Light Company (FPL) Turkey Point Cooling Canal System (CCS) in December 2016. The purpose of this work was to provide an understanding of the fish and invertebrate populations within the CCS, as well as to determine if there was any seagrass remaining in the system. Key findings from this work:

- The CCS is a unique, closed system that has hypersaline, warm water with poor clarity and areas of dissolved oxygen below 4.0 mg/L.

- Temperature readings are consistent with previous observations, where temperature decreases with increasing distance from the discharge.

- Fish and mobile invertebrate communities have low diversity, are made up of species tolerant to CCS water conditions, and are spatially variable in abundance.

- Benthic macroinvertebrate communities in the CCS have extremely low diversity, species richness, and abundance.

- No evidence of living submerged aquatic vegetation (SAV) was detected at any of the stations sampled during this study.

The results of this study concur with similar research at other power plants which have documented lower species richness and diversity for fish populations in areas impacted by the thermal influence of power plant water discharges. Increased salinity levels within the CCS potentially contribute to the low diversity and abundance of fish, mobile invertebrate, and benthic macroinvertebrate communities.

A summary of findings from the biological characterization study is provided in Table 1.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 2 of 55

CCS Biological Characterization Study

Table 1. Biological characterization sampling results summary for the Turkey Point CCS, December 2016.

Station	SAV	Fish & Invertebrate Relative Abundance	Fish & Invertebrate Species Richness	Benthic Macroinvertebrate Density (No. Individuals/m²)	Benthic Macroinvertebrate Species Richness	Benthic Macroinvertebrate Diversity (H')	Benthic Macroinvertebrate Evenness (J')
1	Absent	Low (293 individuals)	Low (2 species)	Absent	Absent	Absent	Absent
2	Absent	Moderate (491 individuals)	Low (1 species)	Absent	Absent	Absent	Absent
3	Absent	Moderate (544 individuals)	Low (3 species)	Low (30)	Low (1 species)	Low (<0.0001)	Low
4	Absent	High (1,085 individuals)	Low (3 species)	Low (193)	Low (1 species)	Low (<0.0001)	Low
5	Absent	Moderate (528 individuals)	Low (2 species)	Low (30)	Low (2 species)	Low (0.6931)	High* (1.000)
6	Absent	Moderate (536 individuals)	Low (2 species)	Absent	Absent	Absent	Absent
7	Absent	Moderate (483 individuals)	Low (3 species)	Absent	Absent	Absent	Absent
8	Absent	Low (189 individuals)	Low (3 species)	Moderate (489)	Low (2 species)	Low (0.5539)	High* (0.799)
9	Absent	Low (258 individuals)	Low (2 species)	Moderate (430)	Low (1 species)	Low (<0.0001)	Low
10	Absent	Moderate (436 individuals)	Low (3 species)	Absent	Absent	Absent	Absent

Key:
Fish/Invertebrate Relative Abundance: Low < 300 individuals, Moderate 301-600 individuals, High > 600 individuals
Fish/Invertebrate Species Richness: Low 1-5 taxa, Moderate 6-15 taxa, High > 15 taxa.
Benthic Macroinvertebrate Density: Low 1-100 individuals/m², Moderate 101-500 individuals/m², High > 500 individuals/m².
Benthic Macroinvertebrate Species Richness: Low 1-5 taxa, Moderate 6-15 taxa, High > 15 taxa.
Benthic Macroinvertebrate Shannon-Weiner Diversity: Low < 1.0000, Moderate 1.0001-2.0000, High > 2.0000.
Benthic Macroinvertebrate Evenness: Low 0.001-0.250, Moderate 0.251-0.500, High >0.500. *Some high values may be skewed due to low density and species richness.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 3 of 55

CCS Biological Characterization Study

Introduction

This Supplemental Evaluation establishes a baseline biological characterization of the CCS at the FPL Turkey Point Plant, Miami-Dade County, Florida. This study was conducted on December 5-7, 2016. The study qualitatively characterized fish and invertebrate populations, SAV, and benthic macroinvertebrates resident within the CCS using various sampling techniques. The work was conducted by Ecological Associates Inc. (EAI) with oversight by Ecology & Environment Inc. (E&E) on behalf of FPL. These efforts answered the following questions:

Knowledge Gaps

1. Is there a healthy and diverse fish and mobile invertebrate community in the CCS?
2. Is SAV present in the CCS, and if present, in which sections/areas of the CCS?
3. Is there a healthy and diverse benthic macroinvertebrate community in the CCS?
4. What is the baseline abundance, diversity, and distribution of fish, mobile invertebrates, and benthic macroinvertebrates within the CCS?

Purpose

The purpose of this study was to determine what organisms were living within the CCS. Fish and mobile invertebrates were sampled throughout the CCS using nets and traps. Benthic macroinvertebrates living in canal sediments were sampled using benthic mini-ponar grabs. Underwater video was used to search for any living SAV in the CCS. This initial baseline biological characterization study attempted to characterize the CCS ecosystem variability by spatially distributing the sampling stations during the single collection event. The data provided meets the following project goal:

- Identify the species present, their relative abundance and distribution during baseline CCS sampling, so changes over time in the biotic community may be used to gauge effects from CCS management efforts.

Station Locations

Ten stations within the CCS were established for water quality, fish and mobile invertebrate, SAV, and benthic macroinvertebrate sampling. The location of these sampling stations were chosen to represent different benthic habitats (e.g., recently dredged/undredged, shallow/deep, and rocky/silty), salinity gradients, and temperature regimes within the study area (Figure 1 and Appendix A). Stations 1 through 7 were located within the cooling canals west of the Grand Canal, while Stations 8 and 9 were located in the return canals east of the Grand Canal. Station 10 was located in a dead-end canal in the northern section of the Grand Canal. An airboat provided by FPL and operated by plant personnel was used to access the stations and conduct the sampling program.

Results

Field sampling was conducted December 5-7, 2016. The sampling protocol provided qualitative estimates of species diversity and density for floral and faunal residents in the FPL Turkey Point CCS. These data, although precise counts are included, are intended only to provide an estimate of relative abundance (e.g., low, moderately abundant, or highly abundant) for the organisms reported, and not a precise quantitative assessment of species abundance and distribution.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 4 of 55

CCS Biological Characterization Study

A summary of findings is provided in Table 1. The SAV data are reported as present or absent. Fish and mobile invertebrate communities are characterized by relative population abundance within the CCS. Abundance at each station is considered "low" if combined cast net and fish trap sampling yielded less than 300 individuals, "moderate" if between 301 and 600 individuals, and "high" if greater than 600 individuals were collected. Fish and mobile invertebrate communities are also characterized by species richness. Species richness at each station is considered "low" for 5 or less taxa, "moderate" for 6 to 15, and "high" for over 15 taxa. Benthic macroinvertebrate density is reported as "low" for 100 individuals/m² or less, "moderate" from 101 and 500 individuals/m², and "high" for greater than 500 individuals/m². Benthic macroinvertebrate Shannon-Weiner diversity is considered "low" for calculated values less than 1.0000, "moderate" for 1.0001 to 2.0000, and "high" for values over 2.0000. Species richness is considered "low" if 5 or less taxa were captured, "moderate" for 6 to 15, and "high" for greater than 15 taxa.   Evenness is considered "low" for calculated values less than or equal to 0.250, "moderate" for values between 0.251 and 0.500, and "high" for values over 0.500. Evenness could not be calculated for stations with only one species; stations with one species are categorized as "low" evenness. Some stations have high evenness values, however this calculated value is skewed due to low abundance and species richness, and should therefore be considered with caution.

General Canal System Observations

Many birds were observed throughout the FPL Turkey Point Plant CCS. In three days of sampling, bird sightings included snowy egrets (*Egretta thula*), little blue herons (*Egretta caerulea*), tricolored herons (*Egretta tricolor*), reddish egrets (*Egretta rufescens*), great egrets (*Ardea alba*), roseate spoonbills (*Platalea ajaja*), wood storks (*Mycteria americana*), and American white pelicans (*Pelecanus erythrorhynchos*). Birds were frequently observed feeding in the shallow areas in the cooling canal system north and northwest of the docks near the Land Utilization building (Figure 2).

A yellow-crowned night heron (*Nyctanassa violacea*) was observed at Station 7. A double-crested cormorant (*Phalacrocorax auritus*), an American avocet (*Recurvirostra americana*), and a great blue heron (*Ardea herodias*) were observed near Station 9 on the shoreline. Belted kingfishers (*Megaceryle alcyon*) were seen in the trees in the northern section of the return canal system while traveling along canal E-6 and at Station 10. Osprey (*Pandion haliaetus*) were observed flying over the CCS, but were not observed actively fishing in the CCS. Although these bird observations are qualitative, the abundance and diversity of piscivorous birds indicates that the population of fish within the CCS provide ample feeding opportunities.

Water Quality

Water quality parameters were collected on December 6, 2016, during minnow trap deployment, and again on December 7 during minnow trap retrieval. A summary of the water quality data collected over the two days is presented in Appendix B. Water clarity ranged from 0.5-1.0 foot. Recorded total water depths at sampling stations were between 1 and 14 feet, with a mean water depth of 2.6 feet for stations 1-9, and 14 feet for Station 10. Water temperatures were warmer by 1-3 °C at all stations on December 7 compared to December 6.   Minimum and maximum water temperatures ranged from 26.48 °C to 37.23 °C. Temperature generally decreased with increasing distance from the discharge canal. Specific conductance and its derivative, salinity, ranged from a low of 81,900 µS/cm at Stations 4 (58.33 PSU) and 7 (58.07 PSU) to a high of 86,100 µS/cm at Station 10 (61.96 PSU). Specific conductance and salinity generally increased with increasing distance from the discharge canal. Dissolved oxygen values ranged from 0.21

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 5 of 55

CCS Biological Characterization Study

mg/L at Station 10 (the deepest station) to 7.18 mg/L at Station 4 (the shallowest station). During sampling, pH values were similar between stations, ranging from 7.78 (Station 9) to 8.06 (Station 7). Water quality parameters varied day-to-day and from site-to-site. Long-term water quality data is a more effective way to characterize CCS water quality parameters influenced by spatial or seasonal trends.

In summary, the Turkey Point CCS is a hypersaline body of water with high temperatures and areas of dissolved oxygen below 4.0 mg/L. A combination of these water quality parameters are likely the contributing factors that limit fish, mobile invertebrate, and benthic macroinvertebrate diversity and abundance, and potentially act as contributing factors limiting SAV presence.

Submerged Aquatic Vegetation Surveys

Submerged aquatic vegetation (SAV) surveys were conducted on December 5-6, 2016. Water clarity was poor (1 foot or less) throughout the entire project area (Appendix B). No SAV was found during the video transect surveys (Appendix C). To ensure that SAVs were not overlooked due to poor visibility, mini-ponar grab samples used for benthic macroinvertebrate collections were also scanned for living vegetation. No SAV was found during the benthic macroinvertebrate sampling. The lack of SAV is likely due to the turbid water conditions currently found in the CCS, although high salinity and temperature can also negatively impact seagrass. High turbidity, unrelated to extreme salinity or temperature regimes, have been correlated with seagrass loss in other areas of Florida (Indian River Lagoon 2011 Consortium, 2015). Some of the stations were also located in areas where dredging has occurred, which may have removed evidence of prior SAV presence.

Fish and Invertebrates Collected During Cast Net Sampling

Cast net sampling, designed to target large mobile organisms located throughout the entire water column, was conducted on December 5, 2016. A total of 282 fish representing three species were collected during cast net sampling (Appendix D). No invertebrates were captured. The most abundant fish collected was the sheepshead minnow (*Cyprinodon variegatus*) with 259 individuals, followed by the sailfin molly (*Poecilia latipinna*) with 22 individuals, and the eastern mosquitofish (*Gambusia holbrooki*) with a single specimen collected. The number of fish collected at each station ranged from 10 individuals at Station 7 to eighty-four (84) at Station 10. All fish collected were small; even the largest fish were less than 45 mm (1.75 inches) Standard Length (SL). Sheepshead minnows ranged from 11-38 mm SL (Appendix F). Sailfin mollies ranged from 30-45 mm SL (Figure 3). The single eastern mosquitofish captured was 30 mm SL. Fish length data for the Turkey Point CCS is within normal size ranges for the species captured, however this is a low diversity system since only three fish species were captured.

Fish and Invertebrates Collected During Minnow Trap Sampling

Minnow traps were deployed on December 6 and retrieved on December 7, 2016, after having fished for 23-25 hours (Figure 4). The traps, located at the top and bottom of the water column, were designed to selectively target small, cryptic species not well sampled by cast net survey techniques.

A total of 4,561 specimens representing three species of fish and one species of crustacean were collected using surface and bottom minnow traps (Appendix E). Similar to cast net sampling, the most abundant fish collected was the sheepshead minnow with 3,900 individuals, followed by 627 sailfin mollies, and 20 eastern mosquitofish.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 6 of 55

CCS Biological Characterization Study

Sheepshead minnows were more abundant in the bottom minnow traps, as would be expected for a demersal species. The exceptions to this generalization were Stations 7 and 10. Station 7 was so shallow that there was no observable depth difference in the surface and benthic minnow trap pair, where both traps extended out of the water. Station 10 was anoxic at the bottom, so only a few fish were collected in the bottom minnow trap and some had already expired by the time the trap was retrieved.

For all stations combined, sailfin molly specimens were more abundant in the surface fish traps, although a few more individuals of this species were collected in the bottom traps at Stations 1, 7, and 9. Sailfin mollies feed on surface algae and floating detritus, or on benthic algal mats, and perform aquatic surface respiration to compensate for hypoxic water conditions (Timmerman and Chapman, 2004a), so it would be expected that more individuals would be captured in surface minnow traps.

Eastern mosquitofish were only captured at Station 7 in the bottom minnow trap and Station 10 in the surface minnow trap. At Station 7, the water depth was shallow and both surface and bottom traps were visible at the water surface, so fishing depth was identical in surface and bottom minnow traps.

A total of 14 mudflat fiddler crabs (*Uca rapax*) were collected from surface and bottom minnow traps. The fiddler crabs were captured in bottom minnow traps at Stations 3, 4, and 8, and from the surface minnow trap at Station 4. The depth at Station 4 was so shallow that both minnow traps were resting on the substrate, but were visible at the water surface.

The total number of individual fish and invertebrates collected at each station ranged from a low of 160 specimens at Station 8, to a maximum of 1,062 specimens at Station 4. Fish specimens captured ranged from 10-60 mm SL; the smallest was a sailfin molly and the largest was a sheepshead minnow (Appendix G). The size of the mudflat fiddler crabs captured ranged from 8-11 mm Carapace Length (CL) and 11-15 mm Carapace Width (CW), which is nearing the reported maximum size for this species.

There were no visual sightings of large fish or invertebrate species while in transit or on station in the main section of the CCS during sampling. In the canal leading to Station 10, there were thousands of eastern mosquitofish, which all appeared to reside in the upper 1-2 cm of the water column.

Fish and Invertebrate Summary

In summary, 4,843 individuals comprising 4 taxa (i.e., 3 fish and 1 crustacean species) were collected during this study using cast net and minnow trap sampling techniques (Table 2).

Sheepshead minnows were found at all 10 sampling stations and are projected to be abundant throughout the cooling canal system (Figure 5). This species is known to live and successfully reproduce in water with high salinity (up to 147 PSU) and high temperatures (up to 43 °C) (Johnson, 1974). The hypersaline, high temperature, and lower DO levels within the CCS are within the tolerated range for sheepshead minnows (Peterson, 1990). The specimens captured during this study have standard length ranges similar to those documented in other research, suggesting that there are no obvious impacts on the size of individuals because of the environment (Johnson, 1974).

Sailfin mollies were collected at 9 sampling stations, but at a much lower abundance than the sheepshead minnows. This species is moderately abundant throughout the CCS. It also is a species considered to be tolerant of high salinity (up to 80 PSU), high temperatures (up to 40 °C), and low dissolved oxygen (down to

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 7 of 55

CCS Biological Characterization Study

1 mg/L) (Nordlie et al., 1992; Fischer & Schlupp, 2009; Timmerman & Chapman, 2004). The salinity and temperature recorded within the CCS during this study are well within the physiological tolerance limits of the sailfin molly. The sailfin mollies collected in the CCS are within the normal size range for adults, although some of the recorded standard lengths suggest that there was a mixture of juveniles and adults captured (Trexler and Travis, 1990). There is no indication that the environmental conditions in the CCS limit normal growth for sailfin mollies.

Eastern mosquitofish were only found at Stations 7 and 10 may be rare within the CCS as a whole. However, opportunistic observations suggest eastern mosquitofish may be locally abundant. Eastern mosquito fish can tolerate low dissolved oxygen levels and have been captured in areas with DO as low as 0.39 mg/L (Edwards et al., 2006). Mosquitofish (and sailfin mollies) have dorsally oriented mouths and a flattened head profile that facilitates taking in oxygen-rich water at the atmosphere-water interface or gulping air (Pyke, 2005). This species can tolerate warm (up to at least 38 °C) and hypersaline water (up to 58.8 PSU) (Specziar, 2004; Chervinski, 1983). Temperatures above 30 °C are considered stressful for the species, resulting in a smaller overall size, earlier maturity, and smaller brood sizes (Meffe, 1992). However, the standard lengths of the adult eastern mosquitofish specimens captured are similar to those collected in other studies (Beaudouin et al., 2008). The spatial variability of the eastern mosquitofish is likely due to temperature, since the portion of the CCS located near the discharge is warmer than the optimal temperature range for the species.

Mudflat fiddler crabs were the only crustaceans captured (Figure 6). Adults of this species can tolerate a wide range in salinity (1.7–139 PSU) and have been documented in areas with dissolved oxygen down to 0.8 mg/L (Zanders & Rojas, 1996; Costa & Soares-Gomes, 2015). Water temperatures recorded during this study are within the thermal tolerance of mudflat fiddler crabs, which can survive temperatures up to 44 °C (Vernberg & Tashian, 1959). Specimens were collected from Stations 3, 4, and 8 at a low abundance. The sampling methods used during this study were not designed to capture fiddler crabs, and therefore incidental catches of the mudflat fiddler in minnow traps cannot properly assess mudflat fiddler crab abundance in the Turkey Point CCS. Fiddler crabs are highly mobile crustaceans which have the capability of recruiting over the earthen dikes separating the CCS from Biscayne Bay. Without incorporating meroplankton sampling into the study design, which could capture crab larval stages, we cannot determine whether the mud flat fiddler crabs are reproducing within the CCS or recruiting by immigration.

In summary, fish and mobile invertebrate diversity was low throughout the CCS. The taxa recorded are tolerant species with physiological adaptations that permit survival in warm, hypersaline, and low dissolved oxygen conditions. No evidence was found indicating that the environmental conditions within the Turkey Point CCS negatively affected growth or reproduction in the extremophile fish captured by this study based on the proscribed sampling methods.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 8 of 55

CCS Biological Characterization Study

Table 2. Summary of specimens collected during cast net and fish trap sampling at each station, December 2016.

Station	Taxon Type	Taxa	Number Collected	Minimum SL or CL (mm)	Maximum SL or CL (mm)
1	Fish	Sheepshead minnow	284	19	38
	Fish	Sailfin molly	9	15	23
2	Fish	Sheepshead minnow	491	16	33
3	Fish	Sheepshead minnow	461	16	60
	Fish	Sailfin molly	79	14	39
	Crustacean	Mudflat fiddler crab	4	8	10
4	Fish	Sheepshead minnow	759	13	41
	Fish	Sailfin molly	318	13	49
	Crustacean	Mudflat fiddler crab	8	8	11
5	Fish	Sheepshead minnow	475	15	38
	Fish	Sailfin molly	53	13	44
6	Fish	Sheepshead minnow	486	11	49
	Fish	Sailfin molly	50	10	43
7	Fish	Sheepshead minnow	404	17	38
	Fish	Eastern mosquitofish	4	22	30
	Fish	Sailfin molly	75	11	52
8	Fish	Sheepshead minnow	149	17	39
	Fish	Sailfin molly	38	15	42
	Crustacean	Mudflat fiddler crab	2	8	10
9	Fish	Sheepshead minnow	234	18	38
	Fish	Sailfin molly	24	16	45
10	Fish	Sheepshead minnow	416	18	38
	Fish	Eastern mosquitofish	17	18	30
	Fish	Sailfin molly	3	38	38
Total			**4,843**	**8**	**60**

Key:

mm = millimeters, SL = Standard Length, TL = Total Length, CL = Carapace Length, CW = Carapace Width

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 9 of 55

CCS Biological Characterization Study

Benthic Macroinvertebrates

Benthic macroinvertebrate samples were collected on December 6, 2016, and processed at the EAI laboratory. Three (3) taxa totaling 79 individuals were identified from the 10 stations combined (Table 3). The polychaete *Capitella capitata*, marine oligochaetes (Class Oligochaeta), and midge larvae (Family Chironomidae) were the only taxa captured. No benthic macroinvertebrates were found at Stations 1, 2, 6, 7, and 10. Comparisons between dredged vs. non-dredged, or spatial locations should not be made since the total number of specimens collected was extremely low and the replicate number of stations in each habitat type was too few to allow meaningful comparisons between habitat types.

The polychaete *Capitella capitata* was the most common taxon collected (n=70). *Capitella capitata* is considered to be a fast colonizing species that is tolerant of a wide variety of stressors, including low dissolved oxygen (Tsutsumi, 1987). *Capitella capitata* populations need dissolved oxygen levels above 1 mg/L to survive, and the only documentation of dissolved oxygen dropping below that level within the CCS was at Station 10. Oligochaetes are generally abundant and widespread in marine sediments, yet a mere 8 specimens were captured. Oligochaetes may be indicative of stressed habitats (Leppakoski, 1975). Midges are rare in marine environments, but two marine species are known from Florida.

For the stations with benthic macroinvertebrates present, the calculated densities were low to moderate, ranging from 30 individuals/square meter (m²) at Stations 3 and 5, to 489 individuals/m² at Station 8. For stations with organisms present, species richness was low. Stations 3, 4, and 9 had the fewest taxa, represented by a single species, and Stations 5 and 8 the most (2 taxa). The Shannon-Weiner Diversity Index was calculated for each station to compare the distribution of taxa relative to the total number of specimens collected. A higher Shannon-Weiner Index number represents a more diverse community. Shannon-Weiner Diversity Index values were lowest at stations with only a single taxon (Stations 3, 4, and 9), and highest at Station 5 (0.6931). Species evenness, a measurement of how evenly distributed (numerically) each species is at a site, was also calculated. A species evenness of 1 means an equal number of individuals of each species is present. Evenness was highest at Station 5 (1.000) due to a single specimen collected in each of two taxa present within the sample.

Evidence of relic gastropod and bivalve shells were present at some stations in the CCS, however no live mollusc specimens were collected during sampling. Since the molluscs were not alive upon collection, the remains were not identified or enumerated. The mollusc shells did not appear to be fossil shells produced from dredged marine sediments, but instead were molluscs that died in the CCS relatively recently. Historic water quality conditions in the CCS may have been more conducive to sustaining mollusc populations than they currently are**.**

In summary, the Turkey Point CCS had benthic macroinvertebrate communities with low abundance, low species richness, and low diversity at all sampling stations. The few species present were indicative of stressful benthic environments. The hypersaline, warm water and potentially anoxic benthic environment has undoubtedly limited the recruitment and establishment of benthic macroinvertebrate communities.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 10 of 55

CCS Biological Characterization Study

Table 3. Benthic macroinvertebrate community analysis at each sampling station, December 2016[1,2].

Phylum	Class	Family	Taxon	Station 3				Station 4				Station 5				Station 8				Station 9			
				A	B	C	Total	A	B	C	Total	A	B	C	Total	A	B	C	Total	A	B	C	Total
Annelida	Polychaeta	Capitellidae	*Capitella capitata*	1		1	2	2	8	3	13	1			1	4	9	12	25	10	6	13	29
Annelida	Oligochaeta		Oligochaeta													1	7		8				
Arthropoda	Insecta	Chironomidae	Chironomidae											1	1								
Total Abundance				1	0	1	2	2	8	3	13	1	0	1	2	5	16	12	33	10	6	13	29
Density (No. Individuals/m²)				44	0	44	30	89	356	133	193	44	0	44	30	222	711	533	489	444	267	578	430
Species Richness				1	0	1	1	1	1	1	1	1	0	1	2	2	2	1	2	1	1	1	1
Shannon-Weiner Diversity (H') [3]							<0.0001				<0.0001				0.6931				0.5539				<0.0001
Evenness (J') [3]							N/A				N/A				1.000				0.799				N/A

[1] Based on 3 replicates (A, B, and C) collected with a mini-ponar grab each with a surface area of 225 cm².

[2] Stations 1, 2, 6, 7, and 10 not included in table. No organisms were collected from these stations.

[3] Calculated using base *e* log.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 11 of 55

CCS Biological Characterization Study

Discussion

Water quality data collected during the December 2016 baseline characterization study of the CCS at the FPL Turkey Point Plant shows that there is some spatial variability within the system. Temperature generally decreased with increasing distance from the discharge, as would be expected. Specific conductance and salinity increased marginally with increasing distance from the discharge at Stations 1, 2, 3, 5, and 6, but Stations 4 and 7 have lower values. Stations 8 and 9, in the return canal, and Station 10 in the dead-end canal generally have slightly higher specific conductance and salinity than stations located in the eastern discharge canals. Dissolved oxygen (DO) levels varied throughout the CCS, but were noticeably lower at Station 10, the deepest station sampled, compared to the rest of the CCS. DO was lower at the beginning and end of the cooling system, and higher DO at the middle stations (i.e., Stations 3-7). Higher water temperatures near the discharge reduce DO holding potential, and the deeper return canal system has a reduced surface-to-volume ratio for oxygen diffusion. Stations 3-7 are cooler, shallow canals where wind and wave action can more effectively aerate the water. The water quality data collected as part of this study was a snapshot to provide general insight into conditions within the CCS and to see how this may affect the organisms living within the system. Long-term water quality data collections would be a more reliable measure to base organismal distribution and density interpretations on.

No SAV was observed during this study. Benthic macroinvertebrate abundance, species richness, and diversity were extremely low across all sites. Fish and mobile invertebrate data collected during cast net and minnow trap sampling indicates that abundance is spatially variable throughout the system and diversity is low. Eastern mosquitofish appeared to be rare throughout the system as a whole, but are potentially locally abundant. Conversely, the sheepshead minnow and sailfin molly were found throughout the entire CCS and often in moderately abundant numbers. Higher temperatures may be less tolerable to the eastern mosquitofish, limiting their range to the cooler stations, further from the discharge, within the CCS. The abundant piscivorous wading birds observed throughout the CCS confirm the presence of a relatively abundant fish population.

The results of this study concur with similar studies which documented decreased species richness and diversity for fish populations in areas impacted by the thermal influence of power plant water discharges (Teixeira et al., 2012). Hypersaline conditions within the CCS may contribute to the low diversity and abundance of fish, mobile invertebrates, and benthic macroinvertebrates. Warmer water temperatures and hypersaline conditions can have negative effects on benthic macroinvertebrate populations, so it was not unexpected that the CCS would have poorly established benthic macroinvertebrate communities (Lamptey & Armah, 2008). The absence of SAV found during the study is likely due to the poor water clarity within the CCS (Indian River Lagoon 2011 Consortium, 2015).

Materials and Methods

Sampling stations were established for water quality, fish and mobile invertebrate, SAV, and benthic macroinvertebrate sampling. An FPL airboat was used to access the stations and conduct the sampling program.

Physical Parameters and Water Quality Data

At each sampling station, meteorological data, including air temperature, wind speed and direction, and sky conditions, were recorded. Water depth at each station was measured using a marked measurement pole

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 12 of 55

CCS Biological Characterization Study

at shallow stations and a handheld sonar device at deeper stations. A Hach Hydrolab Quanta® (Hach) water quality meter was used to measure water quality in situ at mid-depth for each sampling station during fish trap deployment and retrieval. Monitored variables included temperature (°C), specific conductance (milliSiemens per centimeter [mS/cm], converted to microSiemens per centimeter [µS/cm] for reporting purposes), salinity (Practical Salinity Units [PSU]), dissolved oxygen (DO) (milligrams per liter [mg/L]), and pH. Salinity was calculated (not measured directly) by the water quality meter using specific conductance and a temperature correction normalized to 15 °C (PSS-78 scale). Water clarity (in feet) was determined using a secchi disk.

The (Hach) water quality meter used during sampling was calibrated following FDEP SOP-001/01 protocols for temperature, specific conductance (which calculates for salinity), DO, and pH. Meter calibration was performed prior to use and immediately following the final day of sampling. The required continuing calibration verification was performed between the first and second day of sampling to ensure that the meter was still within acceptable limits for all parameters. The water quality meter was within the FDEP acceptable criteria during the initial calibration, continuing calibration verification, and final calibration.

Submerged Aquatic Vegetation Surveys

Video surveys were conducted at all 10 sampling stations to qualitatively assess SAV coverage.   SAV transects were 150-feet in length and shore-parallel near each sampling station. The starting point of each transect was located no more than 350 feet from the specific station location where water quality, cast net, fish trap, and benthic macroinvertebrate sampling occurred. A video camera was deployed over the side of the airboat and the bottom was examined for presence and relative abundance of seagrass every 10 feet along the 150-foot transect.

Cast Net Sampling

At each station, a 3/8-inch mesh, 10-foot radius (20-foot diameter) cast net was used to sample fish and invertebrates throughout the water column. A single cast net throw was made at each station; the throw was deemed valid if the net deployed to cover >70% of the possible net surface area coverage. If multiple casts were required to meet the net opening criteria, each subsequent cast was thrown in a new area at least 25 feet away from previous cast sites. Captured fish were either processed in the field when time permitted and released, or returned to the EAI laboratory for processing. Fish captured by the cast net were identified to species and measured, both Standard Length (SL) and Total Length (TL) were recorded. A maximum of 30 haphazardly-selected individuals were measured; all additional fish of the same species were counted, but not measured.

Cast net sampling occurred on December 5, 2016. Sampling went without incident and repeat casts were rare, except at Station 7. This station had a jagged rock substrate which repeatedly snagged the net in the center of the canal, and tree debris which snagged the net at the edges of the canal. Net performance was most successful at sites with smooth sand or mud substrates.

Fish Trap Sampling

Minnow traps were deployed to capture cryptic fish and mobile invertebrates not sampled adequately by the cast net. The minnow traps were collapsible, umbrella-style hexagonal traps with 1/8-inch nylon mesh and 12 entry holes. At each sampling station, one surface and one benthic minnow trap was deployed

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 13 of 55

CCS Biological Characterization Study

simultaneously and allowed to soak for 23-25 hours before retrieval (Figure 7). Minnow traps were baited with white bread, cut clams, and cigar minnows torn in half. The bait types were chosen to lure species with different feeding preferences into the traps. Two 6-inch foam floats were used to float the surface fish traps and approximately two pounds of lead ingot were placed inside the benthic minnow traps to anchor them to the bottom. The surface and benthic minnow traps at each station were tethered together using a small rope, and were then attached to a secondary safety line with a weight and floating marker.

Captured fish were either processed in the field when time permitted and released, or returned to the EAI laboratory for processing. Fish captured by the minnow traps were identified to species and a maximum of 30 haphazardly-selected individuals were measured (SL and TL); all additional fish of the same species were counted, but not measured. Crabs captured in the traps were identified to species, and Carapace Length (CL) and Carapace Width (CW) were recorded.

Two traps were crushed by the airboat during retrieval, but despite the damage to the minnow trap frame, no mesh was torn and all organisms trapped were retrieved successfully.

Benthic Macroinvertebrate Community

Three replicate benthic samples were collected at each station using a mini-ponar grab sampler with a surface area of 225 square centimeters (cm²). Each sample was sieved through a 0.500 mm mesh screen and retained material was field preserved with a 10% formalin and rose bengal stain solution. Preserved samples were transported to the EAI laboratory for processing and taxonomic identification. Benthic macroinvertebrates were enumerated and identified to lowest practicable taxon.

The benthic community structure at each station were characterized by abundance (total number of individuals), density (number of individuals/m²), species richness (total taxa), Shannon-Weiner Diversity Index (H'), and Pielou's Evenness (J'). The Shannon-Weiner Diversity Index was computed using logarithmic base *e*. Evenness was calculated by dividing sample diversity by the maximum diversity possible given the number of taxa present. Values range from 0 to 1, with 1 representing a community with individual specimens distributed evenly among species and low values representing communities dominated by a few species.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 14 of 55

CCS Biological Characterization Study

References

Beaudouin, R., V. Ginot, & G. Monod, 2008. Growth characteristics of eastern mosquitofish *Gambusia holbrooki* in a northern habitat (Brittany, France). Journal of Fish Biology 73: 2468-2484.

Chervinski, J., 1983. Salinity tolerance of the mosquito fish, *Gambusia affinis* (Baird and Girard). Journal of Fish Biology 22 (1): 9-11.

Costa, T. M. M. & A. Soares-Gomes, 2015. Secondary production of the fiddler crab *Uca rapax* from mangrove areas under anthropogenic eutrophication in the Western Atlantic, Brazil. Marine Pollution Bulletin 101 (2): 533-538.

Edwards, T. M., H. D. Miller, & L. J. Guillette, 2006. Water quality influences reproduction in female mosquitofish (*Gambusia holbrooki*) from eight Florida springs. Environmental Health Perspectives 114 (1): 69-75.

Fischer, C. & I. Schlupp, 2009. Differences in thermal tolerance in coexisting sexual and asexual mollies (Poecilia, Poeciliidae, Teleostei). Journal of Fish Biology 74: 1662-1668.

Indian River Lagoon 2011 Consortium, 2015. 2011 Superbloom Report: Evaluating effects and possible causes with available data. 57 pp.

Lamptey, E. & A. K. Armah, 2008. Factors affecting macrobenthic fauna in a tropical hypersaline coastal lagoon in Ghana, West Africa. Estuaries and Coasts 31: 1006-1019.

Leppakoski, E., 1975. Assessment of degree of pollution on the basis of macrozoobenthos in marine and brackish-water environments. Acta Academiae Aboensis, Ser. B 35 (2): 1-98.

Johnson, W. E, 1974. Morphological variation and local distribution of *Cyprinodon variegatus* in Florida (Master's Thesis). University of Central Florida.

Meffe, G. K., 1992. Plasticity of life-history characters in eastern mosquitofish (*Gambusia holbrooki*; Poeciliidae) in response to thermal stress. Copeia 1: 94-102.

Nordlie, F. G., D. C. Haney, & S. J. Walsh, 1992. Comparisons of salinity tolerances and osmotic regulatory capabilities in populations of sailfin molly (*Poecilia latipinna*) from brackish and fresh waters. Copeia 3: 741-746.

Peterson, M. S., 1990. Hypoxia-induced physiological changes in two mangrove swamp fishes: sheepshead minnow, *Cyprinodon variegatus* Lacepede and sailfin molly, *Poecilia latipinna* (Lesueur). Comparative Biochemistry and Physiology 97A (1): 17-21.

Specziar, A., 2004. Life history pattern and feeding ecology of the introduced eastern mosquitofish, *Gambusia holbrooki*, in a thermal spa under temperature climate, of Lake Heviz, Hungary. Hydrobiologia 522: 249-260.

Teixeira, T. P., L. M. Neves, & F. G. Araujo, 2012. Thermal impact of a nuclear power plant in a coastal area in Southeastern Brazil: effects of heating and physical structure on benthic cover and fish communities. Hydrobiologia 684: 161-175.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 15 of 55

CCS Biological Characterization Study

Timmerman, C. M. & L. J. Chapman, 2004a. Behavioral and physiological compensation for chronic hypoxia in the Sailfin Molly (*Poecilia latipinna*). Physiological and Biochemical Zoology 77 (4): 601-610.

Timmerman, C. M. & L. J. Chapman, 2004b. Hypoxia and interdemic variation in *Poecilia latipinna*. Journal of Fish Biology 65: 635-650.

Trexler, J. C. & J. Travis, 1990. Phenotypic plasticity in the Sailfin Molly, *Poecilia latipinna* (Pisces: Poeciliidae). I. Field Experiments. Evolution 44 (1): 143-156.

Tsutsumi, H., 1987. Population dynamics of *Capitella capitata* (Polychaeta; Capitellidae) in an organically polluted cove. Marine Ecology – Progress Series 36: 139-149.

Vernberg, F. J. & R. E. Tashian, 1959. Studies on the physiological variation between tropical and temperate zone fiddler crabs of the genus *Uca* I. Thermal death limits. Ecology 40 (4): 589-593.

Zanders, I. P. & W. E. Rojas, 1996. Osmotic and ionic regulation in the fiddler crab *Uca rapax* acclimated to dilute and hypersaline seawater. Marine Biology 125:315-320.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 16 of 55

CCS Biological Characterization Study

Figure 1

Map of sampling station locations established within Turkey Point CCS

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 17 of 55

CCS Biological Characterization Study

Figure 2

Roseate spoonbills and wood storks wading in shallow area north of the Land Utilization building.

Figure 3

Sailfin Molly (*Poecilia latipinna*) collected during cast net sampling.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 18 of 55

CCS Biological Characterization Study

Figure 4

Retrieved surface and bottom minnow traps before specimens were removed.

Figure 5

Sheepshead Minnow (*Cyprinodon variegatus*) specimens retained during minnow trap sampling and measured in the laboratory.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 19 of 55

CCS Biological Characterization Study
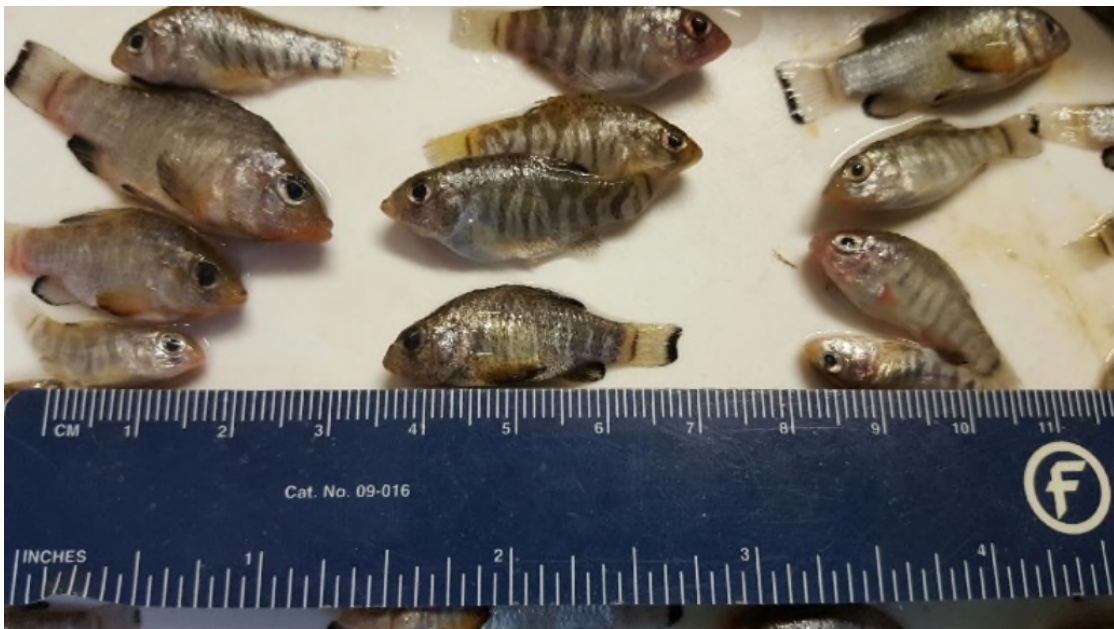
Figure 6

Mudflat Fiddler Crabs (*Uca rapax*) retained during minnow trap sampling and measured in the laboratory.

Figure 7

Surface minnow trap and secondary safety line tethered to bottom minnow trap deployed in CCS.

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 20 of 55

CCS Biological Characterization Study

Appendix A

Sampling station locations within the Turkey Point CCS, December 2016.

Station	Latitude	Longitude	Mile Location	Canal Location	Canal Dredging	Additional Description
1	25.43251˚N	80.34377˚W	Northern End of Mile 1	C-6	Dredged Canal	Dredged Section
2	25.42190˚N	80.34535˚W	Southern End of Mile 1	C-8	Dredged Canal	Non-Dredged Section
3	25.41003˚N	80.34625˚W	Middle of Mile 2	C-9	Non-Dredged Canal	
4	25.39129˚N	80.36034˚W	Southern End of Mile 3	C-25	Non-Dredged Canal	
5	25.39924˚N	80.35091˚W	Northern End of Mile 3	C-14	Dredged Canal	Dredged Section
6	25.37989˚N	80.34476˚W	Middle of Mile 4	C-7	Non-Dredged Canal	
7	25.35954˚N	80.36421˚W	Southern End of Mile 5	C-29	Non-Dredged Canal	
8	25.35950˚N	80.33501˚W	Southern End of Mile 5	E-3	Non-Dredged Canal	Return Canal
9	25.38966˚N	80.33212˚W	Southern End of Mile 3	E-6	Non-Dredged Canal	Return Canal
10	25.43149˚N	80.33820˚W	Northern End of Mile 1	Grand Canal	Non-Dredged Canal	Dead-End Section

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 21 of 55

CCS Biological Characterization Study

Appendix B

Mid-depth water quality measurements recorded during fish trap deployment and retrieval at each sampling station, December 2016.

Station	Sample Date	Sample Time	Fish Trap Process	Total Depth (ft)	Depth Profile	Depth Sampled (ft)	Clarity (ft)	Temp (°C)	Sp Cond (µS/cm)	Salinity*	DO (mg/L)	pH
1	12/6/2016	14:41	Deployment	3.5	Mid-Depth	1.5	1.0	35.88	83,400	59.78	4.38	7.91
	12/7/2016	14:59	Retrieval	3.5	Mid-Depth	1.5	1.0	37.23	83,500	60.00	3.19	7.84
2	12/6/2016	14:15	Deployment	2.1	Mid-Depth	1.0	1.0	35.30	83,500	59.81	5.17	7.91
	12/7/2016	15:12	Retrieval	2.0	Mid-Depth	1.0	1.0	37.00	83,700	60.23	3.49	7.87
3	12/6/2016	13:47	Deployment	1.7	Mid-Depth	1.0	1.0	34.02	83,700	59.84	6.45	7.95
	12/7/2016	14:46	Retrieval	2.0	Mid-Depth	1.0	1.0	36.58	83,800	60.10	6.29	7.91
4	12/6/2016	12:50	Deployment	1.5	Mid-Depth	1.0	1.0	30.34	83,400	59.30	6.97	7.99
	12/7/2016	14:20	Retrieval	1.0	Mid-Depth	0.5	1.0	33.85	81,900	58.33	7.18	7.98
5	12/6/2016	13:22	Deployment	2.9	Mid-Depth	1.5	1.0	32.19	84,400	60.16	6.61	7.98
	12/7/2016	14:34	Retrieval	3.5	Mid-Depth	1.5	1.0	35.45	83,800	59.99	6.24	7.97
6	12/6/2016	12:18	Deployment	2.1	Mid-Depth	1.0	1.0	29.24	85,100	60.54	6.05	7.91
	12/7/2016	14:05	Retrieval	2.0	Mid-Depth	1.0	1.0	32.77	84,000	59.97	6.25	7.96
7	12/6/2016	10:52	Deployment	2.0	Mid-Depth	1.0	1.0	27.72	83,200	58.78	5.45	8.06
	12/7/2016	12:04	Retrieval	1.5	Mid-Depth	1.0	1.0	30.82	81,900	58.07	6.39	8.03
8	12/6/2016	10:17	Deployment	3.7	Mid-Depth	2.0	0.5	27.06	85,900	60.94	3.80	8.00
	12/7/2016	9:58	Retrieval	4.2	Mid-Depth	2.0	1.0	28.11	83,400	58.99	3.42	7.99
9	12/6/2016	9:38	Deployment	2.0	Mid-Depth	1.0	0.5	27.43	85,700	60.74	4.30	7.95
	12/7/2016	9:34	Retrieval	5.0	Mid-Depth	2.5	1.0	28.10	85,200	60.48	3.55	7.78
10	12/6/2016	8:53	Deployment	14.0	Mid-Depth	7.0	0.5	26.48	86,100	61.96	1.60	7.85
	12/7/2016	8:27	Retrieval	14.0	Mid-Depth	7.0	1.0	27.22	85,300	60.38	0.21	7.87

* Salinity is calculated from conductivity with temperature correction using the Practical Salinity Scale (PSS). Values are reported in Practical Salinity Units (PSU).

Key:

ft = feet

µS/cm = MicroSiemens per Centimeter

°C = Degrees Celsius

mg/L = Milligrams per Liter

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 22 of 55

CCS Biological Characterization Study

Appendix C

Submerged aquatic vegetation survey results from each sampling station, December 2016.

Station	Direction Traveled	Taxa	Bottom Coverage	Transect Start Latitude	Transect Start Longitude	Transect End Latitude	Transect End Longitude
1	N to S	No SAV Present	Absent	25.43269° N	80.34376° W	25.43223° N	80.34381° W
2	N to S	No SAV Present	Absent	25.42202° N	80.34531° W	25.42157° N	80.34529° W
3	N to S	No SAV Present	Absent	25.41007° N	80.34630° W	25.40961° N	80.34627° W
4	N to S	No SAV Present	Absent	25.39142° N	80.36023° W	25.39100° N	80.36025° W
5	N to S	No SAV Present	Absent	25.39923° N	80.35088° W	25.39880° N	80.35090° W
6	N to S	No SAV Present	Absent	25.37995° N	80.34455° W	25.37953° N	80.34455° W
7	N to S	No SAV Present	Absent	25.35976° N	80.36410° W	25.35931° N	80.36408° W
8	N to S	No SAV Present	Absent	25.35982° N	80.33501° W	25.35940° N	80.33506° W
9	N to S	No SAV Present	Absent	25.39023° N	80.33211° W	25.38981° N	80.33211° W
10	S to N	No SAV Present	Absent	25.43148° N	80.33819° W	25.43192° N	80.33821° W

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 23 of 55

CCS Biological Characterization Study

Appendix D

Number of individuals of each taxon collected and measured from cast net sampling at each station, December 2016.

Station	Date	Taxon Type	Taxa	Total Collected
1	12/5/2016	Fish	Sheepshead minnow	19
2	12/5/2016	Fish	Sheepshead minnow	10
3	12/5/2016	Fish	Sheepshead minnow	14
4	12/5/2016	Fish	Sheepshead minnow	22
		Fish	Sailfin molly	1
5	12/5/2016	Fish	Sheepshead minnow	29
		Fish	Sailfin molly	2
6	12/5/2016	Fish	Sheepshead minnow	17
		Fish	Sailfin molly	2
7	12/5/2016	Fish	Sheepshead minnow	8
		Fish	Eastern mosquitofish	1
		Fish	Sailfin molly	1
8	12/5/2016	Fish	Sheepshead minnow	25
		Fish	Sailfin molly	4
9	12/5/2016	Fish	Sheepshead minnow	33
		Fish	Sailfin molly	10
10	12/5/2016	Fish	Sheepshead minnow	82
		Fish	Sailfin molly	2

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 24 of 55

CCS Biological Characterization Study

Appendix E

Number of individuals of each taxon collected and measured during fish trap sampling at each station, December 2016.

Station	Date Deployed	Time Deployed	Date Retrieved	Time Retrieved	Fish Trap Location	Taxon Type	Taxa	Total Collected
1	12/6/2016	14:42	12/7/2016	14:58	Surface	Fish	Sheepshead minnow	82
					Bottom	Fish	Sheepshead minnow	183
					Surface	Fish	Sailfin molly	4
					Bottom	Fish	Sailfin molly	5
2	12/6/2016	14:18	12/7/2016	15:10	Surface	Fish	Sheepshead minnow	36
					Bottom	Fish	Sheepshead minnow	445
3	12/6/2016	13:50	12/7/2016	14:45	Bottom	Crustacean	Mudflat fiddler crab	4
					Surface	Fish	Sheepshead minnow	9
					Bottom	Fish	Sheepshead minnow	438
					Surface	Fish	Sailfin molly	53
					Bottom	Fish	Sailfin molly	26
4	12/6/2016	12:55	12/7/2016	14:19	Surface	Crustacean	Mudflat fiddler crab	4
					Bottom	Crustacean	Mudflat fiddler crab	4
					Surface	Fish	Sheepshead minnow	159
					Bottom	Fish	Sheepshead minnow	578
					Surface	Fish	Sailfin molly	211
					Bottom	Fish	Sailfin molly	106
5	12/6/2016	13:25	12/7/2016	14:32	Surface	Fish	Sheepshead minnow	10
					Bottom	Fish	Sheepshead minnow	436
					Surface	Fish	Sailfin molly	34
					Bottom	Fish	Sailfin molly	17
6	12/6/2016	12:28	12/7/2016	14:04	Surface	Fish	Sheepshead minnow	147
					Bottom	Fish	Sheepshead minnow	322
					Surface	Fish	Sailfin molly	33
					Bottom	Fish	Sailfin molly	15

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 25 of 55

CCS Biological Characterization Study

Station	Date Deployed	Time Deployed	Date Retrieved	Time Retrieved	Fish Trap Location	Taxon Type	Taxa	Total Collected
7	12/6/2016	10:54	12/7/2016	12:01	Surface	Fish	Sheepshead minnow	216
					Bottom	Fish	Sheepshead minnow	180
					Bottom	Fish	Eastern mosquitofish	3
					Surface	Fish	Sailfin molly	33
					Bottom	Fish	Sailfin molly	41
8	12/6/2016	10:22	12/7/2016	9:56	Bottom	Crustacean	Mudflat fiddler crab	2
					Bottom	Fish	Sheepshead minnow	124
					Surface	Fish	Sailfin molly	20
					Bottom	Fish	Sailfin molly	14
9	12/6/2016	9:47	12/7/2016	9:32	Surface	Fish	Sheepshead minnow	30
					Bottom	Fish	Sheepshead minnow	171
					Surface	Fish	Sailfin molly	4
					Bottom	Fish	Sailfin molly	10
10	12/6/2016	9:04	12/7/2016	8:23	Surface	Fish	Sheepshead minnow	327
					Bottom	Fish	Sheepshead minnow	7
					Surface	Fish	Eastern mosquitofish	17
					Surface	Fish	Sailfin molly	1

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 26 of 55

CCS Biological Characterization Study

Appendix F

Measurements of specimens collected during cast net sampling at each station, December 2016.

Station	Date	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
1	12/5/16	Fish	Sheepshead minnow	1	24	SL	29	TL
1	12/5/16	Fish	Sheepshead minnow	2	24	SL	29	TL
1	12/5/16	Fish	Sheepshead minnow	3	23	SL	29	TL
1	12/5/16	Fish	Sheepshead minnow	4	30	SL	37	TL
1	12/5/16	Fish	Sheepshead minnow	5	24	SL	30	TL
1	12/5/16	Fish	Sheepshead minnow	6	33	SL	42	TL
1	12/5/16	Fish	Sheepshead minnow	7	38	SL	48	TL
1	12/5/16	Fish	Sheepshead minnow	8	28	SL	38	TL
1	12/5/16	Fish	Sheepshead minnow	9	31	SL	38	TL
1	12/5/16	Fish	Sheepshead minnow	10	26	SL	33	TL
1	12/5/16	Fish	Sheepshead minnow	11	28	SL	34	TL
1	12/5/16	Fish	Sheepshead minnow	12	23	SL	28	TL
1	12/5/16	Fish	Sheepshead minnow	13	28	SL	33	TL
1	12/5/16	Fish	Sheepshead minnow	14	24	SL	28	TL
1	12/5/16	Fish	Sheepshead minnow	15	23	SL	27	TL
1	12/5/16	Fish	Sheepshead minnow	16	23	SL	28	TL
1	12/5/16	Fish	Sheepshead minnow	17	25	SL	31	TL
1	12/5/16	Fish	Sheepshead minnow	18	27	SL	33	TL
1	12/5/16	Fish	Sheepshead minnow	19	22	SL	29	TL
2	12/5/16	Fish	Sheepshead minnow	1	33	SL	41	TL
2	12/5/16	Fish	Sheepshead minnow	2	23	SL	29	TL
2	12/5/16	Fish	Sheepshead minnow	3	27	SL	33	TL
2	12/5/16	Fish	Sheepshead minnow	4	28	SL	33	TL
2	12/5/16	Fish	Sheepshead minnow	5	19	SL	23	TL
2	12/5/16	Fish	Sheepshead minnow	6	22	SL	25	TL
2	12/5/16	Fish	Sheepshead minnow	7	25	SL	31	TL
2	12/5/16	Fish	Sheepshead minnow	8	28	SL	35	TL
2	12/5/16	Fish	Sheepshead minnow	9	17	SL	20	TL
2	12/5/16	Fish	Sheepshead minnow	10	27	SL	34	TL
3	12/5/16	Fish	Sheepshead minnow	1	32	SL	40	TL
3	12/5/16	Fish	Sheepshead minnow	2	26	SL	33	TL
3	12/5/16	Fish	Sheepshead minnow	3	32	SL	39	TL
3	12/5/16	Fish	Sheepshead minnow	4	34	SL	42	TL
3	12/5/16	Fish	Sheepshead minnow	5	28	SL	35	TL
3	12/5/16	Fish	Sheepshead minnow	6	30	SL	36	TL
3	12/5/16	Fish	Sheepshead minnow	7	38	SL	46	TL
3	12/5/16	Fish	Sheepshead minnow	8	24	SL	30	TL
3	12/5/16	Fish	Sheepshead minnow	9	28	SL	36	TL
3	12/5/16	Fish	Sheepshead minnow	10	37	SL	43	TL
3	12/5/16	Fish	Sheepshead minnow	11	26	SL	33	TL
3	12/5/16	Fish	Sheepshead minnow	12	26	SL	31	TL
3	12/5/16	Fish	Sheepshead minnow	13	22	SL	26	TL
3	12/5/16	Fish	Sheepshead minnow	14	27	SL	32	TL
4	12/5/16	Fish	Sheepshead minnow	1	20	SL	25	TL
4	12/5/16	Fish	Sheepshead minnow	2	21	SL	26	TL
4	12/5/16	Fish	Sheepshead minnow	3	26	SL	32	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 27 of 55

CCS Biological Characterization Study

Station	Date	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
4	12/5/16	Fish	Sheepshead minnow	4	26	SL	32	TL
4	12/5/16	Fish	Sheepshead minnow	5	30	SL	36	TL
4	12/5/16	Fish	Sheepshead minnow	6	26	SL	32	TL
4	12/5/16	Fish	Sheepshead minnow	7	24	SL	30	TL
4	12/5/16	Fish	Sheepshead minnow	8	20	SL	25	TL
4	12/5/16	Fish	Sheepshead minnow	9	21	SL	25	TL
4	12/5/16	Fish	Sheepshead minnow	10	27	SL	33	TL
4	12/5/16	Fish	Sheepshead minnow	11	22	SL	28	TL
4	12/5/16	Fish	Sheepshead minnow	12	28	SL	35	TL
4	12/5/16	Fish	Sheepshead minnow	13	25	SL	32	TL
4	12/5/16	Fish	Sheepshead minnow	14	22	SL	28	TL
4	12/5/16	Fish	Sheepshead minnow	15	20	SL	24	TL
4	12/5/16	Fish	Sheepshead minnow	16	23	SL	28	TL
4	12/5/16	Fish	Sheepshead minnow	17	20	SL	25	TL
4	12/5/16	Fish	Sheepshead minnow	18	23	SL	27	TL
4	12/5/16	Fish	Sheepshead minnow	19	24	SL	29	TL
4	12/5/16	Fish	Sheepshead minnow	20	18	SL	24	TL
4	12/5/16	Fish	Sheepshead minnow	21	24	SL	27	TL
4	12/5/16	Fish	Sheepshead minnow	22	19	SL	23	TL
4	12/5/16	Fish	Sailfin molly	1	40	SL	51	TL
5	12/5/16	Fish	Sheepshead minnow	1	32	SL	37	TL
5	12/5/16	Fish	Sheepshead minnow	2	22	SL	27	TL
5	12/5/16	Fish	Sheepshead minnow	3	24	SL	30	TL
5	12/5/16	Fish	Sheepshead minnow	4	34	SL	43	TL
5	12/5/16	Fish	Sheepshead minnow	5	37	SL	49	TL
5	12/5/16	Fish	Sheepshead minnow	6	24	SL	29	TL
5	12/5/16	Fish	Sheepshead minnow	7	23	SL	28	TL
5	12/5/16	Fish	Sheepshead minnow	8	24	SL	30	TL
5	12/5/16	Fish	Sheepshead minnow	9	25	SL	32	TL
5	12/5/16	Fish	Sheepshead minnow	10	20	SL	24	TL
5	12/5/16	Fish	Sheepshead minnow	11	25	SL	30	TL
5	12/5/16	Fish	Sheepshead minnow	12	24	SL	30	TL
5	12/5/16	Fish	Sheepshead minnow	13	22	SL	27	TL
5	12/5/16	Fish	Sheepshead minnow	14	24	SL	32	TL
5	12/5/16	Fish	Sheepshead minnow	15	20	SL	26	TL
5	12/5/16	Fish	Sheepshead minnow	16	21	SL	25	TL
5	12/5/16	Fish	Sheepshead minnow	17	24	SL	31	TL
5	12/5/16	Fish	Sheepshead minnow	18	25	SL	31	TL
5	12/5/16	Fish	Sheepshead minnow	19	22	SL	28	TL
5	12/5/16	Fish	Sheepshead minnow	20	33	SL	42	TL
5	12/5/16	Fish	Sheepshead minnow	21	33	SL	41	TL
5	12/5/16	Fish	Sheepshead minnow	22	25	SL	32	TL
5	12/5/16	Fish	Sheepshead minnow	23	24	SL	30	TL
5	12/5/16	Fish	Sheepshead minnow	24	23	SL	29	TL
5	12/5/16	Fish	Sheepshead minnow	25	24	SL	29	TL
5	12/5/16	Fish	Sheepshead minnow	26	26	SL	32	TL
5	12/5/16	Fish	Sheepshead minnow	27	19	SL	24	TL
5	12/5/16	Fish	Sheepshead minnow	28	21	SL	27	TL
5	12/5/16	Fish	Sheepshead minnow	29	23	SL	28	TL
5	12/5/16	Fish	Sailfin molly	1	33	SL	42	TL
5	12/5/16	Fish	Sailfin molly	2	44	SL	53	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 28 of 55

CCS Biological Characterization Study

Station	Date	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
6	12/5/16	Fish	Sheepshead minnow	1	24	SL	30	TL
6	12/5/16	Fish	Sheepshead minnow	2	23	SL	28	TL
6	12/5/16	Fish	Sheepshead minnow	3	31	SL	38	TL
6	12/5/16	Fish	Sheepshead minnow	4	28	SL	34	TL
6	12/5/16	Fish	Sheepshead minnow	5	25	SL	32	TL
6	12/5/16	Fish	Sheepshead minnow	6	23	SL	28	TL
6	12/5/16	Fish	Sheepshead minnow	7	22	SL	27	TL
6	12/5/16	Fish	Sheepshead minnow	8	23	SL	29	TL
6	12/5/16	Fish	Sheepshead minnow	9	20	SL	24	TL
6	12/5/16	Fish	Sheepshead minnow	10	19	SL	24	TL
6	12/5/16	Fish	Sheepshead minnow	11	19	SL	23	TL
6	12/5/16	Fish	Sheepshead minnow	12	22	SL	27	TL
6	12/5/16	Fish	Sheepshead minnow	13	24	SL	31	TL
6	12/5/16	Fish	Sheepshead minnow	14	21	SL	25	TL
6	12/5/16	Fish	Sheepshead minnow	15	16	SL	20	TL
6	12/5/16	Fish	Sheepshead minnow	16	11	SL	14	TL
6	12/5/16	Fish	Sheepshead minnow	17	13	SL	17	TL
6	12/5/16	Fish	Sailfin molly	1	37	SL	47	TL
6	12/5/16	Fish	Sailfin molly	2	32	SL	39	TL
7	12/5/16	Fish	Sheepshead minnow	1	28	SL	34	TL
7	12/5/16	Fish	Sheepshead minnow	2	17	SL	22	TL
7	12/5/16	Fish	Sheepshead minnow	3	24	SL	30	TL
7	12/5/16	Fish	Sheepshead minnow	4	22	SL	28	TL
7	12/5/16	Fish	Sheepshead minnow	5	24	SL	32	TL
7	12/5/16	Fish	Sheepshead minnow	6	22	SL	27	TL
7	12/5/16	Fish	Sheepshead minnow	7	25	SL	32	TL
7	12/5/16	Fish	Sheepshead minnow	8	23	SL	29	TL
7	12/5/16	Fish	Eastern mosquitofish	1	30	SL	39	TL
7	12/5/16	Fish	Sailfin molly	1	43	SL	52	TL
8	12/5/16	Fish	Sheepshead minnow	1	34	SL	42	TL
8	12/5/16	Fish	Sheepshead minnow	2	35	SL	44	TL
8	12/5/16	Fish	Sheepshead minnow	3	26	SL	33	TL
8	12/5/16	Fish	Sheepshead minnow	4	36	SL	44	TL
8	12/5/16	Fish	Sheepshead minnow	5	37	SL	46	TL
8	12/5/16	Fish	Sheepshead minnow	6	21	SL	28	TL
8	12/5/16	Fish	Sheepshead minnow	7	23	SL	29	TL
8	12/5/16	Fish	Sheepshead minnow	8	24	SL	30	TL
8	12/5/16	Fish	Sheepshead minnow	9	29	SL	36	TL
8	12/5/16	Fish	Sheepshead minnow	10	37	SL	45	TL
8	12/5/16	Fish	Sheepshead minnow	11	22	SL	27	TL
8	12/5/16	Fish	Sheepshead minnow	12	22	SL	27	TL
8	12/5/16	Fish	Sheepshead minnow	13	30	SL	37	TL
8	12/5/16	Fish	Sheepshead minnow	14	26	SL	32	TL
8	12/5/16	Fish	Sheepshead minnow	15	30	SL	36	TL
8	12/5/16	Fish	Sheepshead minnow	16	21	SL	27	TL
8	12/5/16	Fish	Sheepshead minnow	17	22	SL	27	TL
8	12/5/16	Fish	Sheepshead minnow	18	32	SL	38	TL
8	12/5/16	Fish	Sheepshead minnow	19	20	SL	25	TL
8	12/5/16	Fish	Sheepshead minnow	20	23	SL	28	TL
8	12/5/16	Fish	Sheepshead minnow	21	23	SL	28	TL
8	12/5/16	Fish	Sheepshead minnow	22	23	SL	27	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 29 of 55

CCS Biological Characterization Study

Station	Date	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
8	12/5/16	Fish	Sheepshead minnow	23	21	SL	26	TL
8	12/5/16	Fish	Sheepshead minnow	24	17	SL	22	TL
8	12/5/16	Fish	Sheepshead minnow	25	21	SL	26	TL
8	12/5/16	Fish	Sailfin molly	1	38	SL	47	TL
8	12/5/16	Fish	Sailfin molly	2	30	SL	37	TL
8	12/5/16	Fish	Sailfin molly	3	42	SL	51	TL
8	12/5/16	Fish	Sailfin molly	4	42	SL	52	TL
9	12/5/16	Fish	Sheepshead minnow	1	38	SL	45	TL
9	12/5/16	Fish	Sheepshead minnow	2	29	SL	35	TL
9	12/5/16	Fish	Sheepshead minnow	3	27	SL	34	TL
9	12/5/16	Fish	Sheepshead minnow	4	35	SL	42	TL
9	12/5/16	Fish	Sheepshead minnow	5	30	SL	36	TL
9	12/5/16	Fish	Sheepshead minnow	6	28	SL	34	TL
9	12/5/16	Fish	Sheepshead minnow	7	25	SL	30	TL
9	12/5/16	Fish	Sheepshead minnow	8	29	SL	36	TL
9	12/5/16	Fish	Sheepshead minnow	9	28	SL	34	TL
9	12/5/16	Fish	Sheepshead minnow	10	22	SL	27	TL
9	12/5/16	Fish	Sheepshead minnow	11	24	SL	29	TL
9	12/5/16	Fish	Sheepshead minnow	12	28	SL	34	TL
9	12/5/16	Fish	Sheepshead minnow	13	22	SL	27	TL
9	12/5/16	Fish	Sheepshead minnow	14	28	SL	33	TL
9	12/5/16	Fish	Sheepshead minnow	15	23	SL	28	TL
9	12/5/16	Fish	Sheepshead minnow	16	22	SL	26	TL
9	12/5/16	Fish	Sheepshead minnow	17	21	SL	25	TL
9	12/5/16	Fish	Sheepshead minnow	18	28	SL	34	TL
9	12/5/16	Fish	Sheepshead minnow	19	33	SL	39	TL
9	12/5/16	Fish	Sheepshead minnow	20	27	SL	32	TL
9	12/5/16	Fish	Sheepshead minnow	21	30	SL	36	TL
9	12/5/16	Fish	Sheepshead minnow	22	22	SL	27	TL
9	12/5/16	Fish	Sheepshead minnow	23	22	SL	27	TL
9	12/5/16	Fish	Sheepshead minnow	24	29	SL	35	TL
9	12/5/16	Fish	Sheepshead minnow	25	18	SL	22	TL
9	12/5/16	Fish	Sheepshead minnow	26	29	SL	35	TL
9	12/5/16	Fish	Sheepshead minnow	27	20	SL	25	TL
9	12/5/16	Fish	Sheepshead minnow	28	20	SL	25	TL
9	12/5/16	Fish	Sheepshead minnow	29	23	SL	28	TL
9	12/5/16	Fish	Sheepshead minnow	30	27	SL	32	TL
9	12/5/16	Fish	Sheepshead minnow	31	31	SL	37	TL
9	12/5/16	Fish	Sheepshead minnow	32	20	SL	25	TL
9	12/5/16	Fish	Sailfin molly	1	45	SL	56	TL
9	12/5/16	Fish	Sailfin molly	2	38	SL	47	TL
9	12/5/16	Fish	Sailfin molly	3	44	SL	53	TL
9	12/5/16	Fish	Sailfin molly	4	45	SL	53	TL
9	12/5/16	Fish	Sailfin molly	5	42	SL	51	TL
9	12/5/16	Fish	Sailfin molly	6	42	SL	50	TL
9	12/5/16	Fish	Sailfin molly	7	40	SL	49	TL
9	12/5/16	Fish	Sailfin molly	8	43	SL	53	TL
9	12/5/16	Fish	Sailfin molly	9	43	SL	53	TL
9	12/5/16	Fish	Sailfin molly	10	42	SL	51	TL
10	12/5/16	Fish	Sheepshead minnow	1	29	SL	37	TL
10	12/5/16	Fish	Sheepshead minnow	2	26	SL	31	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 30 of 55

CCS Biological Characterization Study

Station	Date	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
10	12/5/16	Fish	Sheepshead minnow	3	36	SL	43	TL
10	12/5/16	Fish	Sheepshead minnow	4	24	SL	29	TL
10	12/5/16	Fish	Sheepshead minnow	5	27	SL	34	TL
10	12/5/16	Fish	Sheepshead minnow	6	32	SL	39	TL
10	12/5/16	Fish	Sheepshead minnow	7	27	SL	33	TL
10	12/5/16	Fish	Sheepshead minnow	8	25	SL	32	TL
10	12/5/16	Fish	Sheepshead minnow	9	27	SL	34	TL
10	12/5/16	Fish	Sheepshead minnow	10	27	SL	34	TL
10	12/5/16	Fish	Sheepshead minnow	11	21	SL	25	TL
10	12/5/16	Fish	Sheepshead minnow	12	25	SL	31	TL
10	12/5/16	Fish	Sheepshead minnow	13	27	SL	33	TL
10	12/5/16	Fish	Sheepshead minnow	14	27	SL	33	TL
10	12/5/16	Fish	Sheepshead minnow	15	26	SL	32	TL
10	12/5/16	Fish	Sheepshead minnow	16	24	SL	31	TL
10	12/5/16	Fish	Sheepshead minnow	17	29	SL	36	TL
10	12/5/16	Fish	Sheepshead minnow	18	19	SL	24	TL
10	12/5/16	Fish	Sheepshead minnow	19	26	SL	32	TL
10	12/5/16	Fish	Sheepshead minnow	20	27	SL	34	TL
10	12/5/16	Fish	Sheepshead minnow	21	28	SL	35	TL
10	12/5/16	Fish	Sheepshead minnow	22	18	SL	23	TL
10	12/5/16	Fish	Sheepshead minnow	23	24	SL	30	TL
10	12/5/16	Fish	Sheepshead minnow	24	22	SL	26	TL
10	12/5/16	Fish	Sheepshead minnow	25	23	SL	28	TL
10	12/5/16	Fish	Sheepshead minnow	26	25	SL	31	TL
10	12/5/16	Fish	Sheepshead minnow	27	24	SL	29	TL
10	12/5/16	Fish	Sheepshead minnow	28	25	SL	32	TL
10	12/5/16	Fish	Sheepshead minnow	29	22	SL	27	TL
10	12/5/16	Fish	Sheepshead minnow	30	21	SL	26	TL
10	12/5/16	Fish	Sailfin molly	1	38	SL	49	TL
10	12/5/16	Fish	Sailfin molly	2	38	SL	49	TL

Key:
mm = millimeters, SL = Standard Length, TL = Total Length

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 31 of 55

CCS Biological Characterization Study

Appendix G

Measurements of specimens collected during fish trap sampling at each station, December 2016.

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
1	12/7/2016	Surface	Fish	Sheepshead minnow	1	34	SL	39	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	2	29	SL	35	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	3	28	SL	34	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	4	26	SL	31	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	5	30	SL	39	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	6	25	SL	30	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	7	33	SL	40	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	8	32	SL	39	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	9	28	SL	36	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	10	26	SL	33	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	11	32	SL	38	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	12	25	SL	32	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	13	27	SL	34	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	14	30	SL	36	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	15	21	SL	28	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	16	29	SL	34	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	17	25	SL	30	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	18	24	SL	30	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	19	23	SL	28	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	20	27	SL	33	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	21	21	SL	27	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	22	24	SL	29	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	23	23	SL	29	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	24	21	SL	26	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	25	27	SL	34	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	26	24	SL	30	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	27	23	CSL	29	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	28	27	SL	32	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	29	27	SL	32	TL
1	12/7/2016	Surface	Fish	Sheepshead minnow	30	26	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	1	30	SL	36	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	2	27	SL	32	TL

31

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 32 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
1	12/7/2016	Bottom	Fish	Sheepshead minnow	3	22	SL	27	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	4	27	SL	34	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	5	23	SL	30	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	6	28	SL	36	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	7	25	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	8	20	SL	26	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	9	34	SL	40	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	10	31	SL	39	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	11	30	SL	37	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	12	24	SL	30	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	13	31	SL	37	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	14	28	SL	33	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	15	22	SL	28	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	16	28	SL	35	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	17	32	SL	39	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	18	22	SL	29	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	19	19	SL	25	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	20	26	SL	33	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	21	25	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	22	25	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	23	29	SL	36	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	24	27	SL	34	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	25	28	SL	36	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	26	25	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	27	30	SL	37	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	28	25	SL	32	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	29	20	SL	26	TL
1	12/7/2016	Bottom	Fish	Sheepshead minnow	30	19	SL	25	TL
1	12/7/2016	Surface	Fish	Sailfin molly	1	17	SL	20	TL
1	12/7/2016	Surface	Fish	Sailfin molly	2	18	SL	21	TL
1	12/7/2016	Surface	Fish	Sailfin molly	3	18	SL	21	TL
1	12/7/2016	Surface	Fish	Sailfin molly	4	15	SL	18	TL
1	12/7/2016	Bottom	Fish	Sailfin molly	1	23	SL	27	TL
1	12/7/2016	Bottom	Fish	Sailfin molly	2	18	SL	23	TL
1	12/7/2016	Bottom	Fish	Sailfin molly	3	16	SL	21	TL
1	12/7/2016	Bottom	Fish	Sailfin molly	4	15	SL	19	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 33 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
1	12/7/2016	Bottom	Fish	Sailfin molly	5	15	SL	19	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	1	28	SL	35	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	2	27	SL	34	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	3	23	SL	26	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	4	25	SL	33	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	5	21	SL	27	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	6	26	SL	32	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	7	26	SL	33	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	8	22	SL	28	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	9	28	SL	35	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	10	18	SL	23	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	11	19	SL	24	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	12	21	SL	26	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	13	26	SL	31	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	14	19	SL	25	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	15	21	SL	25	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	16	30	SL	36	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	17	20	SL	23	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	18	18	SL	22	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	19	23	SL	26	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	20	16	SL	19	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	21	19	SL	22	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	22	21	SL	23	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	23	22	SL	24	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	24	19	SL	22	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	25	28	SL	32	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	26	22	SL	25	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	27	18	SL	21	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	28	24	SL	27	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	29	16	SL	18	TL
2	12/7/2016	Surface	Fish	Sheepshead minnow	30	21	SL	24	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	1	30	SL	38	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	2	21	SL	26	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	3	24	SL	29	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	4	21	SL	27	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	5	22	SL	26	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 34 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
2	12/7/2016	Bottom	Fish	Sheepshead minnow	6	19	SL	24	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	7	28	SL	35	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	8	25	SL	30	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	9	18	SL	23	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	10	20	SL	25	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	11	27	SL	32	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	12	22	SL	29	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	13	21	SL	27	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	14	25	SL	31	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	15	23	SL	29	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	16	21	SL	26	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	17	22	SL	26	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	18	22	SL	26	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	19	23	SL	29	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	20	23	SL	28	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	21	22	SL	28	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	22	19	SL	22	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	23	22	SL	26	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	24	26	SL	33	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	25	17	SL	22	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	26	17	SL	21	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	27	19	SL	23	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	28	20	SL	24	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	29	19	SL	24	TL
2	12/7/2016	Bottom	Fish	Sheepshead minnow	30	21	SL	27	TL
3	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	1	10	CL	14	CW
3	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	2	8	CL	11	CW
3	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	3	9	CL	12	CW
3	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	4	8	CL	11	CW
3	12/7/2016	Surface	Fish	Sheepshead minnow	1	35	SL	38	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	2	34	SL	37	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	3	30	SL	37	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	4	25	SL	32	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	5	21	SL	28	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	6	23	SL	29	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	7	22	SL	28	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 35 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
3	12/7/2016	Surface	Fish	Sheepshead minnow	8	22	SL	28	TL
3	12/7/2016	Surface	Fish	Sheepshead minnow	9	16	SL	20	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	1	35	SL	42	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	2	23	SL	30	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	3	41	SL	48	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	4	21	SL	26	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	5	35	SL	43	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	6	32	SL	38	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	7	30	SL	37	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	8	24	SL	29	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	9	25	SL	30	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	10	28	SL	32	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	11	29	SL	34	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	12	22	SL	27	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	13	28	SL	34	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	14	39	SL	46	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	15	31	SL	40	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	16	25	SL	31	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	17	39	SL	46	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	18	36	SL	44	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	19	23	SL	29	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	20	35	SL	41	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	21	21	SL	25	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	22	28	SL	32	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	23	60	SL	70	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	24	31	SL	38	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	25	39	SL	43	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	26	37	SL	43	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	27	28	SL	32	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	28	40	SL	47	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	29	22	SL	26	TL
3	12/7/2016	Bottom	Fish	Sheepshead minnow	30	26	SL	33	TL
3	12/7/2016	Surface	Fish	Sailfin molly	1	39	SL	48	TL
3	12/7/2016	Surface	Fish	Sailfin molly	2	22	SL	29	TL
3	12/7/2016	Surface	Fish	Sailfin molly	3	27	SL	33	TL
3	12/7/2016	Surface	Fish	Sailfin molly	4	18	SL	22	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 36 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
3	12/7/2016	Surface	Fish	Sailfin molly	5	31	SL	38	TL
3	12/7/2016	Surface	Fish	Sailfin molly	6	25	SL	31	TL
3	12/7/2016	Surface	Fish	Sailfin molly	7	22	SL	27	TL
3	12/7/2016	Surface	Fish	Sailfin molly	8	20	SL	25	TL
3	12/7/2016	Surface	Fish	Sailfin molly	9	16	SL	19	TL
3	12/7/2016	Surface	Fish	Sailfin molly	10	15	SL	19	TL
3	12/7/2016	Surface	Fish	Sailfin molly	11	18	SL	23	TL
3	12/7/2016	Surface	Fish	Sailfin molly	12	18	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	13	18	SL	22	TL
3	12/7/2016	Surface	Fish	Sailfin molly	14	19	SL	22	TL
3	12/7/2016	Surface	Fish	Sailfin molly	15	17	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	16	16	SL	20	TL
3	12/7/2016	Surface	Fish	Sailfin molly	17	18	SL	23	TL
3	12/7/2016	Surface	Fish	Sailfin molly	18	20	SL	24	TL
3	12/7/2016	Surface	Fish	Sailfin molly	19	18	SL	23	TL
3	12/7/2016	Surface	Fish	Sailfin molly	20	17	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	21	17	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	22	18	SL	22	TL
3	12/7/2016	Surface	Fish	Sailfin molly	23	17	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	24	16	SL	20	TL
3	12/7/2016	Surface	Fish	Sailfin molly	25	19	SL	23	TL
3	12/7/2016	Surface	Fish	Sailfin molly	26	14	SL	18	TL
3	12/7/2016	Surface	Fish	Sailfin molly	27	18	SL	23	TL
3	12/7/2016	Surface	Fish	Sailfin molly	28	17	SL	21	TL
3	12/7/2016	Surface	Fish	Sailfin molly	29	16	SL	20	TL
3	12/7/2016	Surface	Fish	Sailfin molly	30	15	SL	19	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	1	19	SL	23	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	2	18	SL	21	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	3	17	SL	21	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	4	20	SL	25	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	5	16	SL	20	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	6	18	SL	22	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	7	18	SL	22	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	8	19	SL	23	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	9	18	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	10	36	SL	40	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 37 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
3	12/7/2016	Bottom	Fish	Sailfin molly	11	19	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	12	17	SL	21	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	13	20	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	14	27	SL	34	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	15	17	SL	21	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	16	20	SL	26	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	17	19	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	18	17	SL	21	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	19	20	SL	25	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	20	14	SL	17	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	21	18	SL	23	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	22	19	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	23	19	SL	24	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	24	18	SL	23	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	25	18	SL	23	TL
3	12/7/2016	Bottom	Fish	Sailfin molly	26	17	SL	21	TL
4	12/7/2016	Surface	Crustacean	Mudflat fiddler crab	1	10	CL	14	CW
4	12/7/2016	Surface	Crustacean	Mudflat fiddler crab	2	9	CL	12	CW
4	12/7/2016	Surface	Crustacean	Mudflat fiddler crab	3	11	CL	15	CW
4	12/7/2016	Surface	Crustacean	Mudflat fiddler crab	4	10	CL	13	CW
4	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	1	10	CL	14	CW
4	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	2	8	CL	12	CW
4	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	3	9	CL	12	CW
4	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	4	10	CL	13	CW
4	12/7/2016	Surface	Fish	Sheepshead minnow	1	40	SL	48	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	2	33	SL	38	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	3	21	SL	27	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	4	24	SL	30	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	5	36	SL	44	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	6	24	SL	30	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	7	28	SL	34	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	8	37	SL	45	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	9	31	SL	39	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	10	22	SL	27	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	11	32	SL	39	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	12	24	SL	30	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 38 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
4	12/7/2016	Surface	Fish	Sheepshead minnow	13	30	SL	38	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	14	18	SL	23	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	15	28	SL	34	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	16	13	SL	16	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	17	18	SL	23	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	18	19	SL	24	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	19	26	SL	23	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	20	29	SL	34	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	21	32	SL	39	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	22	29	SL	36	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	23	28	SL	35	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	24	31	SL	37	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	25	25	SL	31	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	26	29	SL	36	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	27	19	SL	23	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	28	31	SL	37	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	29	18	SL	23	TL
4	12/7/2016	Surface	Fish	Sheepshead minnow	30	32	SL	39	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	1	41	SL	51	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	2	35	SL	44	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	3	32	SL	41	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	4	29	SL	37	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	5	33	SL	41	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	6	32	SL	38	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	7	35	SL	43	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	8	27	SL	35	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	9	27	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	10	27	SL	34	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	11	27	SL	35	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	12	25	SL	31	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	13	32	SL	40	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	14	21	SL	27	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	15	25	SL	32	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	16	29	SL	36	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	17	25	SL	31	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	18	25	SL	32	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 39 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
4	12/7/2016	Bottom	Fish	Sheepshead minnow	19	26	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	20	21	SL	27	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	21	27	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	22	24	SL	30	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	23	26	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	24	23	SL	30	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	25	26	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	26	27	SL	33	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	27	32	SL	40	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	28	37	SL	46	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	29	24	SL	30	TL
4	12/7/2016	Bottom	Fish	Sheepshead minnow	30	25	SL	32	TL
4	12/7/2016	Surface	Fish	Sailfin molly	1	30	SL	37	TL
4	12/7/2016	Surface	Fish	Sailfin molly	2	37	SL	46	TL
4	12/7/2016	Surface	Fish	Sailfin molly	3	17	SL	21	TL
4	12/7/2016	Surface	Fish	Sailfin molly	4	16	SL	18	TL
4	12/7/2016	Surface	Fish	Sailfin molly	5	40	SL	47	TL
4	12/7/2016	Surface	Fish	Sailfin molly	6	34	SL	42	TL
4	12/7/2016	Surface	Fish	Sailfin molly	7	18	SL	23	TL
4	12/7/2016	Surface	Fish	Sailfin molly	8	14	SL	18	TL
4	12/7/2016	Surface	Fish	Sailfin molly	9	36	SL	45	TL
4	12/7/2016	Surface	Fish	Sailfin molly	10	41	SL	50	TL
4	12/7/2016	Surface	Fish	Sailfin molly	11	29	SL	35	TL
4	12/7/2016	Surface	Fish	Sailfin molly	12	27	SL	34	TL
4	12/7/2016	Surface	Fish	Sailfin molly	13	17	SL	20	TL
4	12/7/2016	Surface	Fish	Sailfin molly	14	34	SL	41	TL
4	12/7/2016	Surface	Fish	Sailfin molly	15	23	SL	29	TL
4	12/7/2016	Surface	Fish	Sailfin molly	16	23	SL	29	TL
4	12/7/2016	Surface	Fish	Sailfin molly	17	45	SL	56	TL
4	12/7/2016	Surface	Fish	Sailfin molly	18	43	SL	51	TL
4	12/7/2016	Surface	Fish	Sailfin molly	19	13	SL	16	TL
4	12/7/2016	Surface	Fish	Sailfin molly	20	24	SL	30	TL
4	12/7/2016	Surface	Fish	Sailfin molly	21	41	SL	50	TL
4	12/7/2016	Surface	Fish	Sailfin molly	22	35	SL	42	TL
4	12/7/2016	Surface	Fish	Sailfin molly	23	25	SL	31	TL
4	12/7/2016	Surface	Fish	Sailfin molly	24	39	SL	48	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 40 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
4	12/7/2016	Surface	Fish	Sailfin molly	25	34	SL	41	TL
4	12/7/2016	Surface	Fish	Sailfin molly	26	16	SL	20	TL
4	12/7/2016	Surface	Fish	Sailfin molly	27	25	SL	31	TL
4	12/7/2016	Surface	Fish	Sailfin molly	28	43	SL	52	TL
4	12/7/2016	Surface	Fish	Sailfin molly	29	35	SL	43	TL
4	12/7/2016	Surface	Fish	Sailfin molly	30	22	SL	28	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	1	38	SL	42	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	2	40	SL	49	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	3	43	SL	51	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	4	37	SL	43	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	5	47	SL	54	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	6	39	SL	44	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	7	36	SL	44	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	8	32	SL	40	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	9	38	SL	45	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	10	36	SL	45	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	11	28	SL	35	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	12	33	SL	41	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	13	22	SL	28	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	14	38	SL	43	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	15	39	SL	47	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	16	31	SL	39	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	17	34	SL	41	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	18	30	SL	37	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	19	34	SL	42	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	20	32	SL	39	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	21	49	SL	57	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	22	36	SL	45	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	23	32	SL	39	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	24	31	SL	38	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	25	38	SL	45	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	26	35	SL	43	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	27	38	SL	45	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	28	44	SL	54	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	29	26	SL	32	TL
4	12/7/2016	Bottom	Fish	Sailfin molly	30	27	SL	33	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 41 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
5	12/7/2016	Surface	Fish	Sheepshead minnow	1	30	SL	36	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	2	30	SL	37	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	3	24	SL	31	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	4	31	SL	38	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	5	26	SL	32	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	6	30	SL	37	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	7	29	SL	36	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	8	27	SL	33	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	9	26	SL	32	TL
5	12/7/2016	Surface	Fish	Sheepshead minnow	10	15	SL	19	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	1	32	SL	40	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	2	25	SL	31	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	3	27	SL	34	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	4	26	SL	33	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	5	28	SL	35	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	6	33	SL	41	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	7	34	SL	42	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	8	27	SL	35	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	9	35	SL	44	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	10	27	SL	34	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	11	32	SL	39	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	12	29	SL	36	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	13	30	SL	38	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	14	37	SL	45	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	15	31	SL	38	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	16	37	SL	45	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	17	29	SL	37	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	18	33	SL	41	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	19	29	SL	36	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	20	28	SL	35	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	21	34	SL	42	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	22	28	SL	35	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	23	38	SL	47	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	24	24	SL	30	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	25	22	SL	28	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	26	38	SL	47	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 42 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
5	12/7/2016	Bottom	Fish	Sheepshead minnow	27	38	SL	46	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	28	30	SL	38	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	29	30	SL	37	TL
5	12/7/2016	Bottom	Fish	Sheepshead minnow	30	30	SL	39	TL
5	12/7/2016	Surface	Fish	Sailfin molly	1	34	SL	42	TL
5	12/7/2016	Surface	Fish	Sailfin molly	2	42	SL	49	TL
5	12/7/2016	Surface	Fish	Sailfin molly	3	34	SL	41	TL
5	12/7/2016	Surface	Fish	Sailfin molly	4	33	SL	41	TL
5	12/7/2016	Surface	Fish	Sailfin molly	5	22	SL	28	TL
5	12/7/2016	Surface	Fish	Sailfin molly	6	30	SL	37	TL
5	12/7/2016	Surface	Fish	Sailfin molly	7	23	SL	28	TL
5	12/7/2016	Surface	Fish	Sailfin molly	8	35	SL	43	TL
5	12/7/2016	Surface	Fish	Sailfin molly	9	20	SL	25	TL
5	12/7/2016	Surface	Fish	Sailfin molly	10	35	SL	43	TL
5	12/7/2016	Surface	Fish	Sailfin molly	11	16	SL	20	TL
5	12/7/2016	Surface	Fish	Sailfin molly	12	40	SL	50	TL
5	12/7/2016	Surface	Fish	Sailfin molly	13	39	SL	48	TL
5	12/7/2016	Surface	Fish	Sailfin molly	14	41	SL	49	TL
5	12/7/2016	Surface	Fish	Sailfin molly	15	18	SL	21	TL
5	12/7/2016	Surface	Fish	Sailfin molly	16	15	SL	19	TL
5	12/7/2016	Surface	Fish	Sailfin molly	17	15	SL	19	TL
5	12/7/2016	Surface	Fish	Sailfin molly	18	15	SL	19	TL
5	12/7/2016	Surface	Fish	Sailfin molly	19	14	SL	17	TL
5	12/7/2016	Surface	Fish	Sailfin molly	20	15	SL	20	TL
5	12/7/2016	Surface	Fish	Sailfin molly	21	18	SL	22	TL
5	12/7/2016	Surface	Fish	Sailfin molly	22	14	SL	17	TL
5	12/7/2016	Surface	Fish	Sailfin molly	23	14	SL	18	TL
5	12/7/2016	Surface	Fish	Sailfin molly	24	19	SL	23	TL
5	12/7/2016	Surface	Fish	Sailfin molly	25	16	SL	19	TL
5	12/7/2016	Surface	Fish	Sailfin molly	26	17	SL	21	TL
5	12/7/2016	Surface	Fish	Sailfin molly	27	13	SL	16	TL
5	12/7/2016	Surface	Fish	Sailfin molly	28	14	SL	19	TL
5	12/7/2016	Surface	Fish	Sailfin molly	29	13	SL	17	TL
5	12/7/2016	Surface	Fish	Sailfin molly	30	17	SL	21	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	1	42	SL	52	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	2	26	SL	32	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 43 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
5	12/7/2016	Bottom	Fish	Sailfin molly	3	27	SL	34	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	4	21	SL	26	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	5	26	SL	31	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	6	33	SL	40	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	7	27	SL	32	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	8	39	SL	46	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	9	19	SL	23	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	10	23	SL	28	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	11	17	SL	22	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	12	25	SL	31	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	13	17	SL	20	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	14	19	SL	23	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	15	19	SL	25	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	16	25	SL	31	TL
5	12/7/2016	Bottom	Fish	Sailfin molly	17	18	SL	22	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	1	33	SL	42	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	2	28	SL	35	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	3	30	SL	38	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	4	28	SL	34	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	5	19	SL	23	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	6	24	SL	30	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	7	28	SL	34	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	8	30	SL	38	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	9	25	SL	32	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	10	24	SL	30	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	11	24	SL	30	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	12	25	SL	31	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	13	22	SL	28	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	14	14	SL	17	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	15	20	SL	26	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	16	25	SL	31	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	17	23	SL	28	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	18	26	SL	31	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	19	22	SL	28	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	20	19	SL	23	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	21	27	SL	34	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 44 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
6	12/7/2016	Surface	Fish	Sheepshead minnow	22	19	SL	25	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	23	23	SL	29	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	24	27	SL	33	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	25	27	SL	34	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	26	28	SL	36	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	27	21	SL	27	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	28	26	SL	32	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	29	27	SL	34	TL
6	12/7/2016	Surface	Fish	Sheepshead minnow	30	28	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	1	37	SL	45	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	2	27	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	3	49	SL	61	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	4	37	SL	47	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	5	26	SL	32	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	6	27	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	7	25	SL	31	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	8	28	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	9	31	SL	38	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	10	34	SL	42	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	11	25	SL	32	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	12	27	SL	34	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	13	26	SL	32	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	14	24	SL	28	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	15	23	SL	29	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	16	27	SL	34	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	17	27	SL	34	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	18	25	SL	30	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	19	36	SL	43	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	20	25	SL	32	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	21	27	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	22	27	SL	35	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	23	22	SL	28	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	24	27	SL	33	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	25	32	SL	41	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	26	22	SL	27	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	27	27	SL	34	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 45 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
6	12/7/2016	Bottom	Fish	Sheepshead minnow	28	26	SL	34	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	29	24	SL	30	TL
6	12/7/2016	Bottom	Fish	Sheepshead minnow	30	25	SL	32	TL
6	12/7/2016	Surface	Fish	Sailfin molly	1	43	SL	51	TL
6	12/7/2016	Surface	Fish	Sailfin molly	2	36	SL	43	TL
6	12/7/2016	Surface	Fish	Sailfin molly	3	33	SL	41	TL
6	12/7/2016	Surface	Fish	Sailfin molly	4	25	SL	31	TL
6	12/7/2016	Surface	Fish	Sailfin molly	5	29	SL	36	TL
6	12/7/2016	Surface	Fish	Sailfin molly	6	32	SL	38	TL
6	12/7/2016	Surface	Fish	Sailfin molly	7	11	SL	15	TL
6	12/7/2016	Surface	Fish	Sailfin molly	8	40	SL	45	TL
6	12/7/2016	Surface	Fish	Sailfin molly	9	15	SL	20	TL
6	12/7/2016	Surface	Fish	Sailfin molly	10	35	SL	42	TL
6	12/7/2016	Surface	Fish	Sailfin molly	11	27	SL	33	TL
6	12/7/2016	Surface	Fish	Sailfin molly	12	20	SL	25	TL
6	12/7/2016	Surface	Fish	Sailfin molly	13	38	SL	45	TL
6	12/7/2016	Surface	Fish	Sailfin molly	14	30	SL	37	TL
6	12/7/2016	Surface	Fish	Sailfin molly	15	37	SL	44	TL
6	12/7/2016	Surface	Fish	Sailfin molly	16	33	SL	41	TL
6	12/7/2016	Surface	Fish	Sailfin molly	17	20	SL	25	TL
6	12/7/2016	Surface	Fish	Sailfin molly	18	13	SL	17	TL
6	12/7/2016	Surface	Fish	Sailfin molly	19	11	SL	16	TL
6	12/7/2016	Surface	Fish	Sailfin molly	20	25	SL	30	TL
6	12/7/2016	Surface	Fish	Sailfin molly	21	10	SL	14	TL
6	12/7/2016	Surface	Fish	Sailfin molly	22	15	SL	20	TL
6	12/7/2016	Surface	Fish	Sailfin molly	23	13	SL	16	TL
6	12/7/2016	Surface	Fish	Sailfin molly	24	19	SL	24	TL
6	12/7/2016	Surface	Fish	Sailfin molly	25	12	SL	17	TL
6	12/7/2016	Surface	Fish	Sailfin molly	26	15	SL	19	TL
6	12/7/2016	Surface	Fish	Sailfin molly	27	15	SL	20	TL
6	12/7/2016	Surface	Fish	Sailfin molly	28	14	SL	19	TL
6	12/7/2016	Surface	Fish	Sailfin molly	29	14	SL	18	TL
6	12/7/2016	Surface	Fish	Sailfin molly	30	11	SL	16	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	1	41	SL	50	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	2	30	SL	37	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	3	37	SL	43	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 46 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
6	12/7/2016	Bottom	Fish	Sailfin molly	4	24	SL	29	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	5	21	SL	26	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	6	38	SL	45	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	7	29	SL	36	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	8	22	SL	28	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	9	17	SL	22	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	10	25	SL	32	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	11	28	SL	35	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	12	32	SL	39	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	13	22	SL	26	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	14	25	SL	30	TL
6	12/7/2016	Bottom	Fish	Sailfin molly	15	17	SL	N/A	N/A
7	12/7/2016	Surface	Fish	Sheepshead minnow	1	26	SL	32	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	2	31	SL	38	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	3	28	SL	35	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	4	38	SL	48	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	5	33	SL	41	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	6	28	SL	35	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	7	28	SL	35	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	8	26	SL	33	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	9	25	SL	32	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	10	29	SL	36	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	11	21	SL	26	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	12	24	SL	30	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	13	24	SL	31	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	14	27	SL	34	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	15	32	SL	39	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	16	26	SL	32	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	17	24	SL	31	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	18	26	SL	34	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	19	27	SL	34	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	20	22	SL	28	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	21	29	SL	36	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	22	25	SL	32	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	23	26	SL	32	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	24	25	SL	31	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 47 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
7	12/7/2016	Surface	Fish	Sheepshead minnow	25	22	SL	29	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	26	27	SL	33	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	27	22	SL	28	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	28	23	SL	29	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	29	22	SL	28	TL
7	12/7/2016	Surface	Fish	Sheepshead minnow	30	26	SL	32	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	1	34	SL	42	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	2	32	SL	40	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	3	32	SL	40	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	4	30	SL	38	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	5	34	SL	40	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	6	33	SL	41	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	7	26	SL	33	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	8	36	SL	44	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	9	27	SL	34	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	10	26	SL	33	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	11	25	SL	31	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	12	29	SL	37	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	13	28	SL	35	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	14	28	SL	35	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	15	24	SL	30	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	16	28	SL	34	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	17	23	SL	30	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	18	36	SL	45	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	19	24	SL	31	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	20	27	SL	34	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	21	33	SL	41	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	22	27	SL	35	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	23	25	SL	31	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	24	23	SL	30	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	25	29	SL	37	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	26	29	SL	36	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	27	27	SL	33	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	28	26	SL	32	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	29	31	SL	39	TL
7	12/7/2016	Bottom	Fish	Sheepshead minnow	30	23	SL	30	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 48 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
7	12/7/2016	Bottom	Fish	Eastern mosquitofish	1	25	SL	32	TL
7	12/7/2016	Bottom	Fish	Eastern mosquitofish	2	29	SL	35	TL
7	12/7/2016	Bottom	Fish	Eastern mosquitofish	3	22	SL	28	TL
7	12/7/2016	Surface	Fish	Sailfin molly	1	29	SL	36	TL
7	12/7/2016	Surface	Fish	Sailfin molly	2	22	SL	27	TL
7	12/7/2016	Surface	Fish	Sailfin molly	3	25	SL	30	TL
7	12/7/2016	Surface	Fish	Sailfin molly	4	22	SL	26	TL
7	12/7/2016	Surface	Fish	Sailfin molly	5	16	SL	21	TL
7	12/7/2016	Surface	Fish	Sailfin molly	6	16	SL	20	TL
7	12/7/2016	Surface	Fish	Sailfin molly	7	20	SL	24	TL
7	12/7/2016	Surface	Fish	Sailfin molly	8	21	SL	26	TL
7	12/7/2016	Surface	Fish	Sailfin molly	9	18	SL	22	TL
7	12/7/2016	Surface	Fish	Sailfin molly	10	16	SL	20	TL
7	12/7/2016	Surface	Fish	Sailfin molly	11	17	SL	21	TL
7	12/7/2016	Surface	Fish	Sailfin molly	12	20	SL	25	TL
7	12/7/2016	Surface	Fish	Sailfin molly	13	17	SL	21	TL
7	12/7/2016	Surface	Fish	Sailfin molly	14	17	SL	21	TL
7	12/7/2016	Surface	Fish	Sailfin molly	15	11	SL	16	TL
7	12/7/2016	Surface	Fish	Sailfin molly	16	30	SL	36	TL
7	12/7/2016	Surface	Fish	Sailfin molly	17	34	SL	40	TL
7	12/7/2016	Surface	Fish	Sailfin molly	18	13	SL	17	TL
7	12/7/2016	Surface	Fish	Sailfin molly	19	43	SL	51	TL
7	12/7/2016	Surface	Fish	Sailfin molly	20	46	SL	54	TL
7	12/7/2016	Surface	Fish	Sailfin molly	21	29	SL	35	TL
7	12/7/2016	Surface	Fish	Sailfin molly	22	39	SL	46	TL
7	12/7/2016	Surface	Fish	Sailfin molly	23	27	SL	32	TL
7	12/7/2016	Surface	Fish	Sailfin molly	24	28	SL	33	TL
7	12/7/2016	Surface	Fish	Sailfin molly	25	19	SL	23	TL
7	12/7/2016	Surface	Fish	Sailfin molly	26	27	SL	33	TL
7	12/7/2016	Surface	Fish	Sailfin molly	27	22	SL	26	TL
7	12/7/2016	Surface	Fish	Sailfin molly	28	26	SL	32	TL
7	12/7/2016	Surface	Fish	Sailfin molly	29	34	SL	39	TL
7	12/7/2016	Surface	Fish	Sailfin molly	30	23	SL	29	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	1	32	SL	39	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	2	32	SL	39	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	3	20	SL	25	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 49 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
7	12/7/2016	Bottom	Fish	Sailfin molly	4	39	SL	45	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	5	52	SL	60	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	6	33	SL	39	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	7	33	SL	40	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	8	30	SL	37	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	9	22	SL	27	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	10	22	SL	28	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	11	34	SL	42	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	12	23	SL	29	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	13	25	SL	31	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	14	37	SL	44	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	15	23	SL	28	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	16	24	SL	29	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	17	21	SL	26	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	18	20	SL	25	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	19	21	SL	26	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	20	17	SL	21	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	21	22	SL	27	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	22	16	SL	20	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	23	16	SL	20	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	24	17	SL	22	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	25	27	SL	34	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	26	14	SL	18	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	27	23	SL	28	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	28	22	SL	26	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	29	20	SL	25	TL
7	12/7/2016	Bottom	Fish	Sailfin molly	30	17	SL	21	TL
8	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	1	10	CL	15	CW
8	12/7/2016	Bottom	Crustacean	Mudflat fiddler crab	2	8	CL	12	CW
8	12/7/2016	Bottom	Fish	Sheepshead minnow	1	35	SL	43	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	2	23	SL	29	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	3	37	SL	45	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	4	35	SL	44	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	5	37	SL	44	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	6	26	SL	32	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	7	39	SL	48	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 50 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
8	12/7/2016	Bottom	Fish	Sheepshead minnow	8	35	SL	45	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	9	25	SL	30	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	10	27	SL	34	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	11	30	SL	38	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	12	29	SL	36	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	13	32	SL	39	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	14	33	SL	40	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	15	25	SL	32	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	16	33	SL	41	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	17	22	SL	29	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	18	25	SL	31	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	19	30	SL	38	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	20	30	SL	37	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	21	32	SL	40	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	22	26	SL	33	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	23	35	SL	44	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	24	30	SL	38	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	25	27	SL	34	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	26	29	SL	35	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	27	30	SL	37	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	28	30	SL	37	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	29	30	SL	37	TL
8	12/7/2016	Bottom	Fish	Sheepshead minnow	30	32	SL	39	TL
8	12/7/2016	Surface	Fish	Sailfin molly	1	25	SL	32	TL
8	12/7/2016	Surface	Fish	Sailfin molly	2	24	SL	31	TL
8	12/7/2016	Surface	Fish	Sailfin molly	3	22	SL	27	TL
8	12/7/2016	Surface	Fish	Sailfin molly	4	23	SL	29	TL
8	12/7/2016	Surface	Fish	Sailfin molly	5	24	SL	31	TL
8	12/7/2016	Surface	Fish	Sailfin molly	6	25	SL	32	TL
8	12/7/2016	Surface	Fish	Sailfin molly	7	18	SL	21	TL
8	12/7/2016	Surface	Fish	Sailfin molly	8	20	SL	24	TL
8	12/7/2016	Surface	Fish	Sailfin molly	9	23	SL	29	TL
8	12/7/2016	Surface	Fish	Sailfin molly	10	19	SL	25	TL
8	12/7/2016	Surface	Fish	Sailfin molly	11	21	SL	26	TL
8	12/7/2016	Surface	Fish	Sailfin molly	12	21	SL	26	TL
8	12/7/2016	Surface	Fish	Sailfin molly	13	29	SL	36	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 51 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
8	12/7/2016	Surface	Fish	Sailfin molly	14	20	SL	26	TL
8	12/7/2016	Surface	Fish	Sailfin molly	15	16	SL	20	TL
8	12/7/2016	Surface	Fish	Sailfin molly	16	25	SL	31	TL
8	12/7/2016	Surface	Fish	Sailfin molly	17	16	SL	21	TL
8	12/7/2016	Surface	Fish	Sailfin molly	18	21	SL	25	TL
8	12/7/2016	Surface	Fish	Sailfin molly	19	19	SL	24	TL
8	12/7/2016	Surface	Fish	Sailfin molly	20	27	SL	34	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	1	29	SL	35	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	2	25	SL	31	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	3	29	SL	34	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	4	20	SL	25	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	5	28	SL	34	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	6	25	SL	31	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	7	15	SL	19	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	8	29	SL	35	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	9	15	SL	21	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	10	29	SL	35	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	11	20	SL	25	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	12	17	SL	21	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	13	26	SL	32	TL
8	12/7/2016	Bottom	Fish	Sailfin molly	14	20	SL	24	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	1	24	SL	29	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	2	32	SL	39	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	3	32	SL	45	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	4	22	SL	26	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	5	25	SL	31	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	6	25	SL	32	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	7	34	SL	40	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	8	31	SL	39	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	9	31	SL	39	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	10	33	SL	41	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	11	26	SL	32	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	12	24	SL	30	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	13	25	SL	36	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	14	32	SL	40	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	15	29	SL	36	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 52 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
9	12/7/2016	Surface	Fish	Sheepshead minnow	16	28	SL	33	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	17	25	SL	31	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	18	28	SL	35	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	19	28	SL	34	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	20	26	SL	32	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	21	23	SL	29	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	22	30	SL	37	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	23	24	SL	30	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	24	20	SL	24	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	25	28	SL	33	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	26	30	SL	37	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	27	30	SL	37	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	28	26	SL	33	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	29	25	SL	31	TL
9	12/7/2016	Surface	Fish	Sheepshead minnow	30	21	SL	26	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	1	33	SL	41	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	2	28	SL	35	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	3	35	SL	43	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	4	37	SL	45	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	5	33	SL	41	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	6	32	SL	40	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	7	35	SL	43	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	8	31	SL	39	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	9	23	SL	29	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	10	29	SL	36	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	11	25	SL	31	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	12	26	SL	32	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	13	20	SL	25	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	14	35	SL	43	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	15	35	SL	43	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	16	27	SL	34	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	17	36	SL	43	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	18	28	SL	35	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	19	27	SL	34	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	20	32	SL	40	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	21	34	SL	42	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 53 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
9	12/7/2016	Bottom	Fish	Sheepshead minnow	22	26	SL	32	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	23	32	SL	40	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	24	29	SL	36	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	25	27	SL	35	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	26	32	SL	40	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	27	29	SL	37	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	28	30	SL	38	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	29	24	SL	30	TL
9	12/7/2016	Bottom	Fish	Sheepshead minnow	30	24	SL	30	TL
9	12/7/2016	Surface	Fish	Sailfin molly	1	41	SL	49	TL
9	12/7/2016	Surface	Fish	Sailfin molly	2	36	SL	41	TL
9	12/7/2016	Surface	Fish	Sailfin molly	3	26	SL	30	TL
9	12/7/2016	Surface	Fish	Sailfin molly	4	18	SL	22	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	1	31	SL	38	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	2	17	SL	21	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	3	26	SL	30	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	4	19	SL	23	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	5	21	SL	25	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	6	16	SL	20	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	7	20	SL	24	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	8	20	SL	24	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	9	18	SL	22	TL
9	12/7/2016	Bottom	Fish	Sailfin molly	10	20	SL	24	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	1	29	SL	36	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	2	27	SL	33	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	3	27	SL	34	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	4	28	SL	34	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	5	26	SL	32	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	6	19	SL	25	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	7	23	SL	32	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	8	20	SL	24	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	9	24	SL	31	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	10	26	SL	32	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	11	26	SL	31	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	12	23	SL	28	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	13	30	SL	38	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 54 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
10	12/7/2016	Surface	Fish	Sheepshead minnow	14	26	SL	33	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	15	30	SL	37	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	16	26	SL	33	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	17	24	SL	29	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	18	25	SL	32	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	19	25	SL	31	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	20	33	SL	41	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	21	38	SL	48	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	22	20	SL	24	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	23	23	SL	30	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	24	20	SL	24	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	25	32	SL	38	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	26	24	SL	29	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	27	22	SL	27	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	28	25	SL	32	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	29	23	SL	28	TL
10	12/7/2016	Surface	Fish	Sheepshead minnow	30	22	SL	27	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	1	24	SL	31	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	2	20	SL	24	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	3	26	SL	33	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	4	22	SL	27	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	5	26	SL	32	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	6	23	SL	29	TL
10	12/7/2016	Bottom	Fish	Sheepshead minnow	7	26	SL	33	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	1	22	SL	28	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	2	29	SL	37	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	3	25	SL	31	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	4	30	SL	35	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	5	20	SL	25	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	6	18	SL	22	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	7	21	SL	25	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	8	20	SL	24	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	9	30	SL	36	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	10	29	SL	34	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	11	29	SL	35	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	12	21	SL	26	TL

Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
FPL Response to NRC RAI No. A-4
L-2018-136 Attachment 5 Enclosure 5 Page 55 of 55

CCS Biological Characterization Study

Station	Date Retrieved	Fish Trap Location	Taxon Type	Taxa	Specimen Number	Length (mm)	Length Type	Length (mm)	Length Type
10	12/7/2016	Surface	Fish	Eastern mosquitofish	13	24	SL	30	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	14	22	SL	27	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	15	30	SL	36	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	16	23	SL	28	TL
10	12/7/2016	Surface	Fish	Eastern mosquitofish	17	23	SL	28	TL
10	12/7/2016	Surface	Fish	Sailfin molly	1	38	SL	45	TL

Key:

mm = millimeters, SL = Standard Length, TL = Total Length, CL = Carapace Length, CW = Carapace Width