

## **NRR-PMDAPEm Resource**

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**From:** Steve Weege <steveweege@gmail.com>  
**Sent:** Saturday, August 05, 2017 9:37 AM  
**To:** Meghan Koperski  
**Cc:** Ed Hollowell; Jodie Gless; John Jones; Ken Frehafer; Marine Turtle Permit; Michael Bresette; EndangeredSpecies Resource; SCO@dep.state.fl.us; Vince Munne; Cody Mott; Jeff Guertin; Ryan Welsh; debbie.spring@noaa.gov; Eaton, Kristin; Jonathan Gorham; Terri.Taylor@fpl.com; William.Nurnberger@fpl.com; Audra Livergood - NOAA Federal  
**Subject:** [External\_Sender] July 2017 FPL Marine Turtle Removal Monthly Report  
**Attachments:** July 2017 Marine Turtle Captures.pdf; Monthly Report Notes 2017.pdf; FPL St. Lucie Capture Summary 2017.pdf; Power Plant Causal Turtles.pdf

Mrs. Meghan Koperski

Tequesta Field Laboratory

19100 SE Federal Highway

Tequesta, FL 33469

### **Subject: Marine Turtle Removal Monthly Summary**

#### **July 2017**

Dear Meghan,

Attached, please find the monthly summary of marine turtle removals for July 2017. This month, we captured thirty-one (31) *Caretta caretta* and four (4) *Chelonia mydas* in the intake canal of the St. Lucie power plant on Hutchinson Island. One sea turtle was sent for rehabilitation and there was one non-causal mortality during the month of July. As with all sea turtle strandings at the Saint Lucie Plant (alive or dead), the Florida Fish and Wildlife Conservation Commission (FWC) was consulted and a stranding form was filed with the state through the Sea Turtle Stranding and Salvage Network.

One loggerhead was sent for rehabilitation this month. On July 7<sup>th</sup>, a subadult loggerhead was hand-captured in the intake canal with a 50 cm healing crack in the left side of its carapace. Although the wound was mostly healed, bone was still visible. After consultation with FWC, Inwater Research Group biologists transported the turtle partway to the Gumbo Limbo Nature Center in Boca Raton for rehabilitation. This stranding was classified as non-causal.

On July 21<sup>st</sup>, a severely decomposed subadult loggerhead was removed from the primary 5-inch barrier net. The turtle was severely decomposed and most of the soft tissue was missing. The carcass pulled apart while attempting to retrieve it from the barrier net. Some measurements could not be taken due to the state of decomposition. The cause of death could not be ascertained. The turtle was buried above the dune after

consultation with FWC. This animal was regarded to have been entrained postmortem and was thereby considered non-causal.

The permanent 5-inch barrier net encountered severe loads of comb jellies and filamentous algae during the month of July. Unlike the small gelatinous comb jellies, or ctenophores, filamentous algae can interfere with the operation of the power plant by restricting access to sufficient quantities of clean cooling water. As such, Inwater Research Group biologists performed around-the-clock monitoring of the intake canal and barrier net system during the end of the month when the influx of algae was heaviest. Overall, the barrier net has performed as designed and no turtles have been observed beyond the 5-inch net this month.

The tag numbers and morphometric data for all turtles captured during the month have been included with this report (see attachments/addendums). Also included is a spreadsheet for all captures, mortalities, injuries, and causal events delineated by species and by month for 2017. In addition, this spreadsheet tracks fresh scrapes incurred on captured turtles for the current month, as well as the entire year. An additional Excel spreadsheet tracks all causal injuries and mortalities incurred by sea turtles at the St. Lucie Plant since 2004.

Please feel free to contact me with any questions.

Sincerely,

Steve

Steve Weege

Sr. Environmental Specialist

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<b>Files</b>	<b>Size</b>	<b>Date &amp; Time</b>
MESSAGE	3277	8/5/2017 9:37:01 AM
July 2017 Marine Turtle Captures.pdf		78076
Monthly Report Notes 2017.pdf	59357	
FPL St. Lucie Capture Summary 2017.pdf		80855
Power Plant Causal Turtles.pdf	89956	

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**MARINE TURTLE REMOVALS  
ST. LUCIE PLANT INTAKE CANAL  
JULY 2017**

<b>Date</b>	<b>Species</b>	<b>Note</b>	<b>Tag #'s</b>	<b>SMCL (cm)</b>	<b>SSCL (cm)</b>	<b>CSCL (cm)</b>	<b>CMCW (cm)</b>	<b>SMCW (cm)</b>	<b>SMPL (cm)</b>	<b>Weight (kg)</b>	<b>Method</b>
7/1/2017	<i>Caretta caretta</i>	1	MML370/MML371	86.3	88.4	92.7	87.6	69.5	69.6	97.0	Hand capture
7/7/2017	<i>Caretta caretta</i>	2	JRG170707-01	61.3	62.5	66.1	67.2	53.7		37.7	Hand capture
7/10/2017	<i>Caretta caretta</i>		MML372/MML373	80.4	82.6	87.9	87.6	67.8	65.2	84.0	North net
7/10/2017	<i>Caretta caretta</i>	3	MML374/MML375	84.1	86.0	90.5	87.3	65.5	65.1	86.8	North net
7/14/2017	<i>Caretta caretta</i>		MML376/MML377	56.0	57.3	60.4	58.1	49.0	44.9	31.7	North net
7/14/2017	<i>Caretta caretta</i>		MML378/MML379	65.6	66.3	70.7	68.6	57.9	51.9	48.7	North net
7/15/2017	<i>Caretta caretta</i>		MML380/MML381	73.3	74.8	78.5	71.5	57.2	58.7	59.9	North net
7/18/2017	<i>Caretta caretta</i>		MML382/MML383	77.5	79.9	86.3	76.0	63.3	59.7	71.3	North net
7/19/2017	<i>Caretta caretta</i>		MML384/MML385	81.7	83.6	86.5	83.3	61.3	62.5	79.5	North net
7/20/2017	<i>Caretta caretta</i>	4	MML386/MML387	94.3	94.7	102.3	89.1	72.3	71.3	109.8	North net
7/20/2017	<i>Caretta caretta</i>	5	MML388/MML389	86.9	88.2	93.0	83.0	67.4	68.0	88.5	North net
7/21/2017	<i>Caretta caretta</i>	6	CRM170721-01	74.9	76.9						Barrier net
7/21/2017	<i>Caretta caretta</i>		MML390/MML391	81.3	82.9	86.1	79.2	61.6	64.4	82.7	North net
7/21/2017	<i>Caretta caretta</i>	7	MML392/MML394	96.5	98.1	101.0	91.6	74.2	72.4	128.5	North net
7/23/2017	<i>Caretta caretta</i>	8	MMA575/MMA576	64.7	66.0	70.8	66.0	54.7	50.0	39.3	North net

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCL (cm)	CMCW (cm)	SMCW (cm)	SMPL (cm)	Weight (kg)	Method
7/23/2017	<i>Caretta caretta</i>	9	MML395/MML396	86.4	87.2	91.5	85.4	61.7	67.3	95.1	Hand capture
7/24/2017	<i>Chelonia mydas</i>	10	4A0E263130	51.3	51.5	53.1	48.4	40.4	42.0	17.1	Hand capture
7/24/2017	<i>Chelonia mydas</i>	11	MMA866/MMA867	55.2	55.4	57.9	54.1	44.1	45.3	23.3	Hand capture
7/24/2017	<i>Caretta caretta</i>		MML397/MML398	83.4	84.8	88.5	78.9	62.3	65.0	85.8	Hand capture
7/24/2017	<i>Caretta caretta</i>		MML399/MML400	62.7	64.2	67.4	63.4	54.8	50.1	37.3	Hand capture
7/24/2017	<i>Caretta caretta</i>	12	MML401/MML402	85.2	86.8	93.1	80.7	66.7	65.8	80.8	Hand capture
7/25/2017	<i>Caretta caretta</i>	13	MMA818/MMA819	79.6	80.5	86.2	79.5	62.5	62.1	76.8	Hand capture
7/25/2017	<i>Caretta caretta</i>	14	MML403/MML404	87.3	88.3	94.5	84.6	67.1	66.4	90.4	Hand capture
7/25/2017	<i>Caretta caretta</i>		MML405/MML406	82.4	83.9	88.4	83.6	63.9	63.8	72.6	Hand capture
7/25/2017	<i>Caretta caretta</i>	15	MML407	85.5	87.2	91.6	84.5	68.3	68.1	92.5	Hand capture
7/25/2017	<i>Caretta caretta</i>		MML408/MML409	76.6	77.8	82.5	76.3	58.6	58.9	63.5	Hand capture
7/26/2017	<i>Chelonia mydas</i>	16	4A61073F34	57.1	57.6	60.6	51.2	42.5	45.4	23.9	Hand capture
7/26/2017	<i>Caretta caretta</i>	17	MML410/MML411	97.2	97.2	108.2	91.0	69.7	72.5	123.3	Hand capture
7/26/2017	<i>Caretta caretta</i>		MML412/MML413	81.4	82.2	88.7	81.9	59.0	63.2	75.9	Hand capture
7/26/2017	<i>Caretta caretta</i>	18	MML414/MML415	93.5	94.8	101.0	93.9	74.7	70.0	116.1	Hand capture
7/26/2017	<i>Caretta caretta</i>	19	MML416/MML417	84.1	87.3	93.3	84.4	67.4	65.8	93.5	Hand capture
7/27/2017	<i>Caretta caretta</i>		MML418/MML419	83.0	84.7	88.3	81.5	64.0	64.2	90.4	North net
7/30/2017	<i>Chelonia mydas</i>	20	MML420/MML421	89.6	90.3	94.1	88.9	72.4	73.5	106.2	Hand capture
7/30/2017	<i>Caretta caretta</i>		MML422/MML423	64.0	65.2	68.8	66.5	53.6	48.6	35.1	Hand capture
7/30/2017	<i>Caretta caretta</i>		MML424/MML425	79.1	80.4	83.6	89.2	64.5	61.2	67.8	Hand capture

## NOTES

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1. Adult female. Tail length = 204 mm. Old constriction wound to right axilla region.
2. REHAB (NON-CAUSAL). STSSN #JRG170707-01. Subadult loggerhead hand-captured in the intake canal with large 50 cm healing longitudinal crack in left side of carapace. No necrotic tissue present but bone visible. Ventral measurements were not taken due to the animal's condition. Inwater Research Group biologists transported the turtle partway to Gumbo Limbo Nature Center in Boca Raton for rehab.
3. Adult female. Tail length = 184 mm. Captured in north tangle nest whilst fighting with another adult female loggerhead. Deep moderate fresh scrape in nares. Two healed gashes in right posterior carapace (possible prop scars).
4. Adult female. Tail length = 219 mm.
5. Adult female. Tail length = 179 mm.
6. DEAD (NON-CAUSAL MORTALITY). Stranding# CRM170721-01. Severely decomposed subadult loggerhead removed from the barrier net in the morning. Left front flipper missing, but too decomposed to determine if from injury or decomposition. Carcass pulled apart attempting to retrieve it off barrier net. Not all measurements could be taken.
7. Adult female. Tail length = 289 mm.
8. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 9/9/16, 5/11/17, 6/4/17, 6/19/17, 6/30/17, and 7/23/17.
9. Adult female. Tail length = 205 mm.
10. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 4/28/11, 9/19/13, and 7/24/17. Moderate scrape to top of skull.
11. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 8/5/08, 5/10/11, 6/13/11, 7/25/11, 7/7/12, 2/5/13, 3/20/13, 5/7/14, 1/3/15, 4/16/15, 6/15/15, 5/30/17, and 7/24/17.
12. Adult female. Tail length = 208 mm.
13. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 5/19/17, and 7/25/17. Moderate fresh scrape on head measuring 1cm x 4cm (skull exposed).
14. Adult female. Tail length = 226 mm.
15. Adult female. Tail length = 175 mm. Turtle missing 85% of right front flipper (healed). Mating wounds on neck.
16. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 10/15/08, 3/23/10, 10/29/11, 12/27/11, 12/17/12, 1/22/14, 1/13/15, 5/15/16, 8/9/16, and 7/26/17.
17. Adult female. Tail length = 305 mm. Extensive carapace damage (possible old boat strike injury). Turtle missing a 6 cm x 18 cm section from its anterior carapace and a large crack in the posterior carapace.
18. Adult female. Tail length = 245 mm.
19. Adult female. Tail length = 145 mm.
20. Adult female. Tail length = 214 mm.

*SMCL = Straight Minimum Carapace Length*

*SMCL = Straight Standard Carapace Length*

*CSCL = Curved Standard Carapace Length*

*CMCW = Curved Maximum Carapace Width*

*SMCW = Straight Maximum Carapace Width*

*SMPL = Straight Midline Plastron Length*

	Loggerheads ( <i>Caretta caretta</i> )		Green turtles ( <i>Chelonia mydas</i> )		Hawksbills ( <i>Eretmochelys imbricata</i> )		Leatherbacks ( <i>Dermochelys coriacea</i> )		Kemp's ridley ( <i>Lepidochelys kempii</i> )		Overall Totals	
	Jul-17	Year to Date	Jul-17	Year to Date	Jul-17	Year to Date	Jul-17	Year to Date	Jul-17	Year to Date	Jul-17	Year to Date
Captures	31	152	4	38	0	0	0	0	0	0	35	190
Causal Mortalities	0	0	0	0	0	0	0	0	0	0	0	0
Non-Causal Mortalities	1	1	0	2	0	0	0	0	0	0	1	3
Causal Injuries Sent to Rehab	0	0	0	0	0	0	0	0	0	0	0	0
	1	8	0	0	0	0	0	0	0	0	1	8
Fresh Scrapes		Year to Date		Year to Date		Year to Date		Year to Date		Year to Date		Year to Date
None	2	16	0	6	0	0	0	0	0	0	2	22
Minor	26	127	3	30	0	0	0	0	0	0	29	157
Moderate	3	9	1	2	0	0	0	0	0	0	4	11
Severe	0	0	0	0	0	0	0	0	0	0	0	0
Percent with Mod/Sev Scrapes	9.7%	5.9%	25.0%	5.3%	N/A	N/A	N/A	N/A	N/A	N/A	11.4%	5.8%



St Lucie Power Plant Causal Turtles		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	**2017	Injury / Mortality Totals by Species	
Loggerhead	Total Captures	623	484	419	227	420	260	295	302	232	302	275	274	316	152	4,581	
	Injuries	0	1	*3	0	1	1	0	0	1	1	0	0	0	0	0	8
	Mortalities	1	0	*21	0	0	0	1	0	0	0	0	0	1	0	0	24
Green	Total Captures	286	428	267	101	299	161	444	217	127	197	134	181	159	38	3,039	
	Injuries	0	3	7	0	2	2	1	0	0	0	0	0	0	0	0	15
	Mortalities	1	1	1	1	2	0	3	1	2	2	0	4	0	0	0	18
Leatherback	Total Captures	2	0	1	1	0	1	2	0	2	2	0	2	1	0	14	
	Injuries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mortalities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kemp's Ridley	Total Captures	1	3	3	0	2	0	7	0	0	0	2	7	6	0	31	
	Injuries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mortalities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hawksbill	Total Captures	2	2	2	1	4	2	3	2	1	2	3	1	4	0	29	
	Injuries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Mortalities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Injury & Mortality Yearly Totals		2	5	32	1	5	3	5	1	3	3	0	4	1	0	65	
Total Captures per Year		914	917	692	330	725	424	751	521	362	503	414	465	486	190	7,694	

\* The loggerhead causal injuries and mortalities in 2006 were all hatchlings.

\*\*2017 is a partial year.