

NRR-PMDAPem Resource

From: Steve Weege <steveweege@gmail.com>
Sent: Sunday, September 04, 2016 2:45 PM
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; Kristin.Eaton@fpl.com; Jonathan Gorham; Terri.Taylor@fpl.com
Subject: [External_Sender] August 2016 FPL Marine Turtle Removal Monthly Report
Attachments: August 2016 Marine Turtle Captures.pdf; Monthly Report Notes 2016.pdf; FPL St Lucie Capture Summary 2016.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

August 2016

Dear Meghan,

Attached, please find the monthly summary of marine turtle removals for August 2016. This month, we captured twenty-three (23) *Caretta caretta*, three (3) *Chelonia mydas*, and one (1) *Eretmochelys imbricata* in the intake canal of the St. Lucie power plant on Hutchinson Island. Two sea turtles were sent for rehabilitation during the month of August. Both strandings this month were non-causal. The Florida Fish and Wildlife Conservation Commission (FWC) was consulted for each stranding and the appropriate form was filed with the state through the Sea Turtle Stranding and Salvage Network.

One loggerhead and one green turtle were sent to rehabilitation facilities for non-causal injuries this month. On August 6th, a large subadult loggerhead was hand captured from the boat as it floated down the intake canal immediately after entrainment. The turtle was emaciated with a heavy epibiont load. There were old healed wounds across the carapace and multiple healed notches in both rear flippers. The turtle was picked up by Loggerhead Marinelife Center (LMC) staff and taken back to LMC in Juno Beach for rehabilitation. On August 26th, an emaciated juvenile green turtle was removed from the surface of the permanent 5-inch barrier net in the morning. It was in poor condition and had a heavy epibiont load. Inwater Research Group biologists transported the turtle to LMC in Juno Beach for rehabilitation. Both of these live strandings were considered non-causal.

Throughout the month, the permanent 5-inch barrier net experienced severe loads of filamentous algae and only light amounts of comb jellies. 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 the 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 2016. In addition, this spreadsheet also 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 2003.

Please feel free to contact me with any questions.

Sincerely,

Steve

Steve Weege

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Files	Size	Date & Time
MESSAGE	3167	9/4/2016 2:45:25 PM
August 2016 Marine Turtle Captures.pdf		76805
Monthly Report Notes 2016.pdf	57282	

FPL St Lucie Capture Summary 2016.pdf
Power Plant Causal Turtles.pdf

87672

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**MARINE TURTLE REMOVALS
ST. LUCIE PLANT INTAKE CANAL
AUGUST 2016**

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCL (cm)	CMCW (cm)	SMCW (cm)	SMPL (cm)	Weight (kg)	Method
8/2/2016	<i>Caretta caretta</i>		MMA518/MMA519	78.3	79.1	85.5	79.4	57.9	62.8	70.0	South net
8/4/2016	<i>Caretta caretta</i>	1	MMA520/MMA521	93.0	94.0	105.0	90.9	73.8	69.4	110.3	South net
8/4/2016	<i>Caretta caretta</i>		MMA522/MMA523	81.7	82.4	90.9	87.7	63.0	61.3	82.6	South net
8/4/2016	<i>Caretta caretta</i>		MMA524/MMA525	71.4	72.5	78.3	73.9	60.0	56.3	54.1	North net
8/6/2016	<i>Chelonia mydas</i>	2	LLP304	40.8	41.2	43.4	39.1	32.6	33.6	8.7	South net
8/6/2016	<i>Caretta caretta</i>		MMA526/MMA527	65.5	66.8	70.4	70.4	54.2	51.8	42.2	South net
8/6/2016	<i>Caretta caretta</i>	3	RCW160806-01	83.9	84.4	91.3	83.5	59.3	62.9	68.1	Hand capture
8/7/2016	<i>Caretta caretta</i>		MMA528/MMA529	68.0	69.6	73.8	72.3	58.4	54.5	48.9	South net
8/7/2016	<i>Caretta caretta</i>	4	MMA530/MMA531	91.2	93.0	97.7	91.8	70.5	74.2	116.9	South net
8/7/2016	<i>Caretta caretta</i>		MMA532/MMA533	77.0	78.3	85.0	78.3	60.9	59.1	64.4	North net
8/7/2016	<i>Caretta caretta</i>	5	MMA534/MMA535	88.3	88.3	92.7	87.9	66.0	69.5	92.9	South net
8/9/2016	<i>Chelonia mydas</i>	6	4A61073F34	54.2	54.5	58.0	49.1	40.2	43.0	18.5	Hand capture
8/9/2016	<i>Caretta caretta</i>	7	LLS246/LLS247	76.7	78.4	84.5	80.9	62.6	56.1	66.0	Hand capture
8/9/2016	<i>Caretta caretta</i>	8	MMA536/MMA537	81.4	83.9	88.2	85.0	66.6	59.6	75.7	Hand capture
8/9/2016	<i>Caretta caretta</i>	9	MMA538/MMA539	75.8	76.8	82.4	72.5	60.4	57.3	60.7	Hand capture

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCl (cm)	CMCW (cm)	SMCW (cm)	SMP L (cm)	Weight (kg)	Method
8/9/2016	<i>Caretta caretta</i>		MMA540/MMA541	60.1	61.5	53.5	64.7	53.2	47.6	35.9	Hand capture
8/9/2016	<i>Caretta caretta</i>	10	MMA542/MMA543	96.5	97.7	105.1	96.1	70.5	73.4	132.3	Hand capture
8/15/2016	<i>Caretta caretta</i>		MMA544/MMA545	83.2	84.6	89.6	84.2	56.1	62.3	91.2	North net
8/19/2016	<i>Caretta caretta</i>		MMA546/MMA547	59.4	60.9	66.0	62.1	52.2	48.4	32.3	South net
8/19/2016	<i>Caretta caretta</i>		MMA548/MMA549	75.1	76.3	81.3	78.0	64.0	57.8	56.5	Hand capture
8/19/2016	<i>Caretta caretta</i>	11	MMA550	88.1	89.0	96.7	87.2	66.2	67.0	98.7	South net
8/19/2016	<i>Eretmochelys imbricata</i>	12	RRV991/RRV992	66.0	68.4	83.0	75.8	56.2	55.4	50.2	Hand capture
8/20/2016	<i>Caretta caretta</i>		MMA551/MMA552	62.5	64.2	69.5	67.4	54.3	50.1	36.1	North net
8/24/2016	<i>Caretta caretta</i>		MMA553/MMA554	59.9	61.0	65.8	64.9	50.8	46.7	30.2	Dip net
8/26/2016	<i>Chelonia mydas</i>	13	CRM160826-01	28.0	28.3	30.2	26.2	22.7	23.4	2.0	Barrier net
8/29/2016	<i>Caretta caretta</i>		MMA555/MMA556	73.1	74.6	80.1	76.4	61.8	56.7	61.7	North net
8/30/2016	<i>Caretta caretta</i>		MMA557/MMA558	74.6	75.9	80.4	81.1	65.1	58.0	62.2	North net

NOTES

1. Adult female. Tail length = 270 mm.
2. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 11/22/13, 1/25/14, 12/3/15, 2/28/16 and 8/6/16.
3. REHAB (NON-CAUSAL). Stranding# RCW160806-01. Large subadult loggerhead hand captured from the boat as it floated down the intake canal immediately after entrainment. The turtle was emaciated with a heavy epibiont load. There were old healed wounds across the carapace and multiple healed notches in both rear flippers. The turtle was picked up by Loggerhead Marinelife Center (LMC) staff and taken back to LMC in Juno Beach for rehabilitation.
4. Adult female. Tail length = 205 mm. Skull exposed from moderate fresh scrapes.
5. Adult female. Tail length = 210 mm. Turtle missing small portion of right posterior carapace (healed). Large scar on side of neck.
6. 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 and 8/9/16.
7. Adult male. Tail length = 313 mm. Sex determination based on tail length. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 1/28/07, 8/23/07, 2/15/16 and 8/9/16.
8. Adult male. Tail length = 289 mm. Sex determination based on tail length. Old healed wound/ indentation in anterior carapace.
9. STRANGE TAG, originally tagged by UCF 1/20/03 and 9/15/06. Old 9 cm x 20 cm scar in middle of carapace.
10. Adult female. Tail length = 270 mm.
11. Adult female. Tail length = 199 mm. Turtle missing 15% of left front flipper (healed) and 95% of right front flipper (partially healed). Two healed cracks in middle of posterior carapace measuring 8 cm and 19.5 cm long.
12. STRANGE TAG (PIT & Inconel Tags), female hawksbill originally tagged by Larry Wood offshore on Paul's Reef, Palm Beach County on 6/22/05 (SSCL = 46.7 cm). Extreme kyphosis.
13. REHAB (NON-CAUSAL). Stranding# CRM160826-01. A severely emaciated juvenile green turtle was removed from the surface of the permanent 5-inch barrier net in the morning. It was in poor condition and had a heavy epibiont load. Inwater Research Group biologists transported the turtle to LMC in Juno Beach for rehabilitation.

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	
	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date
Captures	23	256	3	121	1	3	0	1	0	6	27	387
Causal Mortalities	0	0	0	0	0	0	0	0	0	0	0	0
Non-Causal Mortalities	0	0	0	8	0	0	0	0	0	0	0	8
Causal Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Sent to Rehab	1	11	1	6	0	1	0	0	0	2	2	20
Fresh Scrapes	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date	Aug-16	Year to Date
None	2	33	1	22	0	0	0	0	0	0	3	55
Minor	19	200	2	84	1	3	0	0	0	6	22	293
Moderate	2	23	0	15	0	0	0	1	0	0	2	39
Severe	0	0	0	0	0	0	0	0	0	0	0	0
Percent with Mod/Sev Scrapes	8.7%	9.0%	0.0%	12.4%	0.0%	0.0%	N/A	100.0%	N/A	0.0%	7.4%	10.1%

St Lucie Power Plant Causal Turtles		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	**2016	Injury / Mortality Totals by Species	
Loggerhead	Total Captures	538	623	484	419	227	420	260	295	302	232	302	275	274	256	4,907	
	Injuries	0	0	1	*3	0	1	1	0	0	1	1	0	0	0	0	5
	Mortalities	0	1	0	*21	0	0	0	1	0	0	0	0	0	0	0	2
Green	Total Captures	394	286	428	267	101	299	161	444	217	127	197	134	181	121	3,357	
	Injuries	1	0	3	7	0	2	2	1	0	0	0	0	0	0	0	16
	Mortalities	1	1	1	1	1	2	0	3	1	2	2	0	4	0	0	19
Leatherback	Total Captures	4	2	0	1	1	0	1	2	0	2	2	0	2	1	18	
	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	2	1	3	3	0	2	0	7	0	0	0	2	7	6	33	
	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	6	2	2	2	1	4	2	3	2	1	2	3	1	3	34	
	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	2	5	32	1	5	3	5	1	3	3	0	4	0	66	
Total Captures per Year		944	914	917	692	330	725	424	751	521	362	503	414	465	387	8,349	

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

** 2016 is a partial year.