

NRR-PMDAPem Resource

From: Steve Weege <steveweege@gmail.com>
Sent: Monday, July 10, 2017 10:39 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] June 2017 FPL Marine Turtle Removal Monthly Report
Attachments: June 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

June 2017

Dear Meghan,

Attached, please find the monthly summary of marine turtle removals for June 2017. This month, we captured forty-one (41) *Caretta caretta* and thirteen (13) *Chelonia mydas* in the intake canal of the St. Lucie power plant on Hutchinson Island. Only one sea turtle was sent for rehabilitation and there were no mortalities recorded during the month of June. 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 sea turtle was sent for rehabilitation this month for an apparent old boat strike injury. On June 30th, an adult female loggerhead was hand-captured in the intake canal that had significant carapace damage. There was a large 36 cm by 7 cm healing crack in the carapace and the turtle also had impaired mobility in its rear flippers. FWC personnel transported this turtle to the Gumbo Limbo Nature Center in Boca Raton for treatment. This stranding was classified as non-causal.

Throughout the month, the permanent 5-inch barrier net experienced moderate-to-severe loads of algae and only negligible amounts of jellyfish. Inwater Research Group biologists performed around the clock monitoring during the algae intrusion event. On June 9th, Underwater Engineering Services cleaned the primary 5-inch barrier of all accumulated algae and debris. Overall, the barrier net has performed as designed and no turtles have been observed beyond the 5-inch net.

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

Inwater Research Group, Inc.

4160 NE Hyline Dr.

Jensen Beach, FL 34957

sweege@inwater.org

(772) 349-7252

Hearing Identifier: NRR_PMDA
Email Number: 3601

Mail Envelope Properties (CAJrYmh_M-3XaVmFB8PJ1BNCjcbDwgkFSxRjzbfoEYbENEVnGyQ)

Subject: [External_Sender] June 2017 FPL Marine Turtle Removal Monthly Report
Sent Date: 7/10/2017 10:38:32 AM
Received Date: 7/10/2017 10:38:42 AM
From: Steve Weege

Created By: steveweege@gmail.com

Recipients:

"Ed Hollowell" <Ed.Hollowell@fpl.com>
Tracking Status: None
"Jodie Gless" <Jodie_Gless@fpl.com>
Tracking Status: None
"John Jones" <John.Jones@fpl.com>
Tracking Status: None
"Ken Frehafer" <Ken_Frehafer@fpl.com>
Tracking Status: None
"Marine Turtle Permit" <MTP@myfwc.com>
Tracking Status: None
"Michael Bresette" <mbresette@inwater.org>
Tracking Status: None
"EndangeredSpecies Resource" <EndangeredSpecies.Resource@nrc.gov>
Tracking Status: None
"SCO@dep.state.fl.us" <SCO@dep.state.fl.us>
Tracking Status: None
"Vince Munne" <Vince.Munne@fpl.com>
Tracking Status: None
"Cody Mott" <cmott@inwater.org>
Tracking Status: None
"Jeff Guertin" <jguertin@gmail.com>
Tracking Status: None
"Ryan Welsh" <rwelsh@inwater.org>
Tracking Status: None
"debbie.spring@noaa.gov" <debbie.spring@noaa.gov>
Tracking Status: None
"Eaton, Kristin" <Kristin.Eaton@fpl.com>
Tracking Status: None
"Jonathan Gorham" <jgorham@inwater.org>
Tracking Status: None
"Terri.Taylor@fpl.com" <Terri.Taylor@fpl.com>
Tracking Status: None
"William.Nurnberger@fpl.com" <William.Nurnberger@fpl.com>
Tracking Status: None
"Audra Livergood - NOAA Federal" <audra.livergood@noaa.gov>
Tracking Status: None
"Meghan Koperski" <Meghan.Koperski@myfwc.com>
Tracking Status: None

Post Office: mail.gmail.com

Files	Size	Date & Time
MESSAGE	2592	7/10/2017 10:38:42 AM
June 2017 Marine Turtle Captures.pdf		80305
Monthly Report Notes 2017.pdf	60402	
FPL St. Lucie Capture Summary 2017.pdf		74763
Power Plant Causal Turtles.pdf	83694	

Options

Priority:	Standard
Return Notification:	No
Reply Requested:	No
Sensitivity:	Normal
Expiration Date:	
Recipients Received:	

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

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCL (cm)	CMCW (cm)	SMCW (cm)	SMPL (cm)	Weight (kg)	Method
6/1/2017	<i>Chelonia mydas</i>	1	4A591B0149	55.6	55.9	59.4	51.6	43.5	45.5	23.0	Hand capture
6/1/2017	<i>Chelonia mydas</i>	2	4A63477224	49.9	50.1	52.6	47.6	40.6	42.3	15.9	Hand capture
6/1/2017	<i>Chelonia mydas</i>	3	LLS303	52.0	52.5	55.4	48.6	40.8	43.5	19.4	Hand capture
6/1/2017	<i>Caretta caretta</i>		MMA882/MMA883	78.9	80.5	86.6	75.4	59.6	62.3	70.6	Hand capture
6/1/2017	<i>Caretta caretta</i>		MMA885/MMA886	76.7	77.6	82.8	75.5	60.2	60.7	71.7	Hand capture
6/1/2017	<i>Chelonia mydas</i>	4	YYR307/MMA884	53.9	54.0	56.9	54.2	45.0	44.7	22.6	Hand capture
6/3/2017	<i>Caretta caretta</i>		MMA887/MMA888	60.0	61.1	64.4	60.5	50.8	48.3	33.5	Hand capture
6/3/2017	<i>Caretta caretta</i>	5	MMA889/MMA890	92.5	94.4	97.9	87.2	72.1	73.5	117.3	North net
6/4/2017	<i>Caretta caretta</i>	6	MMA575/MMA576	64.4	65.3	70.1	66.5	53.7	49.8	38.3	North net
6/5/2017	<i>Caretta caretta</i>	7	MMA891/MMA892	91.1	92.4	97.4	95.2	77.4	73.4	131.4	North net
6/5/2017	<i>Caretta caretta</i>	8	MMA893/MMA894	97.7	98.0	102.7	90.6	72.8	75.5	127.1	North net
6/5/2017	<i>Caretta caretta</i>		MMA895/MMA896	57.5	58.5	63.2	61.1	48.8	45.1	28.3	North net
6/6/2017	<i>Caretta caretta</i>	9	MMA897/MMA898	82.6	84.5	88.8	80.1	64.8	63.3	80.8	North net
6/7/2017	<i>Caretta caretta</i>	10	MMA899/MMA900	89.2	90.4	95.2	89.8	71.9	71.8	104.3	North net
6/8/2017	<i>Chelonia mydas</i>	11	4A6B646A72	52.9	53.3	58.2	52.6	41.7	45.1	20.4	South net

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCL (cm)	CMCW (cm)	SMCW (cm)	SMPL (cm)	Weight (kg)	Method
6/8/2017	<i>Caretta caretta</i>	12	MML301/MML302	88.4	89.2	93.9	86.2	66.4	68.8	99.4	North net
6/8/2017	<i>Caretta caretta</i>		MML303/MML304	83.3	84.8	90.5	89.7	66.9	67.6	106.7	North net
6/12/2017	<i>Caretta caretta</i>	13	MML305/MML306	83.6	85.6	89.9	81.2	65.4	66.9	85.4	North net
6/12/2017	<i>Caretta caretta</i>	14	MML307/MML308	85.2	87.4	91.8	81.7	64.0	65.7	90.6	North net
6/12/2017	<i>Caretta caretta</i>	15	MML309/MML310	84.3	85.9	92.3	88.3	72.0	66.3	102.9	North net
6/13/2017	<i>Chelonia mydas</i>	16	MML311/MML312	92.6	93.2	98.4	89.9	74.1	75.0	112.8	North net
6/13/2017	<i>Chelonia mydas</i>	17	MML313/MML314	97.1	97.6	101.8	88.9	72.5	77.0	118.7	North net
6/13/2017	<i>Caretta caretta</i>	18	MML315/MML316	91.4	92.0	98.7	88.5	69.4	73.0	107.1	North net
6/13/2017	<i>Caretta caretta</i>	19	MML317/MML318	89.4	89.8	95.6	88.5	67.2	68.7	96.3	South net
6/13/2017	<i>Caretta caretta</i>		MML319/MML320	64.5	66.0	68.5	69.5	57.3	52.7	44.0	North net
6/14/2017	<i>Chelonia mydas</i>	20	MML321/MML322	98.5	98.9	103.5	90.4	70.4	79.8	119.0	North net
6/14/2017	<i>Caretta caretta</i>	21	MML323/MML325	86.5	89.1	93.5	85.5	69.5	66.3	87.3	North net
6/14/2017	<i>Caretta caretta</i>		MML326/MML327	82.9	83.7	87.1	82.4	63.7	61.7	83.8	North net
6/15/2017	<i>Chelonia mydas</i>	22	MML328/MML329	96.8	96.9	101.8	88.6	73.2	75.1	113.9	North net
6/15/2017	<i>Caretta caretta</i>	23	MML330/MML331	93.1	94.3	99.4	96.1	73.9	75.5	133.6	North net
6/16/2017	<i>Caretta caretta</i>	24	MML332/MML333	85.1	86.1	92.8	83.6	63.8	67.0	87.9	North net
6/16/2017	<i>Caretta caretta</i>	25	MML334/MML335	83.0	85.1	89.7	81.9	69.1	65.7	98.2	South net
6/16/2017	<i>Caretta caretta</i>	26	MML336/MML337	83.8	85.2	90.5	82.9	63.3	64.4	84.1	South net
6/17/2017	<i>Chelonia mydas</i>	27	4A5A473052	48.0	48.4	53.0	44.8	37.8	41.3	15.9	Hand capture
6/17/2017	<i>Chelonia mydas</i>	28	MML338/MML339	92.0	92.7	97.3	93.5	72.5	74.0	109.2	Hand capture

Date	Species	Note	Tag #'s	SMCL (cm)	SSCL (cm)	CSCL (cm)	CMCW (cm)	SMCW (cm)	SMPL (cm)	Weight (kg)	Method
6/17/2017	<i>Caretta caretta</i>	29	MML342/MML343	96.1	96.5	103.5	95.6	74.3	75.8	137.3	Hand capture
6/17/2017	<i>Chelonia mydas</i>	30	TTF413	93.3	93.7	96.5	87.4	72.6	71.7	103.1	Hand capture
6/18/2017	<i>Caretta caretta</i>	31	MML344/MML345	90.8	92.8	97.9	89.5	86.1	68.9	116.0	North net
6/19/2017	<i>Caretta caretta</i>	32	MMA575/MMA576	64.0	65.2	71.2	66.8	53.6	49.5	39.0	Hand capture
6/19/2017	<i>Caretta caretta</i>		MML346/MML347	72.7	74.9	79.9	79.0	62.2	57.1	61.8	Hand capture
6/19/2017	<i>Caretta caretta</i>		MML348/MML349	61.1	62.2	66.8	67.5	54.1	49.8	37.6	Hand capture
6/19/2017	<i>Caretta caretta</i>		MML350/MML351	64.5	65.8	72.0	67.6	53.4	50.1	38.8	Hand capture
6/19/2017	<i>Caretta caretta</i>		MML352/MML353	59.8	60.6	64.4	57.8	49.9	47.4	29.4	Hand capture
6/22/2017	<i>Caretta caretta</i>	33	LLP448/LLP449	75.2	77.0	84.1	74.8	59.7	55.8	60.1	Hand capture
6/22/2017	<i>Caretta caretta</i>		MML354/MML355	62.8	63.6	67.2	63.2	52.7	51.5	37.0	North net
6/23/2017	<i>Caretta caretta</i>		MML356/MML357	57.3	58.5	62.4	59.2	49.4	45.7	28.5	North net
6/25/2017	<i>Caretta caretta</i>	34	MML358/MML359	84.7	85.1	91.6	84.4	67.3	65.5	86.2	Hand capture
6/25/2017	<i>Caretta caretta</i>	35	MML360/MML361	90.6	93.8	98.0	89.1	71.3	70.5	116.2	Hand capture
6/27/2017	<i>Chelonia mydas</i>	36	MML362/MML363	56.0	56.4	58.8	52.1	44.1	46.8	21.6	Dip net
6/30/2017	<i>Caretta caretta</i>	37	CRM170630-01	87.3	88.8	92.3	88.5	72.9		104.5	Hand capture
6/30/2017	<i>Caretta caretta</i>	38	MMA575/MMA576	64.1	65.2	69.5	65.5	53.9	50.0	39.8	Hand capture
6/30/2017	<i>Caretta caretta</i>	39	MML364/MML365	88.6	89.0	92.5	82.5	67.8	69.0	93.6	North net
6/30/2017	<i>Caretta caretta</i>		MML366/MML367	79.0	81.7	85.4	75.3	61.8	59.4	79.5	Hand capture
6/30/2017	<i>Caretta caretta</i>		MML368/MML369	82.9	84.1	88.9	77.2	60.7	62.0	73.8	Hand capture

NOTES

1. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 10/29/08, 1/17/14, 5/7/14, 1/27/15, 3/1/15, 12/23/15, 1/30/16, 6/2/16, 1/5/17, and 6/1/17. Old hooking wound in left shoulder (healing).
2. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 3/19/08, 6/28/13, 5/25/14, 2/12/16, and 6/1/17. Scar tissue at tag sites. No new Inconel tags inserted.
3. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 2/9/10, 4/3/13, 6/5/13, 12/2/13, 9/28/14, 11/4/15, 2/25/16, 6/13/16, 6/27/16, and 6/1/17.
4. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 9/6/08, 12/6/11, 4/12/13, 7/16/13, 1/24/16, and 6/1/17.
5. Adult female. Tail length = 245 mm. Turtle missing 66% from ends of both front flippers (left front flipper is a clean slice, right front flipper appears to be from a bite wound/injury). Propeller scars on dorsal side of left rear flipper.
6. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 9/9/16, 5/11/17, and 6/4/17.
7. Adult female. Tail length = 235 mm.
8. Adult female. Tail length = 273 mm.
9. STRANGE TAG (PIT Tag). Information request sent to Peter Eliazar at the Archie Carr Center for Sea Turtle Research, University of Florida. New Inconel tags applied.
10. Adult female. Tail length = 219 mm. Large indentation in left posterior carapace (possibly from an injury sustained when the animal was much younger).
11. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 2/6/06, 4/3/09, 7/28/09, 12/3/09, 2/11/10, 9/3/10, 5/18/11, 1/9/12, 10/31/12, 4/11/13, 7/29/13, 1/3/14, 7/7/14, 3/11/15, 3/1/16, 4/29/16, and 6/8/17. PAPILOMAS (Balazs Tumor Score = 1 {light}, Total Tumor Score = 5). Papillomas on flipper tag sites (extra photos taken).
12. Adult female. Tail length = 239 mm. Possible old healed hooking wound in right shoulder.
13. Adult female. Tail length = 225 mm.
14. Adult female. Tail length = 224 mm.
15. Adult female. Tail length = 210 mm. Cut behind left eye and multiple deep fresh scrapes on top of head; skull exposed from moderate fresh scrapes.
16. Adult female. Tail length = 260 mm. Turtle was mating with an adult male green turtle when it was caught in the net. Both turtles were caught & removed together.
17. Adult male. Tail length = 375 mm.
18. Adult female. Tail length = 195 mm. Deep moderate fresh scrapes to top of head and anterior carapace.
19. Adult female. Tail length = 169 mm. Turtle missing 60% of right front flipper (healed); PIT tag placed in left front flipper due to flipper damage.
20. Adult male. Tail length = 410 mm.
21. Adult female. Tail length = 160 mm. Bite mark on dorsal surface of neck (mating wound).
22. Adult male. Tail length = 395 mm. Bite marks on proximal trailing edges of both front flippers (presumably from other turtles during the mating season).
23. Adult female. Tail length = 260 mm. Small mating wound on dorsal surface of neck.
24. Adult female. Tail length = 160 mm.
25. Adult female. Tail length = 201 mm. Turtle was caught in the tangle nets whilst fighting with another adult female loggerhead.
26. Adult female. Tail length = 204 mm. Turtle was caught in the tangle nets whilst fighting with another adult female loggerhead.
27. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 12/4/08, 8/18/09, 9/15/09, 6/20/12, 10/3/12, 12/6/12, 3/22/13, 7/11/13, 9/3/14, 12/29/14, 1/14/16, 4/26/16, and 6/17/17. PAPILOMAS (Balazs Tumor Score = 1 {light}, Total Tumor Score = 3). Papilloma tumor at tagging site in left front flipper.
28. Adult female. Tail length = 267 mm. Mating wounds in dorsal surface of neck.

29. Adult female. Tail length = 260 mm. Healing lacerations from shark bites in both front flippers.
30. Adult male. Tail length = 350 mm. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 6/26/05 and 6/17/17. Old pit tag not detected (inserted new pit tag).
31. Adult female. Tail length = 267 mm.
32. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 9/9/16, 5/11/17, 6/4/17, and 6/19/17.
33. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 8/23/08, 9/17/08, 1/10/09, 3/17/09, 12/18/09, 9/25/10, 11/11/10, 5/18/13, 8/31/13, 7/15/14, 1/30/16, and 6/22/17. COLLABORATION - Photographed for 3D imaging project. Duncan J. Irschick, Department of Biology Professor at the University of Mass. at Amherst and Director of DigitalLife Project (www.digitallife3d.org).
34. Adult female. Tail length = 186 mm.
35. Adult female. Tail length = 215 mm.
36. RECAPTURE. Turtle was removed from the intake canal, tagged and released at Hutchinson Island on 4/10/12, 12/18/12, 3/29/13, 12/13/13, 9/7/14, 7/25/15, 2/23/16, and 6/27/17.
37. REHAB (NON-CAUSAL). Stranding# CRM170630-01. Large 36 cm by 7 cm partially healed crack in carapace. Ventral measurements not taken due to injuries. Movement in rear flippers impaired to an unknown degree. FWC personnel transported the turtle to the Gumbo Limbo Nature Center, Boca Raton. Adult female (tail length not taken).
38. 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, and 6/30/17.
39. Adult female. Tail length = 222 mm.

SMCL = Straight Minimum Carapace Length

SMCL = Straight Standard Carapace Length

CSCCL = 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	
	Jun-17	Year to Date	Jun-17	Year to Date	Jun-17	Year to Date	Jun-17	Year to Date	Jun-17	Year to Date	Jun-17	Year to Date
Captures	41	121	13	34	0	0	0	0	0	0	54	155
Causal Mortalities	0	0	0	0	0	0	0	0	0	0	0	0
Non-Causal Mortalities	0	0	0	2	0	0	0	0	0	0	0	2
Causal Injuries	0	0	0	0	0	0	0	0	0	0	0	0
Sent to Rehab	1	7	0	0	0	0	0	0	0	0	1	7
Fresh Scrapes												
None	3	14	0	6	0	0	0	0	0	0	3	20
Minor	34	101	13	27	0	0	0	0	0	0	47	128
Moderate	4	6	0	1	0	0	0	0	0	0	4	7
Severe	0	0	0	0	0	0	0	0	0	0	0	0
Percent with Mod/Sev Scrapes	9.8%	5.0%	N/A	2.9%	N/A	N/A	N/A	N/A	N/A	N/A	7.4%	4.5%

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	121	4,550	
	Injuries	0	1	*3	0	1	1	0	0	1	1	0	0	0	0	0	5
	Mortalities	1	0	*21	0	0	0	1	0	0	0	0	0	1	0	0	3
Green	Total Captures	286	428	267	101	299	161	444	217	127	197	134	181	159	34	3,035	
	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	155	7,659	

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

**2017 is a partial year.