

Marine Turtle Surveys and Captures in Guam September 2019

Mission Report MR-19-12

August 31 – September 10, 2019



Alexander R. Gaos, Ph.D.
Chief Scientist

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Marine Turtle Biology and Assessment Program
Protected Species Division
NOAA Pacific Islands Fisheries Science Center

Mission Number: MR-19-12

Chief Scientist: Dr. Alexander Gaos

Operator-in-Charge: Guam: Jamie Bass (DAWR)
Todd Genereux (Gen-X Sports Charter)
Saipan: Sydney Takahashi (FishGuyz)

Small Boat ID/Type: Guam: Justice 21-ft Boston Whaler (DAWR)
SeaArk 24-ft aluminum hull boat (Gen-X Sports)
Saipan: Mighty Max 27-ft fiberglass boat (FishGuyz
Scuba and Charter)

Mission Title: Marine turtle surveys and captures in the nearshore waters of Guam and CNMI

Mission Area: Nearshore waters and reefs of Guam, Saipan, and Tinian.

Mission Dates: August 31 – September 10, 2019

1. Schedule

31 August Flew to Guam (lost 1 day from crossing the International Dateline): Alexander Gaos, Camryn Allen, Summer Martin.

02 Sept Flew to Saipan; field logistics preparations for subsequent days.

03–05 Sept In-water survey/capture occurred along the east and northern coasts of Saipan; 0700 departed boat ramp. 1500 returned to boat ramp; Captain: Sydney Takahashi (Fish Guys Scuba and Charter).

06 Sept Flew to Guam; Met with individuals from Guam’s Department of Agriculture, Division of Aquatic Wildlife Resources (DAWR) and Jessy’s Tag Services to coordinate field logistics for subsequent days.

07–09 Sept In-water survey/capture occurred along the east and northern coasts of Guam; 0700 departed boat ramp. 1700 returned to boat ramp; Captain: Todd Genereux and William Naden (Gen-X Sports).

10 Sept Field logistics breakdown/packing; data/samples management; organization of tissue and blood samples for transport back to Honolulu (PIFSC).

11 Sept Departed Guam on 11 Sept ChST. Arrived to HNL on 10 Sept HST

Cover Photo: Team members from NOAA, CNMI DLNR, FishGuyz Scuba and Charter, and Jessy's Tag Services during boat-based operations in the CNMI.

2. Mission Results

The Marine Turtle Biology and Assessment Program (MTBAP), together with local partners, conducted marine turtle surveys and in-water captures of green turtles (*Chelonia mydas*) and hawksbill turtles (*Eretmochelys imbricata*) in the nearshore waters of Guam and Commonwealth of Northern Mariana Islands (CNMI). Captured turtles were weighed, measured, biopsied, and tagged (i.e., flipper, PIT, satellite tracking) in an effort to expand our knowledge of the population demographics, population structure, and fine-scale habitat use of the turtles. Blood samples were also collected for two studies: 1) hormone analysis to determine population sex ratios, and 2) metabolite analysis to determine nutritional/feeding state. The aforementioned activities were permitted under National Marine Fisheries Service ESA10a1A Take permit #21260, NMFS IACUC SWPI2013-05R, and Guam Department of Agriculture License #SC-MPA-19-004. Local partners in Guam and Saipan contributed to the hands-on field efforts. They continue to be engaged in this collaborative research effort. This mission included 3 days of in-water surveys and turtle captures in Saipan and 3 days in Guam. Weather conditions were quite good for all 6 days, particularly wind speeds, which remained < 12 knots and facilitated access to parts of both islands that are typically difficult to access.

SAIPAN

Day 1 (3 September)

For each day of monitoring on Saipan we departed from Fishing Base, along the island's western coast. After an approximate 1-hour transport time, in-water turtle survey efforts initiated along the island's east coast, north of Forbidden Island, and proceeded south to Lao Lao Bay. All turtle processing operations were boat-based (i.e., no land-based processing). During day 1 we were accompanied by representatives of CNMI's Department of Lands and Natural Resources (DLNR), including Lisa Szutukowski, Manager of the Endangered Species Program, and Carey Demapan, DLNR's Public Outreach Specialist (Figure 1A). Observations included 8 green turtles, 1 hawksbill turtle and 1 undetermined turtle. Four of the green turtles were captured and outfitted with Wildlife Computers (WC) satellite tags.



Figure 1. A: Team members from NOAA, CNMI DLNR, FishGuyz Scuba and Charter, and Jessie's Tag Services during boat-based operations in the CNMI. B: The largest hawksbill turtle captured by the program to date, measuring 72.6 cm straight carapace length.

Day 2 (4 September)

Surveys on day 2 initiated at the site (Lao Lao) where surveys were discontinued the previous day, and continued south until reaching Dandan. We were accompanied by Kim Trust, Deputy Chief for the National Wildlife Refuge System (Pacific Region) with the United States Fish and Wildlife Service (USFWS) and Tammy Summers (USFWS Guam National Wildlife Refuge Manager and Marianas Trench Marine National Monument Superintendent). Survey observations included 8 green turtles, 2 hawksbill turtles and 2 undetermined turtles. One of the green turtles and one hawksbill were captured, with the latter measuring 72.6 cm straight carapace length (Figure 1B), making it the largest hawksbill captured by the program since monitoring began in 2013. Both the hawksbill turtle and green turtle were equipped with WC satellite tags and released at their original capture site.

Day 3 (5 September)

The DLNR's Lisa Szutukowski and Carey Demapan once again joined the boat-based operation team on day 3, which represented the final day of monitoring on Saipan. Surveys were initiated along the eastern coast of Saipan, north of Kingfisher, and proceeded south to Old Man by the Sea. However, after incurring relatively few turtles, monitoring shifted to the western side of the island, near Fishing Base. Observations included 27 green turtles, 1 hawksbill turtle and 1 undetermined turtle. Five of the green turtles were captured and 2 were outfitted with WC satellite tags.

GUAM

Day 4 (7 September)

Day 4 monitoring activities represented the start of field research on Guam. We were accompanied by Leilani Sablan, a biologist with the University of Guam Sea Grant. After departing Hagatna Harbor and transiting approximately 1.5 hours, surveys initiated at the island's northernmost point. After seeing few turtles in front of Anderson Airforce Base (AAFB), we progressed east around Pati Point, before moving back to the western side of Pati Point. We observed 6 green turtles and 1 undetermined turtle during the day, with one of the green turtles being captured and equipped with a satellite tag.

Day 5 (8 September)

Day 5 monitoring activities included participation by Cristian Cayanan, a Biologist with Guam's Division of Aquatic and Wildlife Resources (DAWR), as well as Art Charfauros, a contractor (Freestone Environmental) for NOAA's Pacific Islands Fisheries Science Center (PIFSC) based out of Guam. Monitoring was focused on the area between Pati Point and Tarague. We observed 7 green turtles, 1 hawksbill turtle and 1 undetermined turtle. We captured 3 of the green turtles and equipped 2 of them with WC satellite tags. One of the green turtles had a hook in its mouth and several feet of fishing line wrapped around its neck (Figure 2A). Overall the turtle appeared to be in poor health (brittle jaw and emaciated), so the decision was made to not deploy a satellite tag on the animal. We removed the fishing line from the turtle's neck, but were unable to remove the hook, thus we cut the line as close to the hook as possible and released the turtle (Figure 2B).

Day 6 (9 September)

On Day 6 we were accompanied by Tammy Summers, USFWS Guam National Wildlife Refuge Manager and Marianas Trench Marine National Monument Superintendent, and Johnedel H. Ducusin, a biologist with DAWR. Monitoring efforts began in front of AAFB and proceeded west to Ritidian. We observed 10 green turtles, 1 hawksbill turtle and 1 undetermined turtle. Five of the green turtles and the one hawksbill turtle were captured and all were equipped with WC satellite tags.

During all 6 in-water survey days, the team observed a total of 79 turtles, 21 of which were captured, and 17 of which were outfitted with satellite transmitters (Table 1).

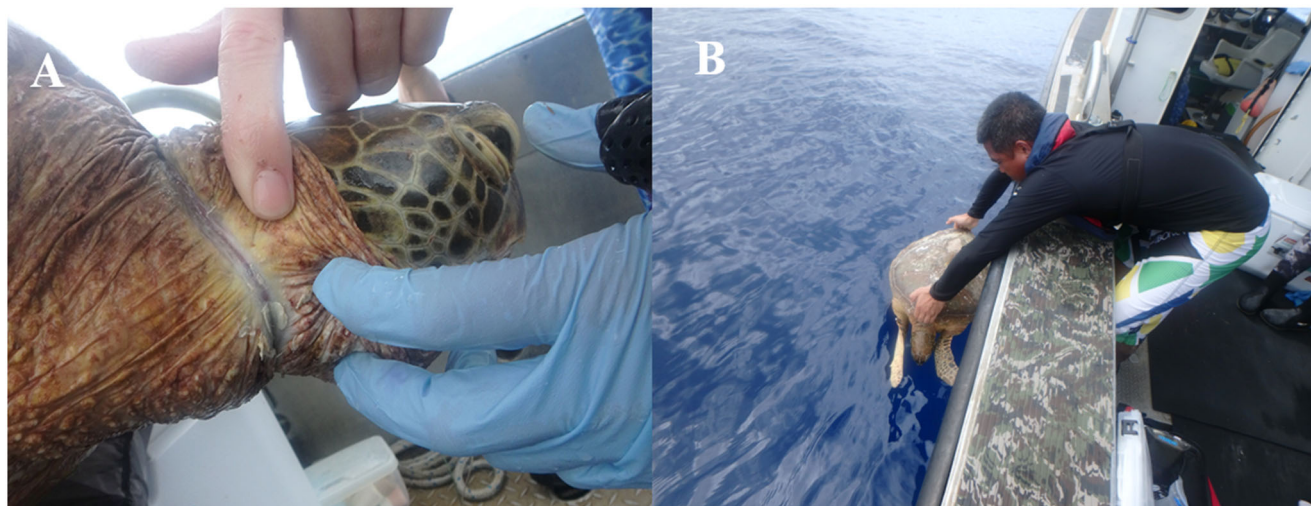


Figure 2. A: Scarring on the neck of a green turtle that was encountered with a hook in its mouth and several feet of fishing line wrapped around its neck. B: Art Charfauros (Freestone Environmental/PIFSC-Guam) releasing the turtle after the fishing line was removed.

Table 1. Summary of in-water survey effort, observations, captures, and satellite tags deployed. Cm = green turtle (*Chelonia mydas*). Ei = hawksbill turtle (*Eretmochelys imbricata*). Unk. = unknown turtle species (either Cm or Ei). We observed 23 cetaceans (Cet.) during the final two days of surveys, all of which appeared to be spinner dolphins.

Date	Island	Location	Observations				Captures		Sat. Tags	
			Cm	Ei	Unk	Cet.	Cm	Ei	Cm	Ei
9/3	Saipan	Forbidden Island/Lao Lao	8	1	1	0	4	0	4	0
9/4	Saipan	Lao Lao/Dandan	8	2	2	0	1	1	1	1
9/5	Saipan	Kingfisher/Boat Basin	27	1	1	0	5	0	2	0
9/7	Guam	AAFB/Pati Point	6	0	1	0	1	0	1	0
9/8	Guam	Pati Point/Tarague	7	1	1	3	3	0	2	0
9/9	Guam	AAFB/Ritidian	10	1	1	20	5	1	5	1
Totals			66	6	7	23	19	2	15	2
TURTLES			79 observations				21 captures		17 sat. tags	

3. Field Party

Name	Role	Organization
Alexander Gaos	Chief Scientist	NOAA PIFSC
Camryn Allen	Researcher	NOAA PIFSC
Summer Martin	Researcher	NOAA PIFSC

Some of the local participants during the surveys included Lisa Szutukowski (DLNR), Carey Demapan (DLNR), Cristian Cayanan (DAWR), Johnedel H. Ducusin (DAWR), Kim Trust (USFWS), Tammy Summers (USFWS), Jessy Hapdei (Jessy's Tag Services), Leilani Sablan (University of Guam Sea Grant), Art Charfauros (Freestone Environmental/PIFSC), as well as several other representatives from local and federal agencies.

4. Approvals



Submitted by: _____

Alexander R. Gaos, Ph.D.
Chief Scientist
Pacific Islands Fisheries Science Center



Approved by: _____

Michael P. Seki, Ph.D.
Science Director
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