

Marine Turtle Surveys and Captures in the Mariana Islands

Mission Report MR-18-01

October 14 – 28, 2017



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Chief Scientist

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

Mission Number: MR-18-01

Chief Scientist: Summer Martin (PIFSC MTBAP)

Operator-in-Charge: Guam: M. Todd Genereux (Gen-X Sports Charter);
Saipan: Sydney Takahashi (FishGuyz Scuba & Charter)

Small Boat ID/Type: Guam: 24-ft SeaArk aluminum hull boat;
Saipan: 27-ft fiberglass boat (Mighty Max, Mini Max, Ocean Masta)

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: October 14 – 28, 2017

1. Schedule

14 Oct Flew to Guam (lost 1 day from crossing the International Dateline): Summer Martin (PIFSC), Camryn Allen (PIFSC)

16 Oct Attended meeting at Guam DAWR (DAWR Chief – Tino Aguon; DAWR Assistant Chief – Jay Gutierrez; DAWR Wildlife lead – Diane Vice; DAWR biologists; US Navy; US Air Force; University of Guam); discussed research/conservation activities/results, manuscripts in progress, and active satellite tags; met with Gen-X Sports charter to inspect boat and safety gear

17–19 Oct In-water survey/capture from Hagatna boat basin; 0730 departed boat basin - 1700 returned to boat ramp; Captains Todd Genereux and Brett Cornelius (Gen-X Sports)

20–21 Oct In-water operations canceled due to weather; visited windward side coastal site, reviewed data, debriefed and planned meetings with DAWR partners

22 Oct Flew to Saipan; field logistics preparations for the week

23 Oct Met at CNMI DLNR with new Secretary Anthony Benavente, his assistant Augustin Kaipat, Jessie Hapdei and Joe Ruak from DLNR Sea Turtle Program; provided overview of PIFSC collaborative turtle research and PIRO support in CNMI

24 Oct In-water operations postponed due to weather; visited nesting beach and coastal site

25–27 Oct In-water survey/capture Saipan; 0600 departed boat ramp - 1800 returned to boat ramp; Captain Sydney Takahashi; debriefed/held departure meeting with Secretary Benavente

28 Oct Departed Saipan on 28 Oct ChST – arrived to HNL on 27 Oct HST

Cover Photo: Satellite-tagged juvenile green turtles in Saipan being released. From left: Summer Martin (PIFSC), Camryn Allen (PIFSC), and Amber Bellamy (NOAA Knauss Fellow).

2. Mission Results

The Marine Turtle Biology and Assessment Program, 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 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 #17022, NMFS IACUC SWPI2013-05R, and Guam Department of Agriculture License #SC-MPA-17-010. Additionally, Guam DAWR biologists were provided with hands-on training. Local partners in Guam and Saipan continue to be engaged in this collaborative research effort.

This mission included 6 days of in-water surveys and turtle captures in Guam and Saipan. Activities in Guam were focused on the nearshore waters from the Hagatna boat basin (west coast) north to Tumon Bay and beyond, including Tanguisson. In Saipan, activities were conducted from Sugar Dock (west coast) north to Wing Beach, including the reef outside Mañagaha Island. Suboptimal weather conditions prohibited operations on two days, but the team successfully surveyed all new areas on the six remaining in-water days. Captured turtles were typically processed and satellite tagged on the boats, except when weather conditions (e.g., rain and swell) were unfavorable, in which case the team brought the turtles back to shore for processing and released them later. Turtles meeting satellite tagging criteria were equipped with Wildlife Computers SPLASH 297A satellite tags with Fastloc GPS capability and temperature and depth sensors or Wildlife Computers SPOT 311A tags (Argos locations only; used on 35-45 cm turtles).

Days 1–3 of in-water surveys were conducted along the western coast of Guam, primarily along the outer reef of Tumon Bay. The team also surveyed waters north and south of Tumon Bay, but most captures occurred in Tumon Bay. This was a successful contribution to the long-term project, as no surveys or captures had previously occurred at these sites.

Days 4–6 of in-water surveys were conducted along the western coast of Saipan, mainly from Mañagaha Island north to Wing Beach. New areas surveyed included waters off of Wing Beach, Pau Pau Beach, Aqua Hotel Reef, and outside of Mañagaha Island. Despite some swell, the team was successful in capturing and satellite tagging turtles from all of those sites, which will fill in important geographic gaps in the project.

Over the 6 in-water days, the team observed a total of 86 turtles, 24 of which were captured, and 22 of which were outfitted with satellite transmitters (Table 1 provides details on effort, observations, captures, and satellite tag deployments).

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). Cetaceans observed during these surveys were unconfirmed spinner dolphins.

| Date | Island | Guam Location | Observations | | | | Captures | | Sat. Tags | |
|----------------|--------|-----------------------|------------------------|-----------|------------|-------------|--------------------|-----------|---------------------|-----------|
| | | | <i>Cm</i> | <i>Ei</i> | <i>Unk</i> | <i>Cet.</i> | <i>Cm</i> | <i>Ei</i> | <i>Cm</i> | <i>Ei</i> |
| 10/17 | Guam | Tanguisson, Tumon Bay | 21 | 2 | 3 | 0 | 4 | 0 | 4 | 0 |
| 10/18 | Guam | Tumon Bay | 22 | 0 | 0 | 0 | 7 | 0 | 7 | 0 |
| 10/19 | Guam | Hagatna (Alupeng Bay) | 7 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 10/25 | Saipan | Pau Pau Beach | 9 | 1 | 1 | 2 | 2 | 1 | 2 | 1 |
| 10/26 | Saipan | Wing Beach | 10 | 0 | 0 | 0 | 6 | 0 | 4 | 0 |
| 10/27 | Saipan | Mañagaha/Tanapag | 10 | 0 | 0 | 0 | 2 | 1 | 2 | 1 |
| Totals | | | 79 | 3 | 4 | 2 | 22 | 2 | 20 | 2 |
| TURTLES | | | 86 observations | | | | 24 captures | | 22 sat. tags | |



Figure 1. Field team upon completion of a successful mission in Saipan. From left: Sydney Takahashi (FishGuyz Scuba & Charter), Camryn Allen (PIFSC MTBAP), Summer Martin (PIFSC MTBAP), Amber Bellamy (NOAA Knauss Fellow), Rex Jose (FishGuyz Scuba & Charter), Jessy Hapdei (CNMI DLNR/Jessy’s Tagging Services).

3. Field Party

| Name | Role | Organization |
|---------------|-----------------|--------------------|
| Summer Martin | Chief Scientist | NOAA PIFSC |
| Camryn Allen | Researcher | NOAA PIFSC |
| Amber Bellamy | Researcher | NOAA Knauss Fellow |

Local participants during the surveys included: Jay Gutierrez (Guam DAWR Assistant Chief), Shawn Wusstig (Guam DAWR sea turtle lead), Jamie Bass (Guam DAWR boat captain/biologist), Jun Ducusin, Frank Manibusan, and CJ Cayanan (Guam DAWR biologists), Tammy Summers (Naval Base Guam biologist), Jessy Hapdei (CNMI DLNR diver/biologist). Other representatives from local and Federal agencies also participated in the field effort.

4. Approvals

Submitted by:



Summer L. Martin
Chief Scientist
Pacific Islands Fisheries Science Center

Approved by:



Michael P. Seki, Ph.D.
Science Director
Pacific Islands Fisheries Science Center