

MARINE MAMMAL & TURTLE DIVISION, SWFSC BIWEEKLY REPORT ON FIELDWORK, PUBLICATIONS, RESEARCH RESULTS, AND EVENTS

10 November 2023

I. Fieldwork:

Green Turtle Ecological Research in Southern California, 26 October & 2 November 2023 –

The SWFSC marine turtle research team conducted green turtle capture-release efforts in San Diego Bay on 26 October. Four turtles were captured, ranging in size from 70.4 cm to 93.5 cm in straight carapace length (SCL), and 50.5 kg to 122.0 kg in body weight. One juvenile and one apparent adult female were first-time captures. One adult male was a long-term recapture, first caught in San Diego Bay on 6 December 2000 (and captured 5 times prior to last week—in 2000, 2001, 2015, and twice in 2017). Finally, the fourth turtle was an apparent adult female first caught in the San Gabriel River in 2014—a first-ever example of this connectivity in Southern California green turtles.

This turtle was first encountered on 6 February 2014, during routine in-water captures in the San Gabriel River in Long Beach. At that time, the turtle was noted as having a "very dark" carapace color and measured 61.4 cm SCL. Last week in San Diego Bay, the same turtle was recaptured for the first time since the initial capture. This individual still had its flipper tag (GK-10) attached, had grown nearly 30 cm to 90.6 cm SCL, and was noted as having "very yellow" skin coloration (Photo Set 1). The turtle was a mystery at first, as its tag ID



Photo Set 1. Comparison of GK-10's head and dark color in 2023 (top) vs 2014 (bottom). Also note the unique pattern of facial scutes that matches in the two sets of images, demonstrating the value of photo ID. NMFS Research Permit #18238.

number was not found in our San Diego Bay records, and it was only after some sleuthing that we discovered it was a San Gabriel turtle. This discovery furthers our understanding of habitat movement among southern California foraging sites for this East Pacific green turtle population, and it also may initiate future research into potential health impacts of sea turtles living in the highly urban waterways, particularly the San Gabriel River in Long Beach. Other turtles in the river have been noted as having extremely light/yellowish skin and scutes along their head, neck, and flippers (Photo Set 2). Turtle GK-10 provides an interesting case of a turtle undergoing a noticeable morphological change in color after being in the San Gabriel River.



Photo Set 2. Photos of green sea turtles in the San Gabriel River show the light yellow color characteristic of many turtles foraging at this site. Photos provided by partners at the NOAA West Coast Regional Office (Justin Greenman) and the Aquarium of the Pacific (Cassandra Williams).

On 2 November, SWFSC marine turtle researchers teamed with colleagues from the West Coast Regional Office, U.S. Navy, and U.S. Fish & Wildlife Service to conduct green turtle capture efforts at Seal Beach Wildlife Refuge in Orange Co, CA. During field efforts, the team also hosted leadership from Naval Weapons Station Seal Beach, which adjoins the Seal Beach Wildlife Refuge (see Photo 3). Two green turtles were captured, both juveniles. The first measured 73.6 cm SCL and 47.2 kg body weight; this was the third time this turtle has been captured in the refuge (23 July 2019, 23 Aug 2022). The second turtle was 64.4 cm SCL/34.2 kg body weight and was a first-time capture (see Photo 4). Both turtles were equipped with ARGOS-linked GPS transmitters and are being tracked thanks to the support of the NOAA-IOOS-ATN (Animal Telemetry Network). Contact [Jeff Seminoff](#) for additional information.



Photo 3. Naval Weapons Station Seal Beach leadership joins fieldwork at Seal Beach Wildlife Refuge (Photo: Jeen Park, U.S. Navy). NMFS Research Permit #18238.



Photo 4. Closeup of a green turtle captured in Seal Beach National Wildlife Refuge, 2 November 2023 (Photo: J.Seminoff). NMFS Research Permit #18238.

II. Manuscripts accepted for publication:

III. Papers published:

IV. Research findings:

V. Press:

Volunteer Diaries: Brittany Hanser, The Ocean Discovery Institute, San Diego Magazine, 17 October 2023. Brittany Hanser was featured in an interview with SD Magazine for her work with Ocean Discovery Institute.

VI. Local events - meetings or events hosted virtually:

Southwest Fisheries Science Center, La Jolla, CA, 2 November 2023 – Jesse Pierce, Ariane Huddleston, and Elyse Wurster (CHLHP) along with Jen Walsh (ESD) showcased the UAS, glider, and marine mammal necropsy/stranding programs at SWFSC for students from the University of San Diego Marine Mammal Biology course, currently being co-taught by Doug Krause and Michael Scott. The students were engaged and excited, asked insightful questions, and thoroughly enjoyed viewing recent nature-documentary-quality videos of a Minke and two Humpback whales recorded by MMTD off San Diego from a UAS platform.



Jesse Pierce (NOAA Corps; CHLHP) discussing SWFSC's UAS program

San Diego Natural History Museum, 25 October 2023 – For more than a decade, members of MMTD have provided the San Diego Natural History Museum “NAT Whalers”, museum-trained volunteer naturalists who sail aboard City Cruises/Hornblower whale watching vessels, with overviews on the biology and ecology of marine mammals and the science that the MMTD conducts. Trevor Joyce gave a virtual outreach presentation to the Whalers on the “Marine mammal adaptations to the physical properties of marine environments”. This public outreach and education help the SDNHM meet its mission to “inspire in all a respect for nature and the environment.”

The 4th annual meeting of the Pacific Coast Feeding Group (PCFG) Consortium, 8 November 2023 – The Consortium was formed to foster and advance research of PCFG gray whales through improved collaboration and communication among groups to further scientific understanding and aid management. This year’s meeting was held virtually and included updates and presentations by U.S. and Canadian researchers working on the PCFG, discussion of data sharing protocols, and sessions focused on how to best coordinate data collection in the future. The meeting was attended by Trevor Joyce, Aimée Lang (Chair), and Dave Weller.

VII. Travel - meetings attended virtually:

VIII. Awards, grants, and recognition:

IX. Other of note:

DDT Contamination Assessment, 6 November 2023 —As part of a collaboration with San Diego State University's School of Public Health, subsampling of 82 short-beaked common dolphin blubber samples, spanning the years 1990-2022, was completed the week of 6 November 2023. The samples will be used to assess DDT contamination in the southern California Bight as part of a multi-institutional Sea Grant California funded study "Hazard Assessment of Deep Ocean DDT disposal: defining biomagnified DDT + chemical profiles and investigating the health impacts on sentinel wildlife species and humans"

(<https://caseagrant.ucsd.edu/our-work/research-projects/hazard-assessment-deep-ocean-ddt-disposal-defining-biomagnified-ddt>). The use of the Cetacean Health and Life History Program's frozen tissue archive highlights the importance of carcass sampling, long-term data sets and archives.



Amanda Brooks (SWFSC volunteer), Alicia Agas (SDSU), Margaret Stack (SDSU), and Jen Cossaboon (SDSU) subsample frozen blubber from SWFSC's archive for a DDT assessment study.

Stranding summary for the weeks of 25 October-7 November 2023

Cetaceans: 0

Pinnipeds: 2 (no response)

Turtles: 0

X. Where-about of Division Director:

La Jolla