healthy, were tracked to investigate movement patterns and identify essential foraging habitats. VHF telemetry proved effective in Caracas Bay's low-visibility, high-boat-traffic conditions. Tracking data revealed strong site fidelity, with turtles repeatedly using the marina and adjacent shallow seagrass beds as primary foraging areas, while resting mainly outside the marina. To assess potential environmental correlates of disease exposure, we analyzed copper (Cu) and lead (Pb) concentrations in seagrasses and seaweeds from five bays around Curaçao that span a gradient of human influence. Trace metal concentrations varied significantly by location, with the highest levels of Cu and Pb observed in Caracas Bay and the lowest at a remote eastern site. Although all concentrations remained within low parts-per-billion (ppb) ranges typical of background conditions, the connection between turtle foraging areas and elevated trace metal levels suggests the potential for chronic exposure through habitat use. Our results identify Caracas Bay as an ecologically important feeding ground for *C. mydas*. The emergence of FP on Curaçao underscores the need for sustained health monitoring and comprehensive environmental assessments to investigate how trace contaminants and other stressors may contribute to disease dynamics. Future work will expand island-wide population monitoring using Passive Integrated Transponder (PIT) tagging coupled with telemetry and environmental sampling to support long-term conservation strategies for green sea turtles and their critical habitats in Curaçao.

NEW INSIGHT ON THE GREEN SEA TURTLES OF THE SAN GABRIEL RIVER IN SOUTHERN CALIFORNIA, USA*

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Green sea turtles in the eastern North Pacific, particularly those in Southern California waters, have been well studied since the 1990s. Two main foraging areas, San Diego Bay and waterways of Long Beach, have served as the primary survey areas of this population for researchers from NOAA, the US Navy, and local partners. These estuary settings are typical habitats for turtles, despite being adjacent to urban areas. Yet a unique habitat, the San Gabriel River (SGR) in Long Beach has been monitored by NOAA and the Aquarium of the Pacific (AOP) for nearly 20 years, and has recently experienced a boom in the number of turtles aggregating in this extremely altered urban setting. Here we present the latest findings from recent capture surveys in the upper SGR in 2024 and 2025, and how the understanding of movement and habitat use have been complemented by the longer-term observation program by community scientists from the AOP. The SGR stretches 6-km inland, passing an active power plant and under freeway overpasses, until the riprap-fortified river abruptly shifts to a concrete culvert, where turtles have been sighted since the early 2000s. NOAA conducted boat-based surveys from 2010-2014, and the AOP initiated their observation program in ~2010. In ~2020, AOP launched a Photo Identification project using the online platform, Internet of Turtles, and has since compiled a large catalog of SGR turtles. In 2023, AOP researchers alerted NOAA scientists about a sharp increase in the number of turtles in the upper river (20+), and then in 2025, over 100 turtles were reported! This extraordinarily high concentration of turtles provided a rare opportunity to study these animals, and NOAA and partners conducted the first ever land-based survey capture effort in October 2024 and again in September 2025. Here, three and then eight green turtles (CCL range: 57.1 to 89.2 cm) were captured, tagged, and sampled. During the surveys, simpler net-based capture techniques were tested and developed that eliminated the need for a boat, making the captures less

equipment-intensive and more efficient. Aerial support was also provided by a NOAA UAS (drone) to help guide capture efforts, while also surveying the behavior and abundance of the turtles. Some preliminary results show: abundance estimates at over 100 individual turtles of a wide size range (~45-90 cm CCL); multi-year residency duration confirmed by photo ID, year-round use of the habitat with increased numbers during the summer and fall; primary foraging on floating green algae flowing from upriver; entanglement in fishing line and debris does occur, and tagged turtles show short-term (days) movements away from the upper river during and following large rain events, consistent with visual observations. The findings from these collaborative efforts is important and timely, as this area directly overlaps with pending freeway infrastructure repair work that will require major river diversion and disruption to this unique foraging habitat. The information on the movement and abundance of turtles in this area is required from NOAA to ensure the safe completion of this essential infrastructure work.

TESTING LEARNED MIGRATION GOAL THEORY: DO OCEAN CURRENTS DEFINE WHERE SEA TURTLES FORAGE?

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Marine turtles have a complex life cycle with ontogenetic habitat shifts sometimes driven by large-scale migrations. In early life, hatchlings have limited swimming ability and are assumed to drift passively into the open ocean. Their paths, mostly shaped by oceanographic fronts and currents, lead them towards foraging grounds. As sea turtles grow, their swimming ability improves, and they gain more control over their movements. Nonetheless, oceanographic factors still influence the distribution of juvenile and adult sea turtles. To describe this, some authors proposed the Learned Migration Goal (LMG) theory that suggests that adults may return to the same foraging areas they used as hatchlings, when their movements were restricted by currents, instead of exploring new places as their swimming improves. Although it is widely accepted as an explanation for distribution patterns, this theory has not been statistically tested. In this study, we genotyped or compiled data from multiple Mediterranean foraging grounds from Clusa et al. (2014), Rees et al. (2017), Turkozan et al. (2018), and Vela-Garcia et al. (in prep) for loggerhead turtles (*Caretta caretta*) from 7 foraging areas on the mitochondrial DNA D-loop control region and from Tikochinski et al. (2018), and Vela-Garcia et al. (in prep) for green turtles (*Chelonia mydas*) from 2 foraging areas on mitochondrial short tandem repeats (STRs). With this information, we assessed the composition of these foraging areas with the Mixed Stock Analysis (MSA) technique. Afterwards, we compared the juvenile and adult composition obtained from MSA with the hatchling composition as inferred by Casale & Mariani's (2014) particle dispersal models. We performed a Fisher test on genetic data (MSA) and the composition predicted by both dispersal models to test the LMG theory and determine if the composition of juvenile and adult sea turtles on foraging grounds matched that of hatchlings. Our results revealed strong heterogeneity in the foraging ground composition in both species, consistent with the major current patterns and uneven nesting population sizes. However, significant differences were

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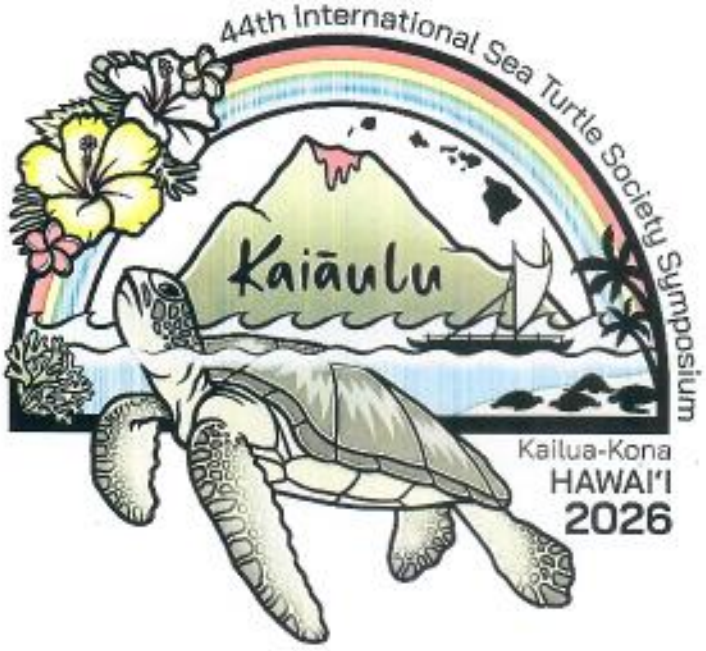

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