UH Hilo Stories

ʻAʻohe pau ka ʻike i ka hālau hoʻokahi | One learns from many sources | A publication from the Office of the Chancellor, University of Hawaiʻi at Hilo

Published: UH Hilo alumna investigates four decades of green sea turtle strandings on Hawai'i Island

Posted on July 9, 2024

Skylar Dentlinger's just published study in the journal *Zoological Studies*: The most common known cause of green sea turtle strandings is hook-and-line fishing gear.

Green turtle swimming over coral reef in Kona. (Image: Wikipedia)

By **Susan Enright**.

The Hawaiian population of green turtles has increased since federal and state protections were implemented in the mid 1970s. But this means that reported stranding events have also increased, say the authors of a newly published study in *Zoological Studies* (Vol. 63, July 2024).

Skylar Dentlinger

The lead author of the study Four Decades of Green Turtle (*Chelonia mydas*) Strandings on Hawai‘i Island (1983–2022): Causes and Trends is **Skylar Dentlinger**, a marine science alumna from the University of Hawai‘i at Hilo who graduated in May 2023.

“The paper is based on Skylar’s senior thesis,” says **Karla McDermid**, a marine science professor at UH Hilo and a co-author of the paper who served as one of Dentlinger’s thesis advisors. “She is now pursuing her master’s in marine mammal science at the University of Miami in Miami, Florida.”

Co-authors of the published paper also include UH Hilo Associate Professor of Mathematics **Grady Weyenberg**, **Laura M. R. Jim** and **Marc R. Rice** from the Hawai‘i Preparatory Academy Sea Turtle Research Program, and **George H. Balazs** from Golden Honu Services of Oceania who also served as a thesis advisor for Dentlinger.

Most common known cause of stranding is hook-and-line fishing gear

The study analyzes Hawai‘i Island data on stranding locations, dates, sizes, sex, health, and the causes of the strandings. A total of 754 stranded green turtles were reported from 1983–2022: 379 stranded on the east coast of Hawai‘i Island and 375 on the west coast. The authors find that strandings peaked in 2011 and 2018 and were highest from March to August.

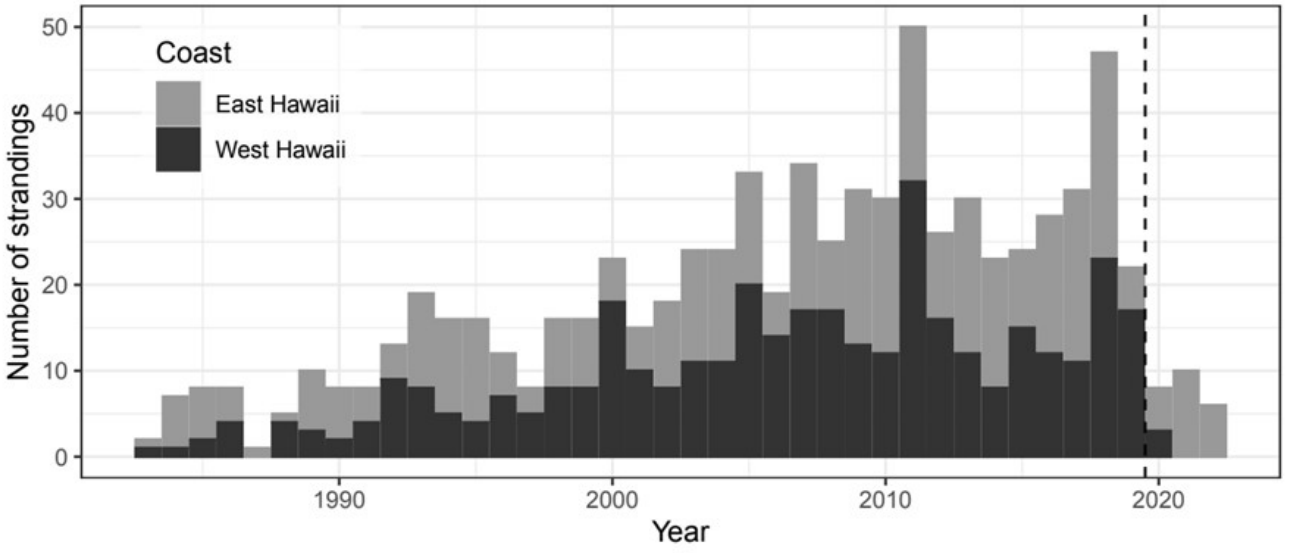

Chart shows green sea turtle strandings on Hawai‘i Island have increased after federal and state protections came into effect in the 1970s. (Courtesy image)

The most common known cause of stranding is hook-and-line fishing gear. Other causes are disease, human harvesting, boat impacts, shark attacks, and nets. But the authors note that almost 55 percent of strandings have no known cause.

“These results provide the first comprehensive analyses of stranding data from Hawai‘i Island and provide information that can inform resource managers, policy makers, and the public about the various types and magnitudes of impacts, anthropogenic and natural, to green turtles so that mitigation measures can be put into practice,” write the authors in their summary. “Our findings allow for comparison with other green turtle populations worldwide.”

“Contribution of fishing gear to strandings emphasizes the need for additional mitigation efforts: barbless hooks and effective line removal techniques,” the authors add.

Read the full study for details.

Story by Susan Enright, a public information specialist for the Office of the Chancellor and editor of UH Hilo Stories. She received her bachelor of arts in English and certificate in women's studies from UH Hilo.

Share this story

Alumni, Faculty Expertise, Research, Students, View All Stories