

HONOKŌHAU HARBOR: A FORAGING AND RESTING HOTSPOT FOR HONU‘EA HAWKSBILLS AND HONU GREEN TURTLES IN THE EXPANDING HABITAT WORLD OF HAWAIIAN SEA TURTLES

Rosanne Shank¹, Laura Jim², Marc Rice², George Balazs³

¹Community member; ²Hawaii Preparatory Academy Sea Turtle Research Program; ³Golden Honu Services of Oceania

Introduction



Photos 1-4 (l to r). Hokokōhau Harbor : Entrance, passage to the open ocean, boats, and juvenile hawksbill

Hawai‘i’s nearshore ecosystems support two sea turtle species: the green turtle (honu; *Chelonia mydas*) and the hawksbill turtle (honu‘ea; *Eretmochelys imbricata*). Green turtles are common throughout Hawai‘i but remain legally protected despite population gains, while hawksbill turtles are rare and critically endangered, with few nesting females documented each year. Honokōhau Small Boat Harbor on Hawai‘i Island’s west coast includes 268 berths and two boat ramps and serves both recreational and commercial users. Adjacent Kaloko-Honokōhau National Historical Park is a well-known green turtle foraging and resting area. As coastal use increases, understanding sea turtle use of working harbors is essential for conservation. This project documents turtle occurrence at Honokōhau Harbor from June 2024 to December 2025 through community-based monitoring.

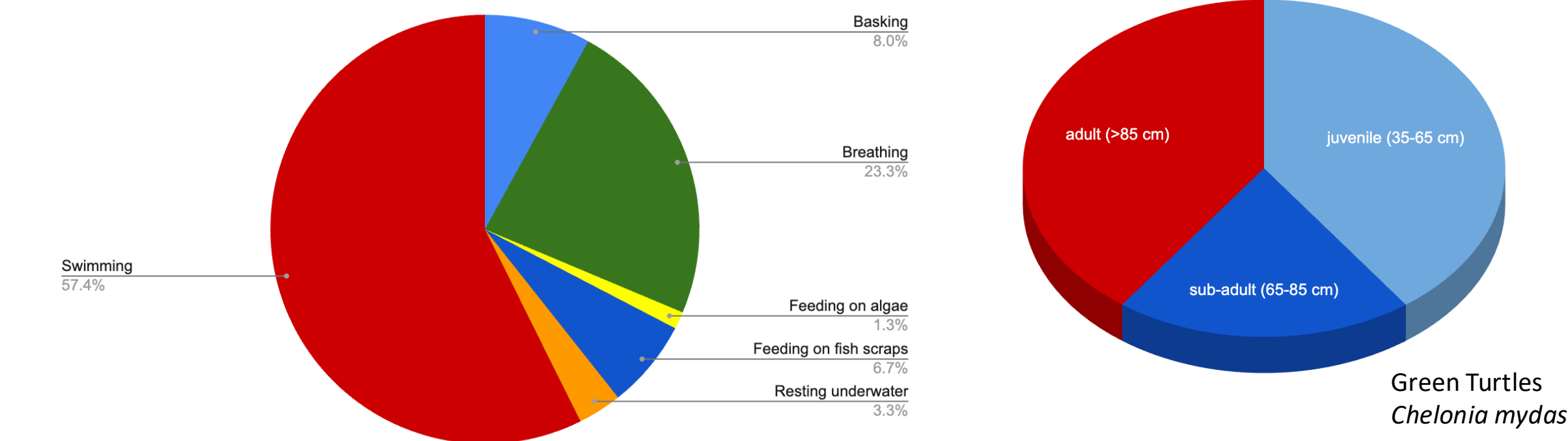


Figure 2. Percent occurrence of behaviors. observed



Figure 5. Heat map of identified turtle location concentrations. Turtles in transit or away from slips were excluded from this data set.

Methods

Survey Technique:

Harbor surveys were conducted weekly from June 25, 2024 to December 28, 2025 (68 total days). Surveys lasted 60–90 minutes and followed the harbor perimeter starting at H dock (south). When turtles were encountered, photos of the head, front flippers, and carapace were taken when possible. Observers recorded time, slip location, size, species, behavior, and any injuries or identifying features.

Identification Method:

Turtles were identified using photographs and visual observations. Images were compared to a catalog using head and flipper patterns. Unidentified turtles were recorded but excluded from analysis to avoid duplication.

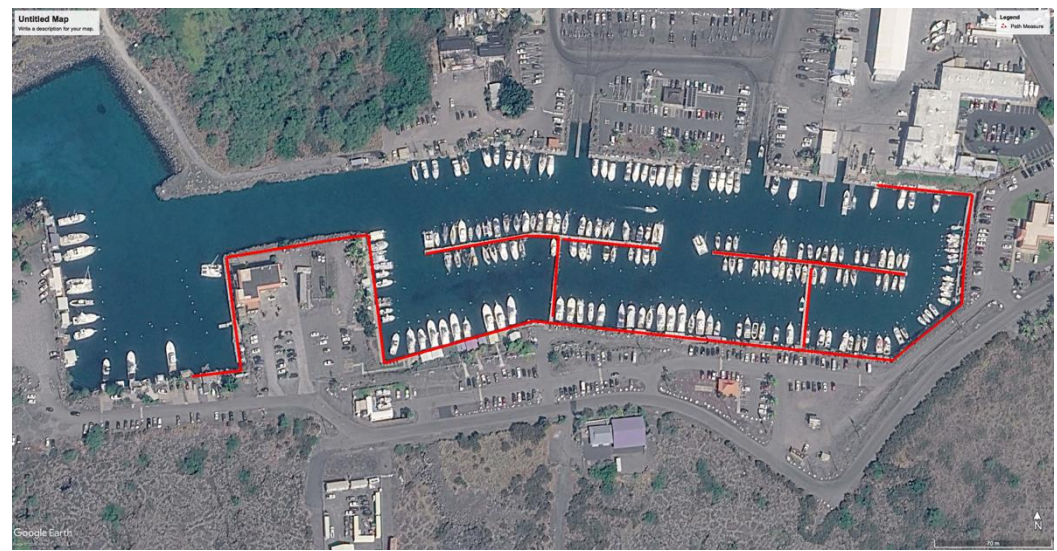
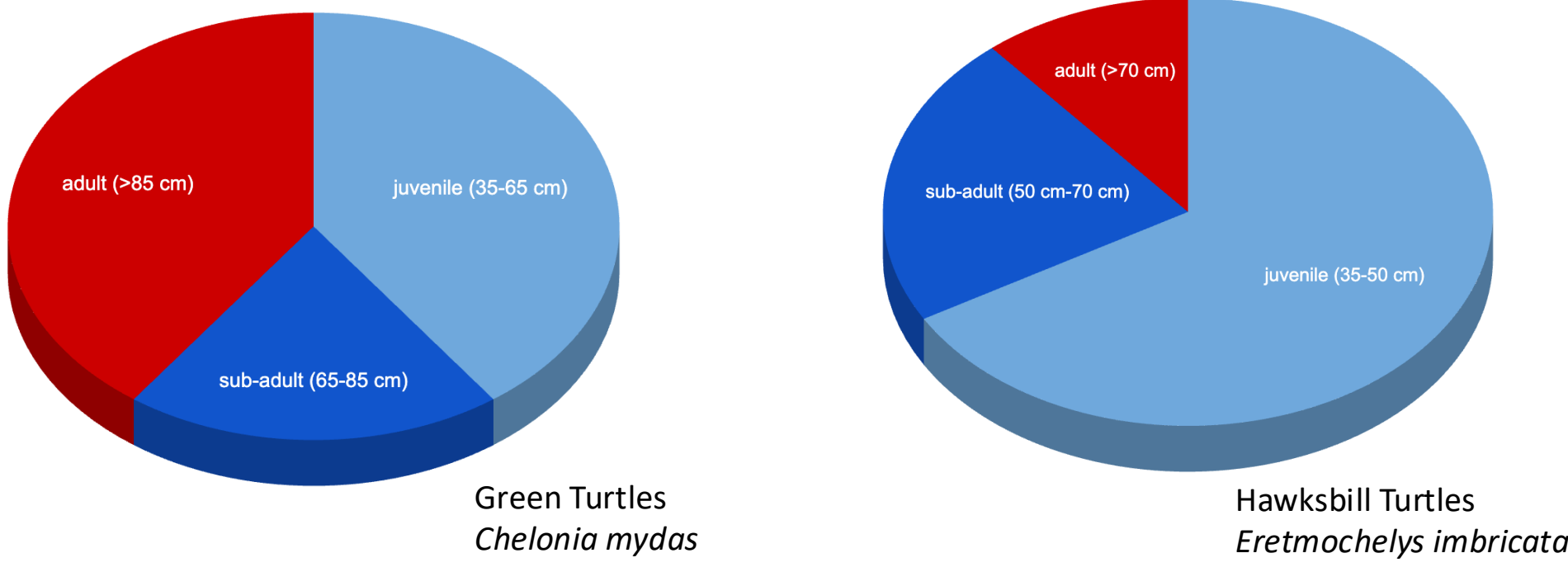


Figure 1. Survey route around Honokōhau Harbor

Results

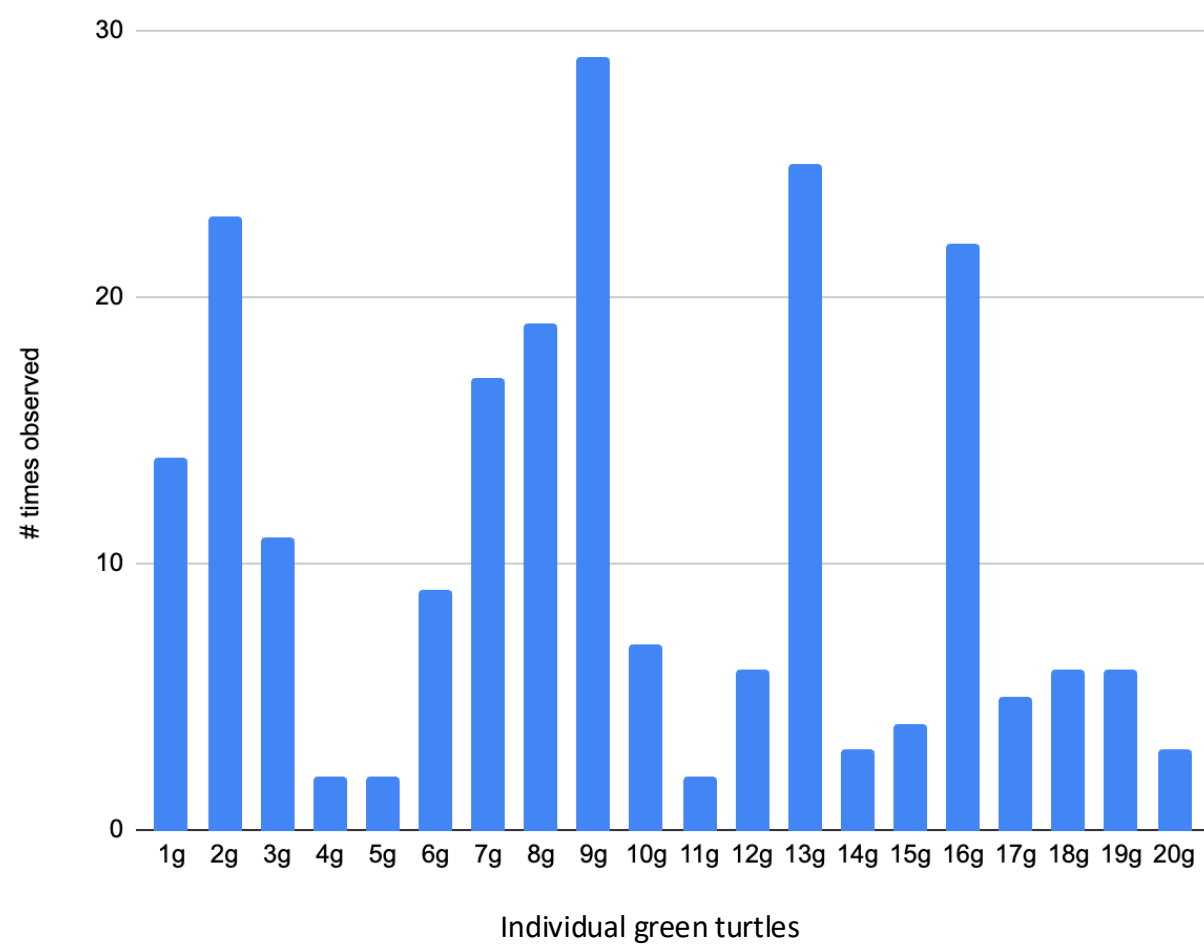
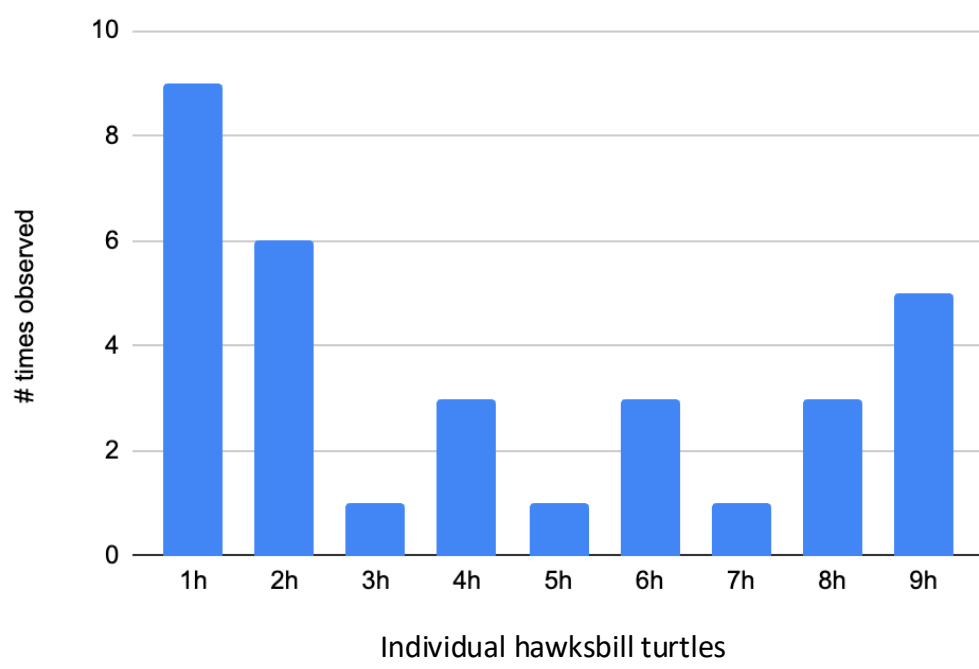


Figures 3 & 4. Size class distribution of turtles identified at Honokōhau Harbor.

Hawksbill Turtles (<i>Eretmochelys imbricata</i>)		
Turtle ID	1st day observed	Duration (# days)
1h	6/6/24	495
2h	7/3/24	411
3h	7/23/24	1
4h	8/15/24	475
5h	7/23/24	1
6h	2/25/25	40
7h	5/18/25	1
8h	11/21/24	327
9h	9/29/25	42

Tables 1 & 2. First siting and duration turtles were observed during survey period

Green Turtles (<i>Chelonia mydas</i>)		
Turtle ID	1st day observed	Duration (# days)
1g	06/18/24	281
2g	6/25/24	503
3g	6/25/24	429
4g	6/25/24	8
5g	8/9/24	41
6g	8/6/24	225
7g	7/18/24	348
8g	7/18/24	348
9g	7/18/24	493
10g	8/20/24	478
11g	6/25/24	496
12g	7/18/24	262
13g	8/29/24	486
14g	8/29/24	469
15g	10/24/24	131
16g	10/17/24	437
17g	3/4/25	75
18g	11/14/24	229
19g	9/16/25	86
20g	10/22/25	67

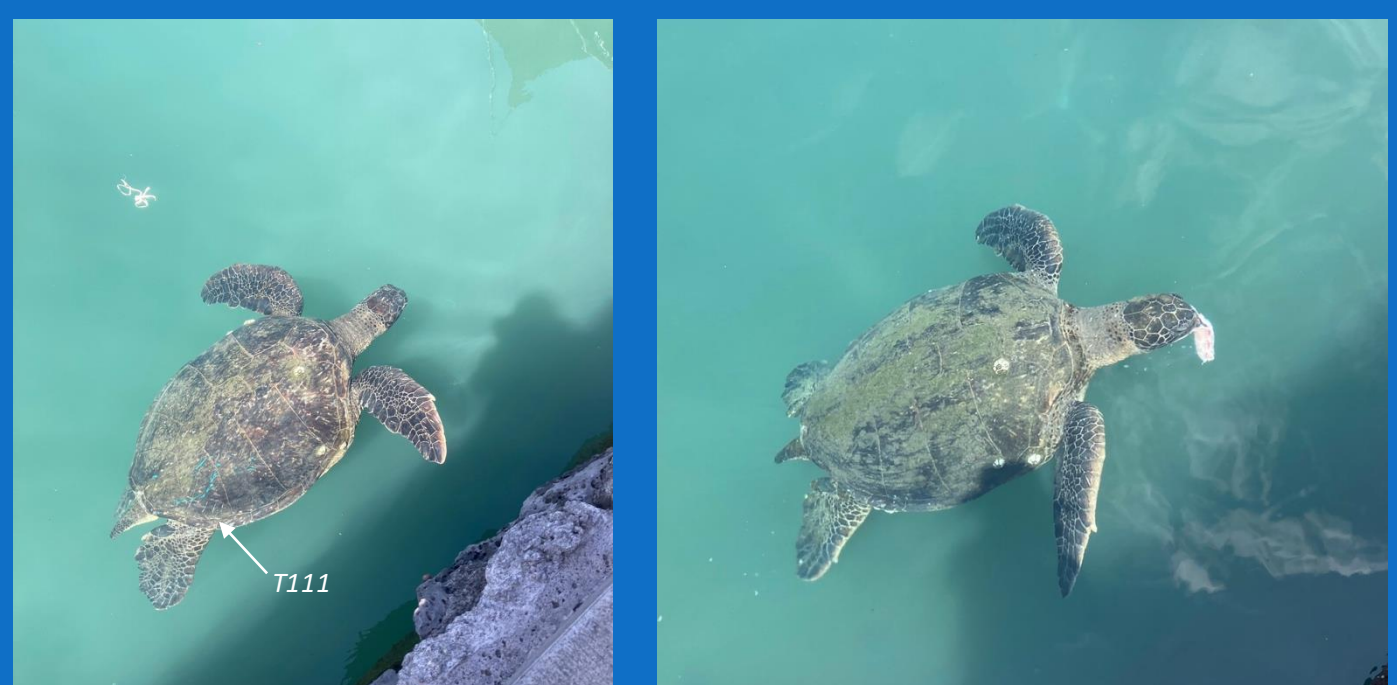


Figures 6 & 7. Number of observations for each turtle at Honokōhau Small Boat Harbor

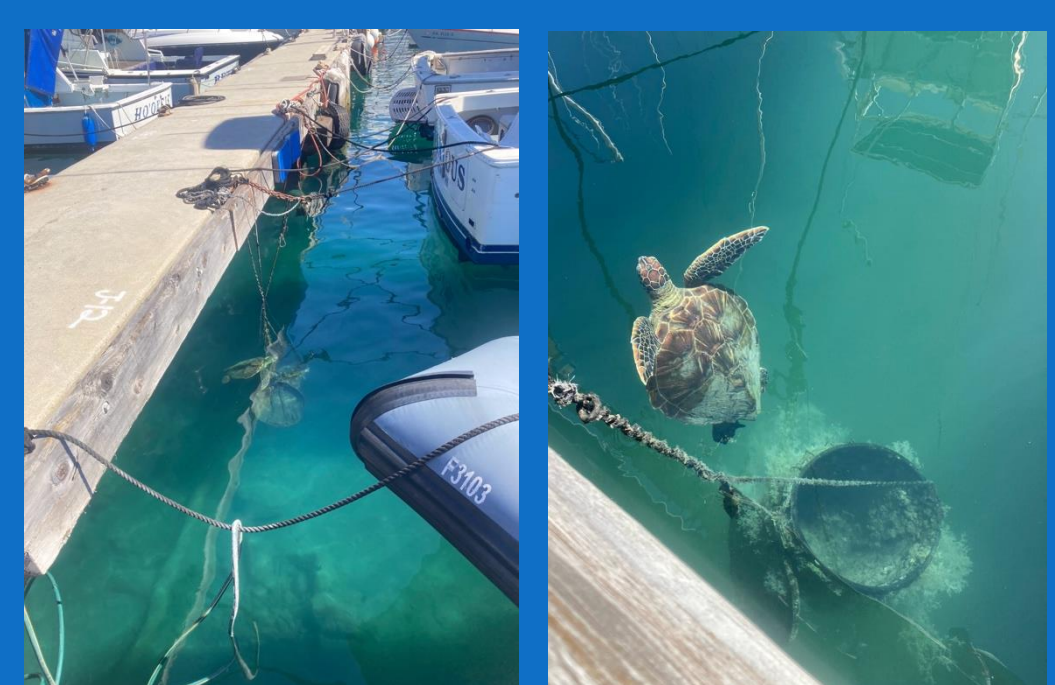
Meet the Turtles



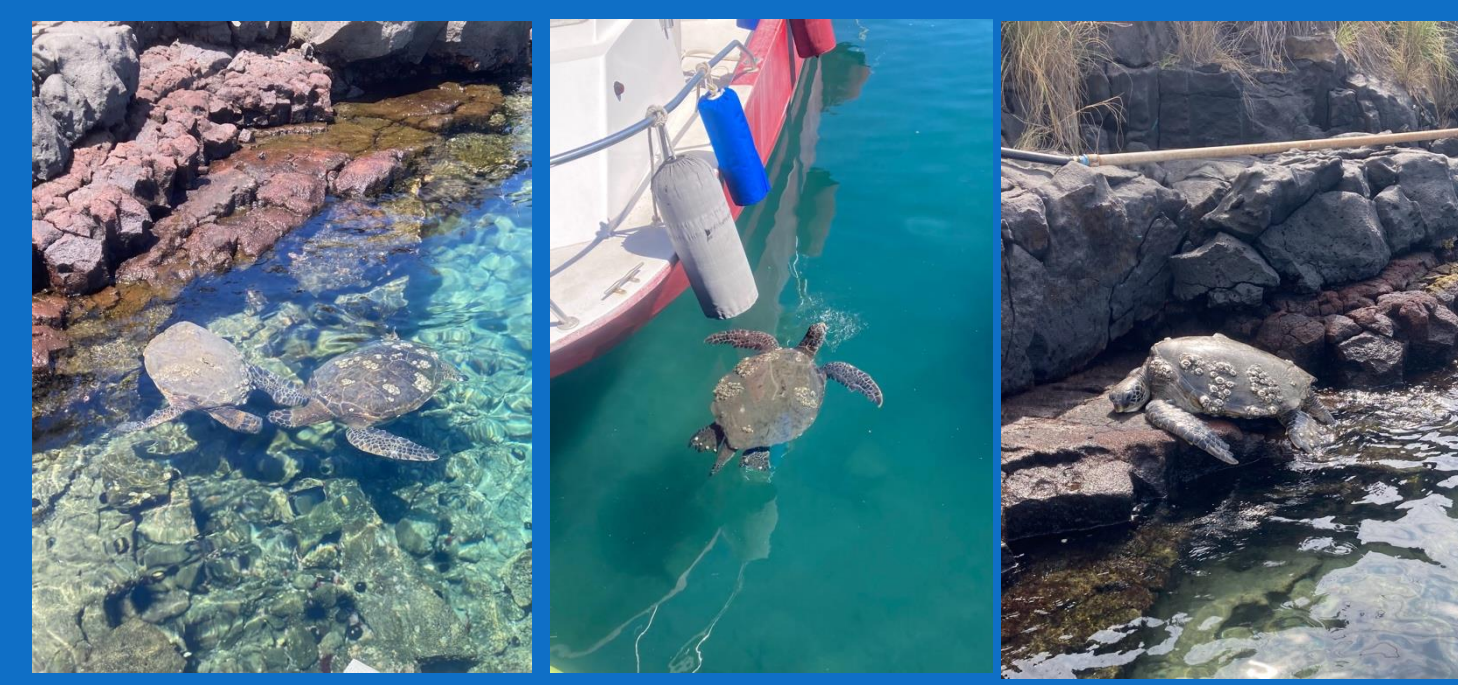
Tonka, 2g, was one of the first turtles that I saw in the harbor and she made you exclaim “that’s one big turtle”! The name Tonka originated from a group of teenagers who saw the turtle while I was surveying and said “that turtle is huge. That turtle is like a Tonka truck.” Beginning in 2021 HPA’s Stranding Program has received reports of this turtle by divers at sites outside of the harbor.



16g is interesting in that it had some bits of white markings on its carapace which resembled etching we use for the HonuCount program. When shared with NOAA’s MTBAP team they shared this turtle is T111. It was seen and tagged on Tern Island while basking on May 2024 and was last seen basking on July 2024 on Tern Island. I saw her first on October 2024. She has since been recorded 22 times.



Pooh Bear, 8g, a small green with a beautiful sunrise patterned carapace. I saw it 6 times before I discovered her resting on a derelict fish pot (aka “honey pot”) or live well suspended from the dock. I saw her resting on the pot 12 times before the rope broke in February 2025. Since then, I have only seen Pooh Bear twice.



9g is the only known adult male. He has been observed 32 times with 7 times basking or resting (partially in water), 7 times it was seen interacting directly with other turtles including attempted mounting, and 4 times it has been observed eating fish scraps.



13g is a very “versatile turtle”. She’s the second most often seen turtle in Honokōhau Harbor seen 25 times. She was seen scratching her carapace on some chains hanging in the water, being sprayed by a fisherman with a freshwater hose who reported she “likes it”, hanging around boats, feeding on fish scraps, eating algae off the walls of the harbor, interacting with other turtles, basking and resting on the rocks and of course swimming. She is a joy to see, and I wonder what she will be up to on my next visit.



“Crossover”, 19g, has been seen eating algae at Kaloko-Honokōhau National Historical Park and fish scraps at the harbor. It has been observed basking at the park and underwater resting at the harbor.



Observing hawksbills is always exciting and after seeing my first couple, 1h and 2h, I always want to see them when surveying. Sometimes it would be several months between the sightings, up to six months. Of course, each short glimpse was incredible and confirmed that they were still around. The sightings usually lasted long enough for a breath to hopefully, get a good photo. I saw 1h feeding on fish scraps with greens, which was impressive as this little guy was in the middle of several big greens and seemed more than capable of holding its own in the scramble for scraps.

Discussion

Observations from this project show that Honokōhau Harbor functions as a foraging and resting hotspot for Hawaiian green turtles (honu) and hawksbills (honu‘ea). Turtles were commonly observed basking and resting underwater throughout the harbor, while fish scraps and algal growth provided consistent foraging opportunities that likely contribute to repeated use of the site (Fig. 2). Juveniles and sub-adults were the predominant size classes for both species (Figs. 3 & 4). G Dock had the highest frequency of turtle sightings and documented fish-scrap feeding, which may explain the concentrated presence in this area. Of the nine hawksbills cataloged, five were new additions to the Hawai‘i Hawksbill Catalog and two had been previously documented, indicating both new use and site fidelity. However, five of the cataloged turtles (two hawksbills and three green turtles) have since been confirmed deceased, underscoring the potential risks associated with harbor habitats despite their ecological value and supporting the idea that Hawaiian sea turtles are incorporating anthropogenic harbor systems into an expanding habitat world.

