

TIGER SHARK RESEARCH

PEAK SEASON

UNIQUE TIGER SHARKS DETECTED

A new study of tagged tiger sharks detected off four popular water recreation sites on Maui from October 2013 to April 2019 found the highest number of the top predators is present in January and February. However, no correlation was found between the number of sharks detected and the number of attacks in any given month.

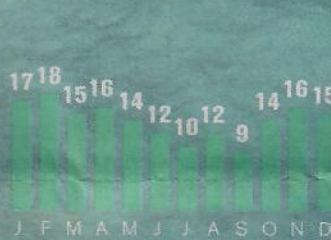
1 Olowalu Shallow



2 Kalama Shallow



3 Palauea Shallow



4 Makena Point

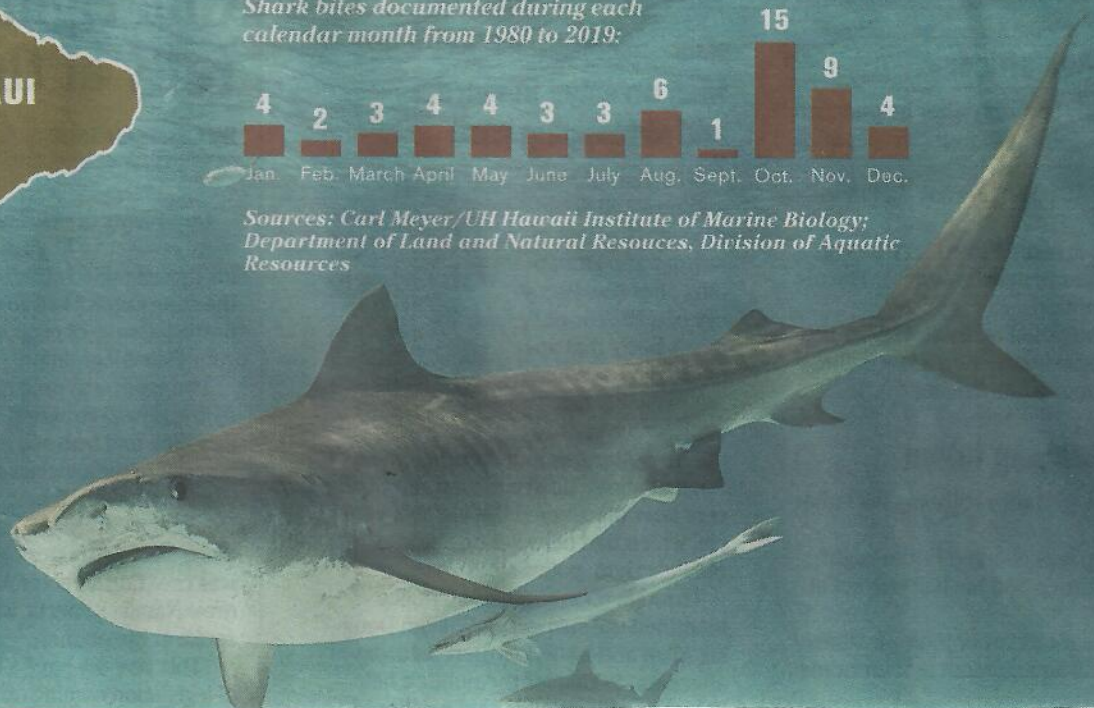


SHARK BITES AROUND MAUI

Shark bites documented during each calendar month from 1980 to 2019:



Sources: Carl Meyer/UH Hawaii Institute of Marine Biology; Department of Land and Natural Resources, Division of Aquatic Resources



New research shows the ocean predators are more prevalent in Maui waters during the winter months, but there's no correlation between numbers and bites

By Mindy Pennybacker
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Editors's note: *This story ran Sunday in the Maui edition of the Honolulu Star-Advertiser.*

On the sunny morning of Dec. 3, in clear waters about 200 yards off Kihei, Maui, AJ Gaston was stand-up paddleboarding at the edge of the reef when he spotted a shark about 30 feet below the surface.

"I wasn't concerned, because I grew up around the water and have seen plenty of sharks, which never

acted aggressively," said the 52-year-old Tacoma, Wash., resident and Alaska Airlines pilot, who regularly paddles during layovers on Maui.

About two minutes later, "what I presume was the same shark made a pass near the surface, and I could tell now it was a tiger shark and I was excited because I'd always wanted to see one," Gaston said. "I knew they swam through that area a lot."

He still wasn't concerned, Gaston said, but that was about to change.

In the past 20 years, Maui has had about twice the number of shark bites as any other Hawaiian island,

according to Carl Meyer and Kim Holland, researchers at the Hawai'i Institute of Marine Biology in the School of Ocean and Earth Science and Technology at the University of Hawaii at Manoa. A 2016 study by the HIMB team detected many more of the predators per day in Maui waters than in Oahu waters.

With funding from the federal Pacific Islands Ocean Observing System and the state Department of Land and Natural Resources' Division of Aquatic Resources, the team had tagged 41 tiger sharks off Maui and Oahu. The tracking data

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SHARKS

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also found that off western and southern Maui, where Kihei is located and where most attacks occur, tiger sharks were present more than 80% of the time.

New research by Holland and Meyer now shows there are more tagged tiger sharks in Maui waters during winter months, particularly January and February, the peak of their mating season, than the rest of the year.

However, they also determined that higher numbers of sharks do not translate into a higher risk of being bitten.

For instance, Meyer said, "January and February see similar numbers of bites to most other months of the year."

Safety in numbers

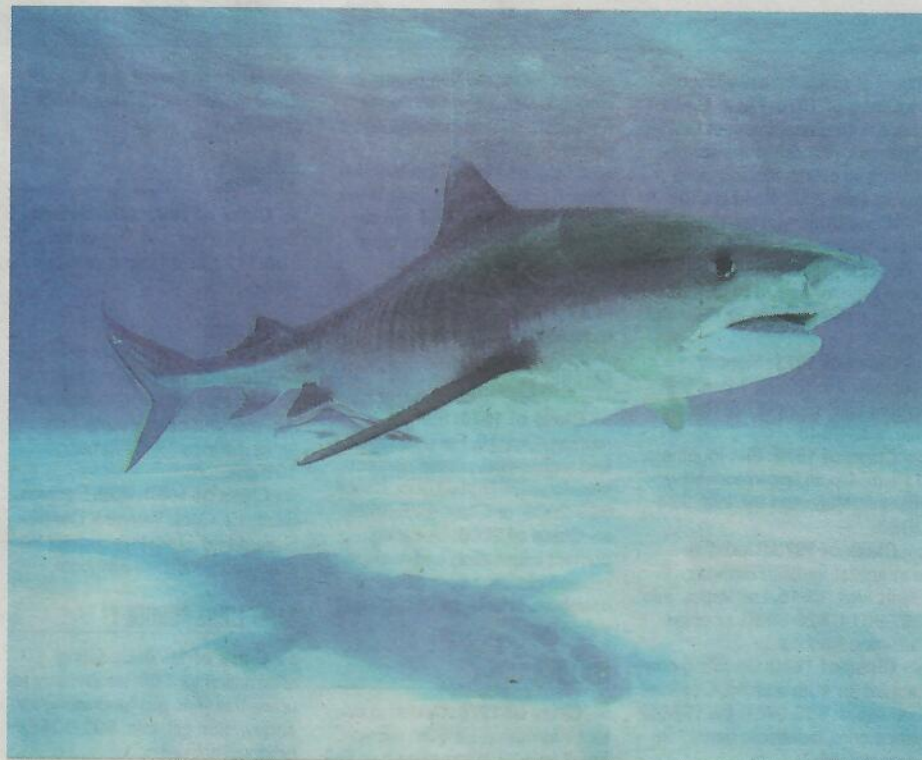
The research had two parts, the first covering the period from October 2013 to April 2019.

The scientists compiled monthly acoustical detections of tagged sharks by seafloor sensors at four popular recreational Maui sites: Olowalu, Kalama Beach Park (from where Gaston paddled out Dec. 3), Palaua and Makena Point, all off the island's leeward coast, where most Maui shark bites have occurred.

The numbers of detections over the 5-1/2 years were pooled by month on charts for each site. The researchers also charted by month the total number of shark bites recorded around Maui from 1980 to 2019.

Comparing the charts, they found no correlation between the number of sharks detected and the number of attacks in any given month.

"The two curves do not



COURTESY MICHAEL L. DOMEIER / 2013

SHARK INCIDENTS IN 2019

Shark incidents can vary greatly from year to year with no clear explanation why. There were 14 Hawaii incidents in 2019, including three people who were injured while on the same swimming-with-sharks tour off Haleiwa in September, and a fatality in May when a California man was bitten while swimming off Honokowai, Maui. Over the last 10 years, there have been an average of eight shark-bite incidents a year. Of the 79 incidents during that period, 33, or 42%, and the three fatalities all occurred in Maui waters.

>> **Dec. 3:** At about 10 a.m. a 10- to 12-foot tiger shark bit the back of a stand-up paddleboard in clear water about a half-mile north of Kalama Beach Park in Kihei, about 200 yards from shore.

>> **Sept. 26:** At approximately 9 a.m. an 8- to 10-foot tiger shark bit the tail of a surfboard in turbid

water about a half-mile north of Kalama Beach Park in Kihei, about 150 yards from shore.

>> **Sept. 18:** At 10:10 a.m., in clear water about 3 miles off Haleiwa, three people on a swimming-with-sharks tour were variously bitten on the hand, arms, chest and shoulder by what was believed to be Galapagos or sandbar sharks. (Counted by DLNR as three separate incidents.)

>> **Aug. 20:** At 8 a.m., approximately 15 yards from shore, a swimmer was bitten on the lower back while treading water in turbid conditions at Kealakekua Bay, Hawaii island. The shark species is unknown.

>> **Aug. 11:** At 7 p.m. a shark of unknown species bit the nose of a surfboard in turbid water about 100 yards off Makaha Beach, Oahu.

>> **July 7:** At 10:25 p.m. a swimmer crossing the Kaiwi Channel was bitten on the left thigh by a cookiecutter shark.

>> **May 25:** A swimmer suffered fatal injuries when a shark

of unknown species severed his left leg at the knee in clear water about 120 yards offshore at Honokowai, Maui.

>> **May 8:** At about 9 a.m., approximately 3 miles off Haleiwa, a requiem shark bit a swimming-with-sharks tour member on the left arm and hand.

>> **April 23:** A stand-up paddler suffered severe lacerations on the right leg from a 6- to 8-foot requiem shark at 8:30 a.m. in clear water 35 yards offshore at Anaehoomalu in North Kona.

>> **April 6:** At around 1 a.m. a swimmer crossing the Kaiwi Channel was bitten on the upper back by a cookiecutter shark.

>> **March 16:** At 3:30 a.m. a swimmer crossing the Kaiwi Channel was bitten on the lower abdomen by a cookiecutter shark.

>> **Feb. 4:** At 1:30 p.m. a surfer at Hanalei Bay was bitten on the left leg by a tiger shark in turbid water about 320 yards from shore.

Source: DLNR's dlnr.hawaii.gov/sharks/shark-incidents/incidents-list

overlap," Holland said.

He added, "The only way of reducing the odds of being bitten is by not going in the water at all."

You can, however, increase your odds of surviv-

ing a shark attack, Holland added.

"The main safety tip is that the chances of surviving a shark attack seem to be enhanced if help is immediately available — ei-

ther by being close to other ocean users in the water or to professional assistance on shore."

In May a lone swimmer died when his left leg was severed at the knee by a

shark bite in clear water 120 yards off Honokowai in West Maui. The species and length of the shark were unknown.

"Although we cannot say whether the outcome for the swimmer would have been different if he had been with others," Meyer said, "there have been other Hawaii incidents in recent years where a swimmer or surfer had severe lower limb injuries following a shark bite but survived because others were close at hand to rescue and render first aid."

Stalked by a predator

As it happened, Gaston's paddleboard session in December, one of the top four months for Maui tiger shark detections, was interrupted by a shark bite.

Luckily, the shark bit a board, not a person.

It was also serendipitous that although he had set out paddling alone, Gaston met another paddler, Larry Oberto, 57, who happened along on an inflatable stand-up paddleboard, going north, as Gaston continued south after seeing the tiger shark.

"I told him if he kept going in that direction, he might see the shark," Gaston said, "and Larry said, 'That's a big shark, it's right here!' and I realized the shark had followed me for a couple hundred yards."

They estimated it was 10 to 12 feet long.

Oberto, a retiree who splits his time between Maui, Seattle and Sicily, Italy, said, "The next thing I knew, I looked below me, and right below me, maybe 10 feet, I see the shark swimming right under me. My first thought was, wow, what an incredible animal, the way it just effortlessly moved beneath me. Then my cognitive side kicked in and I realized how big it was."

The two men had agreed

to head back to shore when the shark chomped into Oberto's board.

"I started paddling, and the next thing I knew, my board had been bumped and I'm flying back to over my left shoulder through the air thinking, this is really bad," he said. "In hindsight I'm positive I bounced off the shark. I get back on the board, and I'm collecting my wits and wondering what to do next. Immediately, I realize my board is getting soft and it's punctured."

Seeing the shark swimming up behind Oberto, Gaston urged him to stand up and paddle away. While he struggled with his rapidly sinking board, Oberto said, the predator approached to within 5 feet, rolled on its side and then glided past.

Upon realizing Oberto's board was disabled, Gaston paddled over, picked up Oberto's loose paddle on the way and "gave the end to Larry to hold, got to my knees for balance and pulled him and his board onto the back of my board," he said. "Within 30 seconds his board completely deflated."

Oberto knelt and paddled, too, and, with the shark in pursuit, they made it safely to shore.

Oberto, who used to race boats and cars as a member of the family that formerly owned Oberto Sausage Co., said the one-time strangers, both accustomed to analyzing critical situations, remain in contact and continue to "debrief" over their shared shark encounter.

"I was very fortunate and aware that I had somebody there who had the intelligence and wits about them and didn't freak out or panic and was able to assist," he said.

Star-Advertiser writer Christie Wilson contributed to this report.