

## Grand Bahama's Tiger Beach

A sanctuary for sharks and thrill seekers is an important site for conservationists

BY CATHERINE MORRIS

**T**wenty miles off the coast of Grand Bahama's west end, in less than 20 feet of water, dozens of large tiger sharks routinely gather to lazily weave across the sandy seabed, allowing adventurous divers to get a glimpse of the apex predators in their natural habitat.

But Tiger Beach, as the area is known, is not just a lucrative hotspot for The Bahamas' shark diving industry, it has also yielded a trove of information for scientists who now believe the locale is a haven for the creatures, and may even be enabling the survival of the species.

"Our sharks are famous. People come from all over the world to see them," says Vince Snead, co-founder and owner of West End Watersports. Snead, and his partner



Vince Snead

COURTESY VINCE SNEAD

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*Despite the name, Tiger Beach is not a beach. It's an area of shallow water on the Little Bahama Bank...*

Captain Kenneth Christie, make regular trips to Tiger Beach from the Old Bahama Bay Resort in West End.

Despite the name, Tiger Beach is not a beach. It's an area of shallow water on the Little Bahama Bank that lies between the rich feeding grounds of the deep Gulf Stream reefs to the west and shallower seas to the east. It may be nicknamed after the tiger sharks, but Snead says he's seen a variety of shark species at the site, including lemon sharks, nurse sharks, bull sharks and hammerheads.

"You can get around 50 lemon sharks crowding the boat. They are more unpredictable and they stay at the surface. The tiger sharks run alone. They are big and very docile. They stay down deep and cruise along the bottom. All the species are different. You can tell a lot by their swimming patterns and body language," says Snead, who has closely observed the sharks at Tiger Beach for years.



Hammerhead shark

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*“The first time I did it, I couldn’t believe I was getting in the water with them. It can be scary at first . . . but once you have done it a few times you know they are big docile creatures.”*

### Extreme sport

For close encounters with the tiger sharks, divers must be scuba certified. Divers make their way down to the sandy ocean floor where they sit alongside two professionals who monitor the sharks, which can measure up to 16 ft in length.

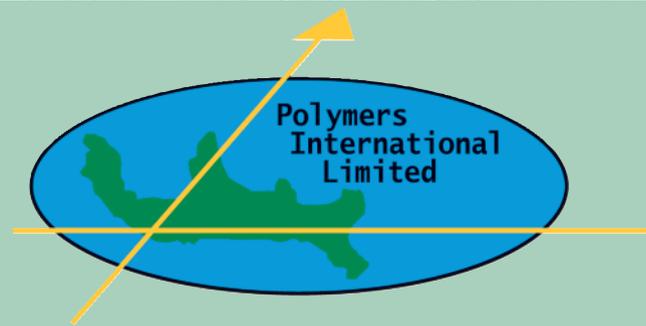
Snead says all safety precautions are taken and he’s never had a negative encounter. “When divers are sitting on the bottom we tell them to keep close and keep their arms folded. A waving hand can resemble a fish. We also feed the sharks for an hour before anyone gets in the water so they are not too hungry. It is a great time. It’s really exciting and intense, some of these big sharks come very close.

“People are there to get a thrill. I think of it as an extreme sport,” he adds. “The first time I did it, I couldn’t believe I was getting in the water with them. It can be scary at first because you don’t know what to expect, but once you have done it a few times you know they are big docile creatures.”



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Non-certified divers can swim with the sharks in a protective cage.



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Sharks are fed before divers get into the water.

But you don't have to be a certified scuba diver to have a shark experience with Snead. Non-certified divers get in a specially built shark cage where they can dip below the surface and see the sharks circling the boat from an underwater vantage point. The lemon sharks, in particular, like to crowd the surface, according to Snead.

West End Watersports sets off early in the day and makes the trip in an hour-and-a-half, depending on the weather. Once there, the dive operators chum the water, emptying their bait boxes into the sea to tempt the sharks to come close to the boats. "They are conditioned now and when they hear the boats they come up. They know they are going to get food," says Snead. "They stay around for a few hours and then they drift off when they are full. It is no different to them than scavenging for fish."

Snead and his staff are always mindful of the sharks and their habitat and do their best to leave a minimal environmental footprint. "We are very environmentally friendly with everything we do. Most people are very respectful of the ocean and the sharks."

*While tiger sharks are typically nomadic, wandering the world's oceans, they display a degree of loyalty to Tiger Beach, routinely congregating there.*

## A safe haven

Sharks are under attack worldwide. Between 70 and 100 million are taken from the ocean each year due to shark-finning (the removal of fins) and by-catch (fish or other marine species that are caught unintentionally). Many are considered keystone species because of the integral role they play in their ecosystems. Sharks provide a natural check on fish stocks, distribution and diversity, contributing to healthy marine habitats.

The cascading benefits of having a healthy shark population are felt by all marine life. Recognizing this, The Bahamas banned longline fishing in 1993 and amended its Fisheries Resource Act in 2011, officially becoming a Shark Sanctuary and prohibiting shark fishing in all Bahamian waters.

Making the archipelago a protected area for sharks has helped places like Tiger Beach thrive. And with more sharks come more research possibilities, allowing scientists to closely study these unique creatures.

When Dr Neil Hammerschlag, director of the University of Miami's Shark Research & Conservation Program, experienced Tiger Beach for the first time he was shocked. He says the site seemed to contradict one of the fundamental tenets of tiger shark behaviour. While tiger sharks are typically nomadic, wandering the world's oceans, they display a degree of loyalty to Tiger Beach, routinely congregating there.

"The original theory was that tiger sharks are an open ocean species," explains Dr Hammerschlag. "Our data shows that they are more oceanic than coastal. So when we were out at Tiger Beach in 2003 and saw a lot of big tiger sharks it intrigued me. You do not see many incidences of these large predators aggregating in one area. That is not what tiger sharks normally do. It was unique, strange and beautiful. I wanted to know why."



Dr Neil Hammerschlag, director, UM Shark Research & Conservation Program

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*It is a very special place. There is nowhere else like it in the world that I know of...*

This discovery kickstarted over a decade of research at Tiger Beach, led by Dr Hammerschlag. “All the data we are finding has led us to more and more questions. It is a very special place. There is nowhere else like it in the world that I know of, in terms of the density and abundance of tiger sharks.”

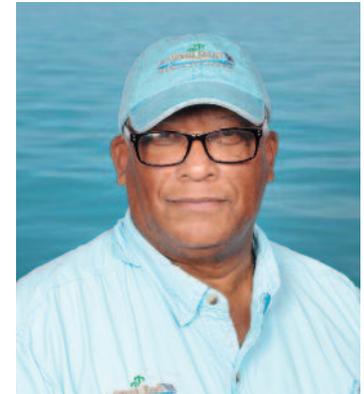
Between 2011 and 2014, Dr Hammerschlag’s team carried out five research expeditions at Tiger Beach. They studied the sharks to determine when, why and how they were using the area. By capturing 65 sharks, testing their hormone levels and using ultrasound, the researchers discovered that Tiger Beach is a popular spot for mature females in particular. Results showed a ratio of one male shark for nearly 10 females. They also found a seasonal disparity. There were more pregnant sharks during October and December and more non-pregnant in the months of May and November.

These discoveries have led scientists to theorize that Tiger Beach may be an important gestation ground, somewhere females can stay during their pregnancies to take advantage of The Bahamas’ year-round warm and calm waters. While tiger sharks can carry a fetus for as long as 15 months, warm water can shorten this gestation period. It can also result in larger, and hardier, offspring. As for the immature females, the team suggested that they are using the site as a refuge from mating males. Reproduction among tiger sharks is violent and aggressive, often leaving the females with scars.

In June 2014, the scientists placed 32 underwater hydrophones around Tiger Beach, in an area covering 100 sq miles. They fitted 45 sharks with internal transmitters which emitted a signal the hydrophones could pick up. In this way, the scientists could see how long the sharks were staying at the site and where they were going when they leave The Bahamas’ protected waters. “People who are tracking tiger sharks elsewhere can also learn from it,” says Dr Hammerschlag. “They are tracking them along the US Eastern Seaboard. Tiger Beach is an important site not only for Bahamian tiger sharks, but also those coming in from the Atlantic Ocean.”

The data shows Tiger Beach has a vital role to play in conservation efforts, giving the sharks, which are designated “near threatened” by the International Union for Conservation of Nature, a safe haven where they can replenish the species. “Tiger sharks

historically have shown a population decline but now the populations are stabilizing and even increasing,” says Dr Hammerschlag. “Who knows, this could be because of pregnant females at Tiger Beach. You might not need to protect them everywhere they go. Making sure they are protected where they are pregnant can obviously have strong conservation implications.”



Keith Cooper

COURTESY KEITH COOPER

## Education and entertainment

An important site for both tourists and conservationists, Tiger Beach has a role to play in Grand Bahama’s economy as well as its ecology. Keith Cooper, owner of West End Ecology Tours and board member of Grand Bahama’s Sustainable Tourism Committee, believes this can be accomplished by respectful management of the site.

“I don’t think there’s any conflict when it comes to tourism and the environment,” he says. “We have unique ecotourism opportunities here, people all over the world are interested in coming and [areas like Tiger Beach] advertise our country and the fact that we have



Tiger shark

COURTESY DR NEIL HAMMERSCHLAG

some of the most magnificent creatures on the planet in our waters. It is of great benefit to the country when done right.”

For Cooper, doing it right means emphasizing education alongside entertainment. “The dive operators are doing it for a business, but they are also educating and informing their customers. You need to market it correctly and when you do it becomes an educational experience and not just a thrill-seeking adventure,” he says. “It’s great for those people who want that kind of natural experience and also want to do something they never thought they’d do in their lifetime. A lot of people are curious about sharks. If you do it with respect, kindness and appreciation it can be a blessing for everyone down the road.”

Cooper took his first dive at Tiger Beach more than a decade ago and came away with a greater understanding about the animals and their habitat. “It took my breath away to see how beautiful these animals are. It was a real eye-opening experience for me and I had a new appreciation for these creatures after that.” He hopes this will be the lasting legacy of Tiger Beach—to help rid sharks of their fearsome reputation by showing visitors how they behave in their natural habitat.

One of the aims of Dr Hammerschlag’s project is to determine how the sharks are affected by dive tourism in the area, specifically to



*“The Bahamas has some of the healthiest shark populations in the world. We want to continue to educate people about the importance and value of sharks.”*

establish whether they are drawn in by dive operators chumming the water with bait. While this work is still ongoing, Dr Hammerschlag believes the sharks are not constrained by being fed at the site. “It seems as if [dive tourism] does not have a big impact on their day-to-day,” he says. “It does not habituate them. Having dive tourists out there has been a big benefit. There is now an economic incentive to conserve them and there are eyes on the ground that care about having sharks there. It creates a lot of shark advocates.”

In 2014, more than 45,000 divers visited The Bahamas, 43 per cent of them came specifically to dive with the country’s sharks and poured \$109.4 million directly into the Bahamian economy. Tiger Beach itself was a major draw for these tourists, generating \$2.69 million at that site alone. However, according to research conducted by the Cape Eleuthera Institute in partnership with the University of Florida, 97.6 per cent of that investment at Tiger Beach left the country.

This disparity has long been a point of contention among Bahamian dive operators who argue that foreign live-aboard boats are taking advantage of Bahamian marine life, without meaningfully contributing to the domestic economy. For their part, US-based operators contend that they are helping drive tourists to the area, paying the relevant fees upon entering Bahamian waters and encouraging competition within the market. Many local operators, led by the Bahamas Diving Association, are now calling for stronger legislation to police foreign dive boats and help keep funds in the country, especially where they can benefit the deprived Out Island economies.

As the world’s largest shark-diving economy, The Bahamas knows that conservation is a priority and all players in the booming industry want to keep it that way. “The longline ban was really impressive, the shark sanctuary is really impressive, but we can always do more,” says Dr Hammerschlag.

“The Bahamas has some of the healthiest shark populations in the world. We want to continue to educate people about the importance and value of sharks. We want to make sure things are maintained.” ©