Number of shark bites higher, but study says real risk of attack is lower

A record number of North Carolina swimmers were bitten by sharks this summer. However, that does not mean the risk of getting bitten by a shark is growing worse. In fact, a new study focused on California suggests the risk is actually dropping all over the world.

According to the new study, California coast visitors are now 91 percent less likely to be bitten by a great white shark than they were in 1950. At the same time, shark bites have increased in number. They have grown from 0.9 per year in the 1950s to 1.5 per year in the period from 2004 to 2013.

How can both of those things be true? The answer is that there are now a whole lot more people in the water.

It is true that "the number of attacks has increased since the 1950s," said Francesco Ferreti, lead author of the study. However, "the number of people engaging in ocean activities has increased much faster over the same period of time." The result is a drop in the likelihood that an individual will suffer an attack.

More People At North Carolina Beaches

The same pattern is playing out in North Carolina. "The population has been going up and the number of people going in the water is always increasing," said shark researcher Chuck Bangley. North Carolina is seeing near-record numbers of people at the beach this year, partly because of a heat wave. More than 6.5 million people visited the North Carolina coast in 2014. Overall, beach-going has increased 18 percent since 2010.

The risk of being bitten by a shark is already incredibly low, Bangley said. It is far less likely than drowning, for example. However, "the more people you have going into the water, the better the odds are that something bad is going to happen."

Pattern Seen Around The World

While the new study focuses on California, the basic conclusions almost certainly apply throughout the world, Ferreti said. Human population has increased greatly across the globe over the past 60 years. At the same time, there has been an even greater global increase in commercial and recreational use of the ocean.

The scientists assumed that the likelihood of a shark biting a person it comes across has not changed. Thus it was a matter of looking at changes over time in the number of people and sharks in the same area of water.

It turns out that the number of scuba divers, surfers and beachgoers has exploded in California over the past 60 years.

Ferreti and his team estimate that the number of surfers increased by nearly 125-fold, from 7,000 in 1950 to 872,000 in 2013. Scuba divers increased more than 200-fold. Overall, the number of annual visits by all beachgoers tripled, from 53 million in the 1950s to 165 million today.

The increase in shark bites over the same period of time was much more modest. Ferreti and the others concluded from this that the risk of an attack has actually declined. The rate dropped 2.4 percent per year, they say, translating to a 91 percent drop over the full time period.

Risk For Swimmers: 1 In 738 Million

The risk varies by activity. For swimmers, the risk of a bite in 2013 was 1 per 738 million beach visits, a drop of 81.5 percent since 1950. Although the risk for surfers did not drop, their likelihood of a shark bite has remained steady at 1 in 17 million. For scuba divers, the risk was 1 in 1.44 million in 2013, a drop of 99.7 percent since 1962.

The reason for the drop in the rate of shark attacks remains unclear. It is likely related to the fact that many shark species have declined greatly in population, by rates varying from 50 to 90 percent. It is unclear just how much California's white shark population has declined.

The global decline in shark populations is primarily due to overfishing. A 2013 study found that humans kill an average of 100 million sharks annually. "We're killing 10 million sharks for every 1 that kills us," said shark researcher George Burgess.

To Avoid Those Teeth, Use Your Brain

Understanding shark behavior can help humans avoid bites, Burgess said. "We're the animals with the brains, they're the ones with the teeth, and we're in their house," he said. It is up to us "to adjust our behavioral patterns."

Most bites are actually mistakes on the shark's part: Surfers look similar to the seals and sea lions that great whites primarily feed on. In North Carolina, bull sharks and blacktips are most likely mistaking a human foot or hand for the small fish they usually go after.

A smart practice for humans in the sea is to stay away from seal and sea lion colonies, as sharks prey on both animals. It is also wise to avoid fishing piers, which tend to attract sharks that hang around for scraps. Avoiding schools of fish can also reduce the risk of a shark bite.

If you think sharks may be hunting somewhere nearby, "get out of the water," Bangley said. "When you're in the ocean, that's where the shark is supposed to be. It's a wilderness experience just like walking in the woods where you might encounter a bear."