

**Our Ocean Backyard — *Santa Cruz Sentinel* columns by Gary Griggs, Director, Institute of Marine Sciences, UC Santa Cruz.**

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**Sharks in our Backyard**

Sharks and summer seem to go together in Monterey Bay. A shark biting a small fishing boat offshore from Capitola on July 12 and some sightings of juvenile great white sharks near the Concrete Ship, this summer and last, led to an email from an old friend. He swims the length of New Brighton Beach just beyond the breakers daily this time of year, and wanted to know if he should be concerned.

This raises some interesting questions. For those who spend a lot of time in the water, whether surfing, scuba diving, swimming or paddling, sharks and the risk of a shark “attack” are right up there in the dread category with mountain lions, earthquakes and tsunamis. Interestingly, all of these carry very, very low risks in California.

Since the early 1900s, more than 70 movies have come out about sharks, and they continue to hit theaters and television screens. Jaws is the one that put the fear of a shark attack firmly into the heads of most people.

TV and newspapers also seem to love the opportunity to create scary front-page headlines or broadcasts that tell the public about shark-infested waters or “man-eating sharks” whenever an attack is reported.

George Burgess, who maintains the international shark attack files at the Florida Museum of Natural History, says “They’re not ‘shark-infested’ waters. They’re ‘shark-inhabited’ waters. If there is infestation, it’s by us.”

None of the 375 carnivorous shark species worldwide have any personal agenda against people or a preference for us, although occasionally sharks will mistake a person for prey. In fact, it’s probably more accurate in most cases to say a person was bitten by a shark rather than attacked.

Although there are a lot of different types of sharks out there, only a few are of potential concern to us. Of all of shark species, only four have been involved in a

significant number of unprovoked and fatal attacks on humans: the great white, tiger, bull, and oceanic white tip sharks.

Despite the innate fear many people have of being bitten or consumed by a shark, it's important to put the probability of this happening in some perspective relative to other day-to-day hazards we live with, but probably don't think much about.

Looking globally, which may not be of great interest to all of us living here in paradise, but which does provide some perspective, there are far more deadly animals encounters to worry about. In a typical year, an estimated 725,000 people die from malaria and other mosquito borne diseases. Snakebites take their toll on another 100,000 people annually.

Deaths from dog bites, primarily from rabies transmission, are responsible for about 60,000 fatalities every year around the world. Between 2005 and 2015, 232 Americans were killed by dogs, or one person every 17 days. Eighty-two percent of these deaths were from Pit Bulls. In contrast, only six people die in a typical year around the world from shark attacks.

Closer to our own back yard, in the 90 years between 1926 and 2016, there were 114 confirmed unprovoked shark attacks along the coast of California. Only ten of these were fatal. So just a little over one attack each year, on average, for the millions of people using California beaches and coastal waters, and one fatality every 9 years, along the entire 1,100 mile coast of California. Relative to all the other risks we encounter daily, this sounds like a really low probability.

Some areas are more dangerous than others, however. Large populations of seals or sea lions serve as meat markets or lunch counters for great whites, with Año Nuevo and the Farallons, being good nearby examples. So far I've not heard of attacks around the Municipal Wharf although the sea lions hang out there in large numbers.

The hottest spots for shark attacks by county and the number of attacks during this 90-year period: San Diego 17 attacks; Humboldt 15, Monterey 11, Santa Barbara 11, Marin 10, San Luis Obispo 10, San Mateo 9, Sonoma 8, Santa Cruz 7, Los Angeles 6, San Francisco 5, Del Norte 2, and 1 each for Mendocino, Alameda and Orange.

To reduce your anxiety the next time you enter the water, Santa Cruz County has never experienced a fatal shark attack. Monterey County's 111 miles of coastline has only had two fatal attacks, the last one 34 years ago.