

North Carolina and Sharks

By Ara McClanahan

In early June, Carteret County made national and international news with two words—"shark attack." In itself, the word "attack" implies intent to act on a specific target, but despite what we may see in movies, on television or read in books—or maybe hear from others—behaviorally, sharks do not intentionally seek humans as prey. When these rare, unfortunate encounters happen, it may be easy to blame sharks in general; however, sharks are specialized animals with many interesting traits and characteristics and are generally misunderstood by humans. We should not blame sharks for their actions in their own environment. They are wild animals that inhabit every ocean on earth (and some other bodies of water as well).

Excluding bacteria, the planet we call home is also home to about 8.7 million other species. Out of those species, about 2.2 million live in the ocean, and out of those there are only just over 500 described species of shark and over 600 species of skate and ray. In comparison, there are approximately 30,000 species of bony fish in the world's oceans.

It is not common knowledge that sharks have experienced massive depletions worldwide, including sharks here in North Carolina. Years and years of research and surveys have shown us that elimination and depletion of apex predators (large keystone sharks) leads to population spikes of mesopredators (small- to medium-sized sharks). Unfortunately, many folks view sharks as monsters, man eaters, bait stealers or nuisances and refuse to believe shark populations are in decline. Sharks are being hunted and are dying by the millions all over the world. I often hear, "I see more sharks now than I ever have," and I always ask, "Well, what species do you see?" Nine times out of ten it will be a small- to medium-sized species.

North Carolina's geography is ideal for sharks at all life stages. Our estuaries, sounds and rivers are important pupping grounds for several species. Our inshore waters are also valuable feeding grounds for many species. Our offshore waters not only serve as a "highway" for several migratory species, but also have hundreds to thousands of shipwrecks, which serve as artificial reefs for a plethora of species, including our beautiful world-renowned sand tiger sharks, which attract divers to our area from all over the world. North Carolina is a great place to be—our beaches are beautiful; the waters are teeming with life; and our reefs, estuaries, and sounds are healthy. We want to keep it that way.



During a shark tag retrieval mission, aquarists from the NC Aquarium at Pine Knoll Shores came upon what they thought was a dead floating shark. However, this female dusky smooth hound shark (held by the author) was bloated with air and couldn't swim properly. After "burping" her and gently putting her back in the water, she immediately swam away with no issues.

—Photo by Fred Boyce

In 2003, the late Dr. Frank Schwartz described 56 species of shark that inhabit North Carolina's inshore and offshore waters, with 28 of those considered frequenters of inshore habitats. Both numbers are a year-round total because many shark species move around, whether north to south, inshore to offshore, deep water to shallow water, or vice versa. Many species of shark that come through our waters are highly migratory, like white sharks (*Carcharodon carcharias*) (which received some media attention recently), mako sharks (*Isurus oxyrinchus*), great hammerhead sharks (*Sphyrna mokarran*) and more. Each shark species has specific preferences that dictate where they go. These habitat preferences and movements are based on depth, time of day, seasonality (which affects water temperature and food availability) and likely other factors that we might not completely understand yet.

Many sharks follow the same vacationing patterns as our northern tourists. For example, basking sharks (*Cetorhinus maximus*), the second largest fish in the ocean, migrate southward toward North Carolina's warmer, yet still cool, waters around late November through April. Between 1901 and 2002, over 360 basking sharks have been recorded off our coast. Like our year-round locals, Atlantic



A concerned Emerald Isle resident witnessed a large shark struggling to swim in the surf. Courageously, she tried to go out into the water and help the shark swim, but it was too late. It was identified as a scalloped hammerhead shark, but, unfortunately, the cause of death was inconclusive.—Photo by Ara McClanahan

sharpnose sharks (*Rhizoprionodon terraenovae*) enjoy North Carolina's inshore waters year-round, whereas a common thresher shark (*Alopias vulpinus*) might enjoy North Carolina's offshore waters year-round.

Based on historical findings and years of data, sharks you may see inshore in July include, but are not limited to, Atlantic sharpnoses, dusky smooth hounds (*Mustelus canis*), blacknoses (*Carcharhinus acronotus*), blacktips (*Carcharhinus limbatus*), spinners (*Carcharhinus brevipinna*), finetooths (*Carcharhinus isodon*), sandbars (*Carcharhinus plumbeus*), bulls (*Carcharhinus leucas*), silkies (*Carcharhinus falciformis*), duskies (*Carcharhinus obscurus*), tigers (*Galeocerdo cuvier*), nurses (*Ginglymostoma cirratum*), scalloped hammerheads (*Sphyrna lewini*), smooth hammerheads (*Sphyrna zygaena*), bonnetheads (*Sphyrna tiburo*), sand tigers (*Carcharias taurus*) and more.

Sharks in North Carolina can range anywhere in size from the smaller Caribbean lantern shark (*Etmopterus hillianus*), found in very deep water and averaging 9.5 inches in length, to the 39-foot (average) occasional visiting whale shark

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