

Mutual Respect

At remote Guadalupe Island, a migration takes place. It has been studied for only a few years. Great white sharks (*Carcharodon carcharias*) migrate through, following large schools of tuna, one of their favorite foods. From September to December, these animals share the sea surrounding this island approximately 145 miles (232 kilometers) off Mexico's Baja peninsula with Guadalupe fur seals (*Arctocephalus townsendi*), northern elephant seals (*Mirounga angustirostris*) and the common California sea lion (*Zalophus californiacus*).

On trips to photograph the great white sharks, no one in my group witnessed predatory behavior toward any of these pinnipeds (literally "wing-footed," as the shape of their flippers suggest). Paul "Doc" Anes, a pioneer in white shark diving at Guadalupe, says he has never witnessed any such predation since 2000, when these expeditions began. "We did see a white shark eat a bird, though," Anes said.

Theories on why there are no attacks

Many theories abound as to why the sharks don't attack these meals of high-fat content they commonly feed on at other locations, such as near the Farallon Islands west of San Francisco, and the South African coast of False Bay, about 30 minutes south of Cape Town. Early morning boat trips from Simon's Town on the Cape Peninsula in South Africa offer visitors spectacular attacks by sharks as they "fly," or breach the surface in search of prey. This has been documented in the Discovery Channel's popular Air Jaws television programs. Murky water there creates a "kill zone," which the seals must cross to get to deep water. There, the white sharks have a stealth advantage. Attacks on the younger, less-experienced pups who first venture into the sea have been well documented. Anes, owner of San Diego Shark Diving Expeditions Inc. in San Diego, Calif., has spent more time observing and leading trips to Guadalupe Island than probably any other person. He has owned his business since 1993 and conducted numerous expeditions to Guadalupe. Anes proposes several possibilities why the Guadalupe white sharks don't seem to prey on pinnipeds at that particular locale.

Visibility, which is often 80-100 feet (24-30 meters), takes away an element of surprise the white sharks commonly use to launch attacks. Like predatory cats on the African plains, these animals cannot afford to waste energy on numerous unsuccessful attacks. Attacks on pinnipeds elsewhere in the world are usually on young seals and sea lions that lack experience in predatory awareness and avoidance. Anes also thinks many of the sharks move on before the elephant seal pups first enter the sea to learn feeding techniques. Dr. Michael Domeier, president and executive director of the Pflieger Institute of Environmental Research in Oceanside, Calif., has tagged close to 20 Guadalupe white sharks with satellite tracking and recording devices. His data indicate that around January the sharks move out into mid-ocean and even to Hawaii. While his studies are ongoing, he reports that no predation on healthy pinnipeds has been recorded. Working with Domeier, Jessie Harper has collected data on San Diego Shark Diving trips of the Guadalupe white shark population. Working with Anes, they have tallied more total hours observing white sharks at Guadalupe than anyone else. "If attacks were taking place, we would have seen one by now," Anes said.

Biologist Burney J. LeBoeuf, Ph.D., has studied elephant seals for 25 years. In his 1985 book about them, LeBoeuf noted that elephant seal pups are born from mid-December to January and, after they are weaned, they live on stored fat for two to three months. It might be as late as May when the young seals first venture seaward, well after white sharks have moved on.

A Personal Encounter

In 2003, I led a group of divers on a shark diving expedition to Guadalupe Island. There we witnessed what

we thought would be the first predatory behavior between a white shark and a sea lion in that locale. A male sea lion, identified by his prominent crown-type bump on the head, approached our anchored boat, where large tuna heads were floating to attract the sharks to the cages. He was apparently hungry and wanted to eat the shark lure, as he demonstrated over and over again. The “bait wranglers” (a moniker we used for the purveyors of fish heads) had a devil of a time keeping the tuna heads from this persistent pinniped. During this late afternoon foray, we were sure the sea lion was going to be served up any minute, as more and more great whites came swimming in and out of the distant blue. It was a real show, we all came to agree: The sea lion would lazily sunbathe on the surface, obviously watching for the opportunity to make a dash for a fresh fish head. When a shark appeared, the sea lion would casually swim away, apparently very aware the shark was after the same food. On one occasion, the sea lion was startled from his languor by a great white, barely 10 feet (3m) long, “testing” the sea lion’s tail with a nudge. It wasn’t a bite . (White sharks can be bitten by other whites or their prey, and, if injured, they might be unable to hunt and feed themselves.)

The nudge we witnessed was from a young male shark who likely was trying to push the competitor out of the game. Anes said observers at Guadalupe have seen sea lions, in competition for the tuna heads, bite the tails and dorsal fins of great whites. “They harass the white sharks as they would any competitor for food,” Anes said. “It would seem the predator realizes that it would be futile to attempt an attack on such a wary animal. “The name of the game in the big pond is to expend the least amount of energy for the maximum amount of food (calories). Chasing around a speedy sea lion is a waste of valuable energy in the clear waters of Guadalupe. Only in murky waters close to shore, where white sharks and pinnipeds coexist does a white shark have a better chance to feed itself.” As days passed at Guadalupe, we began to realize this was best defined as a case of mutual wariness. The sea lion knew that, in this clear water, he could easily outmaneuver the shark. The shark seemed to see the sea lion as an annoyance, keeping him from his easy “sushi” snacks. Only when three or more sharks showed up competing for the baits did the little guy head for shore to take a break. Sometimes, nature rewards us with amazing and enlightening experiences.

About the Author

Dave Haas, DAN Member, is a diving adventurer whose exploits have been recorded in many publications in the dive industry, in both prose and photographs.

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