

## Great White Sharks: The Hunters Become the Hunted

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Fear of the unknown paralyzes people from all over the world. There are very few people that know much about Great White Sharks other than watching *Jaws* (1975) or similar movies. Since the release of *Jaws*, the common belief among American beach goers has become ‘the only good shark is a dead shark.’ Fishermen hunt down the oceanic giants to ensure beachgoer’s ‘safety.’ The question then becomes, do people fear Great White Sharks because of their lack of knowledge about them?

In my research, I have found that many people are still ill-informed about Great White Sharks and begin to fear these creatures due to this lack of information. Great White Sharks are a misunderstood predator that is nearing extinction and needs to be protected.

### **Great White Facts**

One of the best sources of information on the Great White Shark is *A Guide to Sharks and Rays*, which was compiled by the likes of Timothy Tricas and other great shark researchers.

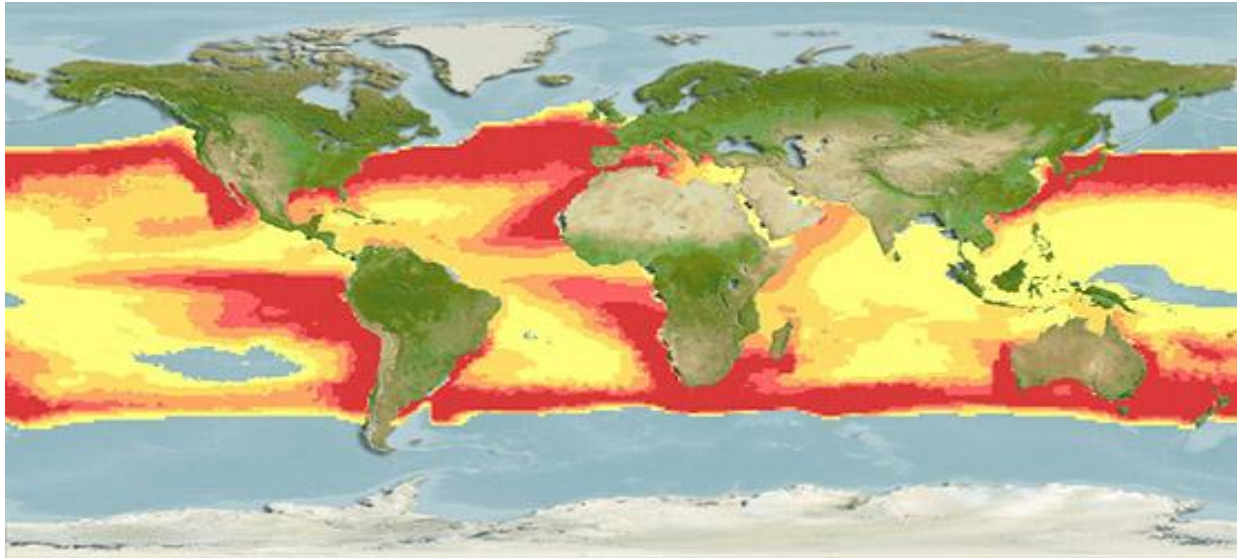
The Great White Shark, unlike most other sharks, has a tail that the top and bottom lobe are equal in size. (Tricas, 158) This shows that the Great White swims constantly and sometimes very quickly. The Great White must continually swim in order to breathe. They extract oxygen out of the water through their gills to metabolize their food. (99) The largest recorded Great White was 21 ¼ feet long and weighed 7,300 pounds. (158) A shark's body language can tell whether it is being aggressive or if it is not. If its movements are slow and minute, it is non-aggressive in its current situation. If its movements are quick and wide, it is aggressive. (108)

During courtship, male Great Whites will smell a female's genitalia to decide whether she is worthy of reproduction. He will then bite her fins, flanks, and back which stimulates her despite the severe wounds that are inflicted. Once the female is stimulated, the male will take hold of her pectoral fin with his mouth then rolls on his side and finally mates with her. The Great White Shark is one of the few shark species that actually continues swimming while the mating process is occurring. (109)

### **Habitat**

Great White Sharks inhabit the world's sub-tropical oceans. People swim in the same waters as them and never even know it. The Great White appears mainly in temperate or sub-tropical waters. Most prominently they inhabit the Atlantic Ocean, (Coastline from Newfoundland to Florida, the Bahamas, Cuba, coastline of Brazil down to Argentina, France, the Mediterranean, and South Africa) the Pacific Ocean (Siberia to New Zealand, Hawaiian Islands, coastline from Alaska to California, and Panama to Chile), and the Indian Ocean (Red Sea, South Africa, Seychelles Islands, and the Reunion and Mauritius Islands). They have even been sighted

off of the coast of Alaska and Canada. (158)



\*This map shows the places where Great White Sharks live. Red indicating high frequency. Yellow indicating lower frequency.

There are places, such as the Farallon Islands (off the coast of California), Cape Town (South Africa), Neptune Islands (Australia) and more, that take people and allow them to view Great White Sharks feeding. (Tricas 250-251; 264-265)

The Great White is principally an epipelagic, which means it lives in the upper part of the ocean, though its habitat can, on occasion, range from surf line to depths off shore reaching as deep as 775 feet. (105) This particular species of shark patrols archipelagoes, shoals, and reefs in search of its prey.

From January to May, they are primarily seen off the coast of Australia. August to September they are primarily sighted off the coast of Mexico. And from December to February, they can be found off the coast of Africa. During the rest of the year, the Great White Shark roams according to unpredictable patterns. (158)

## **Diet**

A Great White Shark's diet is a wide variety of other sea creatures. Their diet differs as they grow older and become larger. When they are young, Great White Sharks tend to eat small harbor seals, small stingrays, and carrion, which are dead animals they find floating in the water. As they grow older, they begin to expand their diet eating sea lions, small whales (belugas), and elephant seals. They are a top predator in the ocean's food chain. (110-111)

### **Finding Their Prey**

Great White Sharks primarily use their sense of smell and their sensing of electrical charges to find their prey. They can smell one drop of blood in twenty-five gallons of water. Great Whites have two olfactory sacs under their snout, which is covered by a flap of skin channeling water into their sensory lamellae. They can also sense minute electrical charges in water because of a series of jelly-filled canals in their head called ampullae of Lorenzini. This allows them to sense the electrical fields of other animals, which are caused by muscle contractions. (77)

### **Eating**

The most common feeding pattern used by the Great White Shark is what is called the "bite, spit, and wait" theory. The Great White seizes its prey from underneath by charging upwards at great speeds to put the prey in shock. Whenever the Great White attacks, its eyes roll back into its head in order to protect them from injury. The Great White then shakes its prey, releases it intact, waits until it lapses into a state of shock or dies of blood loss, and finally feeds on it by taking small bites, which it swallows whole because it does not chew.



Whenever the Great White begins its bite process, “the head and snout are lifted and the lower jaw is simultaneously depressed. Once the jaw is fully open, muscle contractions force the forward rotation of the upper jaw, which detaches from the skull and comes completely out of the mouth.” (111)

### **Endangerment & Causes**

The Great White Shark has been listed as Vulnerable on the IUCN Red List of Threatened Species according to the International Union for the Conservation of Nature (IUCN) in their reports as of 2009, partially because scientists do not really know how many truly are left in the ocean. (*iucnredlist.org*)

**Teeth/Jaws** – The Great White Sharks are becoming endangered due to mankind’s fear of them, over fishing for their teeth, jaws and meat, and their slow growth process. The jaws and teeth of Great Whites are worth a large sum of money in the U.S. and in other parts of the world. An intact Great White jaw has been found to sell for hundreds and even thousands of U.S. dollars in South Africa. A Great White Shark tooth can sell anywhere from \$25 to a couple hundred dollars. (Tricas 36-37)



**Body** – Their meat is a delicacy in the Asian fish market, especially their dorsal fin, which is used in making shark fin soup. Great White Shark’s liver oil has been used for pharmaceutical purposes and in vitamins. Even the blood and cartilage of the Great White are used for health food supplements, supposedly reducing the risk of cancer. There have been cases where shark corneas are being used as transplants for human eyes. (35-37)

The Great White's skin is used in apparel for making different kinds of leather. Their skin has even been used as surgical skin implants due to its toughness. The skin is also used in fine sandpaper because of its rough texture. Hilt covers for daggers and swords have also been made from Great White Shark's skin. (36-37)

**Slow Reproduction** – Because Great White Sharks are slow at maturing to an age where they can reproduce, they cannot stabilize the Great White population without the help of conservationists. For males this time comes after they reach the age of eight years old before they become sexually mature enough to mate. With females it comes after they reach fifteen years old. This along with the fact that they only have a few litters of around seven pups in their life time makes it hard for them to keep up a healthy population and it makes it even harder for them to try to replenish the part of the population lost to over fishing. (106-107)

**Overfishing** – Between the years, 1990 and 1996 an average of six people a year were killed by sharks (collectively). According to the United Nations Fishery and Agriculture Organization (UN/FAO), in the year of 1991 humans caught and killed over 633,600 metric tons of sharks (collectively). The UN/FAO estimates that this is equivalent to at least 12 million sharks in 1991 alone. So for every human that is killed by a shark there are two million sharks killed. (34)



### **Call to Action**

Without help, the Great White Shark may succumb to extinction. There are more and more organizations that are devoting themselves to the conservation of endangered species like

the World Wildlife Fund and the Endangered Species Coalition. People can assist in the conservation effort in multiple ways. These organizations always need members (those active in the organization), funding, and supporters (those who sign petitions). The overfishing of these ancient predators will make an end to them if mankind does not step in and do something about it.

### **Conclusion**

In conclusion, Great White Sharks are a misunderstood predator that are nearing extinction and need help. With more information becoming more and more available hopefully the world will realize the important role that Great Whites play in their environment, and that they are just another creature that wants to be left alone.

### Works Cited

- Tricas, Timothy et al. *A Guide to Sharks and Rays*. San Francisco: Fog City Press, 1997.
- “Great White Shark.” <http://www.iucnredlist.org/details/3855/0>. Web.

### Also Check Out:

- <http://marinebio.org/species.asp?id=38#.UL-3yIM72So>  
This is a webpage that talks in-depth about Great White sharks and has many great facts.
- <http://www.youtube.com/watch?v=uRChY7uzvSg>  
This is a video of a Great White shark attack in slow motion.
- <http://dsc.discovery.com/tv-shows/shark-week/photos/air-jaws-pictures.htm>  
This is a webpage that has some really good pictures of Great White sharks.