I'm not a robot

Whale sharks are the biggest fish in the world and possibly the biggest to have ever existed. They can be found in warm tropical waters around the globe and cruise along the ocean surface to find food. The biggest whale shark on record was 19 metres long and weighed more than 15 tonnes. Despite their terrifying size, they are called the sea's gentle giants. As filter-feeders, whale sharks don't hunt or stalk, and their interactions with humans are peaceful and curious.The markings on a whale shark's body make them instantly recognisable. They have dark skin with light horizontal and vertical lines that create a chequered pattern across their bodies. They also have hundreds of lightly coloured spots covering the darker areas of their skin, while their bellies are white. As filter feeders, whale sharks eat by opening their huge mouths, swallowing water, and passively filtering small creatures with their mesh-like gills, which they then swallow.Not a lot is known about the lives of whale sharks because they're difficult to track and study, both when alive and when deceased. This is because, as fish, whale sharks have no bones. Instead, their skeletons are made of bendy cartilage (like human noses) which doesn't fossilise well. As a result, not much is known about their mating rituals, life span, or social tendencies.Importantly, whale sharks help their environment by controlling the levels of plankton and algae. Excessive amounts of either of these would decrease the amount of sunlight and oxygen in the water, disrupting the natural ecosystem. A range of smaller fish also feed off the external parasites that live on whale sharks' skin and swim in close proximity to them to protect themselves from other predators.What is a whale shark's scientific name?The whale shark's scientific name is Rhincodon typus. It is the only member of the genus Rhincodon, which scientists class as its own family, though it is sometimes also classed under the Orectolobidae family (carpet sharks).Are whale sharks endangered?Whale sharks are listed as endangered on the IUCN Red List, and their populations are currently decreasing. They face a range of threats, including vessel strikes, bycatch, fisheries, finning, tourism, and climate change.According to the IUCN, whale sharks have a recovery score of 29%. This means they are almost a third of the way towards full recovery—a target that is reached when a species is present, thrives, and performs its ecological functions in all parts of its range.Where do whale sharks live?Whale sharks have a circumtropical distribution, which means their range extends around the globe and is made up of tropical waters. Their range covers too many countries to list, and they are present in the Indian, Atlantic, and Pacific Oceans.The southernmost part of their range includes the waters around the southernmost points of Africa and Australia. The northernmost part of their range includes the waters off the coast of Boston and New York. Outside of this range, the waters become too cold for whale sharks. Whale sharks face a number of manmade threats, including finning, bycatch, tourism, and climate change. Whale shark swimming in the ocean, seen from above. Photo: © Vanessa MignonThere is considerable overlap between whale shark hotspots and industrial shipping routes, which has led to an increase in vessel strikes. Though the exact number of sharks affected is unknown, marine biologists fear that vessel strikes may be far more common than previously estimated. Despite their large size and thick skin, collisions with large vessels are often fatal for whale sharks.BycatchBycatch refers to fish that are accidentally caught in fishing nets and other large-scale fishing practices, even though they are not the intended target. It's possible for almost any species to be accidentally caught—and whale sharks are no exception.Those that are caught are usually killed and discarded. If a whale shark does escape, they are often left injured and maimed.Fisheries and finningFinning is an inhumane practice that involves catching sharks, sawing off their fins while they are still alive, and then throwing their bodies back into the water, where they die slow and painful deaths.These fins are used in traditional dishes, including shark fin soup, in Asia, where the demand for shark fins has been steadily rising in recent years. Despite regulations and bans across many areas, estimates suggest as many as 73 million sharks are finned each year.TourismWhile whale sharks don't seem to mind human divers swimming beside them, it may disrupt their feeding patterns and other parts of their lives. The growing popularity of such activities also increases the number of boats travelling to shark-inhabited waters, which could result in more vessel strikes.Climate changeRapidly warming waters affect marine life and ecosystems in many ways. One dangerous side effect is the mass migration of creatures moving from familiar waters that are becoming too hot to cooler waters in new regions. This has resulted in more shark sightings along coasts, which can result in more human-shark interactions. The whale shark is both the largest shark and the largest fish in the world. It has a broad, flat-shaped head and extremely large mouth used to catch its prey, with two eyes on either side. Its distinctive markings include lightly coloured horizontal and vertical lines over its dark skin and light spots across the darkest areas of the body. Two whale sharks approach the ocean's surface while swimming underwater. Photo: © Vanessa MignonWhale sharks are filter-feeders, which means they catch prey by allowing water to flow into their mouths and out of their gills, while small creatures are caught in the gills and swallowed.A shark catches a range of prey using this feeding method, the most common of which are zooplankton (such as shrimp) and phytoplankton (such as algae). However, larger creatures like sardines, anchovies, mackerel, squid, tuna, and albacore are also commonly caught and eaten.Do whale sharks eat people?No. Whale sharks are filter feeders, meaning they feed on the tiny species of plankton and krill that swim into their large, open mouths. They don't eat large animals or use any hunting or chasing behaviours to obtain their food.Are whale sharks dangerous?Whale sharks have been approached by divers on numerous occasions and haven't displayed any violent behaviour. However, you should always be careful when close to a wild animal, ensuring you don't make them feel stressed or threatened.Is a whale shark a shark or a whale?The whale shark is the largest species of shark (and fish) in the world—hence the name 'whale'—but they are not whales, as they are fish, not mammals. They're also often referred to as 'gentle giants' due to their size.Do whale sharks have teeth?Whale sharks do have teeth—over 3,000 arranged in more than 300 rows. However, they don't just have teeth in their mouths—they also have tiny teeth clustered around their irises. Scientists have observed more than 3,000 tiny teeth on each eye. They're most likely used as protection, since a whale shark doesn't have eyelids and its eyes stick out of the side of its head.How long do whale sharks live?As it's difficult to study whale sharks, scientists aren't sure how long whale sharks live. However, current estimates suggest their lifespan is about 60 to 100 years.How big is a whale shark?While the biggest whale shark measured was almost 19 metres (62 feet) long, most reach lengths of around 12 metres (32 feet).How much does a whale shark weigh?The average weight of a whale shark (according to a fairly small sample of specimens) is around 14 metric tonnes (about 31,000 pounds).Is a whale shark bigger than a blue whale?Blue whales are much bigger than whale sharks—the biggest blue whale ever recorded was 33 metres long, while the largest measured whale shark was 19 metres long. However, whale sharks are still the biggest fish on Earth and the biggest known fish to have ever existed.Do whale sharks have predators?Whale sharks don't have any natural predators in their ecosystems because they are at the top of the food chain. Their young can sometimes be attacked by other sharks and marine predators, but once they grow to full size, they don't face this threat. However, humans pose a threat as an unnatural predator. Illegal hunting and poaching affect sharks, and they also fall victim to collisions with large boats.Do whale sharks lay eggs?Not a lot is known about the reproductive habits of whale sharks, but scientists believe they give birth to fully-formed young and don't lay eggs. The average litter contains around 16 young but much larger litters are also possible—a pregnant female was once caught in Taiwan that had nearly 300 young in her uterus.Why are whale sharks important?Sharks benefit their environments in many ways, but one of their most important roles is that of the apex predator. They are the top predators in the ocean, and this means they control the populations of smaller predators, making sure prey species aren't overly predated. When shark populations significantly decline, smaller predator populations increase, and they consume more than their ecosystems can sustain.Why are whale sharks endangered?Though they don't have natural predators, whale sharks face a number of threats caused by humans. These include fishing-related threats like bycatch and finning, transportation-related threats like vessel strikes and tourism, and climate change. Whale sharks are the biggest fish and sharks in the world, but they are endangered and under threat from unregulated fishing for their meat, fins, and oil, in addition to facing entanglements and vessel strikes.In 2004, IFAW's partner organisation in India, Wildlife Trust of India (WTI), launched its Save the Whale Shark campaign, aimed at spreading awareness of the plight of these majestic animals and their protected status among coastal communities in Gujarat on India's west coast. The campaign helped convert fishers into conservationists and brought about change in the perception and attitudes of local people. Since then, fishers have rescued and released 851 whale sharks off Gujarat through a scheme to compensate fishers for damage to nets as a result of their efforts to release whale sharks alive.IFAW's current work in coastal Kenya also focuses on threat reduction and the conservation of whale sharks, which are known to frequent Kenya's coastal waters.Whale shark swimming in the open ocean. IFAW is working to combat threats to marine life like vessel strikes, bycatch, and climate change. Learn more about our current projects and how we help protect whale sharks and other amazing animals. Close-up of a juvenile whale shark with mouth open. Photo: Ralf Sonntag / © IFAWDonate today to protect marine life How can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' FavoritesHow can financial brands set themselves apart through visual storytelling? Our experts explain how.Learn MoreThe Motorsport Images Collections captures events from 1895 to today's most recent coverage.Discover The CollectionCurated, compelling, and worth your time. Explore our latest gallery of Editors' Picks.Browse Editors' Favorites Reddit and its partners use cookies and similar technologies to provide you with a better experience. By accepting all cookies, you agree to our use of cookies to deliver and maintain our services and site, improve the quality of Reddit, personalize Reddit content and advertising, and measure the effectiveness of advertising. By rejecting non-essential cookies, Reddit may still use certain cookies to ensure the proper functionality of our platform. For more information, please see our Cookie Notice and our Privacy Policy. Despite its massive size, the whale shark lacks major defenses and natural predators. It possesses no sharp teeth, claws, spines, or a venomous bite to protect itself from the dangers of the ocean. Instead, it relies on three primary mechanisms for protection: 1. Size: The sheer size of the whale shark serves as a natural deterrent to potential predators. At an average length of 40 feet and a maximum length of up to 65 feet, the whale shark is one of the largest fish species on Earth. This immense size makes it vulnerable to attacks only by larger marine animals like orcas. 2. Speed and Agility: Whale sharks are surprisingly agile and fast swimmers, capable of reaching speeds of up to 6 mph. Their streamlined bodies and powerful tails enable them to swiftly move through the water, effectively evading predators or potential threats. 3. Camouflage: The whale shark's distinct pattern of light spots on a dark gray or blue body helps it blend in with its ocean environment. This camouflage aids in avoiding predators and provides an element of surprise when hunting for food. Overall, the whale shark relies on its immense size, agility, and camouflage to ensure its survival in the ocean's vast and often dangerous ecosystem. Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. September 4, 2015 update: Thank you to the more than 73,000 people who took action to protect whale sharks. We are currently in direct conversations with the cruise ship industry and we hope to share updates with you soon. Watch this space! The largest fish in the ocean is one of the most majestic, too: the whale shark. These gentle giants are also in danger. Right now, there's a very simple way to protect them, and you can help. Off the coast of Mexico, thousands of whale sharks gather to feed and mate every year. Unfortunately, there are two cruise ship companies whose cruises currently travel through this important area where whale sharks congregate in large numbers and swim slowly at the surface of the water. The beauty of this area is bringing more and more visitors each year, and unfortunately, they are having some negative effects on the whale sharks. There is an easy step to be taken in protecting whale sharks in this region, and we hope you'll take just a moment to let Carnival and Royal Caribbean Cruises know how important it is to you that they adjust their course by 7 miles to protect these magnificent animals. Whale sharks can reach over 40 feet in length, and they swim slowly while close to the surface with their mouths open to eat their staple food source, plankton. This makes them particularly vulnerable to ship strikes, which is why it's so important to adjust cruise ship routes to protect them. Ships are currently required by Mexican law to go at least 3 miles east of Isla Contoy, but just 4 additional miles would keep the ships from passing through this critical whale shark area and prevent possible negative interactions with these incredible creatures. Just 7 miles can save whale sharks. Please encourage Carnival and Royal Caribbean to help make a difference for whale sharks. Browse Topics Sections Sharks have a reputation for being bloodthirsty, all-powerful monsters lording over the ocean, but many of the hundreds of described species are actually quite small, retiring and inoffensive. Almost all sharks face the prospect of predation at some point in their lives as they must deal with larger members of their own kind or even other shark species. Sharks are generally at the top of the food chain and great white sharks, for example, only have two known predators: orca whales and humans. In 1997, visitors to the Farallon Islands off the coast of California got a huge surprise and rare footage of an orca pod attacking and killing a great white. Most impressively, the orca pod flipped the shark on its back, putting it into a catatonic state (tonic immobility), ate only the liver, and discarded the rest of the great white's body. The other known shark predators are humans. Humans catch and kill over 100 million sharks every year. Shark fins are used in soups and considered a delicacy in Asia. Hammerhead species have been listed as vulnerable (smooth hammerhead) or endangered (scalloped hammerhead) due to this practice. Although sharks cannot protect themselves from being fished, sharks do pursue a variety of strategies to stay out of harm's way. Once they reach adult proportions, larger sharks deter most predators simply by being too big, strong and fierce to tangle with. Aside from orcas and, especially, bigger sharks, few marine creatures are capable of realistically tackling medium- to large-sized species such as most hammerheads (Sphyrnidae), requiem sharks (Carcharhinidae) and mackerel sharks (Lamnidae). The huge filter-feeding sharks — megamouths, basking sharks and whale sharks — are not formidably toothy, but they're so massive that only pods of orcas threaten them. Another shark defense is turning the powerful, tooth-filled jaws they use to subdue prey upon an attacker. The gray reef shark performs elaborate threat displays to ward off potential predators. When it feels threatened, this bold, mid-sized member of the requiem shark family will hunch its back, raise its snout, droop its pectoral fins and swim with amplified movements. If the antagonist — say, a scuba diver — doesn't heed the warning, the shark may deliver a swift bite or two before taking flight. Aside from razor-sharp teeth and generally tough, abrasive hides, some sharks have specialized physical features that act as defensive armor. Certain species, such as the horn shark, have dorsal spines to discourage predation. The small, bottom-dwelling swell shark displays one of the more distinctive anti-predator adaptations. Exposed to a threat, it will gulp in water — or air, if it's been removed from the sea — to double its normal size. This transformation is particularly effective if the fish has retreated to a rocky nook, from which a predator would be hard-pressed to dislodge a fully swollen shark. Another shark defense may include hiding from predators by camouflaging themselves against the seafloor or reefs. The flattened wobbegong of tropical waters is a standout example in terms of cryptic coloration, although its disguise is as much to support its ambush hunting as for lying low. Mangrove swamps and seagrass beds function as important nurseries for many shark species, as hiding places are plentiful and large predators less common. In Bimini in the Bahamas, for example, young lemon sharks spend most of their first few years of life frequenting the tangled shelter of the island's coastal mangroves. Shaw, Ethan. "How Do Sharks Protect Themselves?" sciencing.com, . 18 June 2019. APA Shaw, Ethan. (2019, June 18). How Do Sharks Protect Themselves?. sciencing.com. Retrieved from Chicago Shaw, Ethan. How Do Sharks Protect Themselves? last modified March 24, 2022. By Tom Ryan i Jupiterimages/Photos.com/Getty Images Sharks don't rely strictly on their size and formidable jaws for self-defense. These well-adapted predators are able to outsmart and outswim their foes, as well -- because sharks are preyed upon by other sharks, these are critical defense mechanisms. To protect himself in the wild, a shark has to rely on all of his senses, cunning and strength. Sharks are highly intelligent creatures, and they use that keen intellect to defend themselves and more effectively hunt their prey. This is a product of adapting to the hunt, as the animals on which sharks frequently prey, like dolphins and seals, are also intelligent. For example, some sharks consciously sink to the ocean floor, camouflaging themselves to avoid detection. The shark also benefits from highly attuned senses, using his finely tuned powers of sight, smell and hearing to detect nearby threats and potential meals. Because of both his sharp mind and his excellent vision, the shark is able to communicate using body language, preemptively defending himself by attempting to prevent violent confrontations. While they are fierce predators, when not in pursuit of a meal, sharks are not inherently violent creatures -- when one feels threatened, he signals his unease in an attempt to defend himself by communicating distress. By lowering his pectoral fins, for example, he communicates to a potential attacker that he feels threatened, sending a message before the confrontation comes to blows. The same adaptations that make sharks powerful hunters also enable them to defend themselves -- particularly, his speed. Sharks are notably fast swimmers, and they use that speed to escape potentially dangerous situations. For example, the great white shark can reach speeds as fast as 43 miles per hour, and when confronted with a "fight or flight" situation, he may simply choose the latter as a pragmatic self-defense maneuver. In a physical confrontation, a shark defends himself using a variety of tactics. Using a combination of powerful body slams and vicious bites, sharks pummel, disorient and tear apart their enemies. In some cases, the best defense is a good offense -- sharks frequently rely on surprising their prey and would-be foes, sneaking up on them from underneath to give themselves an advantage from the outset of the fight.