

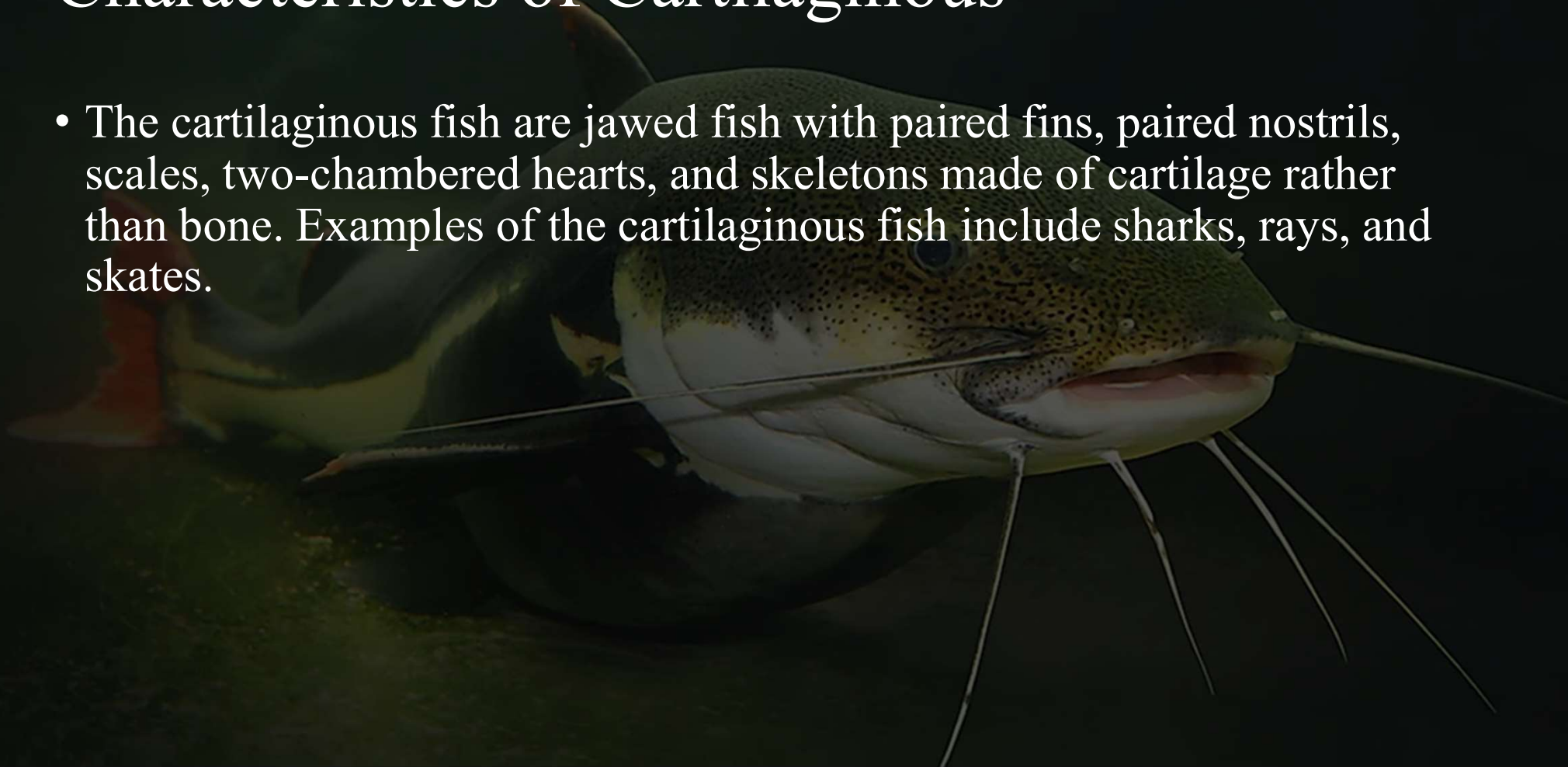
A large whale shark is shown swimming in deep blue water. The shark's body is covered in a pattern of white spots and stripes. It has a long, pointed snout and a small eye. The text "Cartilaginous Fish" is overlaid on the image in a white serif font.

# Cartilaginous Fish

By Amanda, and Ben I guess..

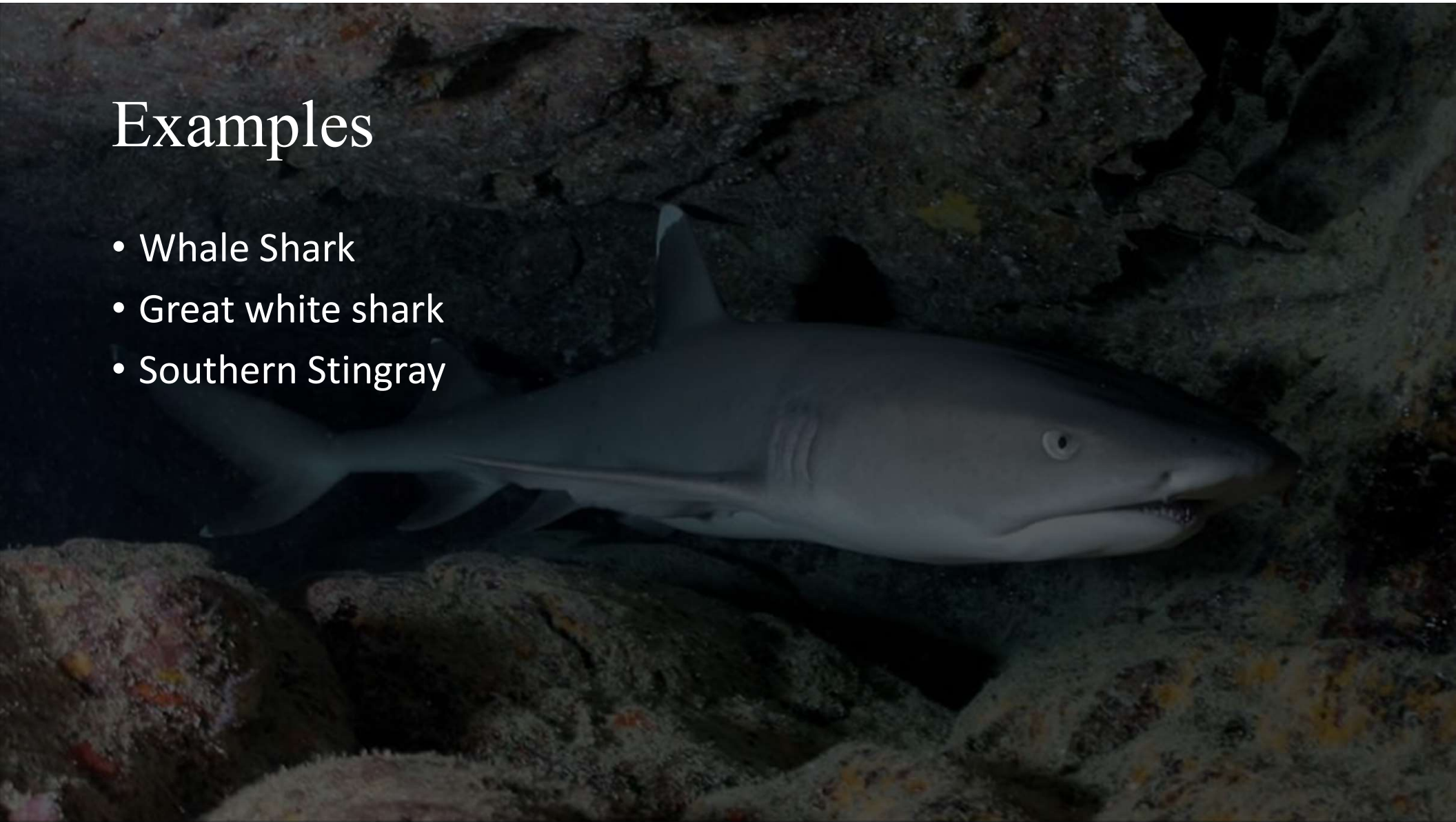
# Characteristics of Cartilaginous

- The cartilaginous fish are jawed fish with paired fins, paired nostrils, scales, two-chambered hearts, and skeletons made of cartilage rather than bone. Examples of the cartilaginous fish include sharks, rays, and skates.



# Examples

- Whale Shark
- Great white shark
- Southern Stingray





## Reproduction

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- All cartilaginous fish reproduce using internal fertilization. The male uses "claspers" to grasp the female, and then he releases sperm to fertilize the female's oocytes. After that, reproduction can differ among sharks, skates, and rays.



Basking Shark (*Cetorhinus maximus*)

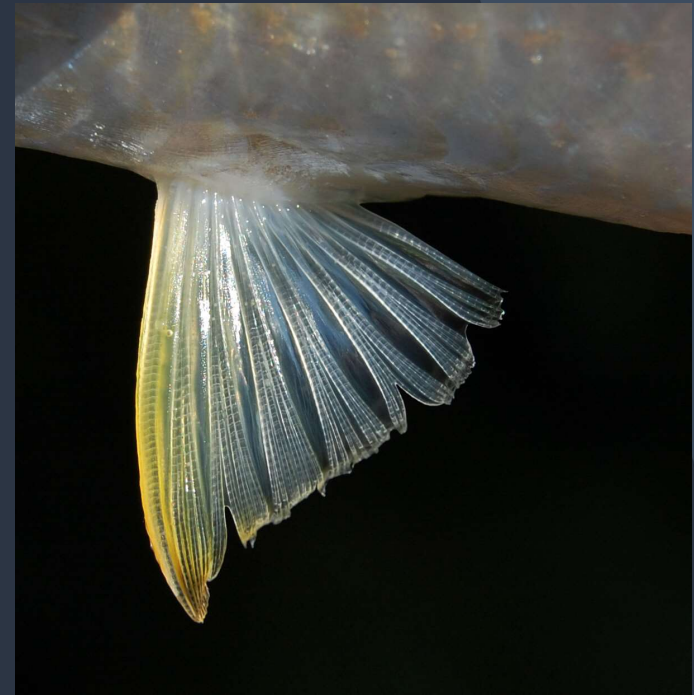
# Feeding strategies

- Cartilaginous fish are usually carnivorous animals that hunt smaller aquatic mammals for food.

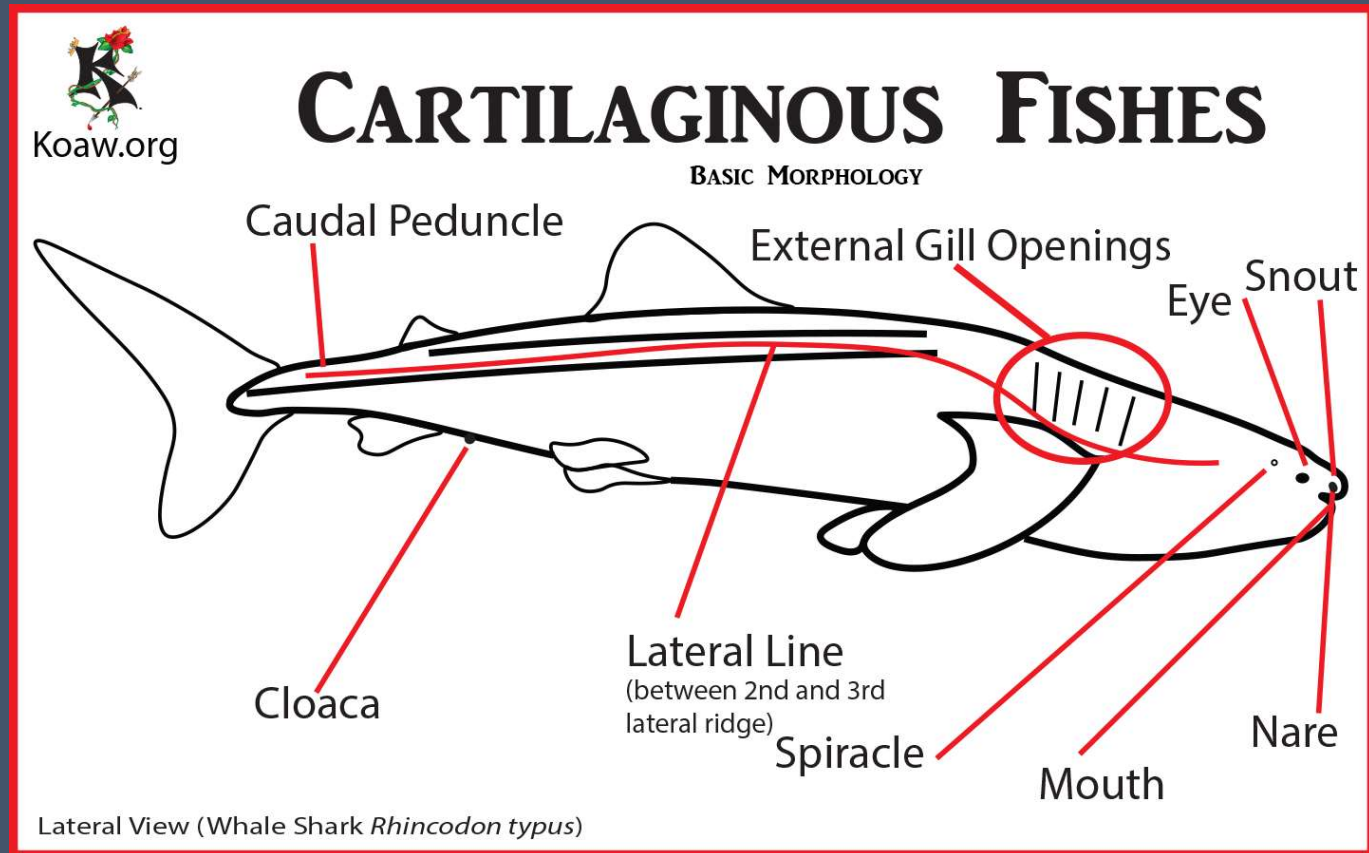


# Symmetry

- All cartilaginous fishes have a pair each of symmetrical pectoral and pelvic fins on the sides of the body



# Anatomy



# Whale Shark Adaptions

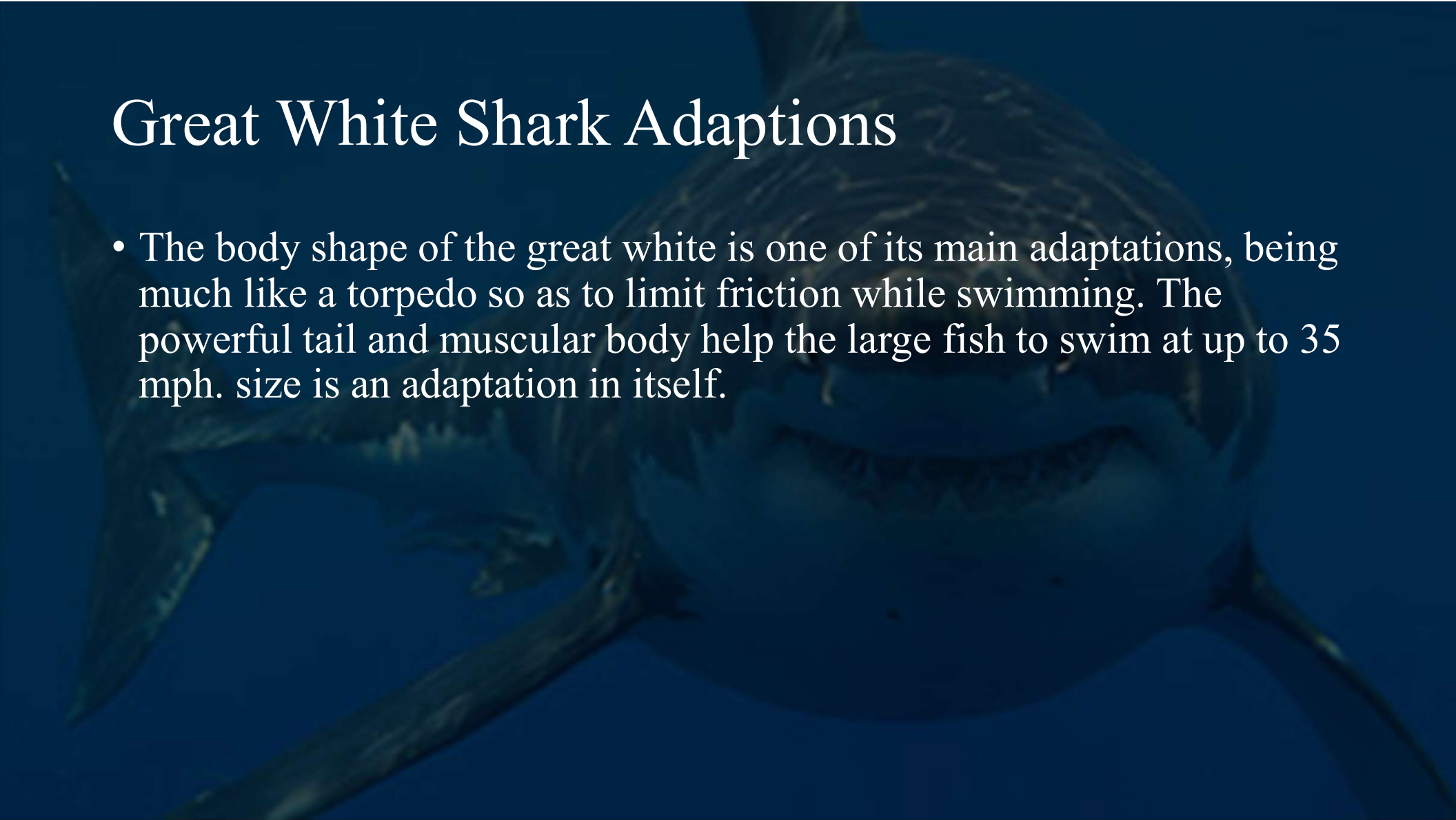
- The whale shark is well adapted to its environment. Its monumental size is its greatest protection and adults have little to fear from natural predators except for humans. It has a very efficient feeding mechanism and its somewhat opportunistic diet provides a broad base of food supply.





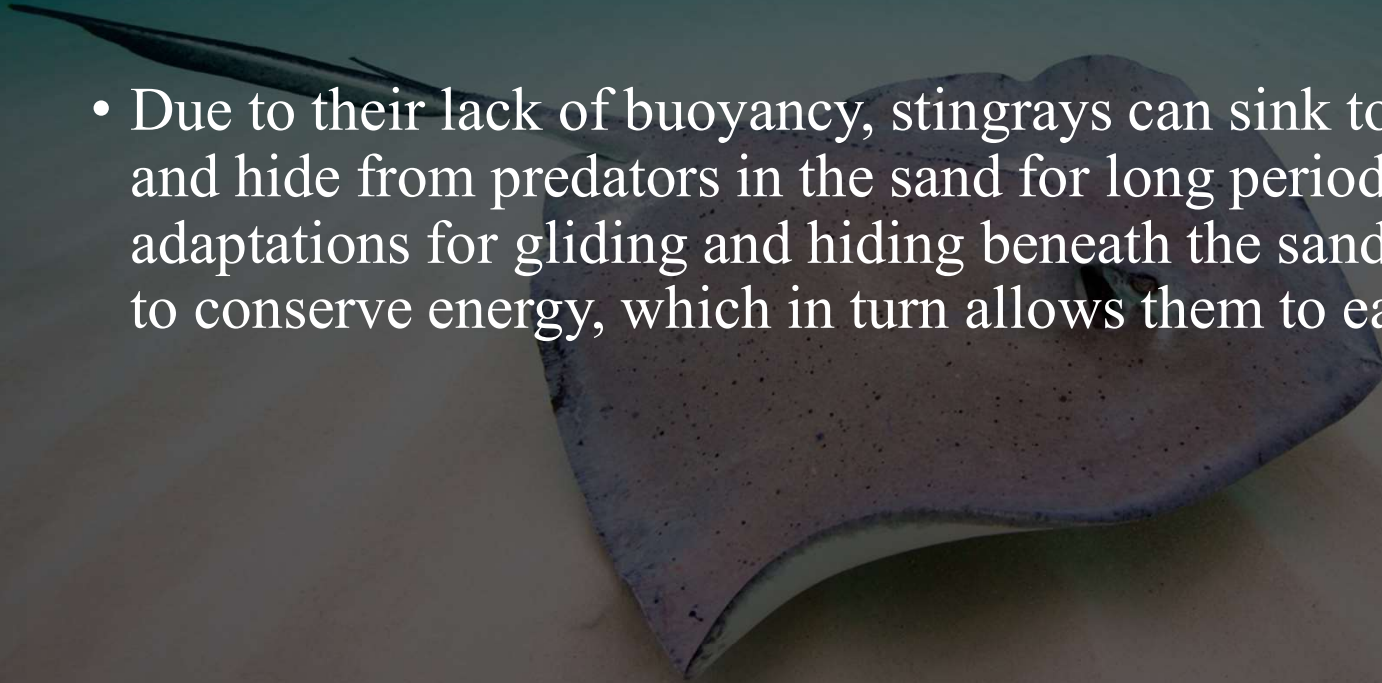
# Great White Shark Adaptions

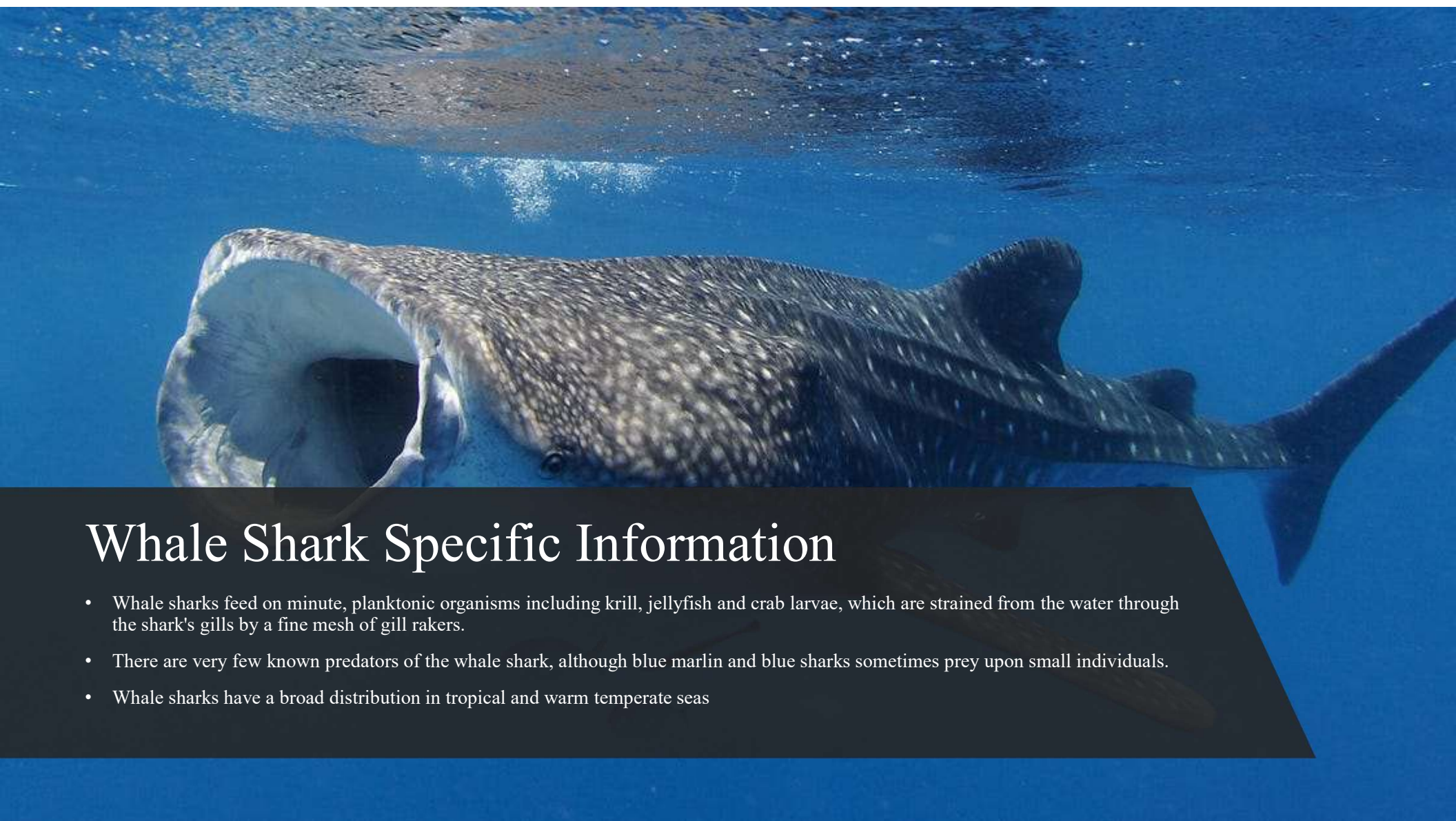
- The body shape of the great white is one of its main adaptations, being much like a torpedo so as to limit friction while swimming. The powerful tail and muscular body help the large fish to swim at up to 35 mph. size is an adaptation in itself.



# Southern Stingray Adaptions

- Due to their lack of buoyancy, stingrays can sink to the ocean floor and hide from predators in the sand for long periods. These adaptations for gliding and hiding beneath the sand allow the stingray to conserve energy, which in turn allows them to eat less





# Whale Shark Specific Information

- Whale sharks feed on minute, planktonic organisms including krill, jellyfish and crab larvae, which are strained from the water through the shark's gills by a fine mesh of gill rakers.
- There are very few known predators of the whale shark, although blue marlin and blue sharks sometimes prey upon small individuals.
- Whale sharks have a broad distribution in tropical and warm temperate seas



# Great White Shark Specific Information

A large Great White Shark is the central focus, swimming towards the left. Its body is greyish-blue with a lighter underbelly. The background is a deep blue ocean filled with a large school of smaller, silvery fish swimming in the same direction. The lighting is somewhat dim, creating a mysterious underwater atmosphere.

- Great white sharks are carnivorous and prey upon fish like tuna, rays, other sharks cetaceans dolphins, porpoises, whales, pinnipeds, seals, fur seals, and sea lions, sea turtles, sea otters and seabirds. Great whites have also been known to eat objects that they are unable to digest.
- They are the largest predatory fish in the world and are also the only shark that regularly feeds on marine mammals, often hunting whales, seals and sea lions. Their only known predators are certain populations of orcas and humans.
- Great white sharks live in almost all coastal and offshore waters



A Southern Stingray is shown swimming underwater, its long tail trailing behind it. The background is a deep blue, and the sandy ocean floor is visible at the bottom. A small orange rectangular graphic is located in the upper left corner of the image.

# Southern Stingray specific information

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- They feed on shellfish, worms, shrimp, crabs and small fish along the sandy ocean bottom. To locate their food, they use electroreceptors on their snouts as well as their excellent senses of smell and touch. Then they uncover prey by blowing water out through their mouth and flapping their "wings" over the sand.
- Predators. Large fish, including lemon and hammerhead sharks, will prey on southern stingrays.
- Southern rays can be found in the tropical and subtropical waters of the Atlantic Ocean, the Caribbean and the Gulf of Mexico, down the coast to southeastern Brazil.

## Human Impacts on Whale Shark

- Threats to the whale shark include habitat destruction, accidental entanglement in fishing nets, vessel collisions, and hunting for their meat, fins and oil.





# Human Impacts on Great White Shark

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- Sharks are top-level predators that play an important role in maintaining healthy marine ecosystems and that are highly vulnerable so it's really bad how much we negatively affect these vital animals
- Sharks are endangered as an exclusive result of human impacts and activities. Today, the main shark threats include commercial shark finning (for traditional medicine and shark fin soup) and entanglement in commercial fishing gear