

Whale Sharks: Mysteries of an Ocean Giant

The whale shark, *Rhincodon typus*, is the largest fish in the sea, reaching lengths of 18 meters or more. These wide-ranging, epipelagic animals are found in tropical waters around the globe, but are studied primarily at near-shore feeding aggregations that can number in the hundreds of individuals. Whale sharks are long lived and are slow to reproduce, likely able to breed only upon reaching 20-25 years of age. Despite their large size and charismatic nature, significant gaps exist in our understanding of the biology of this species. The aggregations that allow for field work are composed largely of juvenile male animals, and the habitat of both very young and adult whale sharks is unknown. We do not know how often whale sharks undertake the trans-oceanic migrations they are capable of, or when juveniles move to adult habitat. We do not know how or where whale sharks breed, and no female has ever been observed giving birth. We are uncertain of the status of the global whale shark population, as legal and illegal fishing occurs in some countries, and the shark fin trade takes a toll. There is evidence that both the number and size of sharks at aggregation sites is decreasing. Should whale shark populations suffer a significant decline, their late maturation will make for extremely slow recovery. The largest extant fish therefore remains a mystery on many fundamental levels. Classical field work, combined with population and reproductive genetics, is beginning to answer some of these questions.