

# Sharks and Stingrays Ecology in Tampa Bay Area- Field work and Research Experience



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## Background

Climate change and habitat destruction have greatly impacted the ecosystem near Tampa bay. The changing water temperatures have led to multiple species changing their migration and dispersal patterns. The temperature change also decreases the health of the coral, a foundational species in the Tampa Bay ecosystem, and some of it has started to disappear. The coral reef in the Tampa area is the third largest barrier reef in the world and not only does it support thousands of species and is a major site of biodiversity, but it also lowers tidal impacts and mitigates the intensity and level of destruction of tropical storms.

Stingrays and sharks both play a very important role in the Tampa Bay ecosystem. Sharks are the apex predator, which makes them crucial in controlling population sizes at lower trophic levels and keeping a balance between all the species in the reef. Rays are also predators and are important in keeping balance in the ecosystem, but they also alter the habitat by bioturbation, meaning they move around sediments to allow for more available nutrients. Because of their important roles in the ecosystem of Tampa Bay, understanding the patterns and behaviors of sharks and stingrays is crucial to knowing how we can help restore the health and biodiversity of Florida's coral reef.

## Abstract

The coral reef near Tampa bay is dying and species are migrating in and away from outside of what is normal because of climate change. Sharks and stingrays play critical roles in this ecosystem and understanding their behavior and population dynamics is important to restoring this ecosystem. The Coastal Marine Research and Education Academy has been studying the population sizes, sex ratios, age structure, fidelity, geographic range and distribution, and interactions between different species of sharks and rays in the Tampa Bay area. With the help of students, they have been catching and releasing sharks and rays to record measurements and data on each specimen. They also tag each shark and ray they catch and can use the tags to track the movement and distribution of the animals. The data they collect will be shared with local conservation organizations in hopes of being able to improve the health of this ecosystem.

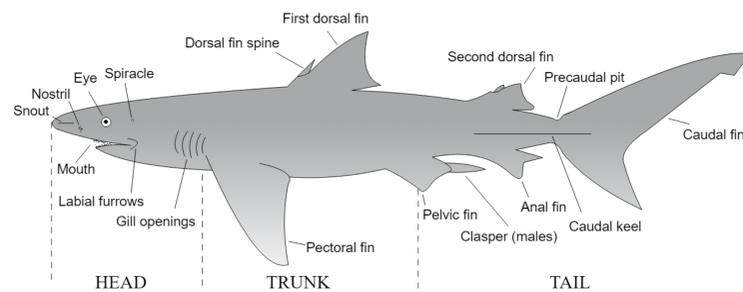


Image Source: [https://commons.wikimedia.org/wiki/File:Parts\\_of\\_a\\_shark.svg](https://commons.wikimedia.org/wiki/File:Parts_of_a_shark.svg)

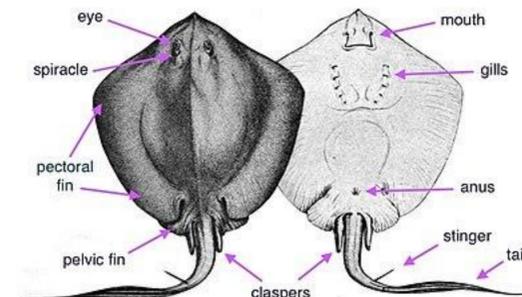


Image Source: <https://en.wikipedia.org/wiki/Stingray>



## Experiences

During my time helping The Coastal Marine Education and Research Academy with their research, I got hands-on experience working with wild animals and collecting data. I helped catch sharks and rays and took measurements, identified sex and species, and tagged sharks and rays from the Tampa Bay area. I was able to learn a lot from the marine biologist and observe sharks, rays, manatees, dolphins, and other marine life in their natural habitat.

## Conclusion

From this research opportunity I learned a lot about the way marine life in Tampa Bay behaves, where they are most likely to be found, how to identify all the different species of sharks and rays in this area and how to tell the approximate age and sex of the ones we caught. I saw what challenges field biologists face and how they overcome these challenges, including bad weather, days where we couldn't catch anything, and challenges due to lack in funding. It takes a lot of patience and perseverance to work in this field, but the results are worth it.



Image Source: <https://www.coris.noaa.gov/portals/florida.html>

