

# Fishy and Dangerous: What's on your plate tonight?

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## *Abstract:*

Barracuda (*Syphyraena barracuda*) are often known to contain concentrations of the ciguatera toxin. This is a toxin produced by a marine alga called *Gambierdiscus toxicus*. If eaten, this toxin can cause a number of ailments in humans and therefore people are recommended to keep from ingesting them. My students will examine many barracuda to determine whether there is a direct correlation between certain sizes and the amount of toxicity found in the muscle tissues. Once they find whether or not this correlation exists, they can decide if consuming these fish is really as harmful as they have been told. It is expected that the larger, or older, barracuda should have a higher concentration of this toxin in their tissues, but it would be helpful to know if the amount is dependant upon size. Students will sample the tissues and will then analyze and graph the collected data. They will also work with scientists at the University of Florida, Florida Atlantic University, Florida Fish and Wildlife Commission, and Gumbo Limbo.

## *Mission Statement:*

Students will determine whether there is a direct correlation between the toxicity levels found in barracudas' tissues and their body size.

## *Description:*

Students in South Florida are accustomed to hearing "don't eat barracuda" but don't always know why. After learning about numerous Florida fishes and different diseases and toxins found in many of these animals, student will have a good understanding of why such animals like the barracuda can be so harmful. Harmful algal blooms (HABs) are common in the waters surrounding Florida, and with rising temperatures, animals are becoming more susceptible to the microalga *Gambierdiscus toxicus*, which causes ciguatera poisoning. This poisoning occurs when we ingest these top predators, causing nausea, vomiting, or even worse, neurological problems. These symptoms can last days or weeks, and in the most extreme cases, years. Having a better understanding of how

much of the actual toxin is found in different sizes of barracuda, perhaps my students can help to warn the public and decrease the number of poison cases. They will take a fishing charter offshore to collect barracuda (*Sphyraena barracuda*) of various sizes. They will then sample the tissue from each to determine if there is a direct correlation between size and toxicity levels. I personally will be contacting members of various local and state organizations to aid in teaching my students. These organizations include Florida Atlantic University, Florida Fish and Wildlife Commission, and Gumbo Limbo to name a few.

*Expertise:*

Having obtained a bachelor's degree from the Florida State University in Secondary Science Education with an emphasis on Biology, I am an expert on this subject. I have taught science at the high school level for four years, including two years of Marine Biology I.