

Ciguatera Fish Poisoning

Ciguatera poisoning in humans is caused by the consumption of fish that have accumulated ciguatoxins through the consumption of reef fishes that consume algae harboring the toxins. The toxins do not make the fish look, taste, or smell differently from nontoxic fishes, and cannot be destroyed by cooking or freezing.

Ciguatera poisoning is often misdiagnosed. If a patient develops some of the following symptoms within 72 hours of consumption of a fish, he/she may be affected by ciguatera poisoning: abdominal pain; vomiting; diarrhea; nausea, and one of the following symptoms: slow heartbeat; numbness, burning and prickling around the mouth; or sensation of temperature reversal. Other symptoms include: extremity numbness; tingling, prickling, burning, or creeping on the skin; pain in the joints, muscle pain; malaise; itching; headache; dizziness; metallic taste; visual disturbances; toothache, feeling of loose teeth.



The dinoflagellate *Gambierdiscus toxicus*, produces the toxin known as ciguatoxin, which is associated with ciguatera fish poisoning. Photo: CoRIS

Ciguatera fish poisoning was considered extremely rare in this area of the Gulf of Mexico by the U.S. Food and Drug Administration (FDA) until several outbreaks in 2008. In response to this outbreak, the FGBNMS and partners conducted a study to determine the prevalence of ciguatoxin in the algae at the sanctuary, as well as the level of toxicity in reef and pelagic fish utilizing the site. Unsafe concentrations of ciguatera toxin have been found in marbled grouper, gag grouper, scamp grouper, amberjack, barracuda and sand tilefish.

As a result of this study, the FDA released guidance to seafood processors on February 2008, advising them to re-assess their current Hazard Analysis Critical Control Point (HACCP) to



Fish caught by the Flower Garden Banks National Marine Sanctuary and partners in July 2007 were tested for levels of ciguatoxin. Species caught included amberjack, barracuda, crevalle jack, shark, gag grouper, marbled grouper, red snapper, sand tilefish, scamp grouper, snowy grouper, vermillion snapper and yellow mouth grouper. Photo: FGBNMS

include ciguatera fish poisoning as a food and safety hazard in marbled grouper, scamp grouper, gag grouper, yellowfin grouper, blackfin snapper, dog snapper, and hogfish caught within 10 miles of the Flower Garden Banks National Marine Sanctuary and yellow jack, horse-eye jack, black jack, king mackerel, amberjack, and barracuda caught within 50 miles of the sanctuary. The FDA further recommended that primary processors avoid purchasing these species from the areas described above.

For more information on the ciguatera advisory, visit the [FDA's website](#).