

**Ciguatera Toxin in Oahu's Reef Fishes
&
The Effects of Ocean Depth on *Gambierdiscus toxicus* Dinoflagellate
Counts**

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Abstract

The assessment of ciguatoxic fish in the near shore reef environment, specifically for the island of O‘ahu, demonstrates the usefulness of the study not only to evaluate the impacts as a result of human activities and developments, but to also provide some protection or avoidance measures here in the Hawaiian Islands as well as else where in the world. The study included analysis of ciguatoxic fish of 30 different species of herbivores and carnivores at 18 locations (populated and unpopulated areas) around O‘ahu. It also included an analysis of dinoflagellate enumeration at four of the 18 locations at three different depths. Analysis of the data showed a increase in ciguatera incidents in fish and in increase in dinoflagellate enumeration at populated location as compared to unpopulated areas. The assessment between herbivores and carnivores showed that carnivores had higher incidents with a lower concentration of ciguatoxins in their flesh. It is recommended that ciguatera incident assessments as well as analysis of dinoflagellate enumerations are appropriate to monitor and prevent impacts made by human activities and to also provide safety measures in areas that are under current developments or future developments.