

The incidence of plastic ingestion by fishes: From the prey's perspective

Henry S. Carson   

Marine Science Department, University of Hawai'i, Hilo, 200 W. Kawili St., Hilo, HI 96720, USA

Choose an option to locate/access this article:

 **Purchase \$39.95**

Get Full Text Elsewhere

 **Rent at DeepDyve**

Highlights

- Ingestion of plastic by marine fish and sharks is understudied.
- Attacks on plastic were estimated using apparent bite marks on beached items.
- 16% of items had apparent bite marks, extrapolated to 1.3 tons a year for one area.
- Bottle shapes, and blue or yellow colors, were attacked more frequently.
- Tooth widths of marks ranged from 1 to 20 mm, suggesting many species ingest plastic.

Abstract

One of the primary threats to ocean ecosystems from plastic pollution is ingestion by marine organisms. Well-documented in seabirds, turtles, and marine mammals, ingestion by fish and sharks has received less attention until recently. We suggest that fishes of a variety of sizes attack drifting plastic with high frequency, as evidenced by the apparent bite marks commonly left behind. We examined 5518 plastic items from random plots on Kamilo Point, Hawai'i Island, and found 15.8% to have obvious signs of attack. Extrapolated to the entire amount of debris removed from the 15 km area, over 1.3 tons of plastic is attacked each year. Items with a bottle shape, or those blue or yellow in color, were attacked with a higher frequency. The triangular edges or punctures left by teeth ranged from 1 to 20 mm in width suggesting a variety of species attack plastic items. More research is needed to document the specific fishes and rates of plastic ingestion.

Keywords

Fishes; Sharks; Plastic ingestion; Marine debris; Bite marks; Hawai'i