



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Area Office - Southwest Region
2570 Dole St. Honolulu, HI 96822-2396
PH: (808) 955-8831 FAX: (808) 949-7400

December 3, 1991

F/SW02:JJN

Captain Victor Tengan
Maui Police Department
55 Mahalani Street
Wailuku, Hawaii 96793

Dear Captain Tengan:

Per your request, my colleague George Balazs and I have examined the missing person evidence (Report No. 91-63674) which you sent to the National Marine Fisheries Service last week. The evidence consists of items of clothing (shirt and men's briefs) which were recovered by Fire Rescue divers in waters off Maliko Point, Maui on November 20, 1991. Based on our experience in examining numerous shark stomach contents, attacks on marine animals, and clothing from shark attack victims, we present for your records the following opinion.

The remains of the shirt and briefs from the missing fisherman show very strong evidence of having been attacked by a shark or sharks. Approximately half the shorts were recovered. A single crescent shaped bite of approximately 13" removed the left side of the pelvic area and up into the lower back region. An additional single large bite apparently removed the left arm and most of the left side, as evidenced by the remains of the shirt. Numerous punctures, tooth marks and tears in both garments are characteristic of a shark attempting to gain a purchase on a large prey item prior to shaking, tearing and twisting off pieces of sufficient size to consume.

The bite marks were compared to the jaw and teeth of a 13 1/2 foot tiger shark (Galeocerdo cuvieri). The size of the crescent shaped bites and the widths of the individual tooth cut marks in the material indicate that a shark of approximately 12 feet in length did the majority of damage. The marks could not have been made by a shark attacking loose clothing drifting in the water. Rather, the clothes would have to have been on or surrounding something solid, such as a person.




The clothing shows signs of staining which could possibly be blood. In addition, attached to a roll in the fabric of the shirt near the torn away left shirt sleeve, there is a piece of tissue which we cannot identify. This tissue and the stains could possibly be analyzed and identified by a qualified laboratory.

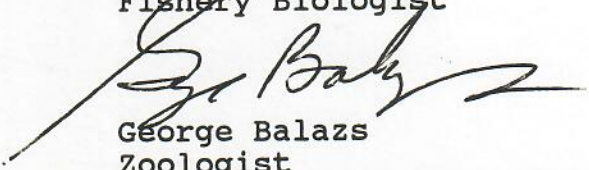
In summary, we feel with a high degree of certainty that the individual wearing the subject clothing was attacked and at least partially consumed by a shark. In considering the tooth marks and the habits of nearshore sharks in Hawaii, it is highly probable that the shark involved was a tiger shark of approximately 12 feet in length. There is no way to determine, however, whether the shark actually killed the person or whether he had already drowned and the body was subsequently attacked.

In view of the tragic attack which occurred at Olowalu, Maui on November 26, a week after the subject incident, we suggest the public be made aware of the occurrence at Maliko so they may use discretion as far as recreating in this area. If we can be of further assistance, please do not hesitate to call.

Sincerely,



John J. Naughton
Fishery Biologist



George Balazs
Zoologist
(Southwest Fisheries Science
Center, Honolulu Laboratory)

cc: F/SW0 - E.C. Fullerton
F/SWS2 - G. Boehlert
DLNR - W. Paty