



# University of Hawaii at Manoa

Hawaii Institute of Marine Biology  
P.O.Box 1346 • Coconut Island • Kaneohe, Hawaii 96744  
Cable Address: UNIHAW

December 27, 1977

## MEMORANDUM

TO: Personnel and Cooperating Researchers  
Aboard the NOAA Vessel TOWNSEND CROMWELL

FROM: George H. Balazs  
Assistant Marine Biologist

SUBJECT: Recovery of Sea Turtle Parts from the Stomachs of Carnivorous Fishes.

Virtually nothing is known about the natural history of sea turtles from the time they leave their natal beaches as hatchlings until they first appear as juveniles (approx. 10 lbs or larger) in nearshore feeding areas. This scarcity of information is due mostly to the fact that turtles under 10 lbs. are seldom ever seen, thereby making them unavailable for scientific study. It has been reasonably assumed that smaller size turtles live for a time in the open ocean, or on banks distant from land, where they feed at the surface on small invertebrates.

One method which I believe has considerable potential for gaining biological and ecological information on this little-known size category involves the indirect sampling of the turtles from the stomachs of carnivorous fishes. Certain bony fishes and sharks could be expected to periodically prey on small turtles in the open ocean. The recovery of turtle parts from the stomachs of such predators is therefore possible, provided that individuals conducting the examinations are alerted to the immense importance of such findings and are able to recognize the derived parts. The purpose of this memorandum is to provide information on these two points, and to request assistance in the recovery of such turtle parts.

In the Hawaiian chain, the green turtle (*Chelonia mydas*) is by far the most common species of sea turtle. The major breeding site for this native reptile is French Frigate Shoals, where from July through October of each year an estimated 25 to 50 thousand hatchlings emerge from nests and enter the ocean. Vigorous swimming and ocean currents disperse these young animals over a wide area of the Hawaiian chain, but greater concentrations probably occur in the ocean areas between French Frigate Shoals and Kure Atoll. Chances for the recovery of parts from the stomachs of predators in this northwestern segment of the Hawaiian chain are therefore undoubtedly greater.

The recognition and recovery of turtle parts should be enhanced by the following appended material:

- 1) Photograph of a live hatchling green turtle (weight-one ounce, upper shell length-two inches);
- 2) Plastic bag containing a dried and intact hatchling green turtle;
- 3) Plastic bag containing the dried fragments of a hatchling green turtle, representative of how partially digested pieces may appear in the stomachs of predators;
- 4) Plastic bag containing the dried fragments of a juvenile green turtle, representative of how partially digested pieces may appear in the stomachs of predators.

When parts are recovered, it will be important to record the species and size of the predator, and the location of capture. The entire stomach and intestinal contents of the predator should be preserved in formalin for my subsequent examination.

Any assistance that can be provided in this work will be greatly appreciated. If there are any questions, please feel free to telephone me at 247-6631.

GHB:ec