

Graduate Student Research Day 2014

Florida Atlantic University

CHARLES E. SCHMIDT COLLEGE OF SCIENCE

Getting hooked: a study to better understand sea turtle longline by catch

Natasha Warraich and Jeanette Wyneken, Ph.D.

Charles E. Schmidt College of Science, Florida Atlantic University

Loggerhead and leatherback sea turtles are often caught as longline bycatch in fisheries worldwide. These species of sea turtle differ greatly in life history, morphology, and the ways they are hooked. Leatherbacks tend to be “foul hooked,” externally in the shoulder or flippers, while loggerheads tend to be hooked in the mouth or they swallow the bait so that hooking is internal esophagus or stomach. The numbers of loggerheads and leatherbacks caught decreased after changes in gear, bait and time of sets. However the proportion of leatherback mouth hookings increased while foul hooking decreased. We described and compared prey approach and attack behavior of both species in the presence and absence of visual targets. Waterborne squid and jellyfish odors were used to elicit feeding behavior in the two species. Visual targets were necessary to elicit biting. Loggerheads approach their prey with the mouth wide open, have exceptionally good aim and usually bite their intended target. This accuracy is consistent with the mouth and internal hooking. Leatherbacks frequently overshoot, miss their intended target then have to re-approach the target multiple times before making contact. Leatherback feeding behavior is disrupted easily if the body or flippers are touched during prey approach. This re-approach behavior may make leatherbacks more prone snagging on lines rigged with J-hooks. The shift by some fisheries to circle hooks, which are less prone to snagging, by give the leatherbacks multiple chances to attack the bait and ingest it without getting hooked externally.