MOVEMENTS OF JUVENILE LOGGERHEADS IN THE SOUTHWESTERN ATLANTIC*

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In the Southwestern Atlantic (SWA) off the coasts of Uruguay and Brazil, juvenile and sub-adult loggerhead sea turtles (*Caretta caretta*) are very abundant and frequently incidentally captured by pelagic longline fisheries. There is a need to improve our understanding of turtle behavior and habitat use in this region to identify high use areas and reduce fishery interactions. We used satellite telemetry to characterize the broad-scale behavioral patterns, inter-seasonal variability and general high use areas of 27 bycatch juvenile and subadult loggerheads turtles released from pelagic longline fishery between July 2006 and March 2010 (mean CCL: 61.8±6.9 cm, range: 49-83 cm). The mean turtle tracking duration was 259±159 days, during which time turtles moved between latitudes of 25 to 45°S and longitudes 35 to 54°W. Turtles traveled a mean minimum distance from release location of 6,050±3,630 km. The areas of highest use for all the tracked turtles were located over the continental shelf and slope within the Uruguayan and Brazilian EEZs, as well as oceanic international waters off the continental slope of southern Brazil. Maximum dive depth recorded varied by turtle between 100 and 300m depths, and two turtles demonstrated dives to depths close to the bottom within the 200m isobath. The overall mean SST encountered by tracked turtles was 19.8±2.3°C (range: 10.21°C-28.4°C) and turtles showed an affinity for mesotrophic/eutrophic chlorophyll a values (mean: 0.458±1.012 mg m-3). Latitudinal movements varied by season and sea surface temperature, however seasonal differences were observed with bathymetry or Chl a concentrations. We also present preliminary results from a first-passage time analysis preformed on these data to determine whether turtles exhibit distinct scales of movement, and whether those scales of movements are associated with mesoscale environmental features. Overall, in concert with other studies conducted in the region, our analyses demonstrate the need to focus further regional and international collaborative efforts on habitat use research for the management of sea turtles in this area.

MOVEMENTS AND HIGH-USE AREAS OF WESTERN PACIFIC LEATHERBACK TURTLES*

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