Green turtle health assessment on the southern coast of Brazil

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Juvenile green turtles were intentionally captured and released for tagging and health assessment in Paranaguá bay (25º28'S 48º25'W), Paraná State, southern Brazil. The area holds a large aggregation of green turtles, with high bycatch rates in artisanal fisheries. Close to the study area, there is a rocky island covered with Clorophyta and Rodophyta species and surrounded by seagrass meadows (*Halodule wrigthii*).The intentional captures were conducted on the site over a period of one week. Forty-one individuals were captured using a specific gill-net measuring 50 meters in length, 3 meters in width, and with mesh size of 30 centimeters (between opposite node). The net was set perpendicular to the island, and it was monitored every 20 minutes to check its condition and if any turtle became entangled. Green turtles captured were boarded for biometric data collection (i.e. body mass index – BMI in Kg; curved carapace length- CCL and curved carapace width- CCW, both in cm). Body condition score was also evaluated and rated as: good, medium and poor, followed by skin sampling, for genetic analyses. Blood samples were obtained from the occipital sinus for health assessment (biochemistry and hematological parameters). All turtles were photographed with digital cameras and tagged with Inconel metal tags in the front flippers (see TAMAR- Brazilian Sea Turtle Conservation Program methodology). Overall, 95.3% of the turtles were in good body condition ; the average CCL was 41.6 ± 4.6 cm (31.9 to 51.5 cm); CCW38.7 ±4.0 cm (29.3 to 46.2 cm); and the weight ranged from 4.1 to 15.4 Kg (8.8 ±3.0 Kg). Ten individuals had tumors suggestive of fibropapillomatosis (23.8%), but most of them were in good and medium body condition. CCL and CCW for tumored turtles ranged between 43.5 ±4.4 cm (35.4 to 51.5 cm) and 39.9 ±3.9 cm (32.3 to 46.2 cm). The mean BMI was 5.8 to 15.4 Kg (10.4±2.8 Kg). The values did not differ from turtles without fibropapillomas (p-value>0.05). Only one tumored turtle was already tagged; she had been previously captured in Ubatuba (23º82'S 45º80'W), State of São Paulo, Brazil, in 2012. It is relevant to cite that the turtle did not have any tumors back then. Despite the turtles were captured

during all day long (to 7:00am from 4:00pm), 75.8% were captured before 12pm, indicating intense diurnal behavior for green turtles in the area. The importance of Paranaguá bay for juvenile green turtles is reinforced by the high rates of intentional capture in a short period of time. However, anthropogenic impacts due to increased human activities (Paranaguá port) may negatively affect the environmental quality. Information concerning health conditions and habitat use are important to address management actions to green turtle conservation.

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