

ASO-TURTLE NETWORK: COLLABORATIVE EFFORTS TO UNDERSTAND STRANDINGS

Daphne Wrobel Goldberg¹, Cecília Baptistotte², Felipe D´Azeredo³, Alícia Bertoloto⁴, Suzana Guimarães⁴, Gabriela Velez-Rubio^{5,6}, Laura Prodosimi⁷

1. Fundação Pro-Tamar - Rua Professor Ademir Francisco, 140 - Barra da Lagoa, Florianópolis, SC, 88061-160, Brazil.
2. Centro Nacional de Proteção e Pesquisa das Tartarugas Marinhas (Projeto TAMAR), Instituto Chico Mendes de Conservação da Biodiversidade (ICMBIO), R. Andréia 01, Camaçari – BA 42835-000, Brazil.
3. Pós-Graduação em Medicina Veterinária, Programa de Clínica e Reprodução Animal. Universidade Federal Fluminense. Niterói, RJ. CEP:24230-320, Brasil.
4. Projeto Aruanã, Laboratório ECOPESCA - Biologia do Nécton e Ecologia Pesqueira, Departamento de Biologia Marinha, Pós Graduação em Biologia Marinha e Ambientes Costeiros, Instituto de Biologia, Universidade Federal Fluminense, 24001-970, Niterói, Rio de Janeiro, Brazil.
5. Karumbé. Av. Rivera 3245, C.P.11600, Montevideo, Uruguay.
6. Cavanilles Institute of Biodiversity and Evolutionary Biology, University of Valencia, Aptdo. 22085, E-46071 Valencia, Spain.
7. Coordinación de Gestión de Pesquerías. Dirección Nacional de Planificación Pesquera, Subsecretaría de Pesca y Acuicultura. Paseo Colón 982 – Anexo Pesca 1º Piso (C1063ACW) C.A.B.A. – Argentina. lprosdo@yahoo.com.ar

The ASO-Turtle Network was formally established in 2003 and encompasses the coastal areas of Brazil, Uruguay and Argentina. The network is formed by institutions that work with the research and protection of sea turtles in the Southwestern Atlantic Ocean (ASO). Since the beginning of ASO, more than 70 studies on physiology and health assessment have been conducted, using standardized data from stranding events. When sick, injured or dead turtles come ashore, they may be signaling changes in the marine environment. As a matter of fact, sea turtles serve as indicator species, alerting us all to potential environmental problems. Stranding datasets may provide important information on diseases, contaminants, diet, cause-specific mortality, among others. Additionally, they are also used to infer geographic distribution and abundance or even trends in mortality risk attributable to human related threats such as coastal and pelagic fisheries. Sea turtles strand due to a variety of natural and anthropogenic causes. Natural causes include disease, predation and aging, while human induced strandings are often related to fisheries interaction, marine debris ingestion, pollution, dredging interaction and many others. Current literature suggests however, that multiple factors, both natural and human-related, may act in combination to cause a turtle to strand. In order to improve the knowledge on sea

turtle strandings, the network participants have started to evaluate the body condition score of stranded turtles as a means of distinguishing chronic illness from acute cases. Animals with body condition rated as good have subcutaneous and visceral adipose tissue and thick musculature. This condition suggests that they had been feeding recently and had a sudden death, probably as a result of getting caught in fishing gear. On the other hand, cachectic or underweight turtles (i.e. muscle atrophy, sunken eyes and concave plastron) normally have a chronic condition that is persistent. Like other animals, sea turtles frequently suffer from a variety of diseases and one of the most significant in terms of conservation is fibropapillomatosis (FP). The prevalence of the disease is associated with heavily polluted coastal areas and areas of high human density, suggesting that the rates of FP could be used as an indicator of ocean health. Although this disease may be quite severe, often leading the affected animal to death, there are reported cases of spontaneous remission. Another issue that deserves urgent attention is marine pollution and its effects on sea turtle populations. Every year, thousands of sea turtles die from becoming entangled or ingesting plastic debris. Litter ingestion may lead turtles to death from starvation and debilitation. These conditions causes depletion of fat deposits along with muscle tissues, leading to cachexia. This study aims to present a new approach to evaluate strandings, considering not only the cause of death itself, which is sometimes hard to be determined, but also a simple parameter that may distinguish chronic illness from acute strandings. Finally, these findings were only made possible by collaborative work of ASO participants. In this context, we highlight the importance of cross-boarder collaboration in sea turtle conservation.