

WORKING WITH FISHERMEN TO MINIMIZE SEA TURTLES CAPTURE AND MORTALITY IN PELAGIC LONGLINE FISHERY IN BRAZIL

Mariana Britto¹, Bruno Giffoni¹, Gilberto Sales², Luiz R. Maçaneiro¹, Caiame Nascimento¹, Nilamon de O. Junior², Fernando N. Fiedler^{3,4}

1. Fundação Pró-TAMAR (Projeto TAMAR). Av. Min. Victor Konder, 374, Centro, Itajaí – SC, Brasil, 88.301-700.

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, Brasil.

3. Centro Nacional de Pesquisa e Conservação da Biodiversidade Marinha do Sudeste e Sul (CEPSUL). Av. Min. Victor Konder, 374, Centro, Itajaí – SC, Brasil, 88.301-700.

4. Universidade do Vale do Itajaí (UNIVALI). Centro de Ciências Tecnológicas, da Terra e do Mar – CTTMar). Rua Uruguai 458, Centro, Itajaí - SC, Brasil, 88302-202,

Bycatch has been identified as a major cause of sea turtle deaths worldwide. For this reason, the adoption of mitigation measures regarding this issue is very important. These strategies rely on an institutional environment for fisheries management, enabling managers to properly evaluate and monitor the out coming results. Currently, Brazil lives an unstable moment regarding fishing policy and management by governmental institutions. As a means to face this issue, management actions have been undertaken by a variety of institutions, creating relevant and consistent results for sea turtle conservation. This paper reports the collaborative experience between researchers from Projeto TAMAR and fishers, in an attempt to reduce sea turtle by catch in pelagic longline fisheries. This strategy was inspired on the results from TAMAR's previous experiments in sea turtle nesting areas, as well as from other research groups, such as, Projeto Albatroz and NEMA - Núcleo de Educação e Monitoramento Ambiental. Since 2004, TAMAR, in partnership with fishing companies and fishers, has been working to introduce circle hooks and mitigatory tools (de-hooker and linecutter) into the pelagic longline fleet that operates in southern Brazil, which mainly captures *Caretta caretta* and *Dermochelys coriacea*. The daily interaction between on-board observers and fishers, as well as the direct contact with fishers at the mainly longline harbors has created a powerful bond of trust. Mutual trust built over the years has allowed the development of integrated conservation strategies. The main results of this cooperative work are: 1) Consensual permission from the fishing companies and the boat's captain to embark observers to collect data during the fishing operations. All information collected is shared to the companies and the crew, making this process transparent for all; 2) The crew is trained to properly handle entangled or hooked sea turtles. 3) Captain's logbook, containing detailed information about fishing operations, are shared to Tamar's researchers 4) Adoption of mitigation measures. The circle hooks, which have been previously rejected by most captains, it is now accepted and partially used by 18 of the 35 vessels operating at the ports of Itajaí and Navegantes, and fully used in eight of them. 5) Development of mitigation tools. Although industrialized de-hookers have been distributed for fishermen and they had been trained to use them, it became clear that they don't use it. Instead, they prefer to use two other models developed by themselves. The first was developed with a wooden handle with a "V" cut at its end. On the second method the hooks are removed from the turtles using the own branchline as a tool. This procedure is known as the "loop technique". Both models / systems are highly efficient and much cheaper than industrialized de-hookers.

Even if there is some difficulty in policy and fisheries management, the experience related here shows that cooperation between fishers and researchers toward to understand the problem of

bycatch and looking for solutions is very important for promoting sustainable fishing, reducing unwanted captures and consequently protecting sea turtles