Oral Presentation

# FISHERY AS ADMINISTRATIVE UNIT: IMPLICATIONS FOR SEA TURTLE CONSERVATION

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## ABSTRACT

The pelagic longline fishery in Brazil started in the mid-fifties. This fishery uses different gear configuration and strategies to catch swordfish, sharks, tunas and mahi-mahi. However, the gear configuration and strategies adopted to catch those target species seems also affect the incidental capture of sea turtles. If the fishing gear configuration and strategies change according to target species and if these changes affect the sea turtle incidental capture, the national and regional fishery management organizations - RFMOs (e.g. ICCAT) should divided the longline fisheries according to its own characteristics to better understand the incidental capture of sea turtles, their causes and consequences. Nevertheless, this approach has not been used and, usually, pelagic longline fisheries have been analyzed as a unique administrative unit, as being homogeneous when affecting the biota. Here, according to their characteristics (i.e. target specie, hook type, bait type, spatial distribution, float line length, branchline length, etc), we divided the Brazilian pelagic longline fishery in five distinct fisheries and compare the relative composition of sea turtle species and size class captured by each ones. Therefore, each pelagic longline fishery was understood as the administrative unit to monitor, assess and mitigate the interaction among sea turtles and fisheries. This approach (named here as "fishery approach") is clearly distinct from that one used by the national fishery management organizations and RFMOs. To perform the analyses we used the information from Projeto Tamar's database (The National Sea Turtle Conservation Project) and considered only commercial longline trips monitored by onboard observers between 1999 and 2016. This data comprise more than twenty million hooks sampled mainly in South Western Atlantic Ocean. The results show significant differences for sea turtle species composition, as well for the size classes captured by distinct longline fisheries. Considering that sea turtle species have distinct threatened status and that each sea turtle species interacts differently with each longline fisheries, as shown in this work, the fishery approach propose here essentially helps to

prioritize conservation actions by sea turtle specie and by type of longline fisheries. This fact has important implications for sea turtle conservation as well as for the fishing management. Finally, we recommend adopt "fishery" as administrative unit to monitor, assess and mitigate the incidental capture of sea turtles in longline fisheries.