Is spatial closure efficient for reducing silky shark bycatch by purse seiners?

Monin Amande*[1], Laurent Dagorn , Pierre Chavance , Alicia Delgado De Molina , Hilario Murua , and Nicolas Bez

[1]Institut de Recherche pour le Développement (IRD) – Institut de Recherche pour le Développement – Adresse du siège - Le Sextant 44, bd de Dunkerque, CS 90009 13572 Marseille cedex 02, France

Abstract

The silky shark (*Carcharhinus falciformis*) is the most occurring and abundant shark species in the tuna purse-seine fishery in the Indian Ocean. The spatial structure of the species was analyzed using a zero-inflated generalized additive model (ZIGAM). This model shows that the bycatch of silky sharks are most important in the northern hemisphere and in the Mozambique Channel, which are fishing zones particularly dominated by floating objects. The analysis of the effect of timely closure of areas identified as being most impacted by the fishery was conducted using a simulation procedure for the reallocation of fishing effort after closing.

Keywords: silky sharks, bycatch, tuna purse, seine, ecology

*Speaker