

{rokbox title=|Location of the artisanal fishing grounds sampled from 2009 to 2015 along the northwestern coast of Mexico :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-effect-gillnet-selectivity--elasmobranchs-nw-coast-mexico-ramirez-et-al-2019-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-effect-gillnet-selectivity--elasmobranchs-nw-coast-mexico-ramirez-et-al-2019.jpg{/rokbox}

Sergio Ramírez-Amaro, Felipe Galván-Magaña, 2019. [Effect of gillnet selectivity on elasmobranchs off the northwestern coast of Mexico.](#)

Ocean and Coastal Management. Volume 172, 15 April 2019, Pages 105-116.

Abstract: The regulation of mesh size is important for the effective and sustainable management of fisheries using gillnets, which are the main fishing gear used in artisanal elasmobranch fisheries throughout northwestern Mexico. Gillnet selectivity studies focusing on elasmobranchs have generally evaluated the impact on target species, and information on bycatches remains scarce. This study assessed the impact of gillnet selectivity on both target elasmobranch species and bycatches, by varying the mesh size of gillnets. Sampling was performed from 2009 to 2015 in five artisanal fishing grounds located along the northwestern coast of Mexico. The species composition and ecological parameters of the elasmobranch communities that were caught, as well as the size structure and estimated selectivity models for the main species caught, were compared between four mesh sizes: 10.16, 15.24, 20.32 and 25.4 cm (stretched opening). Overall, 32 elasmobranch species were caught, nine of which were common to all mesh sizes. Our results indicate that the species composition of the catch varied with mesh size. While the small-sized sharks *Mustelus californicus* and *M. henlei*

were the main species caught by gillnets with the smaller mesh sizes, the guitarfish

Pseudobatos productus

and

Zapteryx exasperata

, and the Pacific angel shark

Squatina californica

were the main species caught gillnets with the largest mesh sizes. Gillnet selectivity was estimated for these latter four species as well as for the horn shark

Heterodontus francisci

. Optimum length for these species varied widely, increasing proportionally to mesh size. These findings emphasize the difficulty of determining an optimal minimum mesh size for multi-species fishery in this area. Finally, recommendations for future directions according to the species' vulnerability to fishing are discussed, focusing on the development of effective strategies to initiate or strengthen the recovery of elasmobranchs of the northwestern coast of Mexico.

Keywords: Artisanal fishery, Gillnet, Management, Northwestern Mexico, Selectivity