

ABSTRACT

Reprint of: Fishers Who Rely on Mangroves: Modeling and Mapping the Global Intensity of Mangrove-Associated Fisheries

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Mangroves are critical nursery habitats for fish and invertebrates, providing livelihoods for many coastal communities. Despite their importance, there is currently no estimate of the number of fishers engaged in mangrove associated fisheries, nor of the fishing intensity associated with mangroves at a global scale. We address these gaps by developing a global model of mangrove associated fisher numbers and mangrove fishing intensity. To develop the model, we undertook a three-round Delphi process with mangrove fisheries experts to identify the key drivers of mangrove fishing intensity. We then developed a conceptual model of intensity of mangrove fishing using those factors identified both as being important and for which appropriate global data could be found or developed. These factors were non-urban population, distance to market, distance to mangroves and other fishing grounds, and storm events. By projecting this conceptual model using geospatial datasets, we were able to estimate the number and distribution of mangrove associated fishers and the intensity of fishing in mangroves. We estimate there are 4.1 million mangrove associated fishers globally, with the highest number of mangrove fishers found in Indonesia, India, Bangladesh, Myanmar, and Brazil. Mangrove fishing intensity was greatest throughout Asia, and to a lesser extent West and Central Africa, and Central and South America.